Institutional determinants of internal conflicts in fragile developing countries

Syed Muhammad All-E-Raza Rizvi, Marie-Ange Véganzonès-Varoudakis

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Syed Muhammad All-e-Raza Rizvi

Université Paris-Est Créteil Val de Marne,

Faculté d'administration et échanges internationaux,

Créteil, France

Marie-Ange-Véganzonès-Varoudakis

Université Clermont Auvergne, CNRS, IRD, CERDI,

Clermont Ferrand, France

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 internal conflicts in 58 fragile developing countries from 2004 to 2017. We show that effective institutions (measured by judicial efficiency and governance) and higher incomes could help reduce conflict in fragile countries. In contrast, trade reform does not seem to reduce violence, and education and democratic institutions may fuel conflict in some cases. These results imply that education and trade liberalization do not have the expected effects in fragile countries, which should probably first improve their social, economic, and institutional situation, before reaping the benefits of economic reforms and education. This may also be the case for political reforms, because democratic experience seems to lead to increased violence in some countries in our sample.

Keywords: Conflict, Fragile Countries, Institutions, Economic Reforms, Education, Democracy

JEL classification : C23, D74, O10

1. Introduction

Over the past decade, the Uppsala Conflict Data Program has recorded an upward trend of violence in the world (Allansson-et-al, 2017). In addition to human suffering, civil strife causes considerable damage to economies due to its negative effects on, among other things, infrastructure, social 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 in a country also have a destabilizing effect on neighboring countries, with political instability in one 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).

Several studies have suggested that armed violence occurs mostly in fragile countries which have poor social, economic, and political conditions (World-Bank, 2011-2018). Collier (2007) states that "seventy-three percent of people of the bottom billion have been through a civil war or are still in one". Stewart (2012) notes that most of the economies with the lowest level of human development have been confronted with civil wars over the past 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 conflict. Newman (2007) and Piazza (2008) state 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 also lead to civil unrest, as highlighted by Freytag-et-al (2011) for the effects of globalization. Gur (1970) reports that when individuals feel economically disadvantaged, they may be willing to fight to change their situation.

Fragile countries are fertile ground for the study of the mechanisms at work in the emergence of violence. In this study, we explore the social, economic, and institutional determinants of domestic conflict in 58 fragile developing countries. Our aim is to better understand the factors explaining violence, so that governments can reduce this source of instability. 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. The data for these countries are from the Fund for Peace (FFP) database, which annually publishes a fragility index for 178 countries around the world[2]. In addition to an objective of robustness, our choice to work on different categories of countries was motivated by the search for characteristics to refine the understanding of the mechanisms of violence, and clarify the recommendations for economic policy.

We show that effective institutions (measured by judicial effectiveness and governance) and higher incomes contribute to reducing conflict in our sample of fragile countries. In contrast, trade reforms do not seem to reduce violence, and human development and democratic institutions may fuel violence in several cases. This implies that governments should probably first improve the social, economic and institutional conditions of the populations before reaping the benefits of economic reforms and education. The same conclusion could be drawn for political reforms since democratic experiences seem to lead to an increase in violence in some countries in our sample.

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 Poisson estimators, while most studies use Negative-Binomial-Regressions for count data, is suitable and is an originality of our approach (Krieger-and-Meierrieks, 2011). The Poisson estimator is particularly suitable in the case of event rarity, which is true for our conflict variable, by providing greater precision and efficiency than the other estimators (Simcoe, 2008; Santos-Silva-and-Tenreyro, 2009). The use of instrumental variables (IV) is another specificity of our approach which aims to address the possible endogeneity problems underlying our regressions.

Another particularity of our work lies in the use of the Global Terrorism Database (GTD), and the choice of our conflict variable. Although a large literature on conflict has emerged over time, few studies are based on GTD data. The advantage of GTD is to provide data on the number of violent events, which constitutes precise information on the frequency, and therefore the disruptive effect of the conflict, unlike other studies based on dummy variables or probabilities (Humphreys, 2003; Collier-and-Hoeffler, 2004; Caruso-and-Schneider, 2011). Another advantage of the use of GTD is to isolate the domestic component of conflicts, the most common but the least studied because of a lack of data for the transnational component (Enders-et-al., 2011; Berkebile, 2017).

The rest of the article is organized as follows: Section-2 summarizes our theoretical framework and some reasons that motivate violence in fragile countries. Based on the literature, Section-3 presents our model of conflict and the variables used in the analysis. Section-4 describes our samples. Section-5 introduces the methodological aspects related to our estimates. Section-6

[1] https://www.start.umd.edu/data-tools/global-terrorism-database-gtd.

[2] https://fragilestatesindex.org/data/.

presents the results of the empirical analysis and the robustness for our various specifications. The last section concludes with our main findings and policy recommendations.

2. Conflict Motivation: A Theoretical Framework

The motivations for 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, recognition, 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. 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. If the legal system is ineffective, people who have grievances, but who do not trust justice, may find it legitimate to advance their cause 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 violent action. On the other hand, in the case of poverty or a slowdown in economic activity, as the relative price of material wealth decreases, 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 conflict because of the lower opportunity cost of violence for these stakeholders. 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. Kurrild-Klitgaard et al (2006) and Blomberg-and-Hess (2008) 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.

Bernholz (2004) however describes the ideological content of some 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). 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, an increase in wealth increases the resources for extremist organizations and rebel activities.

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

3. Presentation of the Model and the Variables

3.1 The Model

The equation used to study the determinants of conflict in fragile developing countries is as follows:

$$Confl_{it}=\alpha_0+\alpha_1(GDPc_{it})+\alpha_2(Contracts_{it})+\alpha_3(Inequal_t)+\alpha_4(H_{it})+\alpha_5(Open_{it})+\alpha_6(Demo_{it})+\alpha_7(Pop_{it})+\alpha_8(EthnTens_{it})+\alpha_9(ReligTens_{it})+\alpha_{10}(NatRes_{it})+\mathcal{E}_t \quad \text{Eq (1)}$$

Where *Confl* is the count data variable for measuring conflict, *GDPc* the logarithm of real GDP per capita, *Inequal* the measure of income inequalities, *Contracts* the proxy for judicial effectiveness, *H* the human capital index, *Open* the indicator of trade openness, *Demo* the proxy for democratic institutions, *Pop* the logarithm of population, *EthnTens* and *ReligTens* the variables for ethnics and religious tensions, and *NatRes* the natural resources indicator. e.*i* is the cross sections index, *t* the time dimension and $\mathcal{E}$ the error term. $\alpha 0$ to $\alpha 10$ are the parameters to estimate.

3.2 The Variables

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

We develop 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, both transnational and domestic, from 1970-to-2017.

In the GTD codebook, the conflict-based incidents 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)-be intentional, (ii)-result in a defined level of violence or an immediate threat of violence against property and/or people, (iii)-be perpetrated by subnational actors. Attack types are listed as:

assassination, hijacking, kidnapping, barricade incident, bombing/explosion, unknown armed assault, unarmed assault, and facility/infrastructure attack.

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 that of the country where they occurred. The time period for the annual data is from 2004-to-2017 (Table-A.1 for data-sources and Tables-A.1.1-to-A.1.4 for descriptive-statistics).

3.2.2 GDP per Capita as Proxy for Income

The empirical evidence for the impact of income on internal conflict yields mixed results. Some of the literature finds poverty and low income are causes 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) highlight a positive correlation between increasing GDP per capita and increased violence. Piazza (2008) however does not find a significant association between the two variables. As in one part of the literature, our hypothesis is that economically disadvantaged people in fragile countries develop grievances against their government, and that poor economic conditions make violence more likely because direct costs (including rebel recruitment) and opportunity costs are low

GDP per capita is our measure of income. The data comes from WDI (2017). For some countries we collect data from national sources and other international institutions for missing values. We use the logarithm of GDP per capita in real terms..

3.2.3 Effective Judiciary and Governance as Proxies for Deterrence and Institutions

Countries with fragile institutions are vulnerable to violence (Ross, 1993, Basuchoudhary-and-Shughart 2010). It is easier for extremist groups to operate in countries 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 of the regime in power. Dezhbakhsh-et-al (2003) find 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 our indirect indicator of the ineffectiveness of the judiciary. If the judiciary punishes in a timely manner, the population may be reluctant to use violence. If the justice system is effective and citizens trust its decisions, it may deter violent activities. In this study, our hypothesis is a positive impact of the judicial ineffectiveness variable on conflict.

For robustness, we test the broader impact of governance on the frequency of conflict. To do this, we use principal component analysis to generate an aggregated indicator from variables

from the International Country Risk Guide (ICRG) database (Aysan-et-al, 2007). These variables are: (i)-“Control-of-Corruption”, (ii)-“Investment-Profile”, (iii)-“Public-Order” and (iv)-“Quality-of-Bureaucracy”. A high value of these variables means better governance and institutions, and vice versa

3.2.4 Income Inequalities as Proxy for Unequal Distribution of Wealth

Like poverty, the unequal distribution of wealth can increase grievances among the population and fuel conflict. In his theory of relative deprivation, Gurr (1970) argues that people assess their economic situation in relation to that of others and describes a positive relationship between income inequality and violence. In the literature, relatively unfavorable economic conditions are generally described as leading to increased frustration and conflict.

The empirical literature also illustrates this positive link between income inequalities and conflicts. Krieger-and-Meierrieks (2019) show that these inequalities increase violence in their sample of countries. They also highlight that countries which redistribute more experience fewer internal conflicts. Piazza (2011) also finds that greater income inequality increases the likelihood of violence. However, some authors do not validate this link (for instance Kurrild-Klitgaard-et-al, 2006).

For inequalities, we use the richest 10% share of pre-tax national income from the World-Inequality-Database (WID). In line with the literature, our hypothesis is a positive correlation of this variable with our indicator of conflict.

3.2.5 Education as Proxy for Human Capital

Human development may 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 may thus increase the opportunity cost of conflict by providing better opportunities for people (Freytag-et-al, 2011).

Empirically, 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, Testas (2004), Berrebi (2007), Nasir-et-al (2011) and Brockhoff-et-al (2015) 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 may increase frustration and civil unrest. People may consider joining organizations which are opponents to the regime if career path returns are below expectations (Krueger, 2008). In addition, extremist groups may have an interest in recruiting educated people, because 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 the average number of years of schooling of the population aged 25 or older from the United-Nations-Development-Program (UNDP) as proxy for human capital. Then we use The Penn World Tables (PWT) human capital indicator as a robustness test of our results. In accordance with part of the literature, our hypothesis is 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.

3.2.6 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 has been the subject of much 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. Kurrild-Klitgaard-et-al (2006) and Blomberg-and-Hess (2008) 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. Wintrobe (2006) and Freytag-et-al (2011) 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).

Following the empirical literature, we use the ratio of the sum of exports plus imports to GDP (in real terms) as a proxy for trade reform (Kurrild-Klitgaard-et-al, 2006, Wintrobe, 2006, Blomberg-and-Hess, 2008, Freytag-et-al, 2011). The data come from national and international sources.

3.2.7 Democratic Accountability as Proxy for Political Liberalization

The impact of the political regime on violence and civil unrest 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 for 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.

We use the Democratic Accountability variable of ICRG database as an indicator of the type of regime (Howell, 2011). A high value of the variable indicates more democratic institutions and vice-versa.

3.2.8 The Role of Population

We study the impact of population size as another control variable on the development of conflicts. Krueger-and-Maleckova (2003), Burgoom (2006), Piazza (2008), Freytag-et-al (2011) and Richardson (2011) point out that more populous countries tend to face more violence. Taydas-et-al (2011) and Gaibulloev-and-Sandler (2019) 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. Following this literature, our hypothesis is a positive relationship between population and conflict. We use population and population density variables from WDI (2017) in logarithm.

3.2.9 Ethnic and Religious Tensions

Ethnic and religious differences are two other issues explored in the conflict literature. Several studies have used ethnic diversity as an explanatory variable for violence. Montalvo-and-Reynal-Queral (2005) argue that countries with more ethnic polarization are more likely to face internal conflicts. Horowitz (1985) considers that both countries which are very homogeneous and those which are very heterogeneous may have less violence. Fearon-and-Laitin (2003) point out that countries with more diversity face less violence because minority groups can share political platforms through alliances and coalitions. Collier-and-Hoeffler (2004) hypothesize that if political loyalties are ethnically based, the likelihood of conflict increases when an ethnic group has a small majority.

Empirically, Fearon-and-Laitin (2003) show that ethnic fragmentation has no significant impact on conflict. Collier-and-Hoeffler (2004) use different indicators of ethnic diversity and highlight a positive impact of ethnic dominance on violence. Danzell-et-al (2019) find that ethnic polarization increases the risk of internal conflict. Basuchoudhary-and-Shughart (2010) conclude that ethnic tensions increase conflict.

Regarding religious differences, Collier-and-Hoeffler (2004) argue that, like ethnic diversity, a population which is more heterogeneous in terms of religion faces less conflict. Bandyopadhyay-and-Younas (2011) use religious fragmentation as an explanatory variable of conflict and stress that countries with greater religious diversity experience less violence. However, Collier-and-Hoeffler (2004) and Abadie (2006) find an insignificant impact of religious fragmentation on conflict.

We use ethnic and religious tensions from the ICRG database as control variables in our conflict model. The ICRG data for ethnic and religious tensions scores range from 0-to-6, where higher values indicate lower tensions. Following one part of the literature, our hypothesis is a negative relationship of these variables with the one of conflict, which would show that a decrease in ethnic and religious tensions would decrease violence.

3.2.10 The Role of Natural Resources

A country with abundant natural resources offers financial resources to both regime and opponents to support or fight the conflict. On the one hand, natural resources provide useful funding for governments to control insurgencies (Collier-and-Hoeffler, 2004). On the other hand, natural resources can attract rebellion, as the financial gains from controlling these resources increase the potential benefits of an outcome of the conflict in their favor.

Collier-and-Hoeffler (2004) use the ratio of exports of primary goods to GDP as an indicator of natural resources and find a significant relationship with conflict. They conclude that the availability of financing, through the possibility of extortion allied to these assets, makes rebellion more feasible and attractive. Lujala (2010) and Farzanegan-et-al (2018) also show that the abundance of natural resources increases the risk of internal violence.

We use the natural resource rents from the World Development Indicators (WDI) to proxy a country's natural resources. Following the literature, our hypothesis is a positive impact of this variable on conflict.

4. Presentation of the Sample

This study focuses on fragile developing countries from the Fund for Peace (FFP) database. The FFP annually publishes a Fragile States Index (FSI), 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.

We use a sample of 58 fragile countries, with data available from 2004-to-2017, for which FSI was above 70, which corresponds to a high degree of fragility. Geographically, our dataset is divided into 21-African countries, 13-MENA countries, 9-Asian countries, 11-Latin American countries and 4-European countries.

We analyze the development of conflict activities for 4 different groups of fragile developing countries: (i)-An overall sample of fragile developing countries, (ii)-Islamic fragile developing countries, (iii)-Fragile developing countries with more than one main religion[3], (iv)-Fragile developing countries affected by major conflicts[4] (Table-A.2). 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 effects on violence as in countries where unrest is fueled by poverty or an uneven distribution of wealth. In countries where unrest is fueled by poverty, or an uneven distribution of wealth, it might be thought that an increase in income, a policy of wealth redistribution, better access to education, health and more

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

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

generally a higher level of development, would contribute to reduce social dissatisfaction, and thus reduce conflict. If the reason for the violence is not economic, but religious, an increase in income or education may on the contrary fuel the conflict.

The statistical analysis highlights interesting differences between our groups of countries (Tables-A.1.1-to-A.1.4).

One result is that the countries affected by major conflicts have, on average, a higher average annual number of conflict-based incidents, higher per capita incomes, a higher level of education, relatively more democratic institutions, and more natural resources than in the other groups. In contrast, ethnic and religious tensions are less in these countries, and their quality of governance is also the weakest of our sample of fragile countries.

Another result is that countries with more than one main religion appear to be the poorest, the most populous, the most unequal, the least endowed with natural resources, and subject to the highest ethnic tensions, but endowed with a better quality of political and economic institutions than the other groups.

The fragile Muslim countries have per capita income and level of natural resources among the highest in our sample, but their political and economic institutions are among the poorest, and religious tensions the highest.

We therefore see very different country typologies from one group to another, which suggests that the causes of conflicts may vary between groups, and that the policies to de-escalate violence may need to vary.

5. Estimation of the Model: Methodological Aspects

Since we have the annual number of conflict-based domestic incidents as proxy for violence, this implies that our dependent variable is a non-negative integer (count data)[5]. 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 corresponds well to our situation. Many empirical researches have used Poisson regression or Negative-Binomial-Regression (NBR)[6] for count data models (see Krieger-and-Meierrieks, 2011, for a synthesis). Berrebi-and-Ostwald (2011) however suggest that while NBR offers potential efficiency gains, 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 has been preferred to NBR by several authors for these reasons (Guimaraes, 2008; Berrebi-and-Ostwald, 2013; Ranson, 2014; Gardeazabal-and-Sandler, 2015; Lee-and-Eck, 2021)[7]. We also choose FEPR with

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

[6] See George (2018) and Piazza (2008) for NBR

[7] Gourieroux-et-al. (1984) and Wooldridge (1999) explain that the Poisson estimator (with robust standard-errors)

clustered standard-errors, which allows us to estimate our model with robust standard-errors (Simcoe, 2008; Santos Silva-and-Tenreyro, 2009). These standard-errors are robust to clustering, under-dispersion/over-dispersion, arbitrary heteroscedasticity, and arbitrary serial-correlation, as explained in Wooldridge (1999) and Berrebi-and-Ostwald (2011)[8].

Following Silva-and-Tenreyro (2006), we also perform Ramsey's (1969) RESET[9] specification test to verify the adequacy of our model[10]. The results of the test show that our model is not misspecified and there is no omitted variable bias.

The question of a possible endogeneity of the explanatory variables of conflicts (growth or income in particular) has been raised by some authors (Krieger-and-Meierrieks, 2019 and Ajide-and-Alimi, 2021 for example). However, most of the time, the literature pays little attention to this question and studies either the causes of conflicts (Collier-and-Hoeffler, 2004; Kurrild-Klitgaard-et-al, 2006; Caruso-and-Schneider, 2011; Freytag-et-al., 2011), or the impact of conflicts on other variables, particularly income (Abadie-and-Gardeazabal, 2003-2008; Crain-and-Crain, 2006; Gaibulloev-and-Sandler, 2008-2011).

We address the possible endogeneity issue underlying our regressions by re-estimating our initial specifications using the two-step control-function (CF) approach. It is not possible to capture the fixed-effects in the Instrumental-Variable-Poisson-Regression (IVPR). Wooldridge (2015) illustrates that control-function is an efficient instrumental variable (IV) way to counter problems of endogeneity. In the first-stage of the control-function approach, we explain the endogenous variable (the GDP per capita in our case) by all the explanatory variables plus the instrument (i.e. the lag form of the endogenous variable). This allows to predict the residuals of this first-stage equation. In the second-stage, along with our explanatory variables of conflict, we also control for the residuals of the first equation. The control-function approach has now been used in numerous empirical studies (Ajide-and-Alimi, 2021; Dreher-et-al, 2019-2021; Hou, 2021; Kim-et-al, 2021)

Finally, as robustness check we re-estimate our model on a sample of less fragile countries, with a fragility score higher than 60, and on a sample of more fragile countries, whose score is higher than 80.

6. The Results of the Estimations

Table-1 presents the results for the total sample of developing countries, Table-2 for the Muslim countries, Table-3 for the countries affected by major conflicts and Table-4 for the countries with

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does not make any assumptions about the distribution of the errors,

[8] NBR were also performed for our analysis. The results are consistent with those obtained with FEPR. They are available upon request

[9] Regression Specification Error Test

[10] To perform the test, Silva-and-Tenreyro (2006) construct an additional regressor $(x'b)^{2,}$ where the bi represent the vector of the estimated factors and the xi are obtained from the data in memory. The null hypothesis of absence of mispecification (i.e. the non-significance of this additional regressor) corresponds to a coefficient equal to 0.

more than one main religion. For each specification, we give the results respectively for simple and instrumental variables (IV) Fixed-Effects-Poisson-Regressions (FEPR). We also present in the Appendix the results of the regressions on the two other samples of more and less fragile countries (Appendix-4-and-5). The results are consistent between all sets of regressions.

6.1. Main Results

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 developing countries. 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 is low. Improving incomes seems a policy variable that governments could use to reduce violence in fragile developing countries.

Our results also indicate that another way to reduce conflict in fragile developing countries could be to improve institutions, especially the justice system. This finding is consistent with that of Dezhbakhsh-et-al (2003) and LaFree-et-al (2009) 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 developing countries with fragile institutions seem more vulnerable to violence (as seen in Ross, 1993, and Basuchoudhary-and-Shughart 2010) because our findings are unchanged with our aggregate governance indicator which more broadly represents institutions (Tables A.3.1-to-A.3.4.).

With regard to population size, our results are in line with those of Taydas-et-al (2011) and Gaibulloev-and-Sandler (2019) who show that fragile countries with big populations are more exposed to violence. The use of population density does not change our conclusions[11].

Our results for education, trade liberalization and democratic accountability are less stable than those obtained for population, institutions, and incomes. Trade liberalization does not seem to be related to conflict, except in the case of countries with more than one religion for some specifications (Table-4). Also, the sign of the coefficient of the trade openness variable varies according to the specifications, although it is not significant. This finding does not allow discriminating between the two options described in the literature. Trade reforms appear to be seen neither as an opportunity to improve people's prospects and incomes (as in Kurrild-Klitgaard-et-al, 2006, and Blomberg-and-Hess, 2008) nor as a threat of loss of income or of worsening inequalities (as in Wintrobe, 2006, and Freytag-et-al, 2011), except in countries with more than one religion in some cases.

[11] Results of these regressions are available on request.

Table 1: Fixed Effect Poisson Regression for Total Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
Lgdpc	-1.164***	-1.148***	-1.163***	-1.147***	-1.090***	-1.045***	-0.974***	-0.885***	-0.181	0.268
	(0.315)	(0.305)	(0.322)	(0.315)	(0.320)	(0.310)	(0.294)	(0.279)	(0.626)	(0.755)
Contracts	1.353*	1.403*	1.344*	1.395*	1.213	1.239	1.000	1.036	1.412	1.524
	(0.766)	(0.824)	(0.763)	(0.821)	(0.783)	(0.877)	(0.908)	(1.018)	(0.990)	(1.114)
Edu	0.758***	0.680***	0.790***	0.722***	0.790***	0.707***	0.767***	0.656***	0.752**	0.615**
	(0.173)	(0.183)	(0.207)	(0.217)	(0.213)	(0.226)	(0.215)	(0.228)	(0.295)	(0.286)
Open	-0.320	-0.216	-0.283	-0.178	0.133	0.367	0.262	0.434	0.569	0.959
	(0.999)	(0.977)	(1.044)	(1.011)	(0.973)	(1.036)	(1.052)	(1.073)	(1.355)	(1.499)
Demo	0.113**	0.092	0.114**	0.094	0.104	0.106*	0.105*	0.126**	0.128**	0.170***
	(0.057)	(0.062)	(0.056)	(0.060)	(0.064)	(0.064)	(0.059)	(0.062)	(0.053)	(0.065)
lPop	4.318***	4.317***	4.253***	4.227***	4.142***	4.168***	3.851***	3.814***	2.807***	2.305**
	(0.697)	(0.599)	(0.729)	(0.652)	(0.628)	(0.555)	(0.561)	(0.503)	(1.009)	(1.051)
Inequal			-1.211	-1.719	-1.035	-1.571	-1.045	-1.590	-3.041	-3.709
			(6.345)	(6.353)	(5.994)	(6.182)	(5.972)	(6.196)	(5.929)	(6.050)
EthnTens					-0.453**	-0.562	-0.393**	-0.441	-0.439**	-0.602*
					(0.223)	(0.384)	(0.199)	(0.366)	(0.173)	(0.318)
ReligTens							-0.277	-0.374	-0.094	-0.156
							(0.259)	(0.345)	(0.231)	(0.288)
NatRes									-0.012	-0.018
									(0.018)	(0.019)
Res		-0.149		-0.144		-0.177		-0.211		-0.909
		(0.231)		(0.227)		(0.228)		(0.195)		(0.664)
RESET	0.941	0.996	0.969	0.887	0.839	0.924	0.911	0.855	0.592	0.628
Obs	812	754	812	754	812	754	812	754	795	738
Groups	58	58	58	58	58	58	58	58	57	57

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *Pop* the logarithm of population from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table 2: Fixed Effect Poisson Regression for Muslim Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
Lgdpc	-1.251***	-1.199***	-1.192***	-1.139***	-1.145***	-1.139***	-1.009***	-0.930***	-0.383	-0.085
	(0.268)	(0.288)	(0.274)	(0.297)	(0.283)	(0.307)	(0.266)	(0.291)	(0.879)	(0.937)
Contracts	2.425***	2.459***	2.824***	2.884***	2.705***	2.885***	2.456**	2.756**	2.640**	2.835**
	(0.806)	(0.872)	(0.928)	(1.010)	(0.910)	(1.024)	(1.025)	(1.184)	(1.058)	(1.165)
Edu	0.591	0.530	0.487	0.428	0.480	0.428	0.409	0.283	0.565	0.427
	(0.400)	(0.429)	(0.430)	(0.459)	(0.425)	(0.486)	(0.439)	(0.526)	(0.520)	(0.557)
Open	-0.082	-0.120	-0.211	-0.256	-0.071	-0.259	0.335	-0.022	0.821	0.443

	(1.134)	(1.090)	(0.960)	(0.942)	(0.960)	(1.105)	(1.135)	(1.181)	(2.278)	(2.405)
Demo	0.158**	0.134*	0.218***	0.207**	0.211***	0.207**	0.220***	0.242**	0.224**	0.251**
	(0.064)	(0.074)	(0.078)	(0.096)	(0.077)	(0.095)	(0.083)	(0.100)	(0.099)	(0.115)
lPop	4.431***	4.319***	4.468***	4.381***	4.424***	4.380***	4.215***	3.998***	2.698**	2.443*
	(0.920)	(0.854)	(0.900)	(0.877)	(0.854)	(0.923)	(0.812)	(0.920)	(1.327)	(1.285)
Inequal			-18.081	-17.331	-17.659	-17.331	-17.550*	-17.499	-17.321*	-17.272
			(11.793)	(11.424)	(11.197)	(11.415)	(10.588)	(10.788)	(10.297)	(10.577)
EthnTens					-0.213	0.003	-0.140	0.517	-0.220*	0.170
					(0.216)	(0.686)	(0.189)	(0.732)	(0.117)	(0.519)
ReligTens							-0.361	-0.666	-0.126	-0.362
							(0.296)	(0.432)	(0.248)	(0.291)
NatRes									-0.017	-0.016
									(0.021)	(0.021)
Res		-0.129		-0.094		-0.093		-0.161		-0.459
		(0.244)		(0.215)		(0.220)		(0.171)		(0.410)
RESET	0.450	0.447	0.898	0.976	0.947	0.973	0.704	0.721	0.238	0.275
Obs	350	325	350	325	350	325	350	325	336	312
Groups	25	25	25	25	25	25	25	25	24	24

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *Pop* the logarithm of population from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

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

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
Lgdpc	-1.180***	-1.157***	-1.178***	-1.155***	-1.098***	-1.047***	-0.989***	-0.887***	-0.072	0.419
	(0.308)	(0.301)	(0.317)	(0.312)	(0.317)	(0.305)	(0.291)	(0.280)	(0.684)	(0.804)
Contracts	1.511*	1.606*	1.501*	1.597*	1.362*	1.441	1.151	1.236	1.618	1.773
	(0.801)	(0.846)	(0.799)	(0.846)	(0.822)	(0.907)	(0.971)	(1.066)	(1.077)	(1.203)
Edu	0.750***	0.664***	0.792***	0.717***	0.788***	0.697***	0.766***	0.644***	0.715**	0.557*
	(0.179)	(0.194)	(0.214)	(0.229)	(0.222)	(0.241)	(0.225)	(0.245)	(0.317)	(0.311)
Open	-0.441	-0.372	-0.399	-0.332	0.030	0.223	0.150	0.286	0.379	0.718
	(1.062)	(1.028)	(1.102)	(1.054)	(1.024)	(1.090)	(1.099)	(1.122)	(1.389)	(1.580)
Demo	0.122**	0.106	0.123**	0.109*	0.113*	0.122*	0.113*	0.141**	0.143**	0.197***
	(0.061)	(0.068)	(0.060)	(0.066)	(0.068)	(0.069)	(0.063)	(0.067)	(0.058)	(0.069)
lPop	4.195***	4.173***	4.108***	4.056***	3.992***	4.002***	3.728***	3.657***	2.635**	2.064*
	(0.658)	(0.526)	(0.692)	(0.594)	(0.589)	(0.514)	(0.529)	(0.495)	(1.049)	(1.137)
Inequal			-1.497	-2.046	-1.300	-1.870	-1.290	-1.866	-3.438	-4.191
			(6.539)	(6.560)	(6.170)	(6.374)	(6.146)	(6.391)	(6.101)	(6.252)
EthnTens					-0.464*	-0.567	-0.413*	-0.458	-0.459**	-0.641
					(0.246)	(0.438)	(0.219)	(0.417)	(0.189)	(0.390)
ReligTens							-0.250	-0.354	-0.104	-0.193
							(0.266)	(0.357)	(0.250)	(0.313)
NatRes									-0.010	-0.017
									(0.018)	(0.020)

Res		-0.111		-0.104		-0.141		-0.175		-0.824
		(0.206)		(0.201)		(0.196)		(0.159)		(0.581)
RESET	0.922	0.890	0.810	0.781	0.986	0.834	0.772	0.748	0.681	0.649
Obs	308	286	308	286	308	286	308	286	294	273
Groups	22	22	22	22	22	22	22	22	21	21

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *Pop* the logarithm of population from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

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

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
Lgdpc	-1.529***	-1.500***	-1.397***	-1.382***	-1.164***	-1.139***	-0.775***	-0.772***	1.183	0.687
	(0.085)	(0.096)	(0.100)	(0.142)	(0.086)	(0.097)	(0.091)	(0.093)	(1.236)	(1.416)
Contracts	2.967	2.478	2.290	1.940	2.983	2.611	5.498*	5.049	6.996**	6.314**
	(2.589)	(2.460)	(2.833)	(2.843)	(2.761)	(2.756)	(3.019)	(3.337)	(3.207)	(3.017)
Edu	0.724***	0.713***	0.244	0.298	0.151	0.200	0.385	0.478	0.270	0.338
	(0.266)	(0.265)	(0.347)	(0.416)	(0.331)	(0.392)	(0.339)	(0.367)	(0.224)	(0.233)
Open	1.852	1.626	0.968	0.949	1.100	1.056	2.649**	2.692**	5.594**	5.680***
	(1.629)	(1.818)	(1.730)	(2.010)	(1.235)	(1.401)	(1.096)	(1.234)	(2.208)	(2.116)
Demo	-0.154	-0.149	0.027	0.009	-0.067	-0.089	-0.008	-0.022	-0.204	-0.130
	(0.450)	(0.459)	(0.475)	(0.504)	(0.433)	(0.453)	(0.345)	(0.360)	(0.364)	(0.467)
lPop	8.302***	7.641***	9.569***	8.873***	10.13***	9.423***	8.132***	7.325***	7.177***	7.140***
	(2.892)	(2.709)	(2.969)	(2.827)	(3.021)	(2.928)	(2.561)	(2.530)	(1.495)	(1.774)
Inequal			6.753**	5.801	6.336**	5.446	3.837	2.530	-5.007	-5.272
			(3.225)	(3.921)	(3.058)	(3.930)	(2.968)	(3.355)	(5.637)	(5.997)
EthnTens					-1.264***	-1.467***	-0.589	-0.775*	-0.747**	-0.947***
					(0.487)	(0.513)	(0.404)	(0.403)	(0.323)	(0.302)
ReligTens							-2.128***	-2.186***	-0.827*	-0.820*
							(0.470)	(0.460)	(0.482)	(0.454)
NatRes									-0.059*	-0.058*
									(0.031)	(0.034)
Res		-0.108		-0.180		-0.144		0.135		3.213
		(0.133)		(0.178)		(0.095)		(0.125)		(3.582)
RESET	0.000	0.000	0.007	0.008	0.006	0.004	0.528	0.534	0.094	0.122
Obs	224	208	224	208	224	208	224	208	210	195
Groups	16	16	16	16	16	16	16	16	15	15

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *Pop* the logarithm of population from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst

stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Education and democratic institutions appear to be more regularly associated with violence. Our results show a positive relationship between education and democratic accountability and conflict. The impact of these factors on violence has been discussed in the literature. Our findings indicate that education in fragile developing 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 country with adverse social, economic, and political conditions, education can increase frustration if the situation of educated people does not improve, especially since they may be more aware of the limits of their government.

This conclusion can be extrapolated to democracy which seems to give more voice to discontented groups, thereby increasing violence as in Eubank and Winberg (1998) and Li-and-Schaub (2004) in some cases. This means that when some fragile developing countries go from authoritarianism to democracy, they can face more civil unrest**.** Democracy also does not seem to allow for conflict resolution and a reduction in violence in most of our groups (Eyerman, 1998, and Li, 2005), which leaves open the question of the impact of improving democratic institutions on violence.

Thus, improving the level of education and liberalizing trade may not have the desired effects in fragile developing countries which probably should first improve the social, economic and institutional conditions of their population before reaping the benefits of economic reforms and education. This may also be the case with political reforms in countries where our democratic accountability variable seems to increase violence.

6.2. Sub-Sample Specificities

A more detailed analysis shows interesting differences between our groups of countries. The relationship of conflict to income, although relatively stable in most groups and specifications, seems stronger in countries with more than one main religion (to a lesser extent in Muslim countries, Tables-2-and-4). 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 developing countries (Table-A.1.4).

The results are fairly similar for population size. The relationship with the conflict variable is stronger for this group as well (Table-4). This may be due to the fact that several highly populated countries belong to this group (Table-A.1.4), illustrating the difficulties faced by governments in meeting the needs of a large and diverse population.

The results are more diverse for the justice system. The improvement in the justice efficiency is more strongly related to the decrease in violence in Muslim countries than in the other groups (Table-2). This is interesting because some countries in this group may be less involved in long-term and high-intensity violence than those in the group of countries affected by major conflicts

(Tables-A.1.2-and-A.1.3). Improving the justice system, in addition to incomes, and more generally institutions could therefore prevent the escalation of violence in those fragile countries characterized by a relatively poor governance environment compared to the countries of the other groups (Table-A.1.2). As for countries with more than one main religion, the results are more difficult to interpret because they vary according to the specification. However, the justice efficiency may also play an important role in reducing violence in some cases (Table-4)

The results for education are more constant from one specification to another and significant mainly for two groups (total fragile countries and countries affected by major conflicts, Tables-1-and-3). This may be related to the fact that ethnic tensions (and religious tensions in some groups) are an important factor 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. Although education does not appear to fuel violence in Muslim countries and countries with more than one main religion, these findings should be viewed with caution. Human capital seems to participate in the escalation of violence in Muslim countries when one considers the Penn World Tables proxy[12]. Likewise, education seems to participate in the upsurge of conflicts in countries with several main religions in one specification (Table-4).

The results are also different for trade liberalization whose effect on violence is never significant, except in countries with more than one main religion (in some specifications). This could mean that the governments of these countries should pay more attention to economic reforms so as not to further destabilize already vulnerable populations, although this result seems rather weak. Violence in the other groups does not appear to be exacerbated by the changes brought about by trade reforms.

As for political liberalization, democratic experiences seem to be a source of increased violence in most of our fragile developing countries (as in Eubank-and-Winberg, 1998, and Li-and-Schaub, 2004), except in the group of countries with more than one main religion, perhaps because some countries in this group have historically experienced the relatively long presence of democratic institutions (Table-A.1.4). Administrative and political disorganization and the social, political, ethnic or religious polarization in most of the countries affected by conflicts probably does not allow them to benefit from the political reforms which would allow the people to express their demand, 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 take place in more stabilized political and social contexts.

6.3. Role of the other Control Variables

Apart from the role of population size, which is significant in explaining conflicts in our fragile developing countries and which we have commented on above, the role of our other control variables does not seem to be validated, in a general and robust way, by the data. Ethnic tensions appear to participate in the dynamics of conflicts only in the non-instrumented specification for

[12] Results are available upon request.

the total sample and for the countries affected by major conflicts, which weakens the result. In a single configuration, that of countries with more than one main religion, which are characterized by a comparatively higher level of religious and ethnic tensions (Table-A.1.4), the ethnic tensions variable's role seems robust.

The same conclusion can be drawn for income inequalities, religious tensions, and natural resources whose role is never demonstrated, except for countries with more than one main religion which are also characterized by a comparatively higher level of inequalities (Table-A.1.4.) in a number of specifications. This result highlights, once again, the specificity of countries with more than one main religion whose conflict dynamics seem to follow a somewhat different path from that of the average for other fragile developing countries. Inequalities on the one hand, and ethnic and religious tensions the role of which has been highlighted in violence by many authors (Collier-and-Hoeffler, 2004; Basuchoudhary-and-Shughart, 2010; Bandyopadhyay-and-Younas, 2011; Danzell-et-al, 2019) on the other hand, seem important dimensions that governments could take into account in order to reduce the violence in countries with more than one main religion.

However, our more general results do not seem to validate the role of inequalities, as studied by Piazza (2011) and Krieger-and-Meierrieks (2019), nor of natural resources, which part of the literature has also highlighted (notably Collier-and-Hoeffler, 2004, Lujala, 2010, or Farzanegan-et-al, 2018) in the violence in our sample of fragile countries.

6.4. Robustness Checks

As robustness tests, we re-estimated our model on a sample of less fragile countries (with a fragility index higher than 60), as well as on a sample of more fragile countries (whose fragility index is higher than 80). This sensitivity analysis, which includes different panels of countries with different levels of fragility, confirms our results. Most of our explanatory variables are significant and have the same sign as for our initial estimates, which shows the robustness of our initial findings (Tables-A.4.1-to-A.4.8 and A.5.1-to-A.5.8).

A certain number of specificities are nevertheless interesting to highlight. We note in particular that the populations of the most fragile countries are more sensitive to an increase in their income than in the case of less fragile countries. In each of our subgroups, the estimated coefficient of the per capita GDP variable is higher than in our initial regressions. This constitutes an interesting result in terms of economic policy insofar as an improvement in the standard of living of the populations would contribute to a de-escalation of violence in these particularly fragile developing countries. Another interesting result concerns the impact of demographic pressure which would also be felt more in this group. Countries that are both more fragile and more populous seem more prone to escalating violence.

With regard to our sub-groups, it would appear that the most fragile Muslim countries are particularly vulnerable to political reforms, inequalities, and religious tensions, which would require the authorities to take great care and precautions in setting up policies. Political freedom seems to give even more voice in the case of these countries to extremists who instrumentalize religion, in a context of already strong religious tensions. The fight against inequalities could

offer, at the same time as the general improvement of the standard of living, a more efficient lever than in the less fragile Muslin countries to answer the frustrations and the demands of the populations, and so at the same time contribute to the de-escalation of violence.

This last finding could be extrapolated to our most fragile countries with more than one main religion, for which countering inequalities and improving the standard of living of populations seem to be effective levers in the fight against violence. An interesting result concerning these countries could also be the role, more than in the other groups, of political reforms. We have already pointed out that the presence of countries with a more democratic tradition could explain that political freedoms do not seem to contribute, according to our previous estimates, to the escalation of violence in this group of countries. For the most fragile countries, it would seem from our new findings that democratic institutions could even help resolve tensions and therefore conflicts, although our results must be taken with caution because of a lower number of observations in this new set of regressions.

As for our sample which incorporates less fragile countries, our results do not seem significantly different from those obtained on our initial sample.

7. 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 developing countries divided into 4 groups. We explore different reasons for conflict in fragile countries and analyze different theoretical and empirical determinants.

We show that poverty and weak institutions (weak justice system and more generally bad governance) 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 is low. Our results are also consistent with those of Dezhbakhsh-et-al (2003), and LaFree-et-al (2009) 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. Analysis of aggregate governance indicators (as proxy for institutions) also shows that strong institutions reduce conflict.

On the other hand, education, trade liberalization, and democratic accountability do not seem to help reduce violence in our fragile developing countries. Our proxy variables show furthermore a positive relationship with conflict for education and democratic institutions. 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 democratic institutions, which 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 democratic reforms do not have the desired effects in our fragile developing countries, which would probably first have to improve the social, economic, and institutional conditions of their population before they can benefit from political freedom and from education. This may also be the case for economic reforms, since our indicator of trade openness does not seem related to conflict reduction.

Although this general pattern is valid 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 the improvement of incomes and the efficiency of institutions on the one hand, the reduction of economic inequalities and of ethnic and religious tensions on the other hand, appear to be more effective in reducing violence than in other groups. For inequalities and level of income, this is particularly the case for the most fragile of them. These are interesting findings which governments could take into account to reduce the escalation of violence in these particularly fragile developing countries. Muslim countries also appear to be particularly sensitive to the deterrent effect of sanctions and, to a lesser extent, to the improvement of income, notably in the most fragile, like for inequalities, which, for governments, could be effective means of combating violence. However, countries with more than one main religion seem sensitive to the destabilizing effect of trade liberalization for vulnerable populations, and Muslim countries, particularly the most fragile ones, seem sensitive to democratic improvement. These issues should also be taken into account when implementing political and economic reforms so as not to fuel violence in these particularly fragile countries.

Conflicts in fragile developing countries 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 developing countries facing conflict situations This study highlights some tools that governments could possibly use to try to limit violence in these countries. Improving people’s standard of living and restoring strong and reliable institutions are measures that could bear fruit in most fragile developing 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. The question of the role of education, democratic institutions, and economic reforms is more complex to deal with. Since, in the short term, these instruments do not seem to contribute to the reduction of conflict and violence in the countries concerned. except in the case of the most fragile countries with more than one main religion where democratic institutions seem to help, it may be thought that the priority of fragile developing countries should be to provide their populations with a stable economic, political, and institutional environment before these populations can benefit from more advanced reforms.

Appendix

Appendix 1

Table A.1 : List of Variables and their Sources

Variables	Sources
Confl : annual number of conflict-based incidents	Global Terrorism Database (GTD)
lgdpc : log of GDP per capita	World Development Indicators (WDI)
Contracts : Time for Enforcing Contracts indicator (days)	Doing Business
Gov : Governance indicator	International Country Risk Guide (ICRG)
Inequal : top 10% share of pre-tax national income	World Inequality Database (WID)
Edu : mean years of education	United Nation Development Program (UNDP)
H : Human Capital indicator	Penn World Tables (PWT)
Open : Trade Openness indicator	World Development Indicators (WDI)
Demo : Democratic Accountability indicator	International Country Risk Guide (ICRG)
lpop : log of population	World Development Indicators (WDI)
lPopDens: log of population density	World Development Indicators (WDI)
EthnTens : Ethnic Tensions indicator	International Country Risk Guide (ICRG)
ReligTens : Religious Tensions indicator	International Country Risk Guide (ICRG)
NatRes : Natural Resources indicator	World Development Indicators (WDI)

Table A.1.1: Descriptive Statistics

Total Fragile Countries

Variables	Obs	Mean	Std. Dev.	Min	Max
Conflict	812	78.81	280.4	0.00	3367
lgdpc	812	7.68	1.05	5.66	9.98
Contracts	812	1.86	0.84	0.62	4.00
Gov	812	0.00	1.28	-4.13	2.96
Edu	812	6.49	2.62	1.30	12.30

H	714	2.1	0.53	1.12	3.40
Open	812	0.58	0.30	0.12	2.21
Demo	812	3.38	1.37	0.04	6.00
Inequal	812	0.48	0.06	0.32	0.65
lPop	812	17.07	1.39	13.52	21.05
ReligTens	812	3.51	1.16	1.00	6.00
EthnTens	812	4.01	1.41	0.83	6.00
NatRes	799	12.14	13.59	0.00	67.92

Table A.1.2: Descriptive Statistics

Fragile Muslim Countries

Variable	Obs	Mean	Std. Dev.	Min	Max
Conflict	350	134.79	398.54	0.00	3367
Lgdpc	350	7.72	1.09	5.66	9.98
Contracts	350	1.78	0.70	0.65	3.95
Gov	350	0.00	1.38	-3.01	3.13
Edu	350	5.55	2.71	1.30	10.80
H	294	1.91	0.47	1.12	2.87
Open	350	0.52	0.21	0.12	1.23
Demo	350	3.13	1.29	0.04	5.50
Inequal	350	0.47	0.05	0.34	0.58
lPop	350	17.11	1.13	15.17	19.39
ReligTens	350	3.44	1.23	1.00	6.00
EthnTens	350	3.20	1.31	0.83	5.50
NatRes	340	15.04	15.98	0.00	67.92

Table A.1.3: Descriptive Statistics

Fragile Countries Affected by Major Conflict

Variable	Obs	Mean	Std. Dev.	Min	Max
Conflict	308	200.52	427.57	0.00	3367
lgdpc	308	7.82	0.99	5.66	9.61

Contracts	308	2.16	0.94	0.73	3.96
Gov	308	0.00	1.33	-3.16	2.71
Edu	308	6.54	2.37	1.60	12.00
H	280	2.12	0.49	1.16	3.40
Open	308	0.46	0.18	0.12	1.18
Demo	308	3.49	1.40	0.50	6.00
Inequal	308	0.48	0.05	0.38	0.58
lPop	308	17.82	1.23	15.17	21.02
ReligTens	308	3.05	1.29	1.00	6.00
EthnTens	308	3.03	1.32	0.83	5.50
NatRes	298	13.59	15.66	0.00	67.92

Table A.1.4: Descriptive Statistics

Fragile Countries with More than One Main Religion

Variable	Obs	Mean	Std. Dev.	Min	Max
Conflict	224	66.21	166.75	0.00	929
lgdpc	224	7.00	0.91	5.66	9.09
Contracts	224	1.88	0.85	1.10	3.96
Gov	224	0.00	1.35	-3.23	2.61
Edu	224	5.62	2.32	1.30	11.00
H	224	1.91	0.49	1.12	2.90
Open	224	0.51	0.34	0.17	2.21
Demo	224	3.59	1.46	1.00	6.00
Inequal	224	0.50	0.05	0.41	0.65
lPop	224	17.55	1.36	15.17	21.02
ReligTens	224	3.73	1.49	1.00	6.00
EthTens	224	3.09	1.12	1.00	5.00
NatRes	214	9.81	7.10	0.00	28.57

Appendix 2

Table A.2. : List of Countries

Total countries		Countries with more than one main religion	Countries affected by major conflicts	Muslim 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			

Appendix 3

Regressions with the Aggregated Indicator of Governance

Table A.3.1: Fixed Effect Poisson Regression for Total Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
lgdpc	-1.082***	-1.053***	-1.073***	-1.044***	-0.969***	-0.936***	-0.800***	-0.699**	0.200	0.686
	(0.304)	(0.282)	(0.316)	(0.298)	(0.307)	(0.292)	(0.310)	(0.311)	(0.621)	(0.698)
Gov	-0.276	-0.334**	-0.290*	-0.352**	-0.327**	-0.345**	-0.347**	-0.383**	-0.419**	-0.474**
	(0.194)	(0.167)	(0.176)	(0.163)	(0.154)	(0.156)	(0.165)	(0.172)	(0.176)	(0.190)
Edu	0.772***	0.697***	0.822***	0.758***	0.809***	0.738***	0.769***	0.657***	0.745***	0.604**
	(0.165)	(0.180)	(0.223)	(0.235)	(0.214)	(0.229)	(0.212)	(0.235)	(0.284)	(0.281)
Open	-0.244	-0.098	-0.175	-0.027	0.299	0.546	0.485	0.657	0.803	1.144
	(0.965)	(0.961)	(1.020)	(1.005)	(0.928)	(0.991)	(1.021)	(1.016)	(1.248)	(1.332)
Demo	0.148*	0.123	0.151*	0.128*	0.143*	0.139*	0.151**	0.176**	0.184***	0.233***
	(0.088)	(0.081)	(0.082)	(0.074)	(0.084)	(0.077)	(0.074)	(0.076)	(0.068)	(0.073)
lPop	4.369***	4.382***	4.269***	4.253***	4.176***	4.203***	3.799***	3.727***	2.526**	1.960
	(0.717)	(0.633)	(0.773)	(0.709)	(0.671)	(0.615)	(0.622)	(0.575)	(1.200)	(1.259)
Inequal			-2.003	-2.642	-1.857	-2.446	-1.915	-2.544	-4.367	-5.125
			(6.508)	(6.680)	(6.212)	(6.464)	(6.174)	(6.455)	(6.413)	(6.653)
EthnTens					-0.489**	-0.578	-0.418**	-0.423	-0.466***	-0.574*
					(0.217)	(0.383)	(0.198)	(0.383)	(0.172)	(0.319)
ReligTens							-0.351	-0.480	-0.210	-0.320
							(0.230)	(0.310)	(0.218)	(0.263)
NatRes									-0.013	-0.019
									(0.016)	(0.018)
Res		-0.116		-0.108		-0.140		-0.170		-0.927*
		(0.192)		(0.186)		(0.194)		(0.186)		(0.538)
RESET	0.405	0.366	0.398	0.377	0.325	0.442	0.511	0.478	0.058	0.025
Obs	812	754	812	754	812	754	812	754	795	738
Groups	58	58	58	58	58	58	58	58	57	57

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *Popd* the logarithm of population from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.3.2: Fixed Effect Poisson Regression for Muslim Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**

lgdpc	-1.234***	-1.190***	-1.169***	-1.140***	-1.076***	-1.129***	-0.812***	-0.757**	0.289	0.604
	(0.223)	(0.207)	(0.208)	(0.211)	(0.216)	(0.264)	(0.241)	(0.300)	(0.792)	(0.749)
Gov	-0.349*	-0.438***	-0.437***	-0.507***	-0.466***	-0.506***	-0.531***	-0.643***	-0.674***	-0.759***
	(0.199)	(0.168)	(0.157)	(0.168)	(0.154)	(0.172)	(0.122)	(0.130)	(0.119)	(0.131)
Edu	0.839**	0.819**	0.791**	0.785**	0.757**	0.778*	0.596*	0.517	0.860*	0.715
	(0.326)	(0.348)	(0.347)	(0.358)	(0.344)	(0.431)	(0.354)	(0.463)	(0.444)	(0.478)
Open	0.341	0.514	0.327	0.480	0.568	0.508	1.306	1.066	2.029	1.822
	(0.967)	(0.969)	(0.878)	(0.899)	(0.904)	(1.124)	(0.948)	(1.068)	(1.661)	(1.760)
Demo	0.169**	0.134*	0.228***	0.196**	0.220***	0.197**	0.251***	0.276***	0.273***	0.313***
	(0.085)	(0.079)	(0.079)	(0.089)	(0.075)	(0.086)	(0.074)	(0.086)	(0.090)	(0.101)
lPop	4.248***	4.160***	4.247***	4.157***	4.243***	4.164***	4.023***	3.750***	1.498	1.216
	(0.914)	(0.873)	(0.892)	(0.849)	(0.849)	(0.928)	(0.703)	(0.819)	(1.328)	(1.113)
Inequal			-19.134	-18.053	-18.538	-18.032	-18.724	-18.882	-18.889*	-18.740
			(13.445)	(12.907)	(12.511)	(12.828)	(11.388)	(11.942)	(11.359)	(11.706)
EthnTens					-0.310	-0.037	-0.218	0.688	-0.359***	0.125
					(0.224)	(0.753)	(0.193)	(0.768)	(0.116)	(0.559)
ReligTens							-0.540**	-0.938***	-0.298	-0.598**
							(0.249)	(0.337)	(0.229)	(0.249)
NatRes									-0.025	-0.024
									(0.018)	(0.016)
Res		-0.038		0.018		0.015		-0.034		-0.557**
		(0.185)		(0.137)		(0.147)		(0.128)		(0.281)
RESET	0.450	0.141	0.056	0.016	0.031	0.018	0.095	0.009	0.000	0.000
Obs	350	325	350	325	350	325	350	325	336	312
Groups	25	25	25	25	25	25	25	25	24	24

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *Popd* the logarithm of population from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.3.3: Fixed Effect Poisson Regression for Fragile Countries Affected by Major Conflicts

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.133***	-1.101***	-1.123***	-1.092***	-1.004***	-0.967***	-0.830***	-0.714**	0.307	0.856
	(0.293)	(0.269)	(0.304)	(0.285)	(0.298)	(0.281)	(0.315)	(0.330)	(0.673)	(0.737)
Gov	-0.218	-0.270	-0.233	-0.289*	-0.279*	-0.289*	-0.304*	-0.333*	-0.399**	-0.452**
	(0.201)	(0.168)	(0.184)	(0.165)	(0.160)	(0.157)	(0.176)	(0.183)	(0.184)	(0.197)
Edu	0.779***	0.701***	0.835***	0.770***	0.817***	0.741***	0.773***	0.652**	0.713**	0.546*
	(0.164)	(0.179)	(0.227)	(0.240)	(0.218)	(0.238)	(0.220)	(0.253)	(0.299)	(0.298)
Open	-0.378	-0.270	-0.306	-0.201	0.200	0.408	0.387	0.527	0.657	0.967
	(1.035)	(1.019)	(1.084)	(1.056)	(0.986)	(1.057)	(1.073)	(1.075)	(1.289)	(1.425)
Demo	0.140	0.121	0.144*	0.126*	0.139*	0.141*	0.148**	0.179**	0.189***	0.254***
	(0.089)	(0.081)	(0.083)	(0.075)	(0.084)	(0.077)	(0.073)	(0.077)	(0.068)	(0.075)
lPop	4.255***	4.241***	4.141***	4.092***	4.046***	4.045***	3.682***	3.570***	2.354*	1.690

	(0.691)	(0.566)	(0.749)	(0.654)	(0.632)	(0.561)	(0.573)	(0.528)	(1.223)	(1.305)
Inequal			-2.146	-2.808	-2.001	-2.594	-2.040	-2.671	-4.684	-5.504
			(6.631)	(6.803)	(6.325)	(6.575)	(6.292)	(6.576)	(6.551)	(6.788)
EthnTens					-0.513**	-0.609	-0.448**	-0.465	-0.506***	-0.657*
					(0.243)	(0.441)	(0.220)	(0.439)	(0.186)	(0.394)
ReligTens							-0.338	-0.476	-0.246	-0.393
							(0.239)	(0.332)	(0.228)	(0.281)
NatRes									-0.011	-0.017
									(0.017)	(0.019)
Res		-0.070		-0.061		-0.100		-0.136		-0.843*
		(0.166)		(0.158)		(0.159)		(0.142)		(0.451)
RESET	0.564	0.527	0.571	0.532	0.445	0.584	0.672	0.645	0.075	0.030
Obs	308	286	308	286	308	286	308	286	294	273
Groups	22	22	22	22	22	22	22	22	21	21

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *Popd* the logarithm of population from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.3.4: Fixed Effect Poisson Regression for Fragile Countries with more than One Main Religion

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.385***	-1.327***	-1.291***	-1.270***	-1.089***	-1.055***	-0.757***	-0.746***	0.974	0.473
	(0.176)	(0.208)	(0.190)	(0.215)	(0.134)	(0.140)	(0.126)	(0.122)	(1.212)	(1.340)
Gov	-0.412	-0.572	-0.332	-0.458	-0.277	-0.393	-0.139	-0.230	0.108	0.076
	(0.425)	(0.474)	(0.406)	(0.485)	(0.355)	(0.444)	(0.277)	(0.391)	(0.268)	(0.360)
Edu	0.701***	0.706***	0.262	0.388	0.162	0.277	0.363	0.488	0.253	0.346
	(0.259)	(0.249)	(0.313)	(0.355)	(0.305)	(0.375)	(0.329)	(0.387)	(0.250)	(0.244)
Open	1.393	0.990	0.638	0.576	0.767	0.694	2.242**	2.234*	5.208**	5.256**
	(1.882)	(2.094)	(1.895)	(2.128)	(1.371)	(1.488)	(1.115)	(1.285)	(2.241)	(2.237)
Demo	-0.096	-0.121	0.061	-0.000	-0.018	-0.080	0.036	-0.009	-0.107	-0.050
	(0.450)	(0.461)	(0.448)	(0.485)	(0.411)	(0.435)	(0.347)	(0.379)	(0.387)	(0.461)
lPop	7.884***	7.016***	9.080***	8.048***	9.656***	8.630***	7.777***	6.838***	7.033***	6.951***
	(2.590)	(2.411)	(2.772)	(2.674)	(2.818)	(2.859)	(2.436)	(2.539)	(1.687)	(2.019)
Inequal			6.388**	4.604	6.270**	4.609	4.340	2.575	-3.435	-3.938
			(2.526)	(3.313)	(2.657)	(3.801)	(3.081)	(3.918)	(5.912)	(6.426)
EthnTens					-1.175**	-1.378***	-0.572	-0.764*	-0.718**	-0.904***
					(0.486)	(0.510)	(0.406)	(0.397)	(0.333)	(0.300)
ReligTens							-1.994***	-2.044***	-0.767	-0.813
							(0.477)	(0.433)	(0.566)	(0.554)
NatRes									-0.053*	-0.051
									(0.031)	(0.032)
Res		-0.011		-0.093		-0.074		0.139		3.231
		(0.099)		(0.132)		(0.100)		(0.153)		(3.393)
RESET	0.010	0.062	0.160	0.196	0.098	0.067	0.606	0.676	0.562	0.437

Obs	224	208	224	208	224	208	224	208	210	195
Groups	16	16	16	16	16	16	16	16	15	15

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *Popd* the logarithm of population from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Appendix 4

Regressions on the Sample of Less Fragile Countries (Fragility Index Higher than 60)

Regressions with the "Time for Enforcing Contracts" Variable

Table A.4.1: Fixed Effect Poisson Regression for Total Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.258***	-1.209**	-1.247**	-1.190*	-1.168**	-1.045*	-1.025**	-0.827	-0.187	0.255
	(0.486)	(0.585)	(0.499)	(0.609)	(0.492)	(0.616)	(0.457)	(0.554)	(0.619)	(0.744)
Contract	1.199	1.256	1.195	1.257	1.067	1.113	0.874	0.939	1.271	1.369
	(0.768)	(0.846)	(0.766)	(0.849)	(0.790)	(0.907)	(0.898)	(1.024)	(0.975)	(1.097)
Edu	0.798***	0.714***	0.829***	0.753***	0.826***	0.730***	0.798***	0.668***	0.766***	0.632**
	(0.189)	(0.214)	(0.216)	(0.234)	(0.223)	(0.244)	(0.225)	(0.237)	(0.292)	(0.283)
Open	-0.204	-0.049	-0.172	-0.017	0.236	0.529	0.345	0.570	0.650	1.040
	(1.043)	(1.036)	(1.074)	(1.057)	(0.992)	(1.065)	(1.061)	(1.094)	(1.319)	(1.441)
Demo	0.108*	0.086	0.108**	0.089	0.099	0.103*	0.100*	0.126**	0.125**	0.167***
	(0.057)	(0.061)	(0.055)	(0.058)	(0.064)	(0.062)	(0.057)	(0.059)	(0.052)	(0.064)
lPopd	4.356***	4.364***	4.284***	4.262***	4.162***	4.172***	3.850***	3.772***	2.783***	2.286**
	(0.743)	(0.680)	(0.788)	(0.757)	(0.682)	(0.666)	(0.594)	(0.585)	(0.999)	(1.042)
Inequal			-1.243	-1.730	-1.057	-1.601	-1.098	-1.681	-3.094	-3.743
			(6.359)	(6.380)	(6.001)	(6.196)	(5.979)	(6.203)	(5.887)	(6.013)
EthnTens					-0.461**	-0.588	-0.401**	-0.466	-0.449***	-0.618**
					(0.224)	(0.373)	(0.201)	(0.361)	(0.171)	(0.307)
ReligTens							-0.277	-0.396	-0.108	-0.170
							(0.244)	(0.314)	(0.229)	(0.288)
NatRes									-0.012	-0.019
									(0.018)	(0.019)
Res		-0.280		-0.287		-0.375		-0.448		-0.899
		(0.554)		(0.563)		(0.584)		(0.520)		(0.656)
RESET	0.935	0.796	0.831	0.688	0.938	0.757	0.847	0.758	0.588	0.6
Groups	65	65	65	65	65	65	65	65	64	64

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP,

Open the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.4.2: Fixed Effect Poisson Regression for Muslim Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.447***	-1.388**	-1.369***	-1.332**	-1.304***	-1.326**	-1.143***	-1.057**	-0.402	-0.103
	(0.489)	(0.588)	(0.469)	(0.571)	(0.476)	(0.561)	(0.436)	(0.476)	(0.855)	(0.925)
Contract	2.344***	2.361***	2.736***	2.763***	2.621***	2.759***	2.365**	2.630**	2.548**	2.722**
	(0.796)	(0.886)	(0.906)	(1.003)	(0.893)	(1.013)	(1.014)	(1.169)	(1.045)	(1.140)
Edu	0.621	0.562	0.518	0.466	0.508	0.463	0.434	0.311	0.588	0.454
	(0.395)	(0.435)	(0.424)	(0.462)	(0.419)	(0.491)	(0.433)	(0.526)	(0.514)	(0.547)
Open	0.332	0.328	0.194	0.165	0.303	0.175	0.677	0.371	1.024	0.752
	(1.311)	(1.257)	(1.087)	(1.051)	(1.089)	(1.197)	(1.253)	(1.269)	(2.138)	(2.189)
Demo	0.154**	0.126*	0.213***	0.197**	0.206***	0.197**	0.215***	0.234**	0.219**	0.247**
	(0.064)	(0.073)	(0.076)	(0.094)	(0.075)	(0.092)	(0.081)	(0.097)	(0.098)	(0.114)
lPopd	4.691***	4.587***	4.705***	4.629***	4.638***	4.629***	4.387***	4.195***	2.684**	2.424*
	(1.059)	(0.993)	(0.967)	(0.935)	(0.903)	(0.942)	(0.803)	(0.896)	(1.312)	(1.268)
Inequal			-17.969	-17.180	-17.559	-17.177	-17.459*	-17.350*	-17.271*	-17.178*
			(11.562)	(11.126)	(10.983)	(11.105)	(10.370)	(10.513)	(10.178)	(10.396)
EthnTens					-0.219	-0.015	-0.143	0.484	-0.230**	0.090
					(0.212)	(0.655)	(0.188)	(0.730)	(0.113)	(0.505)
ReligTens							-0.373	-0.669	-0.142	-0.357
							(0.286)	(0.421)	(0.247)	(0.308)
NatRes									-0.018	-0.018
									(0.021)	(0.020)
Res		-0.141		-0.053		-0.055		-0.160		-0.457
		(0.525)		(0.432)		(0.435)		(0.344)		(0.413)
RESET	0.473	0.540	0.837	0.869	0.987	0.860	0.675	0.677	0.253	0.297
Groups	29	29	29	29	29	29	29	29	28	28

<u>Note</u>: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.4.3: Fixed Effect Poisson Regression for Fragile Countries Affected by Major Conflicts

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variable	**Spec.1**	**Spec.1(i**	**Spec.2**	**Spec.2(i**	**Spec.3**	**Spec.3(i**	**Spec.4**	**Spec.4(i**	**Spec.5**	**Spec.5(i**

s		v)		v)		v)		v)		v)
lgdpc	-1.224**	-1.193**	-1.211**	-1.170*	-1.119**	-1.004	-0.977**	-0.769	-0.066	0.427
	(0.505)	(0.603)	(0.520)	(0.631)	(0.514)	(0.638)	(0.482)	(0.586)	(0.685)	(0.803)
Contract	1.505*	1.602*	1.498*	1.602*	1.360	1.457	1.149	1.262	1.616	1.770
	(0.809)	(0.879)	(0.809)	(0.885)	(0.837)	(0.949)	(0.979)	(1.099)	(1.076)	(1.202)
Edu	0.764***	0.678***	0.805***	0.727***	0.798***	0.696***	0.770***	0.629**	0.723**	0.565*
	(0.200)	(0.231)	(0.225)	(0.250)	(0.235)	(0.263)	(0.238)	(0.260)	(0.316)	(0.310)
Open	-0.309	-0.191	-0.273	-0.162	0.152	0.405	0.254	0.442	0.504	0.862
	(1.113)	(1.092)	(1.137)	(1.103)	(1.044)	(1.120)	(1.109)	(1.144)	(1.351)	(1.513)
Demo	0.119**	0.103	0.120**	0.106*	0.112*	0.122*	0.112*	0.146**	0.142**	0.197***
	(0.061)	(0.067)	(0.059)	(0.064)	(0.068)	(0.068)	(0.062)	(0.064)	(0.057)	(0.069)
lPopd	4.254***	4.250***	4.157***	4.118***	4.025***	4.022***	3.722***	3.607***	2.618**	2.042*
	(0.726)	(0.628)	(0.774)	(0.723)	(0.661)	(0.639)	(0.577)	(0.591)	(1.038)	(1.131)
Inequal			-1.529	-2.046	-1.331	-1.903	-1.362	-1.979	-3.505	-4.236
			(6.562)	(6.608)	(6.183)	(6.402)	(6.161)	(6.415)	(6.062)	(6.212)
EthnTens					-0.481*	-0.609	-0.426*	-0.495	-0.476**	-0.674*
					(0.248)	(0.426)	(0.222)	(0.413)	(0.186)	(0.375)
ReligTens							-0.263	-0.391	-0.110	-0.196
							(0.250)	(0.327)	(0.248)	(0.313)
NatRes									-0.011	-0.017
									(0.018)	(0.020)
Res		-0.173		-0.182		-0.286		-0.361		-0.828
		(0.488)		(0.499)		(0.525)		(0.462)		(0.578)
RESET	0.826	0.759	0.710	0.657	0.950	0.733	0.722	0.692	0.713	0.673
Groups	23	23	23	23	23	23	23	23	22	22

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.4.4: Fixed Effect Poisson Regression for Fragile Countries with more than One Main Religion

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
lgdpc	-2.124***	-1.796***	-1.995***	-1.726***	-1.630***	-1.432***	-1.051***	-1.088***	1.108	0.559
	(0.317)	(0.347)	(0.254)	(0.268)	(0.232)	(0.210)	(0.218)	(0.184)	(1.162)	(1.377)
Contract	1.832	1.696	1.410	1.328	1.840	1.595	3.349	2.700	4.835	3.948
	(2.367)	(2.330)	(2.480)	(2.545)	(2.501)	(2.543)	(4.025)	(4.513)	(4.148)	(4.247)
Edu	1.022***	0.897***	0.632**	0.596*	0.486*	0.463	0.576**	0.695**	0.364	0.435*
	(0.266)	(0.258)	(0.290)	(0.334)	(0.274)	(0.310)	(0.273)	(0.316)	(0.242)	(0.241)
Open	2.742***	2.783**	2.017*	2.246	1.919**	2.013*	2.991***	2.993***	5.436***	5.485***
	(1.048)	(1.202)	(1.190)	(1.437)	(0.926)	(1.142)	(1.042)	(1.155)	(1.898)	(1.792)
Demo	-0.185	-0.209	-0.037	-0.092	-0.087	-0.123	0.002	0.011	-0.166	-0.088
	(0.406)	(0.409)	(0.420)	(0.447)	(0.390)	(0.411)	(0.326)	(0.342)	(0.357)	(0.455)
lPopd			5.504**	4.555	5.277**	4.542	3.492	2.069	-5.159	-5.362
			(2.461)	(3.493)	(2.595)	(3.740)	(2.926)	(3.385)	(5.268)	(5.713)
Inequal	8.062***	7.663***	9.015***	8.531***	9.335***	8.763***	7.457***	6.482***	6.634***	6.630***
	(2.896)	(2.696)	(2.922)	(2.786)	(2.841)	(2.730)	(2.380)	(2.313)	(1.381)	(1.725)
EthnTens					-1.149***	-1.279***	-0.527	-0.678*	-0.685**	-0.868***

					(0.434)	(0.406)	(0.381)	(0.384)	(0.323)	(0.297)
ReligTens							-2.052***	-2.233***	-0.957**	-0.968**
							(0.477)	(0.535)	(0.471)	(0.444)
NatRes									-0.051*	-0.049
									(0.029)	(0.033)
Res		-1.552***		-1.598***		-1.214***		0.795*		3.380
		(0.288)		(0.325)		(0.214)		(0.423)		(3.508)
RESET	0.004	0.05	0.042	0.145	0.014	0.040	0.432	0.502	0.188	0.248
Groups	20	20	20	20	20	20	20	20	19	19

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Regressions with the Aggregated Indicator of Governance

Table A.4.5: Fixed Effect Poisson Regression for Total Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.161**	-1.076**	-1.136**	-1.036*	-1.015**	-0.880	-0.797*	-0.546	0.197	0.678
	(0.476)	(0.524)	(0.491)	(0.561)	(0.479)	(0.566)	(0.481)	(0.572)	(0.620)	(0.695)
Gov	-0.263	-0.330**	-0.278	-0.352**	-0.316**	-0.348**	-0.340**	-0.393**	-0.416**	-0.471**
	(0.196)	(0.162)	(0.177)	(0.161)	(0.153)	(0.154)	(0.166)	(0.171)	(0.177)	(0.191)
Edu	0.804***	0.721***	0.851***	0.778***	0.835***	0.749***	0.787***	0.653***	0.753***	0.615**
	(0.174)	(0.195)	(0.225)	(0.237)	(0.215)	(0.232)	(0.216)	(0.234)	(0.281)	(0.278)
Open	-0.123	0.073	-0.063	0.134	0.394	0.707	0.551	0.781	0.907	1.261
	(1.011)	(1.019)	(1.046)	(1.044)	(0.938)	(1.012)	(1.019)	(1.027)	(1.220)	(1.287)
Demo	0.142	0.120	0.146*	0.127*	0.139*	0.141*	0.148**	0.180**	0.182***	0.231***
	(0.089)	(0.080)	(0.082)	(0.071)	(0.084)	(0.074)	(0.073)	(0.074)	(0.067)	(0.072)
lPopd	4.405***	4.407***	4.294***	4.255***	4.176***	4.166***	3.762***	3.613***	2.521**	1.952
	(0.758)	(0.705)	(0.828)	(0.815)	(0.725)	(0.731)	(0.680)	(0.709)	(1.188)	(1.248)
Inequal			-2.029	-2.710	-1.893	-2.544	-2.022	-2.767	-4.400	-5.134
			(6.505)	(6.717)	(6.218)	(6.495)	(6.186)	(6.489)	(6.363)	(6.602)
EthnTens					-0.496**	-0.606	-0.424**	-0.448	-0.477***	-0.595*
					(0.216)	(0.369)	(0.198)	(0.374)	(0.169)	(0.310)
ReligTens							-0.354	-0.509*	-0.218	-0.323
							(0.216)	(0.282)	(0.215)	(0.259)
NatRes									-0.013	-0.019
									(0.016)	(0.018)
Res		-0.286		-0.299		-0.388		-0.469		-0.921*
		(0.456)		(0.464)		(0.489)		(0.442)		(0.536)
RESET	0.510	0.506	0.531	0.544	0.408	0.546	0.572	0.522	0.064	0.028
Groups	65	65	65	65	65	65	65	65	64	64

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus

imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.4.6: Fixed Effect Poisson Regression for Muslim Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.408***	-1.327***	-1.318***	-1.274***	-1.191***	-1.247***	-0.875**	-0.771*	0.276	0.602
	(0.467)	(0.489)	(0.415)	(0.458)	(0.415)	(0.468)	(0.414)	(0.434)	(0.786)	(0.760)
Gov	-0.342*	-0.439***	-0.430***	-0.505***	-0.459***	-0.504***	-0.526***	-0.646***	-0.676***	-0.763***
	(0.200)	(0.160)	(0.150)	(0.160)	(0.143)	(0.163)	(0.113)	(0.126)	(0.117)	(0.124)
Edu	0.855***	0.837**	0.806**	0.804**	0.769**	0.792*	0.605*	0.523	0.865**	0.722
	(0.317)	(0.343)	(0.338)	(0.351)	(0.335)	(0.421)	(0.347)	(0.452)	(0.436)	(0.471)
Open	0.718	0.929	0.680	0.861	0.861	0.901	1.525	1.363	2.218	2.088
	(1.124)	(1.117)	(0.979)	(0.995)	(0.996)	(1.181)	(1.006)	(1.098)	(1.560)	(1.612)
Demo	0.167*	0.131*	0.225***	0.191**	0.218***	0.194**	0.249***	0.275***	0.272***	0.314***
	(0.087)	(0.078)	(0.077)	(0.087)	(0.074)	(0.083)	(0.072)	(0.083)	(0.089)	(0.099)
lPopd	4.497***	4.379***	4.466***	4.355***	4.412***	4.356***	4.111***	3.828***	1.513	1.206
	(1.106)	(1.082)	(1.025)	(0.989)	(0.968)	(0.998)	(0.781)	(0.847)	(1.293)	(1.091)
Inequal			-19.010	-17.889	-18.443	-17.855	-18.665*	-18.733	-18.862*	-18.676
			(13.171)	(12.599)	(12.287)	(12.496)	(11.192)	(11.685)	(11.217)	(11.504)
EthnTens					-0.314	-0.067	-0.219	0.643	-0.366***	0.061
					(0.217)	(0.713)	(0.191)	(0.751)	(0.113)	(0.539)
ReligTens							-0.552**	-0.949***	-0.312	-0.597**
							(0.235)	(0.329)	(0.224)	(0.254)
NatRes									-0.025	-0.026
									(0.017)	(0.016)
Res		-0.126		-0.026		-0.038		-0.137		-0.552*
		(0.405)		(0.310)		(0.318)		(0.276)		(0.287)
RESET	0.473	0.199	0.081	0.070	0.048	0.068	0.116	0.023	0.000	0.000
Groups	29	29	29	29	29	29	29	29	28	28

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A4.7: Fixed Effect Poisson Regression for Fragile Countries Affected by Major Conflicts

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variable	**Spec.1**	**Spec.1(i**	**Spec.2**	**Spec.2(i**	**Spec.3**	**Spec.3(i**	**Spec.4**	**Spec.4(i**	**Spec.5**	**Spec.5(i**

s		v)		v)		v)		v)		v)
lgdpc	-1.173**	-1.123**	-1.145**	-1.080*	-1.000**	-0.885	-0.764	-0.501	0.310	0.863
	(0.490)	(0.533)	(0.507)	(0.572)	(0.494)	(0.578)	(0.507)	(0.613)	(0.676)	(0.739)
Gov	-0.211	-0.268	-0.228	-0.291*	-0.276*	-0.297*	-0.307*	-0.353*	-0.397**	-0.450**
	(0.204)	(0.164)	(0.186)	(0.164)	(0.159)	(0.155)	(0.177)	(0.181)	(0.186)	(0.199)
Edu	0.791***	0.712***	0.845***	0.776***	0.822***	0.735***	0.767***	0.622**	0.720**	0.554*
	(0.178)	(0.200)	(0.231)	(0.245)	(0.223)	(0.244)	(0.226)	(0.256)	(0.298)	(0.297)
Open	-0.244	-0.096	-0.184	-0.039	0.308	0.583	0.471	0.667	0.785	1.121
	(1.085)	(1.080)	(1.114)	(1.097)	(0.994)	(1.076)	(1.068)	(1.082)	(1.259)	(1.373)
Demo	0.137	0.118	0.141*	0.125*	0.138	0.144*	0.149**	0.190**	0.188***	0.254***
	(0.090)	(0.080)	(0.083)	(0.072)	(0.084)	(0.074)	(0.071)	(0.074)	(0.067)	(0.074)
lPopd	4.318***	4.306***	4.188***	4.132***	4.060***	4.032***	3.632***	3.437***	2.350*	1.672
	(0.758)	(0.660)	(0.832)	(0.783)	(0.708)	(0.692)	(0.654)	(0.686)	(1.211)	(1.297)
Inequal			-2.188	-2.864	-2.064	-2.700	-2.194	-2.945	-4.740	-5.540
			(6.646)	(6.868)	(6.344)	(6.628)	(6.321)	(6.636)	(6.513)	(6.749)
EthnTens					-0.531**	-0.657	-0.460**	-0.505	-0.524***	-0.694*
					(0.243)	(0.428)	(0.220)	(0.431)	(0.183)	(0.382)
ReligTens							-0.359	-0.530*	-0.253	-0.396
							(0.220)	(0.304)	(0.225)	(0.278)
NatRes									-0.012	-0.018
									(0.017)	(0.019)
Res		-0.147		-0.161		-0.276		-0.374		-0.844*
		(0.378)		(0.389)		(0.419)		(0.376)		(0.448)
RESET	0.655	0.642	0.678	0.658	0.504	0.644	0.711	0.659	0.084	0.633
Groups	23	23	23	23	23	23	23	23	22	22

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A. 4.8: Fixed Effect Poisson Regression for Fragile Countries with more than One Main Religion

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
lgdpc	-2.053***	-1.737***	-1.960***	-1.711***	-1.606***	-1.415***	-1.049***	-1.063***	0.970	0.456
	(0.377)	(0.424)	(0.341)	(0.391)	(0.283)	(0.300)	(0.279)	(0.272)	(1.163)	(1.362)
Gov	-0.122	-0.178	-0.059	-0.063	-0.049	-0.070	0.006	-0.056	0.126	0.094
	(0.339)	(0.385)	(0.355)	(0.459)	(0.329)	(0.439)	(0.278)	(0.407)	(0.252)	(0.321)
Edu	1.012***	0.901***	0.630**	0.599*	0.484*	0.468	0.559**	0.693*	0.340	0.428*
	(0.227)	(0.251)	(0.280)	(0.362)	(0.265)	(0.356)	(0.281)	(0.365)	(0.262)	(0.248)
Open	2.593**	2.608*	1.936	2.207	1.829*	1.940	2.886***	2.856**	5.310***	5.330***
	(1.278)	(1.504)	(1.345)	(1.536)	(1.035)	(1.192)	(1.015)	(1.183)	(1.894)	(1.816)
Demo	-0.145	-0.171	-0.009	-0.062	-0.052	-0.093	0.035	0.026	-0.114	-0.050
	(0.403)	(0.398)	(0.397)	(0.417)	(0.370)	(0.384)	(0.320)	(0.346)	(0.368)	(0.440)
lPopd	7.815***	7.349***	8.840***	8.385***	9.139***	8.572***	7.324***	6.286**	6.614***	6.554***
	(2.775)	(2.732)	(2.952)	(3.172)	(2.845)	(3.127)	(2.455)	(2.658)	(1.595)	(1.912)
Inequal			5.536**	4.563	5.402**	4.557	3.859	2.152	-4.023	-4.501
			(2.440)	(4.047)	(2.565)	(4.279)	(3.148)	(4.343)	(5.484)	(6.165)
EthnTens					-1.120**	-1.252***	-0.517	-0.667*	-0.665**	-0.842***

					(0.437)	(0.406)	(0.383)	(0.384)	(0.328)	(0.295)
ReligTens							-2.021***	-2.225***	-0.975*	-1.024**
							(0.489)	(0.567)	(0.518)	(0.494)
NatRes									-0.050*	-0.046
									(0.030)	(0.032)
Res		-1.458***		-1.584***		-1.187***		0.829		3.325
		(0.258)		(0.274)		(0.222)		(0.630)		(3.280)
RESET	0.007	0.034	0.043	0.079	0.013	0.012	0.423	0.503	0.582	0.496
Groups	20	20	20	20	20	20	20	20	19	19

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Appendix 5

Regressions on the Sample of more Fragile Countries (Fragility Index Higher than 80)

Regressions with the "Time for Enforcing Contracts" Variable

Table A.5.1: Fixed Effect Poisson Regression for Total Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.498***	-1.467***	-1.495***	-1.457**	-1.426***	-1.413**	-1.270***	-1.173**	-0.441	-0.070
	(0.478)	(0.568)	(0.476)	(0.577)	(0.481)	(0.572)	(0.436)	(0.472)	(0.718)	(0.950)
Contract	0.801	0.624	0.810	0.648	0.685	0.597	0.488	0.480	1.285	1.253
	(1.360)	(1.536)	(1.417)	(1.604)	(1.501)	(1.778)	(1.650)	(1.899)	(1.763)	(2.009)
Edu	0.819***	0.744***	0.828***	0.765**	0.834***	0.762**	0.824***	0.692**	0.813**	0.669*
	(0.259)	(0.283)	(0.294)	(0.310)	(0.300)	(0.311)	(0.317)	(0.310)	(0.356)	(0.344)
Open	0.722	0.777	0.730	0.791	0.861	0.880	1.201	0.958	1.813	1.707
	(1.187)	(1.107)	(1.272)	(1.166)	(1.299)	(1.357)	(1.434)	(1.426)	(1.935)	(2.002)
Demo	0.096*	0.061	0.096*	0.061	0.084	0.063	0.082	0.091*	0.118**	0.142**
	(0.053)	(0.051)	(0.054)	(0.051)	(0.061)	(0.047)	(0.052)	(0.052)	(0.048)	(0.071)
lPopd	4.647***	4.616***	4.626***	4.563***	4.500***	4.526***	4.111***	4.022***	2.719***	2.361*
	(0.683)	(0.625)	(0.651)	(0.632)	(0.610)	(0.609)	(0.475)	(0.486)	(1.016)	(1.244)
Inequal			-0.305	-0.751	-0.344	-0.815	-0.464	-0.867	-2.623	-3.209
			(6.749)	(6.674)	(6.532)	(6.737)	(6.473)	(6.767)	(6.420)	(6.768)
EthnTens					-0.275	-0.146	-0.209	0.269	-0.282	-0.191
					(0.228)	(0.714)	(0.211)	(0.849)	(0.174)	(0.672)
ReligTens							-0.355	-0.545	-0.138	-0.218
							(0.248)	(0.380)	(0.188)	(0.300)
NatRes									-0.019	-0.022
									(0.021)	(0.022)
Res		-0.222		-0.224		-0.239		-0.364		-0.820

		(0.591)		(0.595)		(0.601)		(0.524)		(0.792)
RESET	0.656	0.853	0.652	0.888	0.579	0.900	0.876	0.859	0.768	0.749
Groups	44	44	44	44	44	44	44	44	43	43

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.5.2: Fixed Effect Poisson Regression for Muslim Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.468***	-1.395**	-1.295***	-1.188**	-1.272***	-1.331**	-1.144**	-1.011**	-0.676	-0.846
	(0.491)	(0.608)	(0.465)	(0.579)	(0.474)	(0.540)	(0.463)	(0.470)	(1.039)	(1.089)
Contract	2.249	2.188	2.913*	2.884*	2.818*	3.089*	2.558	3.059	3.424**	3.490**
	(1.498)	(1.749)	(1.513)	(1.740)	(1.613)	(1.646)	(1.960)	(1.898)	(1.659)	(1.703)
Edu	0.164	0.103	-0.083	-0.213	-0.051	-0.231	-0.080	-0.518	-0.074	-0.502
	(0.485)	(0.549)	(0.464)	(0.504)	(0.453)	(0.490)	(0.490)	(0.509)	(0.569)	(0.596)
Open	0.532	0.527	0.286	0.184	0.354	-0.191	0.719	-0.119	1.551	0.665
	(1.428)	(1.363)	(1.032)	(1.000)	(1.055)	(1.278)	(1.219)	(1.296)	(2.172)	(2.412)
Demo	0.195***	0.168**	0.285***	0.289**	0.276***	0.282**	0.279***	0.341***	0.314**	0.355**
	(0.070)	(0.085)	(0.088)	(0.116)	(0.089)	(0.117)	(0.094)	(0.118)	(0.128)	(0.143)
lPopd	5.754***	5.645***	5.885***	5.905***	5.784***	6.028***	5.491***	5.639***	4.191**	5.151***
	(1.161)	(1.060)	(0.923)	(0.820)	(0.811)	(0.800)	(0.722)	(0.770)	(1.707)	(1.820)
Inequal			-21.047**	-20.560**	-20.762**	-20.612**	-20.662**	-21.067**	-21.040**	-21.283**
			(10.521)	(10.062)	(10.146)	(10.402)	(9.582)	(9.430)	(8.442)	(8.576)
EthnTens					-0.114	0.473	-0.066	1.239*	-0.151	0.973
					(0.185)	(0.626)	(0.174)	(0.728)	(0.112)	(0.602)
ReligTens							-0.317	-0.811**	-0.050	-0.507*
							(0.257)	(0.397)	(0.226)	(0.264)
NatRes									-0.023	-0.014
									(0.021)	(0.022)
Res		-0.176		-0.176		-0.116		-0.301		-0.172
		(0.595)		(0.503)		(0.515)		(0.444)		(0.459)
RESET	0.244	0.178	0.529	0.299	0.434	0.320	0.735	0.610	0.478	0.828
Groups	17	17	17	17	17	17	17	17	16	16

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.5.3: Fixed Effect Poisson Regression for Fragile Countries Affected by Major Conflicts

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
lgdpc	-1.457***	-1.431**	-1.452***	-1.418**	-1.375***	-1.387**	-1.216***	-1.133**	-0.291	0.130
	(0.507)	(0.595)	(0.507)	(0.608)	(0.513)	(0.608)	(0.467)	(0.504)	(0.852)	(1.195)
Contract	1.031	0.865	1.051	0.904	0.912	0.872	0.695	0.756	1.671	1.703
	(1.541)	(1.708)	(1.622)	(1.805)	(1.734)	(1.989)	(1.914)	(2.090)	(2.037)	(2.278)
Edu	0.763***	0.687**	0.780**	0.715**	0.785**	0.713**	0.772**	0.635*	0.744**	0.580
	(0.282)	(0.311)	(0.310)	(0.335)	(0.315)	(0.333)	(0.333)	(0.333)	(0.379)	(0.375)
Open	0.707	0.675	0.720	0.689	0.838	0.743	1.193	0.816	1.641	1.375
	(1.324)	(1.201)	(1.402)	(1.245)	(1.422)	(1.467)	(1.563)	(1.529)	(2.053)	(2.189)
Demo	0.106*	0.076	0.106*	0.077	0.094	0.078	0.091	0.107**	0.131**	0.166**
	(0.058)	(0.057)	(0.059)	(0.058)	(0.066)	(0.051)	(0.057)	(0.054)	(0.051)	(0.075)
lPopd	4.675***	4.596***	4.637***	4.520***	4.498***	4.494***	4.124***	3.974***	2.695**	2.261
	(0.748)	(0.642)	(0.681)	(0.628)	(0.626)	(0.606)	(0.473)	(0.489)	(1.056)	(1.497)
Inequal			-0.505	-0.996	-0.554	-1.040	-0.658	-1.076	-3.049	-3.787
			(6.929)	(6.883)	(6.713)	(6.980)	(6.647)	(7.017)	(6.682)	(7.310)
EthnTens					-0.279	-0.093	-0.217	0.367	-0.291	-0.169
					(0.242)	(0.839)	(0.224)	(0.984)	(0.184)	(1.007)
ReligTens							-0.348	-0.562	-0.149	-0.264
							(0.253)	(0.412)	(0.201)	(0.348)
NatRes									-0.017	-0.019
									(0.021)	(0.023)
Res		-0.127		-0.131		-0.142		-0.270		-0.741
		(0.526)		(0.532)		(0.543)		(0.461)		(0.800)
RESET	0.810	0.927	0.822	0.959	0.728	0.960	0.961	0.945	0.914	0.780
Groups	15	15	15	15	15	15	15	15	14	14

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.5.4: Fixed Effect Poisson Regression for Fragile Countries with more than One Main Religion

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
lgdpc	-2.054***	-1.715***	-1.879***	-1.593***	-1.646***	-1.481***	-1.224***	-1.249***	0.846	0.749
	(0.217)	(0.205)	(0.136)	(0.113)	(0.145)	(0.119)	(0.086)	(0.096)	(1.498)	(1.990)
Contract	6.908***	6.790***	6.119***	6.083**	6.189***	5.927**	7.568***	6.878**	8.097***	7.761**
	(1.871)	(1.841)	(2.234)	(2.481)	(2.152)	(2.364)	(2.827)	(3.114)	(3.031)	(3.199)
Edu	0.569***	0.406*	0.073	-0.037	0.064	0.014	0.157	0.210	0.009	0.147
	(0.208)	(0.210)	(0.202)	(0.274)	(0.202)	(0.262)	(0.172)	(0.239)	(0.127)	(0.150)
Open	1.244	0.951	0.296	0.123	0.638	0.376	1.337**	1.023	3.363*	3.161
	(1.074)	(0.898)	(0.910)	(0.970)	(0.790)	(0.908)	(0.628)	(0.782)	(1.974)	(2.019)
Demo	-0.924***	-0.967***	-0.717**	-0.797**	-0.695**	-0.753**	-0.586***	-0.621***	-0.612**	-0.755**
	(0.281)	(0.284)	(0.335)	(0.351)	(0.309)	(0.330)	(0.228)	(0.240)	(0.245)	(0.380)

lPopd	12.586***	12.234***	13.802***	13.549***	13.562***	13.040***	11.822***	11.061***	10.032***	8.934***
	(2.050)	(1.900)	(1.855)	(1.781)	(1.836)	(1.824)	(1.045)	(1.194)	(2.110)	(2.841)
Inequal			6.629***	6.126**	5.884***	5.392**	4.640**	3.675	-3.411	-3.794
			(1.966)	(2.803)	(1.976)	(2.687)	(1.995)	(2.523)	(7.318)	(8.090)
EthnTens					-1.249*	-1.228*	-0.511	-0.731	-0.317	-0.616
					(0.638)	(0.713)	(0.444)	(0.511)	(0.344)	(0.408)
ReligTens							-1.601***	-1.534***	-0.675***	-0.698***
							(0.338)	(0.371)	(0.238)	(0.261)
NatRes									-0.036	-0.045
									(0.028)	(0.037)
Res		-1.659***		-1.820***		-1.348***		-0.099		-1.532
		(0.201)		(0.117)		(0.266)		(0.433)		(3.831)
RESET	0.048	0.019	0.901	0.545	0.979	0.449	0.525	0.959	0.040	
Groups	12	12	12	12	12	12	12	12	11	11

Note: *GDPc* is the logarithm of real GDP per capita, *Contracts* the Time for Enforcing Contracts variable from Doing Business, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Regressions with the Aggregated Indicator of Governance

Table A.5.5: Fixed Effect Poisson Regression for Total Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
lgdpc	-1.384***	-1.313***	-1.372***	-1.288***	-1.267***	-1.243**	-1.015**	-0.857*	-0.009	0.430
	(0.450)	(0.464)	(0.447)	(0.478)	(0.445)	(0.490)	(0.459)	(0.472)	(0.703)	(0.829)
GOV	-0.278	-0.331**	-0.287	-0.347**	-0.319**	-0.345**	-0.375**	-0.440**	-0.458**	-0.515**
	(0.198)	(0.158)	(0.177)	(0.161)	(0.159)	(0.162)	(0.178)	(0.185)	(0.211)	(0.220)
Edu	0.802***	0.732***	0.833***	0.778***	0.837***	0.775***	0.818***	0.678**	0.807**	0.646*
	(0.230)	(0.242)	(0.287)	(0.301)	(0.288)	(0.300)	(0.298)	(0.303)	(0.344)	(0.332)
Open	0.845	1.011	0.880	1.051	1.069	1.142	1.580	1.351	2.215	2.055
	(0.910)	(0.868)	(1.015)	(0.953)	(1.055)	(1.207)	(1.079)	(1.160)	(1.440)	(1.550)
Demo	0.140*	0.103*	0.141*	0.105*	0.129	0.107*	0.140**	0.162**	0.188***	0.224***
	(0.083)	(0.062)	(0.080)	(0.060)	(0.082)	(0.056)	(0.069)	(0.064)	(0.063)	(0.070)
lPopd	4.715***	4.679***	4.645***	4.563***	4.508***	4.527***	3.976***	3.804***	2.276*	1.839
	(0.679)	(0.652)	(0.689)	(0.707)	(0.666)	(0.703)	(0.618)	(0.680)	(1.289)	(1.498)
Inequal			-1.052	-1.749	-1.193	-1.807	-1.564	-2.224	-4.140	-4.873
			(6.838)	(6.953)	(6.718)	(7.033)	(6.643)	(7.053)	(6.959)	(7.381)
EthnTens					-0.316	-0.140	-0.244	0.407	-0.330*	-0.073
					(0.227)	(0.692)	(0.218)	(0.845)	(0.194)	(0.699)
ReligTens							-0.454**	-0.721**	-0.266	-0.438*
							(0.204)	(0.281)	(0.176)	(0.244)
NatRes									-0.021	-0.023
									(0.018)	(0.019)
Res		-0.264		-0.268		-0.282		-0.432		-0.895

		(0.495)		(0.494)		(0.506)		(0.444)		(0.634)
RESET	0.289	0.334	0.272	0.345	0.254	0.361	0.471	0.238	0.095	0.022
Groups	44	44	44	44	44	44	44	44	43	43

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.5.6: Fixed Effect Poisson Regression for Muslim Fragile Countries

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	**Spec.1**	**Spec.1(iv)**	**Spec.2**	**Spec.2(iv)**	**Spec.3**	**Spec.3(iv)**	**Spec.4**	**Spec.4(iv)**	**Spec.5**	**Spec.5(iv)**
lgdpc	-1.450***	-1.394***	-1.279***	-1.232***	-1.204***	-1.325***	-0.890**	-0.771**	0.201	0.346
	(0.407)	(0.410)	(0.315)	(0.346)	(0.326)	(0.365)	(0.346)	(0.311)	(0.981)	(0.938)
GOV	-0.272	-0.354*	-0.356**	-0.410**	-0.394**	-0.406**	-0.503***	-0.590***	-0.707***	-0.755***
	(0.215)	(0.182)	(0.180)	(0.196)	(0.175)	(0.195)	(0.126)	(0.159)	(0.136)	(0.122)
Edu	0.358	0.395	0.205	0.208	0.259	0.209	0.184	-0.171	0.596	0.249
	(0.466)	(0.520)	(0.459)	(0.488)	(0.423)	(0.496)	(0.393)	(0.420)	(0.707)	(0.690)
Open	0.730	0.998	0.564	0.738	0.770	0.518	1.588*	0.943	2.767*	2.443
	(1.229)	(1.222)	(0.961)	(1.022)	(1.001)	(1.306)	(0.965)	(1.134)	(1.492)	(1.567)
Demo	0.201***	0.158**	0.280***	0.251**	0.266***	0.245**	0.289***	0.348***	0.312**	0.369***
	(0.075)	(0.073)	(0.082)	(0.104)	(0.077)	(0.107)	(0.077)	(0.104)	(0.126)	(0.141)
lPopd	5.573***	5.381***	5.598***	5.478***	5.429***	5.535***	4.978***	5.037***	1.827	2.166
	(1.316)	(1.263)	(1.141)	(1.053)	(1.002)	(0.993)	(0.711)	(0.679)	(2.281)	(1.928)
Inequal			-21.611*	-20.537*	-21.143*	-20.596*	-21.498**	-21.994**	-22.432**	-22.365**
			(12.126)	(11.490)	(11.479)	(11.755)	(10.334)	(10.593)	(9.945)	(9.954)
EthnTens					-0.227	0.266	-0.167	1.222	-0.359***	0.295
					(0.177)	(0.686)	(0.177)	(0.790)	(0.099)	(0.631)
ReligTens							-0.538**	-1.076***	-0.299	-0.633**
							(0.234)	(0.359)	(0.220)	(0.264)
NatRes									-0.031*	-0.029*
									(0.018)	(0.016)
Res		-0.117		-0.073		-0.033		-0.232		-0.451
		(0.438)		(0.334)		(0.364)		(0.356)		(0.305)
RESET	0.244	0.150	0.058	0.002	0.028	0.002	0.103	0.001	0.000	0.001
Groups	17	17	17	17	17	17	17	17	16	16

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.5.7: Fixed Effect Poisson Regression for Fragile Countries Affected by Major Conflicts

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
lgdpc	-1.375***	-1.328***	-1.363***	-1.302***	-1.242***	-1.252**	-0.974**	-0.835	0.135	0.627
	(0.479)	(0.485)	(0.474)	(0.497)	(0.472)	(0.530)	(0.492)	(0.511)	(0.808)	(1.065)
GOV	-0.230	-0.271*	-0.240	-0.287*	-0.279*	-0.287*	-0.346*	-0.395**	-0.442**	-0.486**
	(0.203)	(0.156)	(0.182)	(0.161)	(0.162)	(0.160)	(0.187)	(0.191)	(0.221)	(0.229)
Edu	0.753***	0.686**	0.786***	0.735**	0.789***	0.731**	0.766**	0.622*	0.741**	0.559
	(0.252)	(0.267)	(0.300)	(0.321)	(0.300)	(0.319)	(0.314)	(0.325)	(0.360)	(0.351)
Open	0.786	0.861	0.820	0.896	1.013	0.985	1.574	1.214	2.061	1.763
	(1.048)	(0.958)	(1.143)	(1.030)	(1.171)	(1.333)	(1.179)	(1.247)	(1.542)	(1.755)
Demo	0.137	0.105	0.138	0.107*	0.128	0.110*	0.139**	0.168**	0.191***	0.241***
	(0.086)	(0.065)	(0.084)	(0.063)	(0.084)	(0.056)	(0.068)	(0.066)	(0.064)	(0.076)
lPopd	4.758***	4.677***	4.683***	4.551***	4.528***	4.511***	3.999***	3.771***	2.243*	1.722
	(0.744)	(0.664)	(0.717)	(0.682)	(0.676)	(0.686)	(0.625)	(0.678)	(1.353)	(1.774)
Inequal			-1.059	-1.754	-1.239	-1.823	-1.634	-2.255	-4.435	-5.275
			(6.949)	(7.069)	(6.838)	(7.196)	(6.769)	(7.225)	(7.187)	(7.826)
EthnTens					-0.330	-0.139	-0.262	0.458	-0.363*	-0.130
					(0.242)	(0.830)	(0.231)	(0.986)	(0.209)	(1.077)
ReligTens							-0.461**	-0.748**	-0.305	-0.507*
							(0.210)	(0.321)	(0.186)	(0.293)
NatRes									-0.019	-0.021
									(0.019)	(0.021)
Res		-0.143		-0.149		-0.166		-0.326		-0.796
		(0.416)		(0.416)		(0.439)		(0.368)		(0.596)
RESET	0.428	0.463	0.409	0.452	0.358	0.450	0.605	0.302	0.108	0.021
Groups	15	15	15	15	15	15	15	15	14	14

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Table A.5.8: Fixed Effect Poisson Regression for Fragile Countries with more than One Main Religion

Dependent Variable: Annual Number of Conflict-based Domestic Incidents (*Confl*)

Variables	Spec.1	Spec.1(iv)	Spec.2	Spec.2(iv)	Spec.3	Spec.3(iv)	Spec.4	Spec.4(iv)	Spec.5	Spec.5(iv)
lgdpc	-1.930***	-1.597***	-1.804***	-1.558***	-1.646***	-1.473***	-1.181***	-1.182***	0.499	0.585
	(0.210)	(0.213)	(0.210)	(0.165)	(0.202)	(0.160)	(0.175)	(0.147)	(1.857)	(2.315)
GOV	-0.179	-0.283*	-0.060	-0.029	0.045	0.027	0.002	-0.075	0.076	-0.048
	(0.232)	(0.164)	(0.262)	(0.178)	(0.204)	(0.163)	(0.203)	(0.260)	(0.220)	(0.264)
Edu	0.605***	0.458**	0.068	-0.055	0.063	-0.010	0.119	0.195	-0.018	0.136
	(0.205)	(0.216)	(0.222)	(0.314)	(0.233)	(0.311)	(0.211)	(0.319)	(0.194)	(0.199)
Open	0.896	0.466	0.015	-0.074	0.512	0.240	1.002	0.634	2.703	2.402
	(1.307)	(1.104)	(1.247)	(1.065)	(1.072)	(1.002)	(0.805)	(0.852)	(1.939)	(1.858)
Demo	-0.791**	-0.843***	-0.585	-0.666*	-0.561*	-0.627*	-0.480*	-0.536**	-0.470	-0.622
	(0.320)	(0.318)	(0.356)	(0.372)	(0.325)	(0.345)	(0.255)	(0.262)	(0.286)	(0.390)

lPopd	11.436***	10.897***	12.949***	12.902***	12.880***	12.532***	11.174***	10.285***	9.815***	8.382**
	(2.245)	(1.967)	(2.011)	(1.641)	(1.910)	(1.718)	(1.159)	(1.384)	(2.728)	(3.500)
Inequal			7.244***	6.890**	6.707***	6.287*	5.605**	4.253	-0.756	-2.007
			(2.256)	(3.457)	(2.402)	(3.446)	(2.641)	(3.828)	(8.831)	(9.619)
EthnTens					-1.187**	-1.196*	-0.471	-0.668	-0.319	-0.559
					(0.581)	(0.631)	(0.457)	(0.500)	(0.389)	(0.420)
ReligTens							-1.575***	-1.554***	-0.763	-0.892
							(0.434)	(0.464)	(0.542)	(0.546)
NatRes									-0.027	-0.035
									(0.026)	(0.031)
Res		-1.458***		-1.824***		-1.384***		-0.051		-1.697
		(0.258)		(0.165)		(0.289)		(0.579)		(3.906)
RESET	0.296	0.235	0.813	0.715	0.976	0.587	0.801	0.918	0.874	0.575
Groups	12	12	12	12	12	12	12	12	11	11

Note: *GDPc* is the logarithm of real GDP per capita, *Gov* the aggregate governance indicators from ICRG, *Edu* the average number of years of schooling of population aged 25 or older from UNDP, *Open* the ratio of exports plus imports to GDP from various national and international sources, *Demo* the Democratic Accountability variable from ICRG, *lpopd* the logarithm of population density from WDI, $Inequal_t$ the share of top 1 % pre-tax national income in total gdp from WID, *EthnTens and ReligTens* the indicators of ethnics and religious tension respectively from ICRG, *NatRes* the natural resources rent from WDI. *Res* is the residual of the 1rst stage estimation of the two-step control function (CF) procedure. *Reset* is for RESET Test- P Values. Robust standard errors are given in parenthesis. Significance level: ***. **, * is less than 1%, 5% and 10% respectively. Estimations include country fixed-effects. (iv): instrumental variables estimator.

Appendix 6

The Aggregate Governance Indicator

Table A.6: Principal Component Analysis

Principal components/correlation

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	1.627	0.675	0.407	0.407
Comp2	0.952	0.143	0.238	0.645
Comp3	0.809	0.196	0.202	0.847
Comp4	0.613	.	0.153	1.000

Principal components (eigenvectors)

Variable	Comp1	Comp2	Comp3	Comp4	Unexplained
invfr	0.522	0.037	-0.751	0.403	0.000
corfr	0.617	-0.048	0.005	-0.785	0.000
lworfr	0.381	0.772	0.440	0.255	0.000
bcfr	0.449	-0.633	0.493	0.395	0.000

With ***invfr*** : "Investment Profile," ***corfr*** "Control over Corruption," ***lworfr*** "Law and Order" and ***bcfr*** "Quality of Bureaucracy" (see Aysan et al, 2007). "Investment Profile" has three subcomponents: (i) contract viability/expropriation, (ii) profits repatriation, (iii) payment delays. "Control over Corruption" is an overall valuation of corruption within a country. "Law and Order" proxies impartial judiciary and overall observance of law. "Quality of Bureaucracy" shows how autonomous is bureaucracy to perform services without government pressure A higher value of these variables means a lower risk (ie a better governance). (See ICRG for more details on definitions and compositions of these variables)

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