Internet, Political Regime and Terrorism: A Quantitative Analysis

Nikita Khokhlov$^{1,2}$ and Andrey Korotayev$^{3,4}$

Abstract

The Internet provides a medium for the rapid mobilization of dissatisfied citizens and potentially contributes to various forms of political instability, including terrorism. However, the spread of the Internet may not lead to a higher intensity of terrorist attacks because direct perpetrators rely on close personal offline ties, and the national security agencies derive symmetrical benefits from Internet development as terrorists. In addition, the number of connections proxies a general level of country development, which is associated with less terrorist activity. We analyze the relationship between the number of Internet connections and the intensity of terrorist attacks using time-series cross-sectional data from the Global Terrorism Database from 1970 to 2018. Estimation of negative binomial regression models demonstrates an inverse relationship between Internet proliferation and the number of terrorist attacks, which holds for democracies and is absent for autocracies. Our results suggest that Internet proliferation is not a decisive factor in terrorism activity. Its impact on terrorism depends on the type of political regime and the level of socio-economic development.

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$^1$Dublin City University, Dublin, Ireland
$^2$International Center for Study of Institutions and Development, HSE University, Moscow, Russia
$^3$Laboratory for Monitoring the Risks of Socio-Political Destabilization, HSE University, Moscow, Russia
$^4$Institute for African Studies, Russian Academy of Sciences, Moscow, Russia

Corresponding Author:
Nikita Khokhlov, Dublin City University, D09Y074 Dublin, Ireland.
Email: nikita.khokhlov2@mail.dcu.ie
Introduction
The rapid development of communication technologies has been noted for most countries worldwide in the last 20 years. In 2020, 58.7% of the world’s population had used the Internet. The growth of Internet usage in 2000–2020 is estimated from 1.9% in Asia to 592% in Europe. The penetration rates range from 39.3% in Africa to 94.6% in North America (Internet World Stats, 2020). Because the World Wide Web has significantly increased the volume, diversity, and speed of information, several researchers have suggested a direct relationship between the Internet and different forms of socio-political destabilization: anti-government demonstrations (Ruijgrok, 2017), riots (Amorim et al., 2018; Fuchs, 2012), and terrorist attacks (Conway, 2017; Schumacher & Schraeder, 2019). However, there is a lack of time-series cross-sectional studies focusing on Internet proliferation and terrorist activity in countries with different political regimes. We address this research gap by analyzing how the relative number of Internet connections affects the intensity of terrorist attacks in 196 countries from 1970 to 2018.

Contrary to the previous literature distinguishing between two broad categories of democracies and autocracies, we expand analysis with a more nuanced classification of political regimes. Our study provides empirical evidence of an inverse relationship between Internet penetration and terrorist activity, driven by the sample of democratic countries, especially partial democracies with factionalism. For the latter category, the magnitude of the effect is the highest compared to other types of political regimes.

The following section provides a literature overview of how the Internet affects terrorist activity. Then, the article proceeds with the hypotheses, methodology and empirical analysis. The final section discusses the results and offers conclusions.

Literature

Internet and Socio-Political Instability
Kris Ruijgrok (2017, 499) identifies cyber utopians and cyber pessimists among researchers of the Internet and socio-political instability. Cyber utopians argue that the World Wide Web provides citizens with broad access to alternative political information and space to discuss politics (see Shirky, 2009; Weber et al., 2003). The higher Internet penetration rate contributes to greater public awareness of domestic and international events and creates a
potential for non-violent protest mobilization. At the same time, the suppression of non-violent protests by the government can provide incentives to the radical groups for a terrorist activity to deliver political messages and draw attention to specific problems.

On the contrary, cyber pessimists point out the inefficiency of the Internet as a tool to increase citizen engagement in political life. Thus, most of the population, especially in authoritarian countries, prefers to use the World Wide Web for non-political purposes (Morozov, 2011). In addition, the Internet contributes to the between-country inequality in a potential impact of the population on politics due to the different Internet coverage rates. Moreover, there is a within-country inequality between the younger and older generation (Margolis, 2007). Younger people interested in politics can quickly mobilize and spread their messages in an online environment because they constantly use the Internet. In contrast, older people do not have the same mobilization potential because they spend less time online than younger generations.

More recent literature has abandoned the dichotomy of cyber optimists versus cyber pessimists, paying more attention to how various actors and social contexts interact with the World Wide Web. In line with this trend, Internet proliferation in combinations with other factors such as education, economic development and political regime have different effects on violent and non-violent forms of political destabilization. Thus, the expansion of social networks and new digital media increases the potential for non-violent mobilization of the dissatisfied population. Nevertheless, the Internet access itself might not affect the possible transformation of non-violent protests into violent ones. Except for coup d’états and terrorist attacks, actions associated with socio-political instability are likely to become violent only after harsh government responses (McCormick & Giordano, 2007, 309–311). Consequently, Internet proliferation is likely to directly affect non-violent forms of political mobilization (general strikes and anti-government demonstrations) as a medium for disseminating information. However, the spread of the World Wide Web might not cause higher levels of violent destabilization (riots, terrorism, and guerilla warfare) because national security agencies employ effective defense strategies.

Internet, Terrorist Organizations, and Individual Radicalization

The previous research has focused on the relationship between the Internet, activities of terrorist groups and individual radicalization. Because of the fast spread of information and anonymity of users, the World Wide Web provides terrorists with an appropriate environment for propagating extremist views, mobilizing supporters, and attracting funding (Britz, 2010; Von Behr et al., 2013). Specialized terrorist websites operate as online libraries of ideological
texts, platforms for recruiters and forums for information sharing (Zeman et al., 2017). In addition, photo and video materials, games, training aids and technical instructions prepared by terrorist groups contribute to the radicalization of their supporters (see Holt et al., 2015). The “electronic jihad” declared by Al-Qaeda aimed to spread the ideas of jihad among the Muslim population of Western Europe is a prominent example of how terrorist groups actively use the Internet (Rudner, 2017).

The Internet promotes the self-radicalization of people by providing opportunities to get more relevant information on thematic forums and social media. At the same time, organized terrorist groups search for radicalized individuals, as they can be recruited, trained, and sent to perform tasks at relatively low cost (Simon, 2013, 20). In turn, lone-wolf terrorists tend to communicate with like-minded people online if they have more offline social interactions (Gill & Corner, 2015). Right-wing extremists who plan terrorist attacks and recruit potential supporters are more likely to engage in online training than people of similar views but not involved in terrorist activity (Gill et al., 2017). Even though the Internet provides broad opportunities for the expansion of terrorist organizations and radicalization of individuals, it does not mean that the World Wide Web itself contributes to a higher intensity of terrorist attacks because of two reasons. At first, radicalization depends on interactions between potential terrorists irrespective of offline or online mode of communication. Secondly, direct perpetrators of terrorist attacks rely more on personal offline interactions.

David Benson (2014) has proposed an alternative explanation of why the Internet spread is not related to the higher intensity of terrorism. According to this view, the state security agencies use the Internet with at least the same degree of efficiency as terrorist groups, offsetting the advantages of the World Wide Web in terms of anonymity and speed of information (Benson, 2014, 293). The comparison of Al-Qaeda terrorist attacks and countermeasures of security agencies did not provide empirical evidence that the Internet was an additional advantage to the terrorist group. Furthermore, most of the successful Al-Qaeda terrorist attacks after 2005, when the group began to use the Internet for coordinating transnational attacks, were organized at the local level through personal communication of the perpetrators without using digital technologies (Benson, 2014).

Freedom of the Online Press, Political Regime and Terrorism

The media, including online sources, make a separate contribution to the potential terrorist activity. On the one hand, terrorists are trying to achieve maximum publicity for delivering their messages to a broad audience (Wilkinson, 2006, 152). On the other hand, the media resources compete for the public, which determines their desire to spread the news as quickly as
possible. Supporters of the publicity argument believe that media freedom in democracies encourages terrorists to select them as targets for attacks (Chenoweth, 2013, 352; Hoffman, 2006). Nevertheless, with the development of the Internet, terrorist groups can be widely publicized in countries with authoritarian political regimes and lose incentives to attack more democratic countries. In autocracies, official media tend to underreport the incidences of terrorist attacks. Consequently, the increase of Internet users and the corresponding access to alternative information potentially contributes to a greater intensity of terrorism in countries with authoritarian political regimes since more terrorist attacks begin to be made public. At the same time, the expansion of the Internet in democracies may not lead to the more prominent terrorist activity since democracies had relatively high press freedom even before the Internet era.

We acknowledge the importance of studies that offer theoretical mechanisms for a direct relationship between the spread of the Internet and the intensity of terrorist attacks. However, we allege that the relationship between the two phenomena at an aggregated level is more complex, depending on the accompanying political, economic, and social factors. Thus, countries with various types of political regimes experience different levels of terrorist activity. Numerous studies reveal that the highest intensity of terrorism is inherent in hybrid regimes which combine democratic and authoritarian institutional elements (Aksoy et al., 2012; Chenoweth, 2013). For instance, partial autocracies conduct regular elections, but they are not always fair and competitive. In turn, unconsolidated autocracies allow opposition parties, but the appointed character of legislatures limits their political participation. As a result of the inconsistent instructional structure, countries with hybrid regimes are more prone to socio-political instability than consolidated democratic and authoritarian countries.

Hypotheses

In general, we expect a positive relationship between Internet penetration and terrorist activity. The Internet provides opportunities for terrorist groups to deliver their messages to a broad audience, find new supporters, gain financial support, and radicalize individuals. In other words, the World Wide Web plays a role of a medium for organizational activities of terrorists. At the same time, the Internet increases the amount of information available to people. Consequently, digital media can report more terrorist attacks compared to the traditional media before the massive spread of the World Wide Web. In addition, incumbents have less chances to control information as much as before the Internet underreporting terrorist incidents to prevent reputational costs.
**H1:** The relative number of Internet connections is associated with a *higher* intensity of terrorist attacks.

Nevertheless, the effect of Internet proliferation on the intensity of terrorist attacks can be heterogenous in different political regimes. Thus, autocratic leaders control all aspects of the political, social, and economic realm, including access to independent media and freedom of speech on the Internet (Guriev & Treisman, 2019; King et al., 2013; Rød & Weidmann, 2015). As a result, they suppress benefits of the World Wide Web as a medium for mobilization of dissatisfied citizens and organizational activities of terrorist groups. Hypothesis 2 below follows this reasoning.

**H2:** The relative number of Internet connections is associated with a *lower intensity* of terrorist attacks in countries with authoritarian political regimes.

At the same time, we do not expect to find a robust relationship in countries with democratic political regimes since they had experienced relative media freedom before the Internet era. In countries with democratic institutions, governments have not controlled all information channels, so some media could report terrorist attacks, even if state media underreported them:

**H3:** There is no relationship between the relative number of Internet connections and the number of terrorist attacks in countries with democratic political regimes.

**Methodology**

**Data**

We employ the Global Terrorism Database (START, 2021) to test the hypotheses about the relationship between Internet proliferation and terrorist activity in countries with different political regimes. The original database reports more than 200 thousand terrorist incidents in 214 countries and territories from 1970 to 2018. A terrorist attack is defined as a “the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation” (START, 2021, 10). The database captures terrorist incidents, if they are intentional, “entail some level of violence or immediate threat of violence”, and are perpetrated by sub-national actors (START, 2021, 10–11). In addition, an incident is classified as a terrorist attack if it meets at least two out of three additional criteria: the aim to attain a political, economic, religious, or social goal, the intention of the perpetrators to convey a specific message to a larger audience than the immediate victims of an attack, and the commission of an incident outside the context of legitimate warfare activities (START 2021, 12). The main dependent variable of our interest is the number
of terrorist attacks in a country-year. It should be mentioned that the authors of
data made significant methodological changes in 2012 (Jensen, 2013). They
significantly increased the range of primary media sources to derive infor-
mation about terrorist attacks, started to use natural language processing and
re-organized coding team by specific domains and groups of variables. As a
result, the exponential growth of detected terrorist attacks after 2011 can be
explained not only by the massive wave of socio-political destabilization due
to the Arab Spring, but also with the changes in methodology. We address this
issue by employing negative binomial models, accounting for a time-series
cross-sectional structure of data with regional and time fixed effects and
including a set of socio-economic and political control variables.

In a robustness check, we test the models for an alternative measure of
terrorist activity: the number of victims of terrorist attacks (START, 2021).
The main independent variable is the number of Internet connections per
100 people (World Bank, 2020). The indicator reflects the spread and intensity
of Internet usage in 196 countries and includes 4898 observations from 1960
to 2018.

To address the differences in how Internet proliferation is connected to the
intensity of terrorist attacks in countries with various political regimes, we
employ a categorical variable, following the classification by Goldstone et al.
(2010, 194–198). Their measure of political regime is based on two indicators
from the Polity database (Center for Systemic Peace, 2021): the openness of
executive recruitment and the competitiveness of political participation, which
correspond to the two dimensions of Dahl’s forms of government: contesta-
tion and inclusiveness (Dahl, 2008 (1971)). Political regimes include the
following categories (Goldstone et al., 2010, 195–196):

1. Full autocracies: absent contestation and absent inclusiveness
2. Partial autocracies: absent contestation and relatively high inclusiven-
ness or relatively high contestation and absent inclusiveness
3. Partial democracies with factionalism: factionalism\(^1\) with high con-
testation and limited inclusiveness or limited contestation and high
inclusiveness
4. Partial democracies without factionalism: high contestation and limited
inclusiveness or limited contestation and high inclusiveness
5. Full democracies: high contestation and high inclusiveness

Countries in the database have different values of political regimes across
time. Appendix 1 illustrates breakdown of countries by political regime in the
latest available year, 2018, according to the methodology by Goldstone et al.
(2010). It should be noted that classification based on two Polity dimensions is
not without caveats. For example, Russian Federation in 2018 belongs to the
category “partial democracies without factionalism”, despite authoritarian
elements in an institutional structure. Nevertheless, the classification scheme provides a clearer breakdown of countries than the arbitrary split of countries according to the aggregated Polity index.

To consider socio-economic characteristics which are relevant in the context of terrorist activity, we include several control variables in regression models: the logarithm of the population, unemployment rate (according to national statistical offices, in percent), and the logarithm of inflation (consumer price index relative to the previous year, in per cent) from the World Bank database (2020). Moreover, we control for the logarithm of GDP per capita (Pemstein et al., 2020) and the share of the urban population (The United Nations Population Division, 2015).

On average, more populated countries experience more terrorist attacks because terrorist groups can recruit more potential supporters (Piazza, 2006). In addition, more populated countries provide a broad audience for intimidation and delivery of terrorist messages and the additional costs of counterterrorist measures because they might suppress citizen rights.

Higher unemployment contributes to citizens’ dissatisfaction with the economic situation in the country and can lead to increased terrorist activity if the non-violent forms of protest do not change the status quo. Terrorist organizations can mobilize new supporters who are dissatisfied with their economic situation and are ready to resort to radical measures to draw attention to the problem (Caruso & Schneider, 2011). Consistent with this reasoning, higher unemployment rate is associated with a higher number of terrorist attacks (Adelaja & George, 2020).

Inflation is potentially associated with the intensity of terrorist attacks in the same way as unemployment, contributing to the dissatisfaction of radicalized individuals with an economic situation (Shahbaz, 2013). The increase in inflation, particularly for food products, is expected to be associated with the growth of violent and non-violent forms of socio-political destabilization.

The level of economic development, proxied by the logarithm of GDP per capita, is most likely curvilinearly associated with terrorist activity (Korotayev et al., 2019). Countries with an average level of economic development are most susceptible to terrorist activity. The potential benefits of terrorist attacks in the least developed countries are relatively small. In contrast, the most developed countries can sustain an effective system of counterterrorist agencies.

Urbanization, expressed in the proportion of the urban population, can be associated with a higher terrorist activity, as terrorists choose the most populous places to carry out attacks, which are more typical for cities than for rural settlements (Campos & Gassebner, 2013; Tavares, 2004). Indirectly, a higher proportion of the urban population can be a proxy for economic development since the most productive sectors of the economy (the
manufacturing sector in developing countries and the services sector in developed countries) concentrate in urban areas.

Furthermore, we control for a set of political and cultural variables that can affect the terrorist intensity: ethnic fractionalization, Polity5 score, political participation, and domestic instability. The index of ethnic fractionalization, based on the methodology of Alesina (2003), corresponds to “the probability that two randomly drawn individuals within a country are not from the same ethnic group” (Drazanova, 2019). The measure of regimes, alternative to classification by Goldstone et al. (2010), is the Polity5 index of Political Regime Characteristics and Transitions (Center for Systemic Peace, 2021). To account for different dimensions of political regimes, we employ an index of political participation in a robustness check (Freedom House, 2021). Finally, we account for general domestic instability with the aggregated index of socio-political destabilization, normalized by million people, from the Cross-National Time-Series Data Archive (Banks & Wilson, 2021).

The regression models include regional fixed effects to account for shocks specific to different geographic regions resulting from various forms of regional political violence and unrest. We control for 12 regions from the Global Terrorism Database (START, 2021): Eastern Europe, Western Europe, South Asia, Southeast Asia, East Asia, Central Asia, Middle East and North Africa, Sub-Saharan Africa, Australasia and Oceania, North America, South America, and Central America and Caribbean. Appendix 2 presents the breakdown of countries by region.

Table 1 presents the descriptive statistics for the main dependent, independent and control variables. The number of terrorist attacks ranges from 0 to 3774 cases recorded by the Global Terrorism Database. The standard deviation and variance (squared standard deviation) significantly exceed the mean of the dependent variable, providing a reason for using negative binomial regression models. Descriptive statistics of independent and control variables indicate the heterogeneity of observations and the need to include fixed effects.

**Methods**

We use the negative binomial regression models appropriate for a count dependent variable with a non-normal distribution to test our hypotheses. In our case, the distribution resembles a general negative binomial form with a concentration of values around zero, meaning the absence of terrorist attacks in a specific country-year (see Figure 1). In this case, the ordinary least squares estimates are biased and ineffective since they assume a normal distribution of the outcome. We do not choose the Poisson general linear models because they require equality between the variance and the mean of the dependent variable. In turn, the negative binomial model allows the variance to exceed
the mean with an additional parameter theta (Allison & Waterman, 2002, 250). We include region and time fixed effects to address the unobserved heterogeneity and the omitted variable bias.

The negative binomial regression formula for the full sample models can be presented with the following equation

$$
\log(n_{terror\_attacks_{it}}) = \beta_0 + \beta_1 internet\_connections_{it} \\
+ \beta_2 (political\_regime_{it} = 1) + \beta_3 (political\_regime_{it} = 2) \\
+ \beta_4 (political\_regime_{it} = 3) + \beta_5 (political\_regime_{it} = 4) \\
+ \beta_6 (political\_regime_{it} = 5) + (\beta_7 \ldots \beta_k)\{controls_{it}\} + \epsilon
$$

where $i$ denotes the country, $t$ – the year, $k$ – the number of predictors, $\epsilon$ – the random error term.

Furthermore, we divide the entire sample into two sub-samples: authoritarian countries (full autocracies and partial autocracies) and democratic countries (full democracies, partial democracies with factionalism and partial democracies without factionalism). The sample split allows checking whether the relationships between the predictors and the outcome are similar for all observations or driven by a specific subset. Instead of mid-level regime measurement by Goldstone et al. (2010), we employ aggregated Polity5 index (Center for Systemic Peace, 2021) with a range of values from $-10$ (full autocracy) to 10 (full democracy). The model specifications for separate authoritarian and democratic countries are as follows.
\[
\log(\text{n\_terror\_attacks}_{it}) = \beta_0 + \beta_1 \text{internet\_connections}_{it} \\
+ \beta_2 (\text{political\_regime}_{it}) + \ldots + (\beta_3 \ldots \beta_k)\{\text{controls}_{it}\} + \epsilon
\]

where \(i\) denotes the country, \(t\) – the year, \(k\) – the number of predictors, \(\epsilon\) – the random error term.

**Results**

**Main Models**

The Pearson correlation coefficient between the number of Internet connections per 100 people and the intensity of terrorist attacks has a low negative value, indicating the need to include the proposed control variables and split the sample in a more detailed assessment of the relationship between the two variables (Table 2). However, due to the relatively high values of Pearson correlations between GDP per capita and the number of Internet connections per 100 people and GDP per capita and the share of urban population regression models may encounter the problem of multicollinearity (the presence of the relationship between explanatory variables). We address this issue with the robust standard errors clustered by region.

Table 3 and 4 present the main regression results. Table 3 provides initial estimates. The coefficients demonstrate how the expected log count of terrorist attacks changes for a one-unit increase in a predictor. We report exponentials of initial estimates in Table 4 to understand the relative incident rate ratios of
Table 2. Pearson Correlations between the Variables.

|                      | Terrorist Attacks | Internet Connections | Polit Regime | Population (Log) | GDP Pc (Log) | Unempl | Urban Share | Inflation (Log) | Ethn. Frac | Polity | Pol Rights |
|----------------------|-------------------|----------------------|--------------|------------------|-------------|--------|-------------|-----------------|-----------|--------|-----------|
| Terrorist attacks    |                   |                      |              |                  |             |        |             |                 |           |        |           |
| Internet connections | -0.088            |                      |              |                  |             |        |             |                 |           |        |           |
| Polit regime         | -0.117            | 0.325                |              |                  |             |        |             |                 |           |        |           |
| Population (log)     | 0.236             | -0.115               | -0.268       |                  |             |        |             |                 |           |        |           |
| GDP pc (log)         | -0.129            | 0.631                | 0.513        | -0.213           |             |        |             |                 |           |        |           |
| Unempl               | -0.044            | -0.086               | 0.040        | -0.114           | -0.030      |        |             |                 |           |        |           |
| Urban share          | -0.120            | 0.458                | 0.318        | -0.143           | 0.745       | 0.043  |             |                 |           |        |           |
| Inflation            | 0.104             | -0.386               | -0.212       | 0.062            | -0.368      | -0.029 | -0.228      |                 |           |        |           |
| Ethn. Frac           | 0.155             | -0.111               | -0.184       | 0.140            | -0.294      | -0.012 | -0.155      | 0.119           |           |        |           |
| Polity               | -0.024            | 0.220                | 0.879        | -0.174           | 0.348       | 0.109  | 0.186       | -0.090          | -0.100    |        |           |
| Pol rights           | 0.133             | -0.321               | -0.883       | 0.259            | -0.514      | -0.126 | -0.348      | 0.181           | 0.133     | -0.890 |           |
| Instability          | 0.076             | -0.127               | -0.110       | -0.138           | -0.129      | 0.061  | -0.08       | 0.110           | -0.013    | -0.042 | 0.073     |
Table 3. Internet Connections and Terrorist Attacks by Regime Type.

|                        | Full Sample | Full Sample | Democracies | Autocracies |
|------------------------|-------------|-------------|-------------|-------------|
|                        | (1)         | (2)         | (3)         | (4)         |
| Internet connections   | -0.018**    | -0.020**    | -0.018*     | 0.013       |
|                        | (0.008)     | (0.008)     | (0.010)     | (0.052)     |
| Partial autocracy      | 0.851       | (0.676)     |             |             |
| Part. dem. with fact   | 1.768***    | (0.666)     |             |             |
| Part. dem. without fact| 0.951       |             |             |             |
|                        | (0.689)     |             |             |             |
| Full democracy         | 0.967       | (0.739)     |             |             |
| Polity                 |             |             | -0.023      | 0.234       |
|                        |             |             | (0.048)     | (0.045)     |
| Population (log)       | 0.971***    | 1.002***    | 0.938***    | 1.426***    |
|                        | (0.108)     | (0.102)     | (0.112)     | (0.344)     |
| GDP per capita (log)   | 0.403**     | 0.384*      | 0.061       | 1.109***    |
|                        | (0.205)     | (0.211)     | (0.223)     | (0.427)     |
| Unemployment           | 0.039**     | 0.032       | 0.066***    | 0.072***    |
|                        | (0.019)     | (0.021)     | (0.018)     | (0.016)     |
| Inflation (log)        | -0.010      | 0.009       | -0.017      | 0.072       |
|                        | (0.078)     | (0.077)     | (0.097)     | (0.333)     |
| Urban share            | -0.027****  | -0.024*     | -0.031***   | -0.024      |
|                        | (0.010)     | (0.012)     | (0.012)     | (0.032)     |
| Political instability  | 0.005***    | 0.005***    | 0.004***    | 0.002***    |
|                        | (0.0003)    | (0.0003)    | (0.0005)    | (0.001)     |
| Ethnic fractionalization| 1.688***    | 1.715***    | 1.752**     | -1.210      |
|                        | (0.339)     | (0.524)     | (0.747)     | (1.134)     |

Region fixed effects Yes Yes Yes Yes
Time fixed effects Yes Yes Yes Yes
Observations 1323 1330 1075 248
Log likelihood -3200.127 -3239.919 -2525.989 -637.545
Theta 0.345*** 0.333*** 0.380*** 0.374***
                  (0.017)     (0.017)     (0.022)     (0.043)
Akaike Inf. Crit 6448.254 6521.838 5093.978 1311.089

Negative binomial models with robust standard errors, clustered at the region level. Baseline regime category: full autocracy. Standard errors are reported in parentheses. 
P-values significance: * p<0.1; **p<0.05; ***p<0.01.
Table 4. Internet Connections and Terrorist Attacks by Regime Type (Incident Rate Ratios).

| Number of Terrorist Attacks | Full Sample | Full Sample | Democracies | Autocracies |
|-----------------------------|-------------|-------------|-------------|-------------|
| (1)                         | (2)         | (3)         | (4)         |
| Internet connections        | 0.982**     | 0.980**     | 0.982*      | 1.013       |
|                             | (0.008)     | (0.008)     | (0.010)     | (0.052)     |
| Partial autocracy           | 2.341       |             |             |             |
|                             | (1.582)     |             |             |             |
| Part. dem. with fact        | 5.860****   |             |             |             |
|                             | (3.905)     |             |             |             |
| Part. dem. without fact     | 2.589       |             |             |             |
|                             | (1.784)     |             |             |             |
| Full democracy              | 2.630       |             |             |             |
|                             | (1.942)     |             |             |             |
| Polity                      |             | 1.056       | 0.978       | 1.264       |
|                             |             | (0.051)     | (0.044)     | (0.199)     |
| Population (log)            | 2.642****   | 2.723****   | 2.556****   | 4.162****   |
|                             | (0.286)     | (0.279)     | (0.287)     | (1.432)     |
| GDP per capita (log)        | 1.497**     | 1.469*      | 1.063       | 3.032****   |
|                             | (0.306)     | (0.310)     | (0.237)     | (1.293)     |
| Unemployment                | 1.040**     | 1.033       | 1.068****   | 1.075****   |
|                             | (0.019)     | (0.022)     | (0.019)     | (0.018)     |
| Inflation (log)             | 0.990       | 1.009       | 0.983       | 1.075       |
|                             | (0.077)     | (0.078)     | (0.095)     | (0.358)     |
| Urban share                 | 0.973****   | 0.976*      | 0.970****   | 0.976       |
|                             | (0.010)     | (0.012)     | (0.011)     | (0.032)     |
| Political instability       | 1.004****   | 1.005****   | 1.004****   | 1.002****   |
|                             | (0.0003)    | (0.0003)    | (0.0005)    | (0.001)     |
| Ethnic fractionalization    | 5.406****   | 5.554****   | 5.767**     | 0.298       |
|                             | (1.835)     | (2.908)     | (4.307)     | (0.338)     |
| Region fixed effects        | Yes         | Yes         | Yes         | Yes         |
| Time fixed effects          | Yes         | Yes         | Yes         | Yes         |
| Observations                | 1323        | 1330        | 1075        | 248         |
| Log likelihood              | −3200.127   | −3239.919   | −2525.989   | −637.545    |
| Theta                       | 0.345****   | 0.333****   | 0.380****   | 0.374****   |
|                             | (0.017)     | (0.017)     | (0.022)     | (0.043)     |
| Akaike Inf. Crit            | 6448.254    | 6521.838    | 5093.978    | 1311.089    |

Negative binomial models with robust standard errors, clustered at the region level. Exponentials of coefficients from Table 3. Standard errors are calculated by multiplying exponentials of coefficients by standard errors for initial non-exponentiated coefficients from Table 3. Standard errors are reported in parentheses. Baseline regime category: full autocracy. p-values significance: * p<0.1; **p<0.05; ***p<0.01.
terrorist attacks. The exponential of each original value is calculated by raising a mathematical constant e to a power of the corresponding value\(^2\): \(\exp(x) = e^x\), where \(x\) is the initial coefficient from the Table 3. The resulted values in Table 4 indicate the incident rate ratios of the dependent variable with the one-unit increase of the value of the independent variable. For example, the value of internet connections in Model 1 (Table 3) is -0.018. It corresponds to the exponential of the value in Table 4: \(e^{-0.018}=0.982\). This is an incident ratio rate of the number of terrorist attacks when the number of internet connections increases by one unit.

\[
\frac{\text{the number of terrorist attacks when }}{
\text{the number of Internet connections}} = x + 1
\]

\[
\frac{\text{the number of terrorist attacks when }}{
\text{the number of Internet connections}} = x
\]

Thus, it is possible to extract the resulting value from 1 and get the incident rate change with a one unit increase in the predictor.

For a total sample (Models 1 and 2), the number of Internet connections per 100 people is statistically significant with a \(p\)-value less than 0.05. The coefficient value less than 1 indicates lower incident rates of terrorist attacks with an increase in Internet proliferation. More precisely, with a one-unit increase of Internet connections per 100 people, the number of terrorist attacks decreases by \(1.8\% \ (1-0.982)*100\%\). The exact magnitude and significance of the relationship between the main independent variable and outcome are present for a sample of democracies (Model 3). For a sample of autocracies (Model 4), Internet proliferation is not a statistically significant predictor of terrorism.

Model 1 includes estimates for separate categories of political regimes, classified with methodology from Goldstone et al. (2010). The baseline category is full autocracies. The regression coefficients for four categories of political regimes mean the estimated number of terrorist attacks relative to full autocracies. The estimate for partial democracies with factionalism is statistically significant: countries from this group experience 5.86 times more terrorist attacks per year than full autocracies, given that all other variables are equal to zero. In turn, the coefficients for three other categories of political regimes (partial autocracies, partial democracies without factionalism and full democracies) are not statistically significant, meaning that countries from these groups do not have significantly different levels of terrorist activity in comparison to consolidated autocracies.

Models 2–4 include an alternative indicator of political regimes: the aggregated Polity5 score. The corresponding estimates are not significant, suggesting the need for more disaggregated measures of regimes, like one provided by Goldstone et al. (2010), to trace the differences in terrorist
activity. The Polity5 score includes a lot of sub-indicators, which provide a complex estimation of the political regime but do not allow checking the possible relationships between components and terrorism. Goldstone et al.’s measure addresses this limitation of the Polity5 index by reducing the number of dimensions to two and capturing one of the essential regime characteristics.

Among socio-economic control variables, the logarithm of population and share of the urban population are significant for all models. More populated and less urbanized countries have higher terrorism incident rates, taking all other variables equal to zero. Coefficients for unemployment are positive and statistically significant for all regression specifications except Model 2. GDP per capita is significant for the whole sample and autocracies, while inflation is not associated with terrorism in all regression specifications.

Domestic instability demonstrates statistically significant positive coefficients among political control variables for all models. A country with a general non-stable socio-political environment will likely experience a higher terrorist incidents rate because terrorists face fewer obstacles in organizing attacks. In turn, the index of ethnic fractionalization is positive and statistically significant for models on a total sample and sub-sample of democracies. Many domestic political conflicts have an ethnic nature, and the association is likely to be driven by partial democratic countries with factionalism. Often, ethnic and religious motivations drive terrorism activity in multi-national polarized societies. A prominent example is ETA (Euskadi ta Askatasuna, “Euskadi and Freedom”) in the Basque region in Spain (Zulaika & Murua, 2017).

Figure 2. Predicted values by regime type.
To better understand the magnitude of effects for the primary independent variable, the number of Internet connections per 100 people, we calculated the predicted number of terrorist attacks disaggregated for the types of political regimes and plotted them in Figure 2. The graph shows the negative trend for all categories, but the slope is much greater for partial democracies with factionalism than other regimes.

In general, we have reasons to reject all three hypotheses. More Internet connections per 100 people are associated with fewer terrorist attacks in a country year. The effect remains statistically significant on a sub-sample of democracies, while it loses significance on a sub-sample of autocracies. Among all types of political regimes, identified by methodology from Goldstone et al. (2010), partial democracies with factionalism have the maximum number of terrorist attacks and the most profound effect of Internet connections.

Robustness Checks

To check the robustness of our empirical results, we run a set of alternative regression models. The first robustness check includes an alternative dependent variable: the number of casualties from terrorist attacks (START, 2021). We exclude GDP per capita from the model on a sample of democracies because it is most correlated with other controls. For a model on a sub-sample of autocracies, we exclude the logarithm of inflation due to the small number of complete observations. Table 5 reports the results of the first robustness check. The coefficients for the Internet connections are not statistically significant in Model 1 (total sample) and Model 2 (democracies). At the same time, an estimate of Internet proliferation is positive and statistically significant for autocracies. Inconsistency in the relationships between the number of internet connections per 100 people and different measures of terrorist activity can be explained by the different aspects of terrorism spread measured by an alternative dependent variable. While the main outcome of interest (the number of terrorist attacks) corresponds to the quantitative aspect of terrorist activity, the alternative indicator (the number of casualties) measures the severity of the attacks.

Since the main regression results show the different signs of an association between the Internet spread and terrorist attacks in democracies and autocracies, we consider an alternative sample split to check the validity of the results. We divided the sample into full autocracies and other regimes. The direct relationship becomes significant in the most model specification for full autocracies (Supplemental Table S1) and remains inverse for countries with democratic and hybrid political regimes (Supplemental Table S2). These findings support our main results. Countries with different political regimes
Table 5. Internet Connections and Terrorist Attacks Casualties (Incident Rate Ratios).

|                          | Full Sample | Democracies | Autocracies |
|--------------------------|-------------|-------------|-------------|
|                          | (1)         | (2)         | (3)         |
| Internet connections     | 1.010       | 1.010       | 0.971**     |
|                          | (0.013)     | (0.012)     | (0.013)     |
| Partial autocracy        | 1.067       |             |             |
|                          | (0.841)     |             |             |
| Part. dem. with fact     | 2.250       |             |             |
|                          | (1.715)     |             |             |
| Part. dem. without fact  | 1.145       |             |             |
|                          | (0.485)     |             |             |
| Full democracy           | 0.485       |             |             |
|                          | (0.473)     |             |             |
| Polity                   |             | 0.702***    |             |
|                          |             | (0.059)     |             |
| Political rights         |             |             | 1.225       |
|                          |             |             | (0.164)     |
| Population (log)         | 2.485***    | 2.997***    | 3.358***    |
|                          | (0.461)     | (0.437)     | (0.476)     |
| GDP per capita (log)     | 0.599*      |             | 1.206       |
|                          | (0.174)     |             | (0.241)     |
| Unemployment             | 1.017       | 0.985       | 1.151***    |
|                          | (0.050)     | (0.043)     | (0.039)     |
| Inflation (log)          | 1.206       | 1.287*      |             |
|                          | (0.183)     | (0.182)     |             |
| Urban share              | 0.982**     | 0.983       | 0.981       |
|                          | (0.007)     | (0.017)     | (0.015)     |
| Political instability    | 1.005***    | 1.010***    | 1.003***    |
|                          | (0.0004)    | (0.001)     | (0.0004)    |
| Ethnic fractionalization | 1.899       | 3.474*      | 3.406***    |
|                          | (1.837)     | (2.525)     | (1.332)     |
| Observations             | 1323        | 1090        | 293         |
| Log likelihood           | −2699.012   | −2068.686   | −808.803    |
| Theta                    | 0.150*** (0.009) | 0.118*** (0.008) | 0.148*** (0.015) |
| Akaike Inf. Crit         | 5446.025    | 4155.371    | 1635.606    |

Negative binomial models with robust standard errors, clustered at the region level. Exponentials of the initial coefficients. Standard errors are calculated by multiplying exponentiated coefficients by standard errors for initial non-exponentiated coefficients. Standard errors are reported in parentheses. Baseline regime category: full autocracy. p-values significance: * p<0.1; **p<0.05; ***p<0.01.
experience the heterogenous effects of Internet proliferation on the intensity of terrorist attacks.

Finally, we check whether the main results hold for sub-samples of countries divided by the level of socio-economic development rather than political regime (Supplemental Table S3). The samples include countries with GDP per capita values below the fifth quantile (Model 1) and above or equal the fifth quantile (Model 2). In addition, we used the same principle to split samples for Models 3 and 4 into countries with the various average number of years of adult education (Pemstein et al., 2020). The negative effect of the number of Internet connections on the number of terrorist attacks is 7.5 times higher for less economically developed countries compared to more economically developed countries and 6.3 times higher for countries with a relatively low level of adult education compared to countries with a relatively high level of education. In this way, the third robustness check supported the inverse relationship between Internet proliferation and terrorist attacks. Moreover, it illustrated the difference in magnitudes of effect depending on the level of socio-economic development.

**Discussion and Conclusion**

The results of regression analysis provide evidence against our hypotheses. Contrary to hypothesis 1, we have found an inverse relationship between the number of Internet connections per 100 people and the number of terrorist attacks in a country year. This inverse relationship is present for a sub-sample of democracies and absent for authoritarian countries. The magnitude of the negative effect is significantly higher for partial democracies with factionalism.

We suggest three explanations of these empirical results. First, direct perpetrators of terrorist attacks may rely more on personal offline connections between each other rather than online medium because the Internet does not provide the same safety as in-person interactions while preparing a terrorist attack (Benson, 2014, 307). The cost of miscalculation when preparing a terrorist attack is fatal, so perpetrators minimize it by choosing a more secure mode of interaction with peers. The terrorists should know each other to organize a successful attack. Furthermore, anonymity and information available on the Internet are not so helpful to terrorists as others might think. There is no complete anonymity of users. Websites and Internet providers constantly trace the actions of users and can detect suspicious activity. In turn, redundant online information does not mean that radicalized individuals know how to use it properly. It is hard to choose relevant knowledge from multiple sources with various reliability and transform it into action (Benson, 2014, 306).

At the same time, government security agencies have many more resources and capacities than terrorists to extract benefits from Internet proliferation.
(Benson, 2014). They use the World Wide Web to monitor and detect suspicious activities and prevent potential attacks at the first stages of preparation. Cybersecurity becomes one of the main priorities for governments that invest budget resources to build a reliable protection system against the violent mobilization of dissatisfied citizens.

Finally, Internet penetration can be interpreted as a proxy for the general socio-economic development of a country. The quantitative spread of the Internet may be inversely associated with terrorist incidents because countries with more Internet connections per 100 people have a higher level of socio-economic development which means that countries have more capacities to organize adequate anti-terrorism protection.

The main limitations of our empirical results are potential multicollinearity and a relatively limited number of observations due to data unavailability. We addressed these problems by robust standard error clustered at the regional level and robustness checks with an alternative dependent variable and different sub-samples. Future research can focus on the causal mechanisms and the relationship between Internet penetration and terrorist activity in various regions.

Appendix I

Countries by Political Regime in 2018 according to Goldstone et al., 2010

| Political Regime       | Country                                      |
|------------------------|----------------------------------------------|
| Full Autocracy         | Afghanistan                                  |
| Full Autocracy         | Bahrain                                      |
| Full Autocracy         | China                                        |
| Full Autocracy         | Cuba                                         |
| Full Autocracy         | Korea, Democratic People’s Republic of       |
| Full Autocracy         | Lao People’s Democratic Republic             |
| Full Autocracy         | Mauritania                                   |
| Full Autocracy         | Qatar                                        |
| Full Autocracy         | Saudi Arabia                                 |
| Full Autocracy         | Swaziland                                    |
| Full Autocracy         | Syrian Arab Republic                         |
| Full Autocracy         | United Arab Emirates                         |
| Full Autocracy         | Uzbekistan                                   |
| Full Autocracy         | Viet Nam                                     |
| Partial Autocracy      | Sudan                                        |
| Partial Autocracy      | Algeria                                      |
| Partial Autocracy      | Angola                                       |
| Partial Autocracy      | Azerbaijan                                   |

(continued)
| Political Regime                      | Country                                         |
|--------------------------------------|-------------------------------------------------|
| Partial Autocracy                    | Bangladesh                                      |
| Partial Autocracy                    | Belarus                                         |
| Partial Autocracy                    | Burundi                                         |
| Partial Autocracy                    | Cambodia                                        |
| Partial Autocracy                    | Cameroon                                        |
| Partial Autocracy                    | Chad                                            |
| Partial Autocracy                    | Comoros                                         |
| Partial Autocracy                    | Congo                                           |
| Partial Autocracy                    | Congo, the Democratic Republic of the           |
| Partial Autocracy                    | Djibouti                                        |
| Partial Autocracy                    | Egypt                                           |
| Partial Autocracy                    | Equatorial Guinea                               |
| Partial Autocracy                    | Eritrea                                         |
| Partial Autocracy                    | Ethiopia                                        |
| Partial Autocracy                    | Fiji                                            |
| Partial Autocracy                    | Gambia                                          |
| Partial Autocracy                    | Iran, Islamic Republic of                       |
| Partial Autocracy                    | Jordan                                          |
| Partial Autocracy                    | Kazakhstan                                      |
| Partial Autocracy                    | Kuwait                                          |
| Partial Autocracy                    | Morocco                                         |
| Partial Autocracy                    | Oman                                            |
| Partial Autocracy                    | Papua New Guinea                                |
| Partial Autocracy                    | Rwanda                                          |
| Partial Autocracy                    | Somalia                                         |
| Partial Autocracy                    | Tajikistan                                      |
| Partial Autocracy                    | Thailand                                        |
| Partial Autocracy                    | Togo                                            |
| Partial Autocracy                    | Turkey                                          |
| Partial Autocracy                    | Turkmenistan                                     |
| Partial Autocracy                    | Uganda                                          |
| Partial Autocracy                    | Venezuela, Bolivarian Republic of               |
| Partial Democracy with Factionalism  | Belgium                                         |
| Partial Democracy with Factionalism  | Bolivia, Plurinational State of                 |
| Partial Democracy with Factionalism  | Central African Republic                        |
| Partial Democracy with Factionalism  | Colombia                                        |
| Partial Democracy with Factionalism  | Cote d'Ivoire                                   |
| Partial Democracy with Factionalism  | Gabon                                           |
| Partial Democracy with Factionalism  | Guinea                                          |

(continued)
| Political Regime                                | Country                               |
|------------------------------------------------|----------------------------------------|
| Partial Democracy with Factionalism            | Iraq                                   |
| Partial Democracy with Factionalism            | Israel                                 |
| Partial Democracy with Factionalism            | Kyrgyzstan                             |
| Partial Democracy with Factionalism            | Lebanon                                |
| Partial Democracy with Factionalism            | Madagascar                             |
| Partial Democracy with Factionalism            | Malawi                                 |
| Partial Democracy with Factionalism            | Pakistan                               |
| Partial Democracy with Factionalism            | Sri Lanka                              |
| Partial Democracy with Factionalism            | Tanzania, United Republic of           |
| Partial Democracy with Factionalism            | Ukraine                                |
| Partial Democracy with Factionalism            | United Kingdom                         |
| Partial Democracy with Factionalism            | United States                          |
| Partial Democracy with Factionalism            | Zambia                                 |
| Partial Democracy with Factionalism            | Zimbabwe                               |
| Partial Democracy without Factionalism         | Armenia                                |
| Partial Democracy without Factionalism         | Haiti                                  |
| Partial Democracy without Factionalism         | Nicaragua                              |
| Partial Democracy without Factionalism         | Albania                                |
| Partial Democracy without Factionalism         | Argentina                              |
| Partial Democracy without Factionalism         | Benin                                  |
| Partial Democracy without Factionalism         | Bhutan                                 |
| Partial Democracy without Factionalism         | Botswana                                |
| Partial Democracy without Factionalism         | Brazil                                 |
| Partial Democracy without Factionalism         | Bulgaria                               |
| Partial Democracy without Factionalism         | Burkina Faso                           |
| Partial Democracy without Factionalism         | Croatia                                |
| Partial Democracy without Factionalism         | Czech Republic                         |
| Partial Democracy without Factionalism         | Dominican Republic                     |
| Partial Democracy without Factionalism         | Ecuador                                |
| Partial Democracy without Factionalism         | El Salvador                            |
| Partial Democracy without Factionalism         | Estonia                                |
| Partial Democracy without Factionalism         | Georgia                                |
| Partial Democracy without Factionalism         | Ghana                                  |
| Partial Democracy without Factionalism         | Guatemala                              |
| Partial Democracy without Factionalism         | Guinea-Bissau                          |
| Partial Democracy without Factionalism         | Guyana                                 |
| Partial Democracy without Factionalism         | Honduras                               |
| Partial Democracy without Factionalism         | India                                  |
| Partial Democracy without Factionalism         | Indonesia                              |

(continued)
| Political Regime                              | Country                                      |
|----------------------------------------------|----------------------------------------------|
| Partial Democracy without Factionalism       | Jamaica                                      |
| Partial Democracy without Factionalism       | Kenya                                        |
| Partial Democracy without Factionalism       | Korea, Republic of                           |
| Partial Democracy without Factionalism       | Kosovo                                       |
| Partial Democracy without Factionalism       | Latvia                                       |
| Partial Democracy without Factionalism       | Lesotho                                      |
| Partial Democracy without Factionalism       | Liberia                                      |
| Partial Democracy without Factionalism       | Macedonia, the former Yugoslav Republic of   |
| Partial Democracy without Factionalism       | Malaysia                                     |
| Partial Democracy without Factionalism       | Mali                                         |
| Partial Democracy without Factionalism       | Mexico                                       |
| Partial Democracy without Factionalism       | Moldova, Republic of                         |
| Partial Democracy without Factionalism       | Montenegro                                   |
| Partial Democracy without Factionalism       | Mozambique                                   |
| Partial Democracy without Factionalism       | Myanmar                                      |
| Partial Democracy without Factionalism       | Namibia                                      |
| Partial Democracy without Factionalism       | Nepal                                        |
| Partial Democracy without Factionalism       | Niger                                        |
| Partial Democracy without Factionalism       | Nigeria                                      |
| Partial Democracy without Factionalism       | Paraguay                                     |
| Partial Democracy without Factionalism       | Peru                                         |
| Partial Democracy without Factionalism       | Philippines                                  |
| Partial Democracy without Factionalism       | Romania                                      |
| Partial Democracy without Factionalism       | Russian Federation                           |
| Partial Democracy without Factionalism       | Senegal                                      |
| Partial Democracy without Factionalism       | Serbia                                       |
| Partial Democracy without Factionalism       | Sierra Leone                                 |
| Partial Democracy without Factionalism       | Singapore                                    |
| Partial Democracy without Factionalism       | Solomon Islands                              |
| Partial Democracy without Factionalism       | South Africa                                 |
| Partial Democracy without Factionalism       | Suriname                                     |
| Partial Democracy without Factionalism       | Timor-Leste                                  |
| Partial Democracy without Factionalism       | Tunisia                                      |
| Full Democracy                               | France                                       |
| Full Democracy                               | Australia                                    |
| Full Democracy                               | Austria                                      |
| Full Democracy                               | Cabo Verde                                   |
| Full Democracy                               | Canada                                       |
| Full Democracy                               | Chile                                        |
| Political Regime         | Country                  |
|-------------------------|--------------------------|
| Full Democracy          | Costa Rica               |
| Full Democracy          | Cyprus                   |
| Full Democracy          | Denmark                  |
| Full Democracy          | Finland                  |
| Full Democracy          | Germany                  |
| Full Democracy          | Greece                   |
| Full Democracy          | Hungary                  |
| Full Democracy          | Ireland                  |
| Full Democracy          | Italy                    |
| Full Democracy          | Japan                    |
| Full Democracy          | Lithuania                |
| Full Democracy          | Luxembourg               |
| Full Democracy          | Mauritius                |
| Full Democracy          | Mongolia                 |
| Full Democracy          | Netherlands              |
| Full Democracy          | New Zealand              |
| Full Democracy          | Norway                   |
| Full Democracy          | Panama                   |
| Full Democracy          | Poland                   |
| Full Democracy          | Portugal                 |
| Full Democracy          | Slovakia                 |
| Full Democracy          | Slovenia                 |
| Full Democracy          | Spain                    |
| Full Democracy          | Sweden                   |
| Full Democracy          | Switzerland              |
| Full Democracy          | Taiwan, Province of China|
| Full Democracy          | Trinidad and Tobago      |
| Full Democracy          | Uruguay                  |

**Appendix 2**

Regions of the World according to the Global Terrorism Database

| Region                | Country                          |
|----------------------|----------------------------------|
| Eastern Europe       | Albania                          |
| Eastern Europe       | Belarus                          |
| Eastern Europe       | Bosnia and Herzegovina           |
| Eastern Europe       | Bulgaria                         |

(continued)
| Region          | Country                                      |
|-----------------|----------------------------------------------|
| Eastern Europe  | Croatia                                      |
| Eastern Europe  | Czech Republic                               |
| Eastern Europe  | Czechoslovakia                               |
| Eastern Europe  | Estonia                                      |
| Eastern Europe  | German Democratic Republic                   |
| Eastern Europe  | Hungary                                      |
| Eastern Europe  | Kosovo                                       |
| Eastern Europe  | Latvia                                       |
| Eastern Europe  | Lithuania                                    |
| Eastern Europe  | Macedonia, the former Yugoslav Republic of   |
| Eastern Europe  | Moldova, Republic of                         |
| Eastern Europe  | Montenegro                                   |
| Eastern Europe  | Poland                                       |
| Eastern Europe  | Romania                                      |
| Eastern Europe  | Russian Federation                           |
| Eastern Europe  | Serbia                                       |
| Eastern Europe  | Slovakia                                     |
| Eastern Europe  | Slovenia                                     |
| Eastern Europe  | Ukraine                                      |
| Eastern Europe  | Yugoslavia                                   |
| Western Europe  | Andorra                                      |
| Western Europe  | Austria                                      |
| Western Europe  | Belgium                                      |
| Western Europe  | Cyprus                                       |
| Western Europe  | Denmark                                      |
| Western Europe  | Finland                                      |
| Western Europe  | France                                       |
| Western Europe  | German FR                                    |
| Western Europe  | Germany                                      |
| Western Europe  | Greece                                       |
| Western Europe  | Holy See (Vatican City State)                |
| Western Europe  | Iceland                                      |
| Western Europe  | Ireland                                      |
| Western Europe  | Italy                                        |
| Western Europe  | Liechtenstein                                |
| Western Europe  | Luxembourg                                   |
| Western Europe  | Malta                                        |
| Western Europe  | Monaco                                       |
| Western Europe  | Netherlands                                  |

(continued)
| Region         | Country                          |
|---------------|----------------------------------|
| Western Europe| Norway                           |
| Western Europe| Portugal                         |
| Western Europe| San Marino                       |
| Western Europe| Spain                            |
| Western Europe| Sweden                           |
| Western Europe| Switzerland                      |
| Western Europe| United Kingdom                   |
| South Asia    | Afghanistan                      |
| South Asia    | Bangladesh                       |
| South Asia    | Bhutan                           |
| South Asia    | India                            |
| South Asia    | Maldives                         |
| South Asia    | Mauritius                        |
| South Asia    | Nepal                            |
| South Asia    | Pakistan                         |
| South Asia    | Sri Lanka                        |
| Southeast Asia| Brunei Darussalam                |
| Southeast Asia| Cambodia                         |
| Southeast Asia| Indonesia                        |
| Southeast Asia| Lao People’s Democratic Republic |
| Southeast Asia| Malaysia                         |
| Southeast Asia| Myanmar                          |
| Southeast Asia| Philippines                      |
| Southeast Asia| Singapore                        |
| Southeast Asia| Thailand                         |
| Southeast Asia| Timor-Leste                      |
| Southeast Asia| Viet Nam                         |
| East Asia     | China                            |
| East Asia     | Japan                            |
| East Asia     | Korea, Democratic People’s Republic of |
| East Asia     | Korea, Republic of               |
| East Asia     | Mongolia                         |
| East Asia     | Taiwan, Province of China        |
| Central Asia  | Armenia                          |
| Central Asia  | Azerbaijan                       |
| Central Asia  | Georgia                          |
| Central Asia  | Kazakhstan                       |
| Central Asia  | Kyrgyzstan                       |
| Central Asia  | Tajikistan                       |

(continued)
| Region                          | Country                                      |
|--------------------------------|----------------------------------------------|
| Central Asia                   | Turkmenistan                                 |
| Central Asia                   | Uzbekistan                                   |
| Middle East and North Africa   | Algeria                                      |
| Middle East and North Africa   | Bahrain                                      |
| Middle East and North Africa   | Cyprus: Turkish Sector                        |
| Middle East and North Africa   | Egypt                                        |
| Middle East and North Africa   | Iran, Islamic Republic of                     |
| Middle East and North Africa   | Iraq                                         |
| Middle East and North Africa   | Israel                                       |
| Middle East and North Africa   | Jordan                                       |
| Middle East and North Africa   | Kuwait                                       |
| Middle East and North Africa   | Lebanon                                      |
| Middle East and North Africa   | Libya                                        |
| Middle East and North Africa   | Morocco                                      |
| Middle East and North Africa   | Oman                                         |
| Middle East and North Africa   | Palestine, State of                          |
| Middle East and North Africa   | Qatar                                        |
| Middle East and North Africa   | Saudi Arabia                                 |
| Middle East and North Africa   | Syrian Arab Republic                         |
| Middle East and North Africa   | Tunisia                                      |
| Middle East and North Africa   | Turkey                                       |
| Middle East and North Africa   | United Arab Emirates                         |
| Middle East and North Africa   | Yemen                                        |
| Middle East and North Africa   | Yemen North                                  |
| Middle East and North Africa   | Yemen People’s Republic                      |
| Sub-Saharan Africa             | Angola                                       |
| Sub-Saharan Africa             | Benin                                        |
| Sub-Saharan Africa             | Bophutswana                                   |
| Sub-Saharan Africa             | Botswana                                     |
| Sub-Saharan Africa             | Burkina Faso                                 |
| Sub-Saharan Africa             | Burundi                                      |
| Sub-Saharan Africa             | Cameroon                                     |
| Sub-Saharan Africa             | Central African Republic                     |
| Sub-Saharan Africa             | Chad                                         |
| Sub-Saharan Africa             | Comoros                                      |
| Sub-Saharan Africa             | Congo                                        |
| Sub-Saharan Africa             | Congo, the Democratic Republic of the        |
| Sub-Saharan Africa             | Cote d’Ivoire                                |
| Sub-Saharan Africa             | Djibouti                                     |
| Region               | Country                          |
|----------------------|----------------------------------|
| Sub-Saharan Africa   | Equatorial Guinea                |
| Sub-Saharan Africa   | Eritrea                          |
| Sub-Saharan Africa   | Ethiopia                         |
| Sub-Saharan Africa   | Gabon                            |
| Sub-Saharan Africa   | Gambia                           |
| Sub-Saharan Africa   | Ghana                            |
| Sub-Saharan Africa   | Guinea                           |
| Sub-Saharan Africa   | Guinea-Bissau                    |
| Sub-Saharan Africa   | Kenya                            |
| Sub-Saharan Africa   | Lesotho                          |
| Sub-Saharan Africa   | Liberia                          |
| Sub-Saharan Africa   | Madagascar                       |
| Sub-Saharan Africa   | Malawi                           |
| Sub-Saharan Africa   | Mali                             |
| Sub-Saharan Africa   | Mauritania                       |
| Sub-Saharan Africa   | Mozambique                       |
| Sub-Saharan Africa   | Namibia                          |
| Sub-Saharan Africa   | Niger                            |
| Sub-Saharan Africa   | Nigeria                          |
| Sub-Saharan Africa   | Rwanda                           |
| Sub-Saharan Africa   | Senegal                          |
| Sub-Saharan Africa   | Seychelles                       |
| Sub-Saharan Africa   | Sierra Leone                     |
| Sub-Saharan Africa   | Somalia                          |
| Sub-Saharan Africa   | South Africa                     |
| Sub-Saharan Africa   | South Sudan                      |
| Sub-Saharan Africa   | Sudan                            |
| Sub-Saharan Africa   | Swaziland                        |
| Sub-Saharan Africa   | Tanzania, United Republic of     |
| Sub-Saharan Africa   | Togo                             |
| Sub-Saharan Africa   | Transkei                         |
| Sub-Saharan Africa   | Uganda                           |
| Sub-Saharan Africa   | Venda                            |
| Sub-Saharan Africa   | Zambia                           |
| Sub-Saharan Africa   | Zimbabwe                         |
| Australasia and Oceania | Australia                    |
| Australasia and Oceania | Fiji                      |
| Australasia and Oceania | Kiribati                  |
| Australasia and Oceania | Marshall Islands              |
| Region                        | Country                                      |
|------------------------------|----------------------------------------------|
| Australasia and Oceania      | Micronesia, Federated States of               |
| Australasia and Oceania      | Nauru                                        |
| Australasia and Oceania      | New Zealand                                  |
| Australasia and Oceania      | Palau                                        |
| Australasia and Oceania      | Papua New Guinea                             |
| Australasia and Oceania      | Samoa                                        |
| Australasia and Oceania      | Solomon Islands                              |
| Australasia and Oceania      | Tonga                                        |
| Australasia and Oceania      | Tuvalu                                       |
| Australasia and Oceania      | Vanuatu                                       |
| North America                | Canada                                       |
| North America                | Mexico                                       |
| North America                | United States                                |
| South America                | Argentina                                    |
| South America                | Aruba                                        |
| South America                | Bolivia, Plurinational State of              |
| South America                | Brazil                                       |
| South America                | Chile                                        |
| South America                | Colombia                                     |
| South America                | Ecuador                                      |
| South America                | Guyana                                       |
| South America                | Paraguay                                     |
| South America                | Peru                                         |
| South America                | Suriname                                     |
| South America                | Uruguay                                      |
| South America                | Venezuela, Bolivarian Republic of            |
| Central America and Caribbean| Antigua and Barbuda                          |
| Central America and Caribbean| Bahamas                                      |
| Central America and Caribbean| Barbados                                     |
| Central America and Caribbean| Belize                                       |
| Central America and Caribbean| Costa Rica                                   |
| Central America and Caribbean| Cuba                                         |
| Central America and Caribbean| Dominica                                     |
| Central America and Caribbean| Dominican Republic                           |
| Central America and Caribbean| El Salvador                                  |
| Central America and Caribbean| Grenada                                      |
| Central America and Caribbean| Guatemala                                    |
| Central America and Caribbean| Haiti                                        |
| Central America and Caribbean| Honduras                                     |
| Region                        | Country                          |
|-------------------------------|----------------------------------|
| Central America and Caribbean | Jamaica                          |
| Central America and Caribbean | Netherlands Antilles             |
| Central America and Caribbean | Nicaragua                        |
| Central America and Caribbean | Panama                           |
| Central America and Caribbean | Saint Kitts and Nevis            |
| Central America and Caribbean | Saint Lucia                       |
| Central America and Caribbean | Saint Vincent and the Grenadines |
| Central America and Caribbean | Trinidad and Tobago              |

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**Data Availability**

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**Software Information**

R Development Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.R-project.org. The custom code may be obtained from the corresponding author.
ORCID iDs
Nikita Khokhlov https://orcid.org/0000-0002-4410-9695
Andrey Korotayev https://orcid.org/0000-0003-3014-2037

Supplemental Material
Supplemental material for this article is available online.

Notes
1. Factionalism is “a pattern of sharply polarized and uncompromising competition between blocs pursuing parochial interests at the national level” (Goldstone et al., 2010, 196).
2. The mathematical constant e (the natural number / Euler’s number) is approximately equal to 2.71828.

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Author Biographies

Nikita Khokhlov is a PhD student in Politics and International Relations at Dublin City University and research assistant at the International Center for Study of Institutions and Development of the HSE University. For communication with the author: nvkhokhlovhse@gmail.com.

Andrey Korotayev is a Doctor of historical sciences, Professor, Head of the Laboratory for Monitoring the Risks of Socio-Political Destabilization of the HSE University; Leading Research Fellow, Institute for African Studies of the Russian Academy of Sciences. For communication with the author: akorotayev@gmail.com