Economic, Social and Institutional Determinants of Domestic Conflict in Fragile States

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Abstract

In this article, we use Fixed Effect Poisson Regressions (FEPR) with robust standard errors and instrumental variables (IV) to study the economic, social, and institutional determinants of domestic conflict in 58 fragile states over the period 2004 to 2017. We show that effective institutions (measured by judicial effectiveness) and higher incomes would help reduce conflict in fragile countries. By contrast, democratic regime does not seem to mitigate violence in these countries. It also appears that human development and trade liberalization could fuel conflict in some cases. ,This would imply that fragile states first improve the social, economic and institutional conditions of their populations before they benefit from political reforms, economic liberalization and of education.

In this article, we use Fixed Effect Poisson Regressions (FEPR) with robust standard errors and instrumental variables (IV) to study the economic, social, and institutional determinants of domestic conflict in 58 fragile states over the period 2004 to 2017. We show that effective institutions (measured by judicial effectiveness) and higher incomes could help reduce conflict in fragile states. By contrast, democratic institutions do not seem to mitigate violence in most cases. It also appears that education and trade liberalization could fuel conflict in several countries of the sample. These results imply that education and trade reforms do not have the desired effects in fragile states, which would first have to improve the social, economic, and institutional conditions of their population before they benefit from improvements. This can be the case for political reforms, since democratic experiences can lead to an increase in violence in some countries of our sample.

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1. Introduction

Over the past decade, the Uppsala Conflict Data Program (UCDP) has recorded an upward trend of violence in the world. The number of armed conflicts increased from 33 in 2006 to 49 in 2016. The number of terrorist actions reached a peak in 2014, with the death of more than 100,000 people that year (Allansson et al, 2017). In addition to human suffering, civil strife causes considerable damage to economies due to its negative effects on, among others, infrastructure,

public spending, political stability, foreign direct investment, trade, and growth. As a result, while extreme poverty is declining worldwide, it is increasing in fragile countries affected by conflicts (World Bank, 2018). Conflicts also have a destabilizing effect on neighboring countries, with political instability in a country threatening the stability of the entire region (Teydas et al, 2011). Civil unrest in Syria, for example, has led many other states and international organizations to participate directly in the conflict. If left unchecked, nearly half of the world's poor will live in fragile countries facing conflict situations by 2030 (World Bank, 2018), and the expansion of armed conflict around the world will cause more harm to populations (Pettersson et al, 2019).

Several studies have suggested that armed violence occurs most of the time in fragile countries which have poor social, economic, and political conditions (World Bank, 2011 and 2018). Collier (2007) states that "seventy-three percent of people of the bottom billion have recently been through a civil war or are still in one". Stewart (2002) notes that most of the economies with the lowest level of human development have been confronted with civil wars over the last three decades. Ostby (2008) shows that poverty, inequality, and dependence on natural resources are at the root of most conflicts in the world. Lai (2007) states that low income levels and high income inequality are positively associated with terrorism. Countries with fragile political conditions are also more vulnerable to domestic violence. Coggins (2015) found that political collapse has a positive correlation with armed conflicts. Newman (2007) and Piazza (2008) confirm that it is easier for extremist groups to establish their organizations in failed states.

Economic growth and wealth, however, are not always a source of peace and non-violence in fragile countries, as Caruso and Schneider (2011) explain in their theory of "immiserizing modernization". When growth changes the distribution of wealth, as described by Olson (1963), it can lead to social and political unrest fueled by groups of people who lose from the change. If perceived as a threat, economic reforms may lead to civil unrest as well, as explained by Freytag et al (2011) for globalization. Gur (1970) confirms that when individuals feel economically disadvantaged, they may be willing to fight to change their situation. When inequalities create grievances among the poor, recruiting them to fight the government, in the hope of a better life, becomes easy for extremist organizations.

Rational Choice theory provides as well an explanation for the emergence of civil conflicts in fragile countries by suggesting that human actions are based on the "calculation of risk, cost and incentive" (Teydas et al, 2011). Wintrobe (2006) assumes that extremists are rational and choose the best way to achieve their goal. Becker (1968) argues that individuals commit a crime if the expected benefits outweigh the costs. Caplan (2006) suggests that the use of illegal force is the product of a cost-benefit analysis. The benefits derived from this use are increased power and wealth. Similarly, the "opportunity-based approach" indicates that the most important factor in becoming a rebel is the expectation of personal gain or reward (Teydas et al, 2011). Collier and Hoeffler (2004) argue that "rebellion can occur when lost income is low". Freytag et al (2011) suggest that if the opportunity cost of the use of illegal force is high, people will choose material wealth rather than mental reward.

In this study, we explore the social, economic, and institutional determinants of domestic conflict in 58 fragile countries. Due to poor economic, social and political conditions, fragile countries are particularly exposed to the risk of instability (World Bank, 2011 and 2018). This makes these countries fertile ground for the study of the mechanisms at work in the emergence of violence. Our aim has therefore been to better understand the factors explaining this violence, so that governments can reduce this source of instability. It may be thought that governments counter these risks by improving the standard of living of the population. Freytag et al (2011) and Burgoon (2006) show that public spending and social protection policies reduce violence by improving people's socio-economic conditions. George (2018) suggests that in failed states, an effective counter-terrorism measure is to build reliable institutions. Providing better living conditions for citizens, equal opportunities to generate wealth, investing in human development, political rights, and effective institutions, could help governments to decrease the people's grievances and increase the opportunity cost and risk of violence, thus isolating the extremists from their supporters.

In this study, we use the annual number of conflict-based domestic incidents processed from the Global Terrorism Database (GTD) as a proxy for internal conflict[1]. We analyze the development of violence for 4 different groups of countries from 2004 to 2017: (i) Total sample of fragile countries, (ii) Islamic fragile states, (iii) fragile countries with more than one main religion[2], and (iv) States affected by major conflicts[3]. These countries were selected from the Fund for Peace (FFP) database, which publishes annually a fragility index for 178 countries around the world[4]. In addition to an objective of robustness, our choice to work on different categories of countries was motivated by the search for specificities in order to refine the understanding of the mechanisms of violence, as well as the recommendations of economic policy. We note, for example, that the Muslim countries and those which host several religions were particularly unstable over the period studied. Muslim countries in particular were hit by social and political unrest during the Arab Spring waves, as well as by a surge of religious and political radicalization. There may be reasons to fight in these countries different from those in other countries. The same variables may also not have the same effect on conflict. These considerations will be discussed in more detail in section 3.3.

***In the empirical part of the study, we show that effective institutions (measured by judicial effectiveness) and higher incomes are well related to a reduction of conflicts in the most fragile countries. However, *democratic regime* does not seem to mitigate violence in fragile countries. It also appears that human development and trade liberalization could in some cases fuel violence. This

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[1] https://www.start.umd.edu/data-tools/global-terrorism-database-gtd . See section 3.2.1 for more details on the GDT variables and database.

2 Countries where more than 10% of people belong to a different religious group

[3] Countries having had at least 5 conflict-related incidents per year for at least half of the period studied

[4] https://fragilestatesindex.org/data/ . See section 3.3. for more details on the database and the Fragility Index.

~~would imply that fragile states first improve their social, economic and institutional conditions before they can benefit from the fruits of political reforms and of education of populations. The same conclusion can be drawn for economic reforms in the context of globalization~~

In the empirical part of this study, we show that effective institutions (measured by judicial effectiveness) and higher incomes contribute to reduced conflict in our fragile countries. In contrast, democratic institutions do not seem to mitigate violence in most cases. It also appears that human development and trade liberalization could fuel violence in several of our fragile countries. This would imply that States first improve the social, economic and institutional conditions of their populations before enjoying the fruits of reforms and education. The same conclusion can be drawn for political reforms since democratic experiences can lead to an increase in violence in some countries of our sample.

These results are important in the context of the increasing number of conflicts around the world, which undermine progress in improving living standards and reducing poverty in fragile countries (World Bank, 2018). They help to understand the difficulties faced by governments in reducing violence and point to ways for a progressive approach to long-term conflict reduction.

These results are robust because they have been tested on different panels of countries and based on appropriate quantitative methods. The use of fixed effect (FE) Poisson estimators, while most studies use Negative Binomial Regressions (NBR) in case of count data, is well adapted and an originality of our approach (see Krieger and Meierrieks, 2011 for a synthesis). The Poisson estimator is particularly suitable in the case of rarity of events, which corresponds to the nature of our conflict variable, by providing greater precision and efficiency than the other estimators (Simcoe, 2008; Santos Silva and Tenreyro, 2009. See also section 3.3 for a more detailed discussion). The use of instrumental variables (IV) is another originality of our research. It aims to address the issues of endogeneity and reverse causality underlying our regressions.

Another particularity of our work lies in the use of the Global Terrorism Database (GTD), as well as in the choice of our conflict variable. Although a large literature on conflict has emerged over time, fewer studies are based on GTD data, while these provide very detailed information on many aspects of conflict (Krieger and Meierrieks, 2011; Berkebile, 2017. See also section 3.2.2 for more discussion). The advantage of GTD in our case has been to access the number of violent events, which constitutes more precise information on the intensity of the conflict than dummy variables or probabilities used in many studies[5]. This variable also provides additional information compared to, for example, the variable "number of people killed" because it measures the frequency of the disruptive effect of the conflict, and therefore the ability of the rebels to act and destabilize the power in place.

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[5] Collier and Hoeffler) (2004) and Hess (2003) define for example their variable of conflict as a dummy which takes the value 1 when there are at least 1000 deaths per year (25 combat deaths per year in the case of Miguel, 2004), Humphreys (2003) as the probability of a civil war, and Caruso and Schneider (2011) as the number of people killed. Malik (2011) however choose the as the number of violent attacks as its proxy of conflict.

Another advantage linked to the use of GTD has been to isolate the domestic component of conflicts, by far the most common (between 80% and 90% of total attacks in the world), but the least studied because of a lack of cross-national data, of the transnational component in particular (Enders et al., 2011; Berkebile, 2017). The high precision of the explained variable therefore allowed in our case a better perception and explanation of the causes of violence in the countries studied.

The rest of the article is organized as follows. Based on the literature, Section 2 summarizes our theoretical framework and reasons that motivate violence in fragile countries. Section 3 presents our model of conflict and defines the variables used in the analysis and the data sources. Section 4 highlights the methodological aspects related to our estimates of violence. Section 5 presents the results of the empirical analysis for our various samples of countries. The last section concludes with our main findings and policy recommendations.

2. Conflict Motivation: A Theoretical Framework

The motivation of the use of illegal force can be studied using the Rational Choice Theory framework. Rational behavior implies that individuals perform a cost-benefit analysis before acting. In the case of conflict, the expected benefits of violence include a redistribution of power and wealth; the costs include a reduction in resources and sanctions (Frey and Luechinger, 2003; Harrisson, 2006).

Sanctions can be legal or military. LaFree et al (2009) state that these sanctions can have two contradictory effects on violence: a "deterrent" effect, or an "amplification" effect. Deterrence models assume that the threat or imposition of a sanction changes the behavior of individuals. According to Nagin and Paternoster (1993), deterrence works when the expected benefits of illegal actions are lower than the expected costs. LaFree et al (2009) define two types of deterrence: "specific" deterrence which dissuades individuals from repeating their act, and "general" deterrence which discourages members of a society from opting for a given action by fear of possible sanctions. Dezhbakhsh et al (2003) confirm that the probability of arrest, conviction, or execution results in a significant decrease in the crime rate of a population.

On the contrary, Higson-Smith (2002) puts forward the idea that conflict may get worse as a result of government sanctions. This is the case, for example, when extremists use the public's potential for sympathy to recruit new members, or when opponents become more radicalized by sanctions. Sherman (1993) explains that deterrence or amplification effects depend on how offenders accept sanctions. If they do not consider them to be legitimate, it will create new grievances. The hostile reaction to sanctions may be "specific" when offenders view the sanctions as unfair and continue the use of illegal force, or "general" when society considers the sanctions unjustified and then supports activists. If, in a society, the legal system is ineffective and the activists consider the sentence illegitimate, they can seek support from the general public to legitimize their actions. People who have grievances, but who do not trust the legal system, may also find it legitimate to achieve justice by force.

With regard to the cost/benefit ratio of the use of force, Freytag et al (2011) focus on the trade-off between loss of material wealth (the opportunity cost of illegal actions) and mental reward (the benefit of armed dissent). They suggest that if the opportunity cost of terror (such as the likelihood of sanctions or loss of income) outweighs the benefit, people will choose to preserve their material wealth rather than the mental reward of a terrorist action. On the other hand, in the case of poverty or a slowdown in economic activity, as the relative price of material wealth increases, citizens will opt for conflict more easily, seeing it also as a means of imposing change in addition to seeking a mental reward.

This may also be the case after economic reforms. Caruso and Schneider (2011), in their theory of "immiserizing modernization", explain that reforms can lead to a decrease in the wealth of some stakeholders, which can lead to more conflicts because of the lower opportunity cost of violence for these categories. Wintrobe (2006) confirms that trade reforms, and globalization in particular, can be seen as a threat of loss of income for part of the population. By limiting the economic opportunities of the affected population, in addition to reducing the opportunity cost of violence, economic reforms can create grievances against the government, thus increasing the risk of civil unrest (Harrison 2006). Violence in these cases can also be seen as a way to resist change. Blomberg and Hess (2008) and Kurrild-Klitgaard et al (2006), however, find an inverse relationship between trade reform and conflict, which would make reform an opportunity rather than a threat, reducing violence and promoting development. More generally, adverse socio-economic conditions can lead to violence by making conflicts more profitable because of potential positive spin-offs, particularly with regard to the redistribution of wealth, but also because of low direct costs, including the low cost of recruiting opponents.

Bernholz (2004) describes the ideological content of certain conflicts through the concept of "supreme values". These values refer to one or more objectives that are preferred above all others, and whose achievement is more important than any other value (Wilkens, 2011). Black (2001) suggests that these extreme beliefs (e.g. religious) are based on deeply inculcated doctrines to achieve the goals of extremist groups (Wintrobe, 2006). Bernholz (2004) states that people with supreme values, may want to implement these values by force. In this case, if the grievance concerns problems other than poverty, for instance injustice or unequal treatment of certain regions, ethnic groups, or religions[6], an increase in wealth increases the resources for extremists' organizations and rebels' activities. Wintrobe (2006) adds that terrorist activities are based on a compromise between "autonomy" and "solidarity". A person can give up his beliefs (autonomy) to experience social belonging and solidarity.

It is within this theoretical framework that our empirical model, as presented in the following section, fits.[7].

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[6] See Huntington (1996), Piazza (2008), Basuchoudhary and Shughart (2010), Krueger and Maleckova (2003), or Kurrild-Kligaard et al (2006) for the political, ethnic, and institutional causes of conflict.

[7] More recently, part of the literature has focused on the determinants of civil conflicts at the microeconomic level in order to better understand the mechanisms at play behind the formation of violence. Most of this new research

3. Presentation of the Model and of the Variables

3.1. The Model

The equations used to study the determinants of conflict in fragile states are as follows:

$$Conf_{it} = \alpha_0 + \alpha_1 (GDPc_{it}) + \alpha_2 (Edum_{it}) + \alpha_3 (Open_{it}) + \alpha_4 (Pop_{it}) + \alpha_5 (Contracts_{it}) + \alpha_6 (Demo_{it}) + \mathcal{E}_t \quad \text{Eq (1)}$$

$$Conf_{it} = \alpha_0 + \alpha_1 (GDPc_{it}) + \alpha_2 (H_{it}) + \alpha_3 (Open_{it}) + \alpha_4 (Pop_{it}) + \alpha_5 (Contracts_{it}) + \alpha_6 (Demo_{it}) + \mathcal{E}_t \quad \text{Eq (2)}$$

Where *Conf* is the count data variable for measuring conflict, *GDPc* the logarithm of real GDP per capita, *Edum* the average years of education, *H* the human capital index, *Open* the indicator of trade openness, *Pop* the logarithm of population, *Contracts* the proxy for judicial effectiveness, and *Demo* the democracy variable. *i* is the cross sections index, *t* the time dimension and $\mathcal{E}$ the error term. *α0* to *α6* are the parameters to estimate.

3.2. The Variables

3.2.1. Annual Conflict-Based Domestic Incidents as Proxy for Internal Conflict

We have processed our proxy for internal conflict, the annual conflict-based domestic incidents, from the Global Terrorism Database (GTD, 2018). GTD contains information on cross-national terrorist events from 1970 to 2017. Unlike many other databases, GTD systematically covers both transnational and domestic incidents. GTD also contains a large amount of variables that can be manipulated by researchers, making it possible to deal with a wide range of research questions, in addition to transparent coding[8]. In the empirical literature, as mentioned in the introduction, GTD has been used less than other databases, although it provides more information on the use of violence (Krieger and Meierrieks, 2011; Berkebile, 2017).[9]

The conflict-based incidents in the GTD codebook are defined as "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". To be included in the database, incidents must (i)

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focuses on a single dimension of the causes of civil war: e.g. drought (Satyanath, Miguel and Sergenti, 2004), natural resources and climate change (McNeish, 2010; Nordås, 2007, Walter, 2010), urbanization and social cohesion (World Bank 2011; Buhaug and Urdal, 2013), corruption , trafficking and money laundering (Walter, 2010; Rus, 2010; Fearon, 2010), unemployment and social status (Fearon, 2010; Neumayer, 2003) etc ... (see also Anderton and Carter (2019) for a synthesis). These aspects will not be developed here because they are outside the scope of our study.

[8] For each incident, information is available for at least 45 variables (more than 120 for the most recent years).

[9] One of the most widely used **cross-national** databases, the International Terrorism Attributes of Terrorist Events (ITERATE) dataset, is dedicated to transnational terrorism only (https://library.duke.edu/data/sources/iterate). Another interesting source, the RAND Database of Worldwide Terrorism Incidents (RDWTI), which collects a lot of data on terrorism both transnational and domestic, provides limited coverage as well (data are available from 1998 to 2009 only, and few variables are monitored). Thus, the many sources available today show, most of the time, limited geographic coverage, duration or type of variables (see also the ICT's Incidents and Activists Database: https://www.ict.org.il/Articles.aspx?WordID=25#gsc.tab=0), or the MIPT Terrorism Knowledge Base: https://franklin.library.upenn.edu/catalog/FRANKLIN_9941455883503681).

be intentional, (ii) result in a certain level of violence or an immediate threat of violence against property and / or people (iii) be perpetrated by subnational actors. ~~The database does not include acts of state terrorism.~~ Attack types are also listed as: assassination, hijacking, kidnapping, barricade incident, bombing/explosion, unknown armed assault, unarmed assault, and facility/infrastructure attack.

To construct our conflict variable we excluded the incidents that did not meet the following criteria: (i) the act was aimed at attaining a political, economic, religious, or social goal; (ii) there is evidence of an intention to coerce, intimidate, or convey some other message to a larger audience (or audiences) than the immediate victims; (iii) the action was outside the context of legitimate warfare activities.

Following Enders et al (2011), we isolated domestic incidents from transnational incidents by eliminating events where the nationality of one of the victims was different from the country where they occurred. The time period for the annual data is from 2004 to 2017 (see descriptive statistics in Table A.1 in the Appendix).

3.2.2. GDP per Capita as Proxy for Income and Wealth

The empirical evidence for the impact of income and wealth on internal conflict yields mixed results. Some of the literature finds poverty and low income a cause of violence. Humphreys (2003) indicates that low resources increase the likelihood of civil wars. Collier and Hoeffler (2004) show that low incomes increase domestic conflict. By contrast, Caruso and Schneider (2011) find a positive relationship between increased income and the number of people killed in conflict-based incidents. Freytag et al (2011) and Shahbaz (2012) confirm that there is a positive correlation between increasing GDP per capita and increased violence. Piazza (2008) however does not find a significant association between the two variables. Freytag et al (2011) and Lai (2007) show on their side that the use of the quadratic form of GDP per capita inverts the sign of the relation. They conclude that a country must go beyond a certain threshold of development to counter conflict by an increase in wealth. In this study, we hypothesize that economically disadvantaged people in fragile states develop grievances against their government, and that poor economic conditions make violence more likely because direct costs (including rebels' recruitment) and opportunity costs are low

GDP per capita is our measure of income and wealth. The data comes from WDI (2017). For some countries, we collect data from national sources and other international institutions for missing values. The study uses the logarithm of the variable in real terms (see the descriptive statistics in the Table A.1 in the Appendix). In line with one part of the literature, we expect a negative influence of this variable on our variable of conflict.

3.2.3. Effective Judiciary as a Proxy for Deterrence

Countries with fragile institutions are vulnerable to violence (Ross 1993, Basuchoudhary and Shughart 2010). It is easier for extremists' groups to operate in states where institutions are weak (Newman, 2007, Piazza, 2008). People who have grievances and who do not trust the institutions

may also find it legitimate to use force. If the justice system is effective and the penalties are perceived as fair, the threat of punishment can change the behavior of individuals. Freytag et al (2011) state that the possibility of punishment is a cost to opponents. Dezhbakhsh et al (2003) confirm that the likelihood of punishment leads to a decrease in crime in a country. George (2018) shows that in failed states building reliable institutions is a counter-terrorism measure.

We use the "Time for Enforcing Contracts" variable from the "Doing Business" database as an indirect indicator of the ineffectiveness of the judiciary. If the judiciary punishes in a timely manner, the population will be reluctant to use violence. On the other hand, if the justice system is ineffective and extremists may not be punished, then it is easier for them to continue the use of illegal force. If the justice system in a country is effective and citizens trust its decisions, it will deter violent activities (see descriptive statistics in Table A.1 in the Appendix). In this study, we expect a positive impact of the judicial ineffectiveness variable on conflict.

3.2.4. Education and Human Capital as Proxy for Human Development

Human development might be seen as a way to reduce violence. Higher human development can limit the risk of conflict by reducing people's grievances (Bravo and Dias, 2006; Kurrild-Kitgaard et al, 2006). Educated people may also be less likely to choose illegal force because they can use their own reasoning to form their own opinion. This is especially true in the case of illegal actions based on supreme values where education can help develop critical thinking and reject extremism (Ghosh et al, 2017). Educated people can also use their knowledge to improve their economic and social situation (Berrebi, 2007). Advances in education thus increase the opportunity cost of conflict by providing better opportunities for people (Freytag et al, 2011).

At the empirical level, Hamilton and Hamilton (1983) note that illiteracy is positively correlated with armed violence. Collier and Hoeffler (2004) and Azam and Thelen (2008) highlight the negative impact of education on conflict. However, Brockhoff et al (2015), Berrebi (2007), Testas (2004) and Nasir et al (2011) show a positive relationship between education and the use of illegal force. Brockhoff et al (2015) show that in countries where social, economic, political, and demographic conditions are unfavorable, education can exacerbate discontent. If access to education does not translate into the expected better life, it will increase frustration and civil unrest. People may consider joining opponents' organizations if career path returns are below expectations (Krueger, 2008). In addition, extremists' groups may have an interest in recruiting educated people, as this can increase the chances of success of their activities, as well as contribute to a better image for their propaganda in the media (Krueger and Maleckova, 2003).

We use two different indexes for human development as explanatory variable for conflict: (i) The average number of years of schooling of population aged 25 or older from the United Nations Development Program (UNDP) [10]; (ii) The Human Capital index of the Penn World Table (PWT 9.1, Feenstra et al, 2015) [11] (see descriptive statistics in Table A.1 in the

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[10] http://hdr.undp.org/en/content/human-development-index-hdi

[11] www.ggdc.net/pwt

Appendix). In accordance with part of the literature, we assume that education provides people with more economic opportunities that increase the opportunity cost of using illegal force, as well as a level of knowledge that encourages them not to choose violence. A negative sign in the equation is therefore expected.

3.2.5. Trade Openness as Proxy for Trade Liberalization and Economic Reforms

The influence of economic reforms on violence is another dimension studied in the literature. The impact of trade liberalization and globalization has been the subject of discussion. Trade liberalization can be a factor of growth and modernization of the economy (Frankel and Romer, 1999; Dollar and Kraay, 2003). New opportunities created by trade can reduce the discontent of the population and increase the opportunity cost of violence, thus reducing the risk of civil unrest. Blomberg and Hess (2008) and Kurrild-Klitgaard et al (2006) find an inverse relationship between trade openness and the use of illegal force which would confirm that reforms can help reduce violence.

Another part of the literature, however, emphasizes the destabilizing effect of economic reforms. Caruso and Schneider (2011) state that reforms can reduce the wealth of some stakeholders. Freytag et al (2011) and Wintrobe (2006) confirm that globalization can be seen as a threat to part of the population. In this case, reforms can lead to political and social unrest fueled by groups of people who lose or fear losing because of change (Harrison, 2006; Gaibulloev and Sandler, 2019).

In this study, we expect that trade openness reduces violence and promotes a country's development. A negative relationship with conflict is thus expected. We use the ratio of exports plus imports to GDP (in real terms), as proxy for trade reform and globalization. The data are from National and International sources (see descriptive statistics in Table A.1 in the Appendix).

3.2.6. Democratic Accountability as Proxy for Democracy

The impact of the political regime on violence and civil unrest in a country is another dimension whose empirical evidence is contradictory. Some of the literature emphasizes that democratic regimes allow people to express their demands and be heard, thereby reducing the grievances they may have towards the government. This is the case of Eyerman (1998) and Li (2005) who highlight a positive relationship between democracy and the absence of violence. However, other authors point out that it is easier and cheaper for extremists to engage in violent activities when they enjoy more civil liberties and political rights. For instance Li and Schaub (2004) and Rizvi and Véganzonès-Varoudakis (2019) note an increase of violence in fragile countries during democratic periods. Eubank and Winberg (1998) find that terrorism occurs more often in democracies than in more authoritarian regimes. Li (2005) and Muller (1985) demonstrate a non-linear relationship between political repression and the use of illegal force.

We use the Democratic Accountability variable, derived from the International Country Risk Guide (ICRG), as an indicator of the type of regime, to explain internal conflicts in fragile states (Howell, 2011). A high value indicates more democracy and vice-versa (see descriptive statistics

in Table A.1 in the Appendix). In line with one part of the literature, we expect a positive relationship of the variable with the conflict variable for our different samples of fragile countries.

3.2.7. The role of Population

In addition to the above variables, we study the impact of the size of a country's population on the development of conflicts in that country. Krueger and Maleckova (2003), Burgoom (2006), Freytag et al (2011) Piazza (2008) and Richardson (2011) point out that more populous countries tend to face more violence. Gaibulloev and Sandler (2019) and Taydas et al (2011) argue that it is difficult for governments to manage, serve, and respond to the demands of all in the case of large populations, due in part to a great diversity. According to the literature, we expect a positive relationship between population and conflict in our samples of fragile countries. We use the population variable from WDI (2017) in logarithm (see descriptive statistics in Table A.1 in the Appendix).

3.3. Estimation of the Model: Methodological Aspects

This study focuses on fragile countries selected from the Fund for Peace (FFP) database that publishes annually a Fragile States Index (FSI) This Index is a ranking of 178 countries based on the quantification of different pressures the countries face. The FSI is calculated from 12 key qualitative and quantitative indicators (political, social, and economic) from a variety of public sources[12].

We selected 58 countries for which the index was above 70 for the analysis, which corresponds to a high degree of fragility[13]. We analyze the development of conflict activities from 2004 to 2017 for 4 different groups: (i) Total sample of fragile countries, (ii) Islamic fragile states, (iii) Fragile countries with more than one important religion[14], (iv) States affected by major conflicts[15] (see the list of countries in Table A.2 in the Appendix). As explained in the introduction, our choice to work on different categories of countries was motivated by the desire to refine our understanding of the mechanisms of violence. In Muslim countries, for example, conflicts may have a religious content. In this case, increasing wealth or education may not have the same

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[12] The **Economic** part of the *FSI* is structured around 3 areas: (**i**) Economic Decline and Poverty, (**ii**) Uneven Development and (**iii**) Human Flight and Brain Drain. The **Social** component is organized around 2 topics: (**i**) Demographic Pressures and (**ii**) Refugees and Internally Displaced Persons (IDPs). The **Political** part is designed around 3 subjects: (**i**) State Legitimacy, (**ii**) Public Services and (**iii**) Human Rights and Rule of Law. The **Cohesion** component is structured around 3 lines: (**i**) Security Apparatus, (**ii**) Factionalized Elites and (**iii**) Group Grievance. *FSI* also comprises an **External Intervention** dimension which considers the "influence of external actors in the functioning of a state". See https://fragilestatesindex.org/data/

[13] The Fund for Peace (FFP) defines 10 levels of fragility according to the FSI score: Very high alert (above 110); High alert (between 100 to 110); Alert (90 to 100); High warning (80 to 90); Elevated warning (70 to 80); Warning (60 to 70); More stable (40 to 60); Very stable:(30 to 40); Sustainable (20 to 30); Very sustainable (less than 20).

14 Countries where more than 10% of people belong to a different religious group

[15] Countries having had at least 5 conflict-related incidents per year for at least half of the period studied

effects on violence as in countries where unrest is fueled by poverty or an uneven distribution of wealth. We can think in the latter case, that an increase in income, a policy of redistribution, better access to education, health and more generally a higher level of development, would contribute to reduce social dissatisfaction, therefore conflict. If the reason for the violence is not economic, but religious, an increase in income or education can in contrary fuel the conflict. ~~In the case of countries hosting several religions, one can for example think that a better sharing of power, through more democratic institutions among others, could contribute to reducing instability.~~

Since we have the annual number of conflict-based domestic incidents from the Global Terrorism Database (GTD) as proxy for violence, this implies that our dependent variable is a non-negative integer (count data)[16]. We use Fixed Effect Poisson Regressions (FEPR) with robust standard errors to address the issues related to count data. Poisson estimators are particularly suitable in the case of rare events, which correspond well to our situation. Many empirical researches have used Poisson regression or Negative Binomial Regression (NBR) for count data models (see Krieger and Meierrieks, 2011, for a synthesis).[17]. Berrebi and Ostwald (2011) suggest that NBR offers potential efficiency gains, but that the consistent estimates provided by Poisson regression are more valuable than efficiency. Wooldridge (1999) confirms that Poisson regression with fixed effects is robust and consistent for count data models. Although the problem of underdispersion/overdispersion when applying Poisson regression has been highlighted in various studies, FEPR with clustered standard errors retains consistency and allows us to estimate our model with robust standard errors (Simcoe, 2008; Santos Silva and Tenreyro, 2009)[18].

In the regressions, we use two proxies of human capital: (i) The average number of years of schooling of the population aged 25 or older (*Edum*), published by UNDP, available for all 58 countries, (ii) The Human Capital Index (*H*), published in the Penn World Table (PWT), available for only 51 countries[19]. In order to be able to compare the results with the two human development proxies, we perform two sets of regressions incorporating *Edum* (one set, on the 58 countries of the initial sample (specification 1), another set, on the 51 countries of the PWT (specification 2)), as well as a third set of regressions including *H* on the 51 countries of the PWT (specification 3).

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[16] For more details on count data regression see Cameron and Trivedi (2013)

[17] See George (2018); Piazza (2008) in particular for Negative Binomial Regression

[18] Regressions using the Negative Binomial Regression (NBR) method were also performed for our analysis. The results are consistent with those obtained with fixed effect Poisson regressions (FEPR) on the orientation of the relationship between the explanatory variables and the internal conflicts, except in the case of the trade openness variable which has less variation and has a positive influence on violence. The results are not shown here due to space constraints, but are available upon request.

[19] Data for Azerbaijan, Belarus, Guinea, Guyana, Lebanon, Libya and Moldova are not available for the Human Capital Index (*H*) in the PWT.

Finally, to address the possible endogeneity and reverse causality issues underlying our regressions, we also estimate our initial specifications using instrumental variable (IV) Poisson estimators.

4. **The Results of the Estimations** (Ajouter IV à chq niveau)

Table 1 presents the results for the total sample of countries, Table 2 for the Islamic States, Table 3 for the countries affected by major conflicts, and Table 4 for the countries with more than one main religion. For each specification, we give the results respectively for simple fixed effects (FE), and instrumental variables (IV) Poisson estimators.

For almost all specifications, estimators and groups of countries, low income, ineffectiveness of the justice system, and size of the population are positively linked to domestic conflicts in our sample of fragile states. ~~In all groups and specifications, these findings are confirmed by the IV Poisson estimators.~~ These results corroborate the findings of Humphreys (2003), Collier and Hoeffler (2004), Lai (2007), and Ostby (2008), who show that low incomes are positively associated with violence. When poverty is high, disadvantaged people can develop grievances against their government. In this case, the use of violence is more likely since the opportunity cost of illegal force and the cost of recruiting rebels are low. Improving incomes seems thus a policy variable that governments could use to reduce violence in fragile states.

Our results also indicate that another way to reduce conflict in fragile countries could be to improve institutions, especially the justice system. This finding is consistent with the one of LaFree et al (2009) and Dezhbakhsh et al (2003) who confirm the dissuasive effect of the threat of sanctions. According to Freytag et al. (2011), the possibility of government sanction increases the opportunity cost and risk of violence. If the legal system punishes in a timely manner, the population will be reluctant to resort to violence and rebels will be reluctant to continue the conflict. More generally, our results indicate that countries with fragile institutions seem more vulnerable to violence (as seen in Ross 1993, and Basuchoudhary and Shughart 2010).

With regard to the population size variable, our results are in line with those of Gaibulloev and Sandler (2019) and Taydas et al (2011) who show that fragile countries with big populations are more exposed to violence.

Our results for education, trade liberalization and democratic accountability are less stable than those obtained for population, institutions and incomes. Democratic accountability does not seem to be robustly linked to the variable of conflict. Its role is only validated by the simple Poisson fixed effects (FE) estimator, and not by the one with instrumental variables (IV), except in the case of the total sample and the sample of countries affected by major conflicts, where the two estimators give the same results when the human capital indicator is used. Also, no impact is

detected in the case of the countries with more than one religion. This may be due in part to the smaller size of this group, as well as to the fact that fewer countries are severely affected by high-intensity and long lasting conflicts in this category. In addition, more countries in this group benefit from democratic institutions, which contribute to less regime change. Nevertheless, education, as well as trade liberalization for IV Poisson estimator, appear to be more regularly associated with violence (for both human capital indicators, or for the human capital index only).

Our results show in addition a positive relationship between the variables of education trade liberalization, and democratic accountability (with the limit set out previously in the latter case) with that of conflict. The impact of these factors on violence has been discussed in the literature. Our findings indicate that education in fragile countries may not translate into an opportunity to improve living conditions or as a means of strengthening critical thinking against terrorism, as in Berrebi (2007) and Brockhoff et al (2015). In a state with adverse social, economic, and political conditions, education can increase frustration if the situation of educated people does not improve, especially since they are more aware of the limits of their government. This conclusion can be extrapolated to trade liberalization which seems to be perceived more as a threat of loss of income or of worsening inequalities (as in Freytag et al (2011) and Wintrobe (2006)) than as an opportunity for improving prospects and income of populations (as in Blomberg and Hess (2008) and Kurrild-Klitgaard et al (2006)). As for democracy, it seems to give more voices to discontented groups in the countries affected by major conflicts only, thereby increasing violence in these states, as in Eubank and Winberg (1998) and Li and Schaub (2004). This means that when some fragile countries go from authoritarianism to democracy, they can face more civil unrest. However, democracy also does not seem to allow for conflict resolution and a reduction in violence in our other groups (as in ...), which leaves open the question of the impact of improving democratic institutions.

~~To summarize, education and trade reforms may not have the desired effects in fragile states which would first have to improve the social, economic and institutional conditions of their population before they can benefit from economic reforms and education. This may also be the case for political reforms, as our democratic accountability variable is not strongly related to violence in most of our country samples,~~

Therefore, improving the level of education and trade reforms may not have the desired effects in fragile states which should first improve the social, economic and institutional conditions of their population before benefiting from economic liberalization and education. This may also be the case with political reforms in the countries where our democratic accountability variable increases violence.

A more detailed analysis shows interesting differences between our groups of countries. The link of the conflict variable with that of income, while relatively stable in most groups, seems stronger in countries with more than one major religion (and to a lower extend in the Muslim countries when using the IV Poisson estimator). This is an interesting finding which could indicate that public policies aimed at improving people's incomes and living conditions could be

more effective in these particularly poor and fragile countries. The results are fairly similar for the population size variable, whose relation with the conflict variable is stronger for this group as well. This may be due to the fact that several highly populated countries belong to this group, illustrating the difficulties faced by governments in meeting the needs of a large and diverse population.

The results are more diverse for the judicial system. The improvement in the efficiency of justice is more strongly related to the decrease in violence in Muslim states and in countries with more than one main religion, than in the other groups..This is interesting because some countries in these groups may be less involved in long-term and high-intensity violence than those in the group of countries affected by major conflicts. Improving the judicial system, in addition of incomes, and more generally the institutions could therefore prevent the escalation of violence in these fragile countries.

The results are also different for trade liberalization whose effect on violence seems stronger in countries with more than one main religion. This means that the governments of these countries should pay even more attention to economic reforms so as not to further destabilize already vulnerable populations. In contrast, violence in Muslim countries does not appear to be exacerbated by the changes brought about by trade reforms. This result may be influenced by the presence, in our sample, of countries in North Africa and the Middle East (MENA), whose delay in terms of economic reforms, in particular trade liberalization, has frequently been reported (see Nabli and Véganzonès-Varoudakis, 2008?).

The results for the two education variables -- the human capital index (from the PWT), and the average number of years of schooling of the population aged 25 and older (from UNDP) -- are more constant and almost always significant for all groups, specifications and estimators. This may be related to the fact that religious and ethnic differences are an important factor in conflicts in most of our fragile countries. In this case, education could serve the cause of terrorists by allowing certain segments of the population to be more involved in violence. For the four groups of countries, the differences in estimated coefficient are not very significant

Finally, democratic experiences do not seem to be a source of increased violence in most of our fragile countries, except in the case of countries affected by major conflicts (as in Eubank and Winberg (1998) and Li and Schaub (2004)). The strong disorganization and polarization in these countries probably does not allow them to benefit from the political reforms which would allow the parties in presence to express themselves, to dialogue and to find solutions to their differences. These experiments, which give voice to opponents and result in an upsurge in violence, should probably only take place in a stabilized political context. On the other hand, and as seen above, *democracy does not seem to be a source of conflict resolution and violence reduction in our fragile states (as in ...) either, because our indicator of democratic accountability is almost never significant in our regressions.*

Table 1: Fixed Effect Poisson Regression for Total Fragile Countries

Variables	Specif. 1	Specif 1 iv	Specif 2	Specif 2 iv	Specif 3	Specif 3 iv
lpop	4.318***	5.045***	4.491***	5.205***	2.944***	3.451***
	(0.700)	(1.271)	(0.860)	(1.324)	(0.790)	(1.339)
lgdpc	-1.164***	-1.196***	-1.063***	-1.232***	-0.479**	-0.414**
	(0.320)	(0.255)	(0.370)	(0.258)	(0.240)	(0.181)
Edum	0.758***	0.823***	0.681***	0.829***		
	(0.170)	(0.285)	(0.180)	(0.290)		
H					4.957***	5.911***
					(0.980)	(1.167)
Contracts	1.353*	1.515**	1.360*	1.483**	1.11	1.317**
	(0.770)	(0.591)	(0.790)	(0.595)	(0.880)	(0.636)
Open	-0.32	1.879*	-0.46	1.940*	0.09	2.768**
	(1.000)	(1.130)	(1.030)	(1.140)	(0.990)	(1.181)
Demo	0.113**	0.021	0.087*	0.012	0.262***	0.257**
	(0.060)	(0.096)	(0.050)	(0.097)	(0.060)	(0.104)
Observations	812	715	714	663	714	663
Nber of counnum	58		51		51	

Note: Dependent variable is annual number of terrorist-based domestic incidents, robust standard errors are given in parenthesis, significance level: ***. **, * is less than 1%, 5% and 10% respectively.

Table 2: Fixed Effect Poisson Regression for Muslim Fragile Countries

Variables	Specif. 1	Specif 1 iv	Specif 2	Specif 2 iv	Specif 3	Specif 3 iv
lpop	4.431***	7.916**	4.652***	8.289***	2.734***	6.728**
	(0.920)	(3.342)	(1.080)	(2.978)	(0.880)	(3.390)
lgdpc	-1.251***	-2.555**	-1.108***	-2.111**	-0.556**	-1.032*

	(0.270)	(1.112)	(0.300)	(1.035)	(0.260)	(0.575)
Edum	0.591	1.724	0.452	1.24		
	(0.400)	(1.496)	(0.420)	(1.422)		
H					4.629***	6.839**
					(1.630)	(2.734)
Contracts	2.425***	2.018	2.518***	2.405*	2.094***	2.567**
	(0.810)	(1.365)	(0.920)	(1.287)	(0.670)	(1.286)
Open	-0.082	11.746	-0.384	10.443	0.205	11.070*
	(1.130)	(7.373)	(1.220)	(7.409)	(1.200)	(6.158)
Demo	0.158**	-0.115	0.135**	-0.088	0.286***	0.229
	(0.060)	(0.193)	(0.060)	(0.179)	(0.060)	(0.163)
Observations	350	325	294	273	294	273
Nber of counnum	25		21		21	

Note: Dependent variable is annual number of terrorist-based domestic incidents, robust standard errors are given in parenthesis, significance level: ***. **, * is less than 1%, 5% and 10% respectively.

Table 3: Fixed Effect Poisson Regression for Fragile Countries Affected by Major Conflicts

Variables	Specif. 1	Specif 1 iv	Specif 2	Specif 2 iv	Specif 3	Specif 3 iv
lpop	4.195***	5.116***	4.367***	5.370***	2.682***	3.353**
	(0.660)	(1.406)	(0.820)	(1.400)	(0.680)	(1.471)
lgdpc	-1.180***	-1.478***	-1.078***	-1.261***	-0.471*	-0.428**
	(0.310)	(0.302)	(0.370)	(0.269)	(0.250)	(0.199)
Edum	0.750***	0.966***	0.671***	0.790***		
	(0.180)	(0.305)	(0.180)	(0.301)		
H					4.949***	5.869***
					(0.990)	(1.228)
Contracts	1.511*	1.630**	1.498*	1.688***	1.28	1.529**
	(0.800)	(0.639)	(0.840)	(0.634)	(0.920)	(0.675)

Open	-0.441	2.461*	-0.593	2.136*	-0.104	2.790**
	(1.060)	(1.267)	(1.100)	(1.239)	(1.030)	(1.254)
Demo	0.122**	0.038	0.095*	0.017	0.280***	0.270**
	(0.060)	(0.101)	(0.050)	(0.101)	(0.060)	(0.111)
Observations	308	286	280	260	280	260
Nber of counnum	22		20		20	

Note: Dependent variable is annual number of terrorist-based domestic incidents, robust standard errors are given in parenthesis, significance level: ***. **, * is less than 1%, 5% and 10% respectively.

Table 4: Fixed Effect Poisson Regression for Fragile Countries with more than One Main Religion

Variables	Specif. 1	Specif 1 iv	Specif 2	Specif 2 iv	Specif 3	Specif 3 iv
lpop	8.312***	7.510***	11.147***	10.977***	9.497***	11.923***
	(2.870)	(1.977)	(1.780)	(2.013)	(1.610)	(2.718)
lgdpc	-1.531***	-1.981***	-1.571***	-2.047***	-1.090***	-1.154***
	(0.080)	(0.433)	(0.090)	(0.459)	(0.090)	(0.302)
Edum	0.725***	1.436***	0.499**	1.207**		
	(0.260)	(0.445)	(0.210)	(0.469)		
H					3.794***	4.368***
					(0.940)	(1.509)
Contracts	2.976	2.821	4.961**	5.037***	3.977*	5.854***
	(2.570)	(1.839)	(2.200)	(1.848)	(2.190)	(2.119)
Open	1.867	5.977***	1.834	6.378***	1.907	5.767***
	(1.630)	(2.076)	(1.720)	(2.216)	(1.410)	(2.228)
Demo	-0.155	-0.123	-0.409	-0.402	-0.412	-0.456
	(0.450)	(0.302)	(0.450)	(0.300)	(0.400)	(0.295)
Observations	238	221	224	208	224	208
Nber of counnum	17		16		16	

5. Conclusion:

In this article, we use Fixed Effect Poisson Regression (FEPR) with robust standard errors and instrumental variables (IV) to study the social, economic, and institutional determinants of conflict in 58 fragile states divided into 4 groups. We explore different reasons for conflict in fragile countries and analyze different theories and empirical determinants.

We show that poverty and weak institutions (weak judicial system in particular) are two important dimensions positively related to violence in our samples of fragile countries. These results are consistent with those of Collier and Hoeffler (2004), Lai (2007), and Ostby (2008), who show that low incomes are positively associated with civil conflict. When poverty is high, disadvantaged people are especially likely to resort to violence since the opportunity cost of using force and the cost of recruiting extremists are low. Our results are also consistent with those of LaFree et al (2009) and Dezhbakhsh et al (2003), who confirm the deterrent effect of the threat of sanctions. According to Freytag et al (2011), effective justice increases the opportunity cost and the risk of violence.

On the other hand, education, trade liberalization and democratic accountability do not seem to help reduce violence in fragile states, our proxy variables showing a positive relationship with conflict (in some cases only for democratic regime). These results confirm those of Berrebi (2007) and Brockhoff et al. (2015) who show that education in fragile countries can increase frustration if the situation of educated people does not improve, especially since they are more aware of the limits of their government. This conclusion can be extrapolated to trade reforms which can lead to a loss of income for some groups (as in Freytag et al., 2011) and not materialize into an opportunity (as in Blomberg and Hess, 2008). As for democratic institutions, they can give more means of expression to the discontented and the extremists, thus increasing the violence, as shown by Eubank and Winberg (1998) and Li and Schaub (2004) Our results imply that education and trade reforms do not have the desired effects in fragile states, which would first have to improve the social, economic, and institutional conditions of their population before they can benefit from economic libéralization and of education. This can be the case for political reforms, since our indicator of democratic accountability-is related to violence in some cases..

Although this general pattern works fairly well for most of our country groups, some groups experience somewhat different situations. This is the case for countries with more than one major religion, where improving incomes and the efficiency of the justice system seem to be more effective in reducing violence than in the other groups. This is an interesting finding which governments could take into account to reduce the escalation of violence in these particularly fragile countries. Muslim states also appear to be particularly sensitive to the deterrent effect of sanctions and, to a lower extend, to the improvement of income, which, for governments, could be effective means of combating violence. However, countries with more than one main

religion seem particularly sensitive to the destabilizing effect of trade liberalization for vulnerable populations, and countries affected by major conflict to that of democratic improvement. These issues should also be taken into account when implementing political and economic reforms so as not to fuel violence in these countries.

Conflicts in fragile states cause great suffering for people, as well as delays in development. If nothing is done, the World Bank (2018) predicts that by 2030 nearly half of the world's poor will live in fragile countries facing conflict situations This study highlights some tools that governments could probably use to try to limit violence in their country. Improving people's standard of living and restoring strong and reliable institutions are measures that could bear fruit in most fragile countries. These results are in line with the work of Burgoon (2006) and Freytag et al (2011) who show that public spending and social protection policies can reduce violence, and George (2018) who suggests that in failed states, an effective counter-terrorism measure is to build reliable institutions. On the other hand, the question of the role of education, democratic institutions, and economic reforms is more complex to deal with. If in the short term these instruments do not seem to contribute to the reduction of conflicts and violence in the countries concerned, it may be thought that the priority of fragile states is to provide their populations with a safer economic, political, and institutional environment before these populations can benefit from more advanced reforms.

Appendix

Table A.1. : Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
trsm	812	78.8	280.4	0	3367
lpop	812	17.1	1.39	13.5	21.1
lgdpc	812	7.68	1.05	2.8	9.98
Edum	812	6.49	2.62	1.3	12.3
H	714	2.1	0.53	1.11	3.4
Contracts	812	1.87	0.84	0.62	4
Open	812	0.58	0.3	0.12	2.21
Demo	812	3.38	1.37	0.04	6

Table A.2. : List of Countries

Total countries		Countries with more than one main religion	Countries affected by major conflicts	Muslin countries
Algeria	Madagascar	Burkina Faso	Algeria	Algeria
Angola	Mali	Cameroon	Bangladesh	Azerbaijan
Azerbaijan	Mexico	Demo Rep. of Congo	Colombia	Bangladesh
Bangladesh	Moldova	Ethiopia	Demo Rep. of Congo	Burkina Faso
Belarus	Morocco	Ghana	Egypt	Egypt Arab Rep.
Bolivia	Mozambique	India	India	Gambia
Burkina Faso	Nicaragua	Indonesia	Indonesia	Guinea
Cameroon	Niger	Kenya	Iran	Indonesia
China	Nigeria	Lebanon	Iraq	Iran Islamic Rep.
Colombia	Pakistan	Mozambique	Kenya	Iraq
Demo Rep. of Congo	Paraguay	Nigeria	Lebanon	Jordan
Dominican Rep.	Philippines	Sierra Leone	Libya	Lebanon
Ecuador	Rep. of Congo	Sri Lanka	Mali	Libya
Egypt Arab Rep.	Russia	Syria	Nigeria	Mali
Ethiopia	Saudi Arabia	Tanzania	Pakistan	Morocco
Gabon	Senegal	Togo	Philippines	Niger
Ghana	Sierra Leone	Uganda	Russia	Nigeria
Guatemala	Sri Lanka	Vietnam	Sri Lanka	Pakistan
Guinea	Sudan		Sudan	Saudi Arabia
Guyana	Syrian Arab Rep.		Syria	Senegal
Honduras	Tanzania		Turkey	Sierra Leone

India	Tunisia	Yemen	Sudan
Indonesia	Turkey		Syria
Iran Islamic Rep.	Uganda		Tunisia
Iraq	Ukraine		Turkey
Jordan	Venezuela		Yemen Rep.
Kenya	Vietnam		
Lebanon	Yemen Rep.		
Libya	Zimbabwe		

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