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26 AVENUE LÉON BLUM
F- 63000 CLERMONT FERRAND
TEL. + 33 4 73 17 74 00
FAX + 33 4 73 17 74 28
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The author

Camille Laville, PhD student, Université Clermont Auvergne, CNRS, CERDI, F-63000 Clermont-Ferrand, France, and Institut de recherche stratégique de l'École militaire (IRSEM), Paris, France.

Email address: camille.laville@etu.uca.fr

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Abstract

Between 1978 and 2005, Pope John Paul II traveled to 102 developing countries with the aim, *inter alia*, of promoting interreligious peace to populations and policy makers. Despite an increasing involvement of religious leaders in peace-building activities, concerns rise on the propensity of religious issues to be locally exploited for political interests. This article examines the dynamic effects of John Paul II travels on the risk of political conflict in host countries depending on their religious demography. Our empirical strategy combines the development of a political conflict risk index, an impact assessment methodology, and the estimation of local projections. Our results show that the travels of John Paul II reduce the risk of conflict in host countries over a 4-year horizon, particularly when the proportion of Catholics is low. We also observe a temporary rise in the risk of conflict for religiously polarized countries.

Keywords

Religious identity, Religious leader, Political conflict

JEL Codes

C50, N30, F52, Z12

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1. Introduction

Over the past twenty years, the international community has increasingly recognized and called on the capacity of faith actors to resolve and prevent conflicts with a religious dimension through education of the parties, trauma healing, ideas dissemination, and interfaith dialogue (Karam, 2016; Totta and Wilkinson, 2019). Among all the interventions carried out by religious leaders in the area of peace, the hundred or so international visits made by Pope John Paul II when he was the supreme authority of the Catholic Church are among the most emblematic. They laid the foundations for Vatican peace diplomacy and were so numerous that no other Pope has equaled him in this area (Barbato, 2013). However, to date, empirical evidence on their efficiency is absent. Furthermore, the conflict literature assumes that religion can be a structural cause of violence, as some religious structures (i.e. the diversity of religious groups within the population) inevitably maintain violent political competition between religious groups (Collier and Hoeffler, 2000; Fearon and Laitin, 2003). This article examines the consequences of Pope John Paul II's international visits on the risk of political conflict in the host countries depending on their religious structure. Through the case of the papal travels, it explores the efficiency of one of the many ways in which external religious leaders are still involved in world peace and confronted to the politicization of religion.

The idea that religious leaders can prevent or even stop violence involves strong claims on the significance of their influence, their lack of hidden political agenda, or on the trust and credibility they enjoy in their communities (Bercovitch and Kadayifci-Orellana, 2009). Because many of these assumptions are linked to the transcendent and hardly measurable dimension of religiosity, faith leaders' peacebuilding activities don't receive a lot of attention in quantitative works of conflict economics. Furthermore, actions like multi-faith dialogue are not considered a priority because no empirical evidence show that conflicts involving parties from different religious groups are harder to settle (Svensson, 2007). However, recent empirical work present evidence that religious leaders significantly affect the religious beliefs (i.e. what people believe) and practices (i.e. the consequence of religious beliefs on people's actions) in their communities (Bassi and Rasul, 2017; Freedman, 2019). In contexts where religion is part of the political competition, these capacities can be valuable to prevent conflict actors to gain popular support when they try to expand their demands into the religious realm (Svensson, 2007; Freedman, 2019). However, this entails that other religious groups do not

react negatively to actions involving the leader of another group, even for political or economic interests.

Pervasive political competition between religious groups can be associated with poor national economic (McCleary and Barro, 2006) and political performance (La Porta and al., 1999; Alesina and al., 2003). For many conflict economists, these effects might stem from a greater risk of conflict affecting countries with diversified religious structures, although the characteristics of such diversities are still subject to debate. Two interdependent theoretical channels are generally cited. Firstly, diversity is believed to be associated with frequent grievances against the state (Gurr and Harff, 1994) since social groups will be more likely to perceive inequalities in treatment when public choices "deviate more from the preferences of the average individual as heterogeneity increases" (Collier and Hoeffler, 2004, p.572). Secondly, the mobilization channel states that recruiting fighters from the same cultural group reduces the costs of rebellion because it is easier to create and maintain a rebel group's cohesion when its members share similar values, languages and faith (Olson, 1971; Tilly, 1978). If the mobilization costs are low, religious beliefs and practices can be exploited by opportunistic actors to motivate individuals to join a rebellion even in the absence of religious motives (Gurr and Harff, 1994; Huntington, 1996). Yet, the empirical evidence supporting both these theoretical relationships is mixed. Academics usually assume that cultural polarization (i.e. the presence of a large minority group and a large majority one) is the structure that intensifies the most hostilities (Horowitz, 1985; Esteban and Ray, 1994; Reynal-Querol, 2002), but the literature usually finds that religious polarization is, at best, not a strong determinant of conflicts (Fearon and Laitin, 2003; Collier and Hoeffler, 2004; Montalvo and Reynal-Querol, 2005). Recent work suggests that religion only increases the risk of conflict when it is part of national political issues. They consider that religion is more often politicized in countries where one religious group is dominant¹ because this structure encourages cohesion between smaller groups affected by similar political or economic discriminations (Montalvo and Reynal-Querol, 2005; Cederman and al., 2010). These coalitions may resort to conflict to credibly threaten the balance of power, while other religious structures would more easily either reach an agreement or silence the isolated and small minority groups (Basedau and al., 2011, Basedau and al. 2016). This makes it challenging to quantify the role of religion in conflicts. Data on religious structures generally

¹ A religious group is considered dominant when it represents more than 60% of the population; see Basedau and al. (2016) for a detailed discussion on this topic.

show little or no variation over time and are therefore limited when it comes to analyzing changes in the politicization of religion according to the period considered. Indeed, some periods could be more conducive to religious politicization than others. For example, Iyer and Shrivastava (2018) show that religious riots in India benefit political parties, which may prompt them to provoke religious tensions during electoral periods.

In host countries, papal visits can become part of local political debates since they involve official meetings of a Catholic authority with the people and political leaders of a nation. Depending on the politicization of the Catholic identity, papal visits can be perceived as a gesture from the government toward the local Catholic community, or be added to pre-existing religious grievances against a government whose decisions (including the invitation of a Catholic religious leader) seem to benefit one group more than the others (Gurr and Harff, 1994; Collier and Hoeffler, 2004). Whether religious or not, violent groups with political ambitions may use the papal visit to stir up rebellion, mobilize fighters and gain popular support on politico-religious issues. This may be especially true for John Paul II's travels given the global rise of religious nationalism during his papacy (Fox, 2004) and reported cases of violent actions carried out by fundamentalist groups during some of his visits, for example during his travels in India in 1999, and in Greece in 2001.

From a strictly empirical perspective, the papacy of John Paul II presents valuable characteristics. Firstly, his long papacy (22 years) and his numerous travels (118 trips in 102 countries) permit to study a large sample of countries and years. During John Paul II's papacy, papal travels became the main diplomatic instrument for the Holy See to promote peace and generate a dialogue between the Church and other religions.² At the end of his papacy, John Paul II had visited more countries than all his predecessors combined. Also, and maybe because most of the countries and regions he visited were hosting a Pope for the first time, these events gathered a wide audience. The speeches, masses and public appearances of Pope John Paul II regularly attracted gigantic crowds that sometimes exceeded one million

² During the close of the Great Jubilee of the Year 2000, John Paul II wrote in the apostolic letter *Novo Millennio Ineunte*: "In the climate of increased cultural and religious pluralism which is expected to mark the society of the new millennium, it is obvious that [interreligious] dialogue will be especially important in establishing a sure basis for peace and warding off the dread spectre of those wars of religion which have so often bloodied human history."

attendees³. These events also reached a wide audience outside the visited cities because they were extensively covered by the local media. Secondly, as Pope, John Paul II had authority and therefore influence over one of the largest religious community, with more than 1 billion Catholics over the World. As an example of this influence, Bassi and Rasul (2017) showed that the speeches he gave in Brazil in 1991 significantly influenced local fertility rate and fertility-related beliefs of Brazilian Catholics after his visit. John Paul II also worked for interfaith dialogue during numerous trips to non-Catholic countries. During his stays, he delivered peace messages based on inter-religious tolerance, celebrated ecumenical masses and had meetings with representatives of various religious communities. He often advocated for a greater openness of the Church to other religions, in particular Islam.⁴ During his visit to Morocco in 1985, he organized a meeting with 80,000 young Moroccan Muslims where he highlighted different religious values and beliefs bringing the two communities together. During his trip to Beirut in 1997, he publicly presented and signed the apostolic exhortation for national unity in Lebanon. This text was the fruit of a work initiated in 1993 during the Special Assembly of the Synod in which the representatives of all Lebanese faiths participated, notably (and for the first time in the history of Synods) of Islam. Finally, after the Lateran Treaty of 1929, the Holy See became particularly involved in establishing and preserving peace in the world (Appleby, 2000). It then ceased to have military interests in the protection of its territory⁵ and its foreign policy turned to the protection of Christians and the promotion of three values of the Church (justice, peace and civil liberties) independently of religious affiliations (Appleby, 2000).⁶ The Holy See is now recognized by many international institutions and foreign states as a third-party peace mediator (Appleby, 2000; Troy, 2018). For example, the Holy See is a permanent observer to various international

³ His final mass during his travel to Manila in 1995 gathered more than 5 million people.

⁴ Several media sources report that his criticisms of the war in Iraq and the organization of an interfaith rally following the September 11, 2001 attacks were positively received by the Muslim community.

⁵ The Holy See has not engaged in any war since 1929. Also, John Paul II carried out a series of acts of repentance during his papacy for the religious and political wars fought between 1096 and 1291 by the Vatican for the control of the Holy Land.

⁶ On October 1965, Pope Paul VI promulgated *Nostra Aetate* (the Declaration on the Relation of the Church with Non-Christian Religions of the Second Vatican Council), which contradicts the past Catholic doctrine by insisting on the importance of religious freedom and on the universal brotherhood stemming from common spiritual values between religions.

peacekeeping organizations (including the General Assembly of the United Nations and the Council of Europe) that have an ethical obligation to be neutral regarding religion. Also, according to the Pastoral Constitution of 1965, the actions of the Holy See are supposed to be independent of special interests and political alliances.⁷ This obligation is one of the reasons why popes have sometimes been called by the belligerents to arbitrate interstate conflicts. For example, John Paul II arbitrated the Beagle Channel conflict between Chile and Argentina in 1985, and in 2014, Pope Francis acted as a mediator in the conflict between the United States and Cuba.

Nevertheless, identifying the causal effect of the travels of Pope John Paul II on political conflicts is empirically challenging. The tensions inside a country will rise through social unrest like protests and riots before the state decides to use its “legitimate monopoly on violence” and engages in the conflict. Indeed, it is uncommon for periods of total peace to be immediately followed by a conflict. Our empirical strategy requires (i) a continuous measurement of the risk of political conflict which can be compared within and between countries. Most of the measures of conflict incidence available for the period 1978-2005 are inappropriate because they are binary and reflect simultaneously the onset and duration of the conflict (Hegre, 2004). Other measures such as the intensity of conflicts or the military capacity of States are also inadequate because they define a particular form of repression which is not easy to compare within and between countries. For example, a conflict results in more deaths in a highly populated country whose government tends to respond to revolts with violent repression. Our empirical strategy must also (ii) address the inadequacies of the usual statistical models. On the one hand, a pure cross-sectional analysis would be contaminated by pre-visit characteristics (like the strong repressive capacity of authoritarian regimes) influencing both the risk of conflict and the probability of a papal visit. Also, adjustments for the time variations of these variables are needed since they influence the risk of conflict over time. For example, political leaders could wait for a period of economic growth to invite the Pope in order to have more resources to spend on the security apparatus and infrastructures.

⁷ As stated in the Pastoral Constitution on the Church in the Modern World (*Gaudium and Spes*) promulgated by Paul VI on December 7, 1965: "It is very important, especially where a pluralistic society prevails, that there be a correct notion of the relationship between the political community and the Church, and a clear distinction between the tasks which Christians undertake, individually or as a group, on their own responsibility as citizens guided by the dictates of a Christian conscience, and the activities which, in union with their pastors, they carry out in the name of the Church. The Church, by reason of her role and competence, is not identified in any way with the political community nor bound to any political system."

On the other hand, a time series analysis would make important and questionable assumptions on the temporal correlation structure of conflicts (Beck and al., 1998; Reed and Webb, 2010). Our analysis therefore rests on a two-step approach. First, we construct a synthetic conflict indicator that describes the probability of a conflict occurring the following year. The risk of conflict in year T is predicted from information in year T-1 on recently experienced tensions and on the political and economic structure of the country. We thus obtain an indicator able to accurately predict 93% of the observations. Next, we use a semi-parametric methodology that estimates impulse response functions controlling for past variations in the risk of conflict and in several economic and political variables linked to conflicts. We control for the endogeneity of papal visits and for differences between visited and non-visited countries using a doubly robust inverse propensity weighted estimator. Hence, we analyze how economically and politically similar countries react to a visit depending on their religious structure (i.e. the proportion of Catholics and the level of religious polarization).

Our results indicate that the 118 foreign travels of Pope John Paul II in developing countries have on average a significant negative effect on the risk of conflict which persists over a four-year horizon. However, they also generate a temporary increase in the risk of conflict during the two years following a visit for countries combining a high level of religious polarization and a large proportion of Catholics in their population. These results are robust to a variety of modifications to our data and empirical specification. They suggest that a religious leader can influence the risk of political conflict and provide clarity as to where and when religious polarization can lead to violent episodes of political destabilization.

This study contributes in several ways to the literature on the religion/conflict nexus. First, it brings a better understanding on the impact of religious leaders in the area of peacebuilding by focusing on one of the most prominent peace mediators of the 20th century. It is, to our knowledge, the first empirical analysis of the effects on conflicts of the international travels of Pope John Paul II. For its purpose, we have developed a new database from official information provided by the Holy See containing information on the duration and destination of papal journeys, as well as on the nationality, age and date of appointment of the members of the College of Cardinals. Second, this case study contributes to the literature on the causes of political conflicts by addressing the timing of religious mobilization and using an innovative empirical strategy based on the variation over time of a composite risk index; hence, it integrates the effect of conflict factors that are usually difficult to quantify, like political grievances. Third, several political science studies focus on the motivations and

consequences of visits by foreign heads of state (Malis and Smith, 2020), but little attention has been paid to the case of "theocratic" visits where the guest is both a head of state and a religious leader (Goldstein, 2008). By analyzing the effects of theocratic visits on political contestation, this article is also linked to political science works on the consequences of diplomatic visits.

The remainder of the paper is structured as follows. Section 2 provides descriptive statistics on papal travels. Section 3 describes the data and estimation strategy that we use. Section 4 presents the main findings. In Section 5 we propose some robustness checks and we conclude in Section 6.

2. Descriptive Statistics

Our sample contains 128 developing and transitioning countries (as listed by the OECD before the end of the Cold War) over the period 1971-2005.⁸ We analyze the case of 118 foreign visits that John Paul II undertook in 86 countries of our sample. We first present several statistics suggesting a possible correlation between John Paul II's travels and the risk of political conflict and social unrest.

Table 1 presents several characteristics of visited and not visited countries. It shows that although both groups experience on average a similar number of conflicts, visited countries experience more episodes of social unrest. Their political scores are also different and suggest that John Paul II tended to avoid autocracies although he visited some undemocratic regimes. Visited countries have diverse religious profiles but generally present a higher proportion of Catholics in their population. Finally, the GDP growth and GDP per capita measures are similar for both groups on average, suggesting that the Holy See did not select the visited countries based on their economic performances.

Figure 1 presents the sample's average number of conflicts in visited countries during the two years preceding a papal visit and up to five years after the latter. Almost a quarter of the visited countries experience an episode of conflict a year after the visit of John Paul II, while

⁸ We extend our temporal coverage beyond the pontificate of John Paul II (October 16, 1978 -April 2, 2005) to take into account the history of conflict (Pope Paul VI did not travel between 1971 and 1978).

only 17% of them are in conflict during the year of the visit. On average, the number of conflicts decreases until the year of a visit and reaches a peak the following year. **Figure 2** presents the number of social unrest episodes (riots, demonstrations, strikes, protests, and assassinations), which is a good proxy of civil discontent expressed in small acts of violence that challenge the state's monopoly on violence. On average, visited countries experience a similar number of social unrest episodes before and during a papal visit, and 0.5 more events in T+2 years and T+4. **Figure 1** and **Figure 2** suggest that John Paul II's international travels could have non-linear effect on tensions over time (with less tension during the visit, but more during the following years).

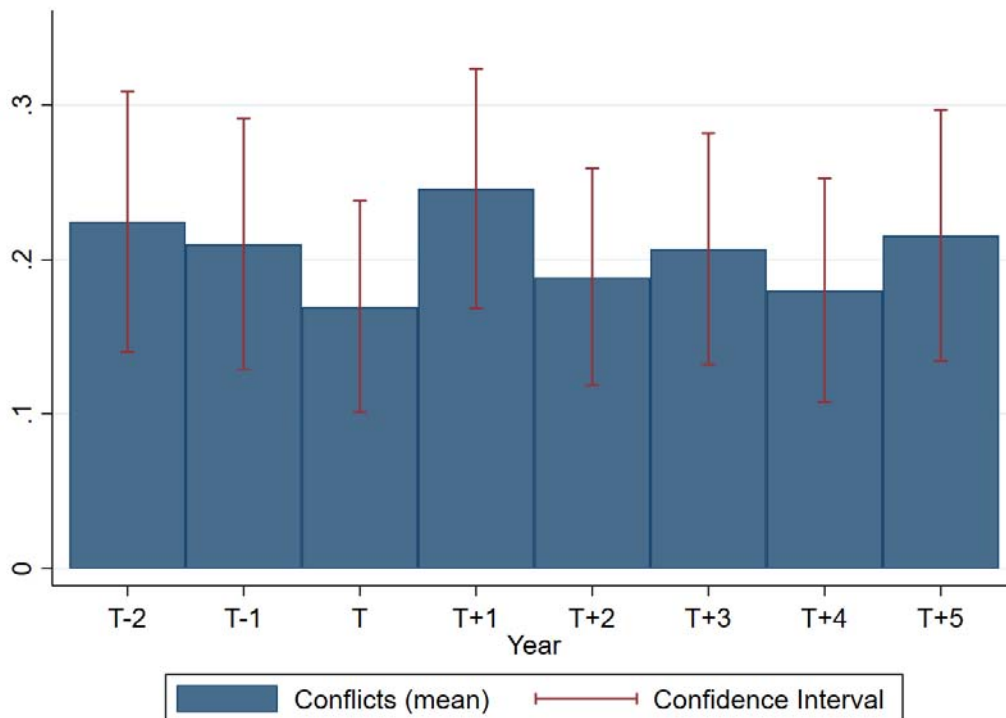
These statistics could be the result of persistent tensions that began before the visit of John Paul II. In **Table 2**, we present the unconditional transition probabilities between four different states observed in our sample: Peace (i.e. no conflict and no social unrest), social unrest but no conflicts, conflict and social unrest, and "pure conflict" (i.e. conflicts but no social unrest,). **Table 2** suggests that conflicts are cyclical. Each state is more likely to be followed by the same state: peace by peace, conflict by conflict, etc. Also, periods of social unrest appear to be a relevant state of transition between peace and conflict. In comparison, years of peace are less likely to be followed by conflict (2.7% of cases) than years of social unrest (16.4%). The years of both social unrest and conflict are followed in 26.7% of cases by years of pure conflict. Finally, a conflict will lead more often to a period with social unrest (28.5%) than to peace (15.4%).

Table 1: Balance and characteristics of visited and not visited countries

	Visited			Not Visited			Balance	
	Mean	Variance	Skewness	Mean	Variance	Skewness	Std-diff	Var-ratio
Conflict Incidence	0.20	0.16	1.50	0.20	0.16	1.47	-0.01	0.99
Social Unrest	1.58	15.04	5.00	0.85	6.57	6.19	0.22	2.29
Polity2 Index	-0.06	48.18	0.11	-3.61	30.95	0.84	0.56	1.56
GDP Growth	3.43	107.01	2.09	3.42	160.94	1.30	0.00	0.66
GDP p.c. (log)	7.85	0.89	-0.04	7.77	0.91	0.39	0.09	0.97
Catholics (%pop)	0.36	0.12	0.57	0.06	0.03	4.32	1.10	4.04

Notes: "Visited" ("Not Visited") group contains countries who have (not) hosted John Paul II. Imbalance (i.e. significant difference between groups) is characterized by a standard difference value greater than 0.25, and/or a ratio of the variances of the treated group and of the control group greater than 2 or inferior to 0.5; equilibrium is defined by a ratio close to 1 (Rubin, 2001).

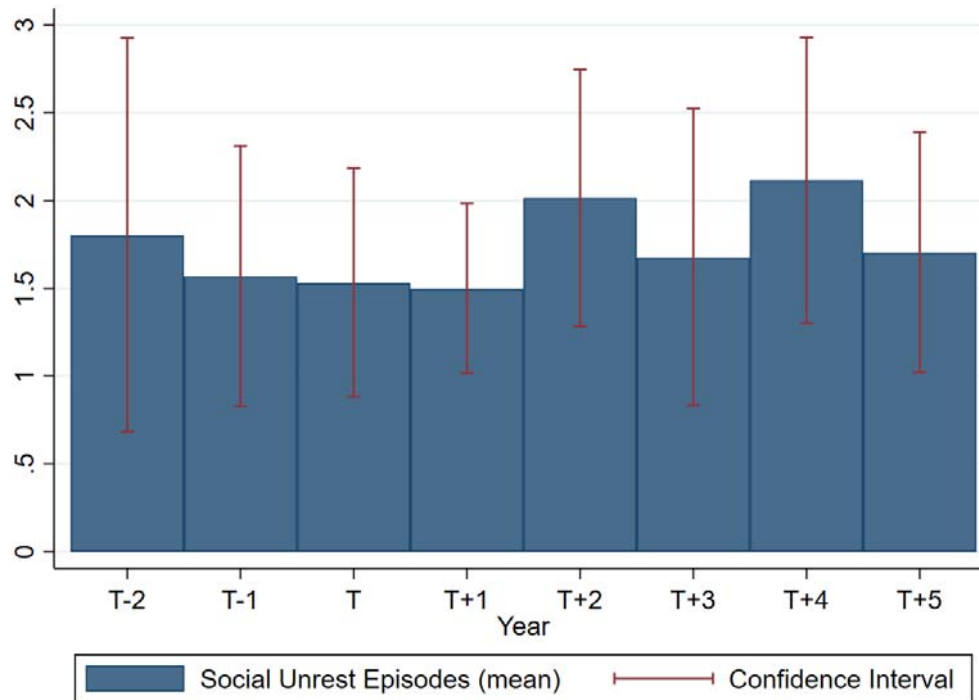
Sources: Author's compilation using UCDP-PRIO, Banks and Wilson (2020), Polity IV, Gleditsch (2002), and World Religion Project data. Data on papal visits comes from the Holy See's official website.

Figure 1: Average number of conflict episodes preceding and following visits of John Paul II

Notes: T corresponds to the year of a visit; red lines represent 95% confidence intervals.

Sources: Author's compilation using data from the Holy See's official website and UCDP-PRIO.

Figure 2: Average number of social unrest episodes preceding and following visits of John Paul II



Notes: T corresponds to the year of a visit; red lines represent 95% confidence intervals.

Sources: Author's compilation using data from the Holy See's official website and Banks and Wilson (2020).

Table 2: Unconditional Markov transition matrix

	Peace	Social Unrest (No Conflict)	Conflict and Social Unrest	Conflict (No Social Unrest)
Peace	79.8	16.4	0.1	2.7
Social Unrest (No Conflict)	38.7	54.8	4.1	2.4
Conflict and Social Unrest	5.6	9.3	58.4	26.7
Conflict (No Social Unrest)	15.4	5.3	23.2	56.2

Notes: Raw transition matrix for the whole sample. Coefficients are expressed in percentages. Rows sum to 100%.

Sources: Authors' compilation using UCDP-PRIO, and Banks and Wilson (2020) data.

3. Empirical Methodology and Data

Our empirical strategy combines (i) the development of a continuous political conflict risk index and (ii) an impact assessment methodology that addresses (iii) endogeneity problems.

3.1 Creating a Continuous Index of the Risk of Political Conflict

Using discrete variables to study the risk of political conflict might be problematic in our case. The large number of zeros casts doubt on the consistency of what is meant by peacetime. Also, the timing of conflict only coarsely identify the temporal evolution of instability. In this section, we develop a continuous index of political conflict risk through logistic regression. Our dependent variable is the UCDP-PRIO incidence of internal armed conflict resulting from an incompatibility concerning the government (i.e. the type of political system, the replacement of the central government, or the change of its composition) or territory (i.e. secession or autonomy).

The accuracy and reliability of conflict predictions are often questioned, especially when they result from cross country modeling. These models generally lack predictive power because they exhibit over-fitting and over-determination biases. For example, Ward and al. (2010) show that the models of Fearon and Laitin (2003), and Collier and Hoeffler (2004) have a low predictive power despite the robustness and the significance of their coefficients. To avoid these limits, we select our controls based on the conflict theory, recent advances in the conflict prediction field, the minimization of the Akaike Information Criterion (AIC), and goodness of fit tests (Ward and al., 2010; Aas Rustad and al., 2011; Hegre and al., 2013).

Structural Conflict Predictors - Theoretical models of conflict consider that three mechanisms explain why it may be rational to choose violence and appropriation: the value of the state as a prize, the opportunity cost faced by the population and the state capacity. The first two explain why the population may be interested to rebel against the state based on the value of the prize they seek and on the trade-off they face between productive activity and rebellion. We measure the opportunity cost with a set of variables associated to the level of development (Hegre and al., 2013): the infant mortality rate, youth bulges, and the level of education.⁹ The infant mortality rate is considered a good proxy of the level of economic

⁹ Because these three variables are highly correlated with each other, we do a principal component analysis and extract one principal factor explaining more than eighty percent of the variance. Results are available upon request.

development.¹⁰ Large youth cohorts represent an abundant supply of rebel labor with low opportunity cost. By reducing recruitment costs, they increase the risk of armed conflict (Fearon and Laitin, 2003; Collier and Hoeffler, 2004). Finally, education increases the opportunity cost of rebel labor because people expect greater income-earning opportunities (Collier and Hoeffler, 2004). To assess the value of the state as a prize, we use the total value of oil and gas exports from Ross and Mahdavi (2015). Oil and gas rents are attractive for rebel groups, but their appropriation requires capturing the state since they are difficult to loot without the technical means available to the state. Besides, oil producers have weaker state apparatuses and less incentive to strengthen them. They are therefore less effective in preventing conflicts (Fearon and Laitin, 2003). The state's capacity is its ability to monitor, deter, and/or buy the opposition off. We measure the state capacity through institutional coherence and quality of the political regime. Following Goldstone and al. (2010), we use two dummy variables indicating factionalist partial democracies and full autocracies. Autocracies are defined as systems that combine an absence of effective contestation for a chief executive with repressed or suppressed political participation. The literature agrees that they experience fewer conflicts because they strongly repress rebellions. Factionalism is defined as a pattern of sharply polarized and uncompromising competition between blocs pursuing clientelistic interests at the national level. Goldstone and al. (2010) showed that factional regimes are associated with a high relative risk of instability onset compared to any other type of partially democratic system.

Conflict History and Conflict Timing - Hegre and al. (2013) suggest that associating development indicators with data from the neighboring countries and conflict history can produce highly accurate predictions because violence spreads over time and beyond national borders. We use a categorical variable indicating if any neighboring country has experienced low intensity violence or civil war in the previous year. We also add a categorical variable indicating if the country experienced an episode of low intensity violence (between 25 and 1000 fatalities) or a civil war (more than 1000 fatalities) in the previous year. Conflict-related events like social unrest give information on latent-conflicts which are valuable for short term predictions (Aas Rustad and al., 2011; Hegre and al., 2013); a variable indicating the number

¹⁰ Conflict models generally use measures of economic growth and incomes, but these variables are not statistically significant in our model and capture a narrower conception of economic and social opportunities than the level of development.

of riots, assassinations, strikes and demonstrations according to the Cross-National Time-Series Data Archive (Banks and Wilson, 2020) was added.

The risk of conflict is predicted using a logistic regression with year fixed effects, regional dummies, and country clustered standard errors. All the control variables are lagged by one year and the results are reported in the first column (1) of **Table A1**. All the predictors affect significantly the risk of conflict and present the expected signs. We control for the goodness of fit of our model with Pearson Chi-square and Hosmer-Lemeshow tests and obtain appropriate results according to the literature. The statistics associated with the conflict prediction model are presented in **Table 3**. Our model has an area under the receiver operating characteristics (AUC) of 0.93 and correctly classifies 92.44 percent of the observations (see **Online Appendix B**). In columns (1) and (2), we observe that the predicted and observed conflicts' measures have the same means but different standard deviations. Indeed, an advantage of the predicted variable is that it considers that there are no years of total peace (0 in UCDP-PRIO) or total war (1 in UCDP-PRIO), as presented in columns (4) and (5) by differences in the minimum and maximum values reached by both measures.

Table 3: Statistics and classification power of the political conflict risk index

	Classification Power*				
	Sensitivity	Specificity	False Positive Rate	False Negative Rate	Correctly Classified
	82.46%	95.01%	4.99%	17.54%	92.44%
	(1) Mean	(2) Std.Dev.	(3) Obs	(4) Min	(5) Max
Political Conflict ("True")	0.205	0.404	3808	0	1
Political Conflict Risk Index	0.205	0.323	3808	0.002	0.998

*: calculated for a threshold that equals the index's mean.

Sources: Author's compilation using UCDP-PRIO data for the "true" political conflict variable, and using logistic regression to predict the risk index.

3.2 Jordà's Local Projection Model

In order to estimate the dynamic impact of Papal visits on the risk of conflict, we use the method proposed by Jordà (2005) that consists in estimating impulse response functions (IRF) from local projections. One advantage of this semi-parametric method is that local projections

are robust to misspecifications of the data generation process (DGP). It represents an interesting alternative to vector autoregressive models (VAR) which can misspecify the DGP.

In this paper, the IRFs describe the evolution of the risk of conflict along a time horizon of four years ($k = 0, \dots, 4$) after a Papal visit.¹¹ They are obtained by plotting the estimated coefficients β_k for $k = 0, \dots, 4$. Country fixed effects are included and the standard errors are clustered at the country level. For each k , the following equation is estimated using Least-Squares Dummy Variables (LSDV):

$$\Delta y_{i,t+k} = \alpha_i^k + \beta_i^k D_{i,t} + \sum_{j=1}^l \gamma_j^k \Delta y_{i,t-j} + \sum_{j=1}^l \vartheta_j^k \Delta W_{i,t-j} + \delta_i^k \bar{X}_{i,t} + \varepsilon_{i,t+k} \quad (1)$$

Where the dependent variable is $\Delta y_{i,t+k} = y_{i,t+k} - y_{i,t-1}$, namely the yearly variation of the risk of political conflict y between $t - 1$ and $t + k$. $\Delta y_{i,t-j}$ controls for past yearly variations in the risk of conflict up to the l^{th} year preceding a papal visit. We chose 4 lags ($l=4$), which is the number of lags that minimizes the AIC and BIC information criteria. D is a dummy variable taking the value 1 for the year of a Papal visit and 0 otherwise. α_i^k represents country fixed effects and $\varepsilon_{i,t+k}$ is the error term. $\Delta W_{i,t-j}$ and $\bar{X}_{i,t} = \frac{1}{l} \sum_{j=1}^l x_{i,t-j}$ corresponds to past yearly variations and arithmetic means (between $t - 1$ and $t - 4$) of controls already present in the baseline predictive model. This way, we examine the effect of a papal visit in year t on variations between $t - 1$ and $t + (1, \dots, 4)$ of the risk of conflict, leaving aside past variations (i.e. from $t - 1$ to $t - 4$) of the risk of conflict and political and economic predictors of conflict (i.e. level of autocracy and factional democracy, value of oil/gas exports, level of development, and conflicts in the neighboring countries). We also add an exogenous control which corresponds to past and contemporaneous yearly variations (from $t - 4$ to t) in the Standardized Precipitation-Evapotranspiration Index (SPEI) to account for climatic shocks (Harari and La Ferrara, 2018).

Ultimately, we consider the impact of papal visits (i.e. treatment) on the risk of conflict at each horizon h . We use two treatment measures: the average treatment effect (ATE) and the Conditional Average Treatment Effect (CATE) to account for heterogeneity (Furceri and Zdzienicka, 2012). The CATE is obtained by interacting the treatment with a categorical

¹¹ Four years is the longest period for which papal travels present a significant effect on the risk of conflict. Since this effect is not significant for larger horizons, a four years horizon is selected (Jordà, 2005).

variable $V_{i,t}$ that divides our sample in five groups according to their religious structure (hereafter, we will only present the CATE case since the ATE can be easily obtained by removing $V_{i,t}$):

$$\Delta y_{i,t+k} = \alpha_i^k + \beta_{1i}^k \mathbf{D}_{i,t} + \beta_{2i}^k \mathbf{V}_{i,t} + \beta_{3i}^k \mathbf{V}_{i,t} \mathbf{D}_{i,t} + \sum_{j=1}^l \gamma_j^k \Delta y_{i,t-j} + \sum_{j=1}^l \vartheta_j^k \Delta W_{i,t-j} + \delta_i^k \overline{X_{i,t}} + \varepsilon_{i,t+k} \quad (2)$$

3.3 Augmented Inverse Propensity Weighted Estimator

The Pope's visits are organized following a rigorous process. Political and religious authorities must send an official invitation to the Holy See, whom may or may not accept it. The destinations are chosen according to undisclosed criteria that may be linked to the anticipated evolution of the risk of conflict and therefore create an endogeneity bias. For example, political leaders might invite the Pope to boost their popularity in the context of increased internal tensions. In the presence of endogeneity and missing variables, Jordà and Taylor (2016) recommend the augmented inverse propensity weighted (AIPW) estimator, which combines the inverse probability weighted (IPW) and the inverse-probability-weighted regression adjustment (IPWRA) estimators.

STEP I - We estimate the probability of Papal visit with a Poisson pseudo maximum likelihood model using a set of variables $Z_{i,t}$ that influence the probability of a Papal visit and/or are correlated to the risk of political conflict. The idea is to obtain weights that give every observation the same probability of being visited by the Pope. The methodology relies on the "selection on observables", which requires that our control set reflects information on which the Pope bases his choice of visiting or not a country (Troy, 2018). We use the following control variables.

To account for diplomatic relations with the Vatican, we use a variable indicating the presence and geographic influence (on a scale from 0 to 1) of an embassy of the Holy See (or Nuncio) according to the Diplometrics dataset (Moyer and al., 2016). We also create a dummy variable taking the value "1" if at least one local religious leader was part of the College of Cardinals elected by John Paul during the previous year.¹² Since visited countries are less likely to receive the Pope again in coming years, a variable indicating the total number of visited countries during the previous year and its squared term are added. Two

¹² Source: author's compilation from GCatholic website.

election dummies are added: one indicating an election during the previous year and one indicating the mean number of unfair elections during the four previous years according to the Nelda dataset (Hyde and Marinov, 2012).¹³ We then add characteristics that are generally considered to be linked to the risk of conflict: a dummy indicating the presence of lootable diamonds in the country, an indicator of the terrain ruggedness, the lagged size of the population (in logarithm), the mean SPEI index during the four previous years, the lagged total magnitude of interstate conflicts in the region according to the MEPV dataset (Marshall, 2019), and regional dummies. Finally, we add the mean over the four previous years of control variables present in our risk index model: the level of development, factional democracies, autocracies, and the value of oil and gas exports. We obtain an AUC of 0.70 and use the results (which are presented in the **Online Appendix C**) to construct the propensity score for a country i at time t to be treated (i.e. visited), $\hat{\rho}_{i,t}$, or to be part of the control group (i.e. not visited or not treated), $1 - \hat{\rho}_{i,t}$ (the balance and overlap checks are reported in the **Online Appendices D and E**).

STEP II - The outcome model is estimated separately for the treatment and the control groups and we predict for the whole sample the potential outcome $\widehat{E}[(y_{i,t+k} - y_{i,t-1} | D_{i,t} = d)]$. It defines the risk of political conflict in the treated group if they didn't receive a papal visit ($d = 0$), and in the control group if they did receive a Papal visit ($d = 1$). For each $k = 0, \dots, 5$ and for each category of $V_{i,t}$, the CATE is defined as:

$$CATE = \Lambda_k = E[y_{i,t+k}(1) - y_{i,t-1} | D = 1; V_{i,t}] - E[y_{i,t+k}(1) - y_{i,t-1} | D = 0; V_{i,t}] \quad (3)$$

Because the second term of the Equation (3) is not observable, we use a counterfactual. Under the independence assumption $y_{i,t+k}(D) - y_{i,t-1} \perp D_{i,t} | Z_{i,t}$, (where $Z_{i,t}$ is the set of covariates explaining the probability of papal visits; see Step 1), we estimate the CATE by comparing countries with and without papal visits conditional on $Z_{i,t}$ and $V_{i,t}$:

$$CATE = \Lambda_k = E[y_{i,t+k}(1) - y_{i,t-1} | D = 1; V_{i,t}; Z_{i,t}] - E[y_{i,t+k}(0) - y_{i,t-1} | D = 0; V_{i,t}; Z_{i,t}] \quad (4)$$

¹³ The variable is coded "1" if NELDA answers "yes" for each of the following questions: "Was the opposition authorized?", "Was more than one party legal?", "Were there a choice of candidates on the ballot? "; otherwise, it is coded "0".

STEP III - We use the general AIPW's expression provided by Lunceford and Davidian (2004) to estimate the CATE of Papal visits on the risk of political conflict for the k following years:

$$\hat{\Lambda}_{AIPW}^k = \frac{1}{n} \sum_i \sum_t \left[\left(\frac{D_{i,t}(y_{i,t-1})}{\hat{p}_{i,t}} - \frac{(1-D_{i,t})(y_{i,t-1})}{1-\hat{p}_{i,t}} \right) - \frac{D_{i,t}-\hat{p}_{i,t}}{\hat{p}_{i,t}(1-\hat{p}_{i,t})} \times \right. \\ \left. \left[(1-\hat{p}_{i,t})\hat{E}(y_{i,t+k} - y_{i,t-1} | D_{i,t} = 1; X_{i,t}; V_{i,t}) \right] \right. \\ \left. + \hat{p}_{i,t}\hat{E}(y_{i,t+k} - y_{i,t-1} | D_{i,t} = 0; X_{i,t}; V_{i,t}) \right] \quad (5)$$

This semi-parametric estimator is doubly robust, which means that it is highly robust to misspecification of the treatment and outcome equations.¹⁴ It allows for selection errors in both equations and permits to obtain the semi-parametric efficiency bound under standard additional conditions, even in the presence of heteroskedasticity (Lunceford and Davidian, 2004; Farrell, 2015). The use of propensity score weighting with stabilized weights¹⁵ is also recommended for treatments that are rare events (Hajage and al., 2016; Pontines, 2018).

4. Results

4.1 Average Treatment Effect

We start with our simplest setting and estimate the average treatment effect (ATE) of a visit of John Paul II on changes in the risk of the political conflict. We present the results in **Table 4** and **Figure 3**.

On average, the travels of John Paul II have a negative effect on the risk of political conflict. During the year of the visit, the risk of conflict drops significantly by 1.8 percentage points (i.e. pp.). During a papal visit, visited countries observe on average an 8.78% decrease in the risk of conflict. This effect persists one year after a visit, with 9.76% less chances to

¹⁴ The “doubly robust” property means that consistency of the estimated ATE can be proved when either the propensity score model or the conditional mean is correctly specified.

¹⁵ Stabilized weights are constructed by using the observed proportion of treated (for the treatment observations) and controls (for the control observations) in the sample as a numerator instead of 1. They are used to produce estimates with a smaller variance when the dependent variable is rare.

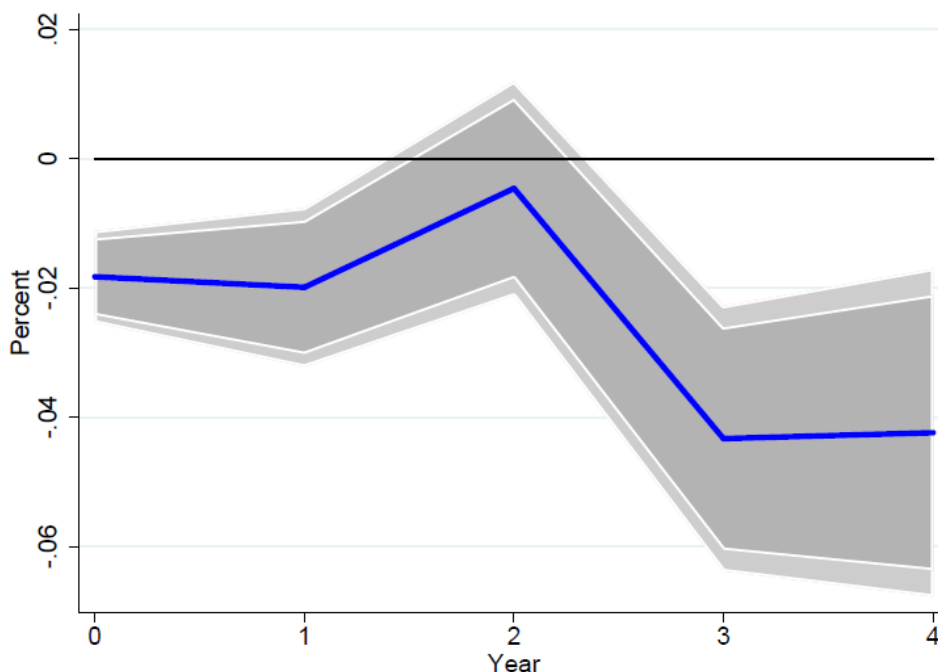
experience conflicts than if they had not been visited. In **Figure 3**, we observe a non-linearity around the second year following a papal visit while **Table 4** shows a small and not significant ATE coefficient. After three and four years, the risk of conflict decreases significantly by 4.3 and 4.2 pp. respectively. This means that four years after receiving the Pope, the risk of conflict in the host countries decreases on average by 20.5%. The results of our baseline model suggest that John Paul II visits generally reduce the risk of conflict up to four years after their occurrence.

Table 4: ATE of papal visits

	(1)	(2)	(3)	(4)	(5)
	Year t	Year t+1	Year t+2	Year t+3	Year t+4
ATE	-0.018*** (0.004)	-0.020*** (0.006)	-0.005 (0.008)	-0.043*** (0.010)	-0.042*** (0.013)
Observations	3042	2914	2793	2671	2549
Country F.E.	x	x	x	x	x

Notes: ***/**/*: $p < 0.01/0.05/0.10$. Standard errors (clustered at the country level) in parentheses. Controls: yearly changes from t-1 to t-4 in y, autocracy level, factional democracy level, value of oil and gas exports, development indicator and conflicts in the neighboring countries ; mean value during the four previous years of oil and gas exports, development, factional democracy and autocracy; yearly changes from t to t-4 in SPEI index; religious structure; country fixed effects (F.E.).

Source: Authors' compilation.

Figure 3: Local projection for the baseline model

Notes: Local projection (blue line), 95% and 90% confidence intervals (soft and dark gray band) were obtained based on results presented in Table 4; the ATE is negative (positive) and significant when the local projection and the confidence intervals are all below (above) zero.

Source: Author's compilation.

4.2 Average Treatment Effect Conditional on the Religious Structure

The section explores the heterogeneity in the effects of John Paul II's visits depending on the religious structure of the host countries. Empirical works generally use the polarization index of Reynal-Querol (2002) to analyze how the religious structures affect the risk of conflict. It defines, on a scale from 0 to 1, how close the religious structure is to a situation where 50% of the population belongs to one religious group and 50% to another. This index is relevant for models that make no assumptions about a particular religious group, but it may be misleading with respect to our research question which focuses on the case of Catholic communities. **Figure 4** presents a scatter-plot of the average level of religious polarization¹⁶ compared to the average proportion of Catholics in the population for each country. It shows that both low

¹⁶ Index computed using the World Religion Project dataset and Reynal-Querol's polarization's formula: $P = 1 - \sum_{i=1}^N \left(\frac{0.5 - \pi_i}{0.5} \right)^2 \pi_i$, where π_i is the proportion of the population belonging to one of a N following religious groups : Catholics, Protestants, Anglicans, Orthodox, other Christians, Judaism, Islam, Buddhism, Zoroastrian, Hindu, Sikh, Shinto, Baha'i, Taoism, Confucianism, Jain, Syncretic and other religions.

and high levels of religious polarization can be observed in countries with a high or a low proportion of Catholics. For example, Mongolia (“MNG”) presents a high level of religious polarization between the Buddhists and the animists (i.e. 0.85) while the Catholics represent less than 0.2% of the population. To take into account the religious structure, we use a categorical measure of the proportion of Catholics in the population using the World Religion Project Dataset (Maoz and Henderson, 2013). Each category is an interval created by the division of our sample according to four quantiles (i.e. 20%, 40%, 60%, and 80%). We present their characteristics in **Figure 4** and **Table 5**. Category zero (0) corresponds to contexts where there are few or no Catholics in the population. In this interval, the level of religious polarization is highly heterogeneous since there are countries that are highly polarized between other religious groups than the Catholics. Category one (1) presents contexts where the Catholics are a small minority group (in absolute terms) with low influence on the level of religious polarization in the country. For categories two (2), three (3), and four (4), the proportion of Catholics is sufficiently large to influence the level of religious polarization. In category 2, Catholics are still a minority while in category 3 they become a majority group. Finally, category 4 describes countries where the Catholic community represents such a large part of the population that the literature describes them as "dominated" by the Catholics (i.e. other religious groups are rare).

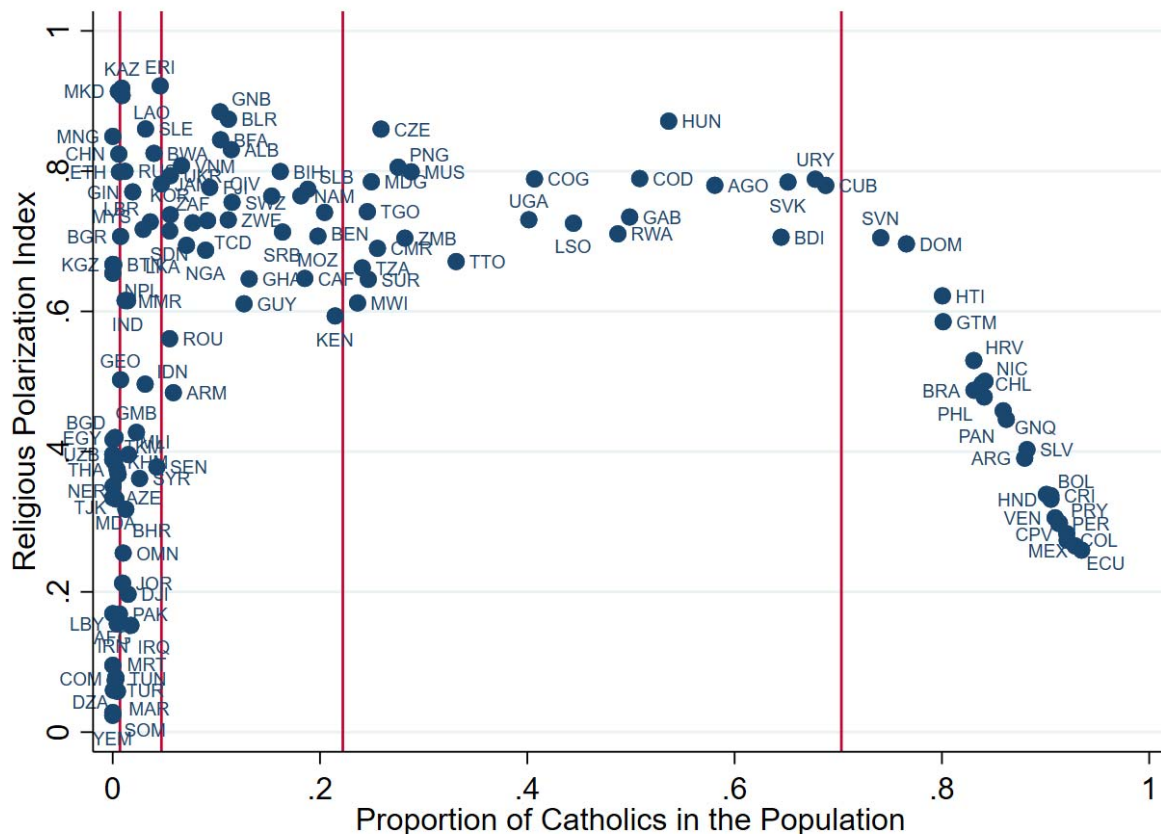
We estimate the CATE by interacting the treatment variable with the proportion of Catholics. We obtain the effect of papal visits on the risk of conflict over five years (i.e. from T to T+4 after a visit) depending on the religious structure of the countries. The results are reported in **Table 6** and **Figure 5**. In **Figure 5**, we can see that there is a sudden rise in the risk of conflict two years after a visit to category 2, 3 and 4 countries (i.e. where Catholics represent more than 4.7% of the population). In column (3) of **Table 6**, we see that this increase is only significant for category 3 countries. It corresponds to an increase of approximately 19% in the risk of conflict compared to a situation where they would not have been visited. In Category 4 countries, fourth (4) row of **Table 6** indicates that papal visits significantly reduce the risk of conflict by 3.3 pp. in T+1, 2 pp. in T+3 and 3.2 pp. in T+4.

The highest levels of religious polarization are observed in category 2 and 3 countries (see **Table 5**). In category 2 countries, Catholics are a minority group, while there form a majority group in category 3 countries. Pope’s trips have no significant effect on the risk of conflict in category 2 countries. Conversely, category 3 countries experience significant variations in the risk of conflict between 2 and 4 years after a visit (see columns 3 to 5 of **Table 6**). The

momentary increase of 3 pp. in the risk two years after a visit (T+2) is followed by a two consecutive decreases of 3.2 pp. in T+3 and 2.2pp. in T+4.

In category 0 and 1 countries, Catholics are a small minority group (1), or almost absent from the population (0). **Figure 5** shows that the local projections of the results for categories 0 and 1 have a relatively similar curvilinear shape up to three years after a papal visit. Column (1) of **Table 6** indicates that these countries experience a direct and significant reduction in the risk of conflict during the year of a papal visit (the risk of conflict falls respectively by 8 pp. and 5 pp.). A second significant pacification effect is observed three years after a visit; column (4) shows an average decrease of 10.4 pp. for category 0 countries and 8.7 pp. for category 1 countries. This corresponds respectively to a reduction of 41.1% and 36.4% of the risk of conflict compared to a situation where they would not have hosted the Pope.

Figure 4: Average religious polarization and proportion of Catholics in the population (1971-2005)



Note: Red lines represent the four quantiles (i.e. 20%, 40%, 60%, and 80%); labels are ISO-3 country codes.

Source: Author's compilation using the World Religion Project Dataset.

Table 5: Description of the categories

Category	Proportion of Catholics		Religious Polarization		Conflicts	Observations
	Min	Max	Mean	Std. Dev.	Mean*	
0	0%	0.70%	0.321	0.273	0.253	759
1	0.70%	4.70%	0.555	0.255	0.239	759
2	4.70%	22.20%	0.722	0.095	0.161	759
3	22.20%	70.30%	0.748	0.073	0.157	760
4	70.30%	97.10%	0.42	0.175	0.206	760

*: from the political conflict risk index.

Source: Authors' compilation using the World Religion Project Dataset.

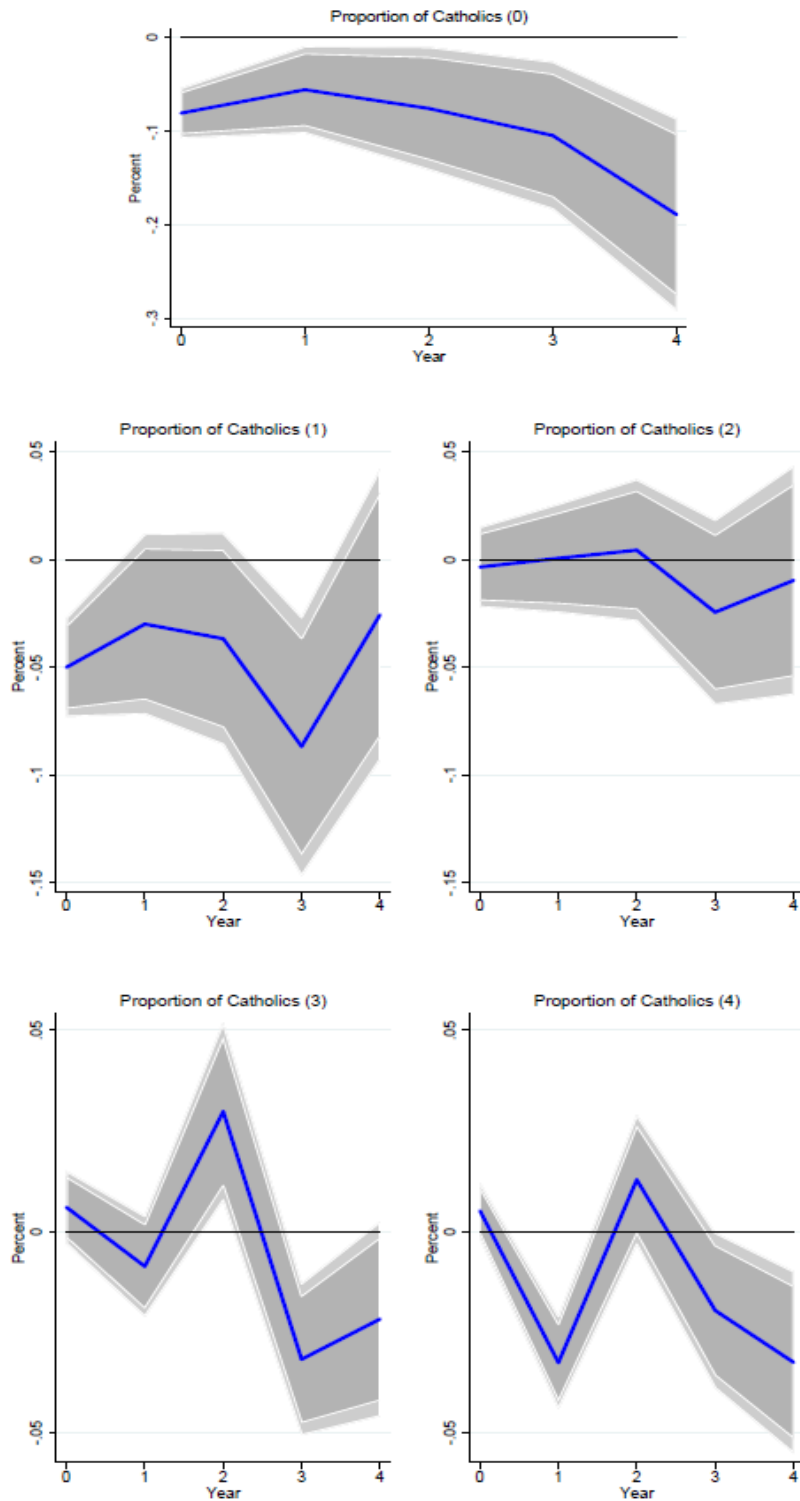
Table 6: CATE of papal visits

	(1) Year t	(2) Year t+1	(3) Year t+2	(4) Year t+3	(5) Year t+4
CATE 0 (Catholics<0.7%)	-0.080*** (0.014)	-0.055* (0.024)	-0.075* (0.033)	-0.104* (0.040)	-0.189** (0.052)
Observations	567	537	510	481	454
Country F.E.	x	x	x	x	x
CATE 1 (0.7%≤Catholics<4.7%)	-0.050*** (0.012)	-0.030 (0.021)	-0.037 (0.025)	-0.087*** (0.031)	-0.026 (0.034)
Observations	614	590	568	549	528
Country F.E.	x	x	x	x	x
CATE 2 (4.7%≤Catholics<22.2%)	-0.003 (0.009)	0.001 (0.013)	0.004 (0.017)	-0.024 (0.022)	-0.010 (0.027)
Observations	620	597	574	549	522
Country F.E.	x	x	x	x	x
CATE 3 (22.2%≤Catholics<70.3%)	0.006 (0.005)	-0.009 (0.006)	0.030** (0.011)	-0.032*** (0.010)	-0.022* (0.012)
Observations	621	589	560	531	504
Country F.E.	x	x	x	x	x
CATE 4 (70.3%≤Catholics<97.1%)	0.005 (0.003)	-0.033*** (0.006)	0.013 (0.008)	-0.020* (0.010)	-0.032*** (0.012)
Observations	610	591	571	551	531
Country F.E.	x	x	x	x	x

Notes: ***/**/*: $p < 0.01/0.05/0.10$. Standard errors (clustered at the country level) in parentheses. Controls: yearly changes from t-1 to t-4 in y, autocracy level, factional democracy level, value of oil and gas exports, development indicator and conflicts in the neighboring countries; mean value during the four previous years of oil and gas exports, development, factional democracy and autocracy; yearly changes from t to t-4 in SPEI index; religious structure; country fixed effects (F.E.).

Source: Authors' compilation.

Figure 5: Local projections for each category of religious structure



Notes: Local projections (blue lines), 95% and 90% confidence intervals (soft and dark gray band) are based on the results presented in Table 6; the ATE is negative (positive) and significant when the local projection and the confidence intervals are all below (above) zero.

Source: Author's compilation.

5. Robustness Checks

5.1 Omitted Variables

Papal travels only explain variations in the risk of conflict if they are correlated with variations of independent variables present in our forecasting model (i.e. the model from which we get our political conflict risk index) and not controlled for in our local projection model. This means that omitting a variable correlated to papal visits and conflicts in our forecasting model could bias our results. Although we get good prediction and classification statistics according to the literature, we may have overlooked some of the channels through which religion is associated with conflict, like a particular institutional system (De Soysa, 2002) or natural battle lines between religious communities (Huntington, 1996). In the columns (2) to (5) of the **Table A1**, we present the results of our forecasting model when we add several commonly used religious controls. We add the proportion of Catholics in the population in column (2), an interaction between the proportion of Christians and the proportion of Muslims in column (3), and the level of religious polarization and fractionalization of Alesina and al. (2003) in column (4) and (5). We also examine the correlation of Papal visits and religious variables with the Pearson residuals of our forecasting model. The results are presented in **Table 7**. The additional religious variables have no significant effect on the risk of UCDP-PRIO conflict and are not correlated with the residuals of our forecasting model. The dummy variable indicating the years of John Paul II's travels is also not correlated with the residuals. These results therefore greatly reduce concerns about potential omitted variables, particularly those related to the religious context.

Table 7: Correlation with standardized Pearson residuals

	Coefficient	P-values	Observations
Papal Visits	-0.020	0.225	3808
Proportion of Catholics	0.004	0.809	3798
Proportion of Muslims	0.013	0.436	3798
Proportion of Christians	-0.001	0.871	3798
Religious Polarization	0.001	0.935	3798
Religious Fractionalization	-0.016	0.329	3808

Note: Pearson standardized residuals (i.e. the standardized difference between the observed frequency and the predicted frequency) of the model used to estimate the political conflict risk index. A significant correlation indicates misspecifications.

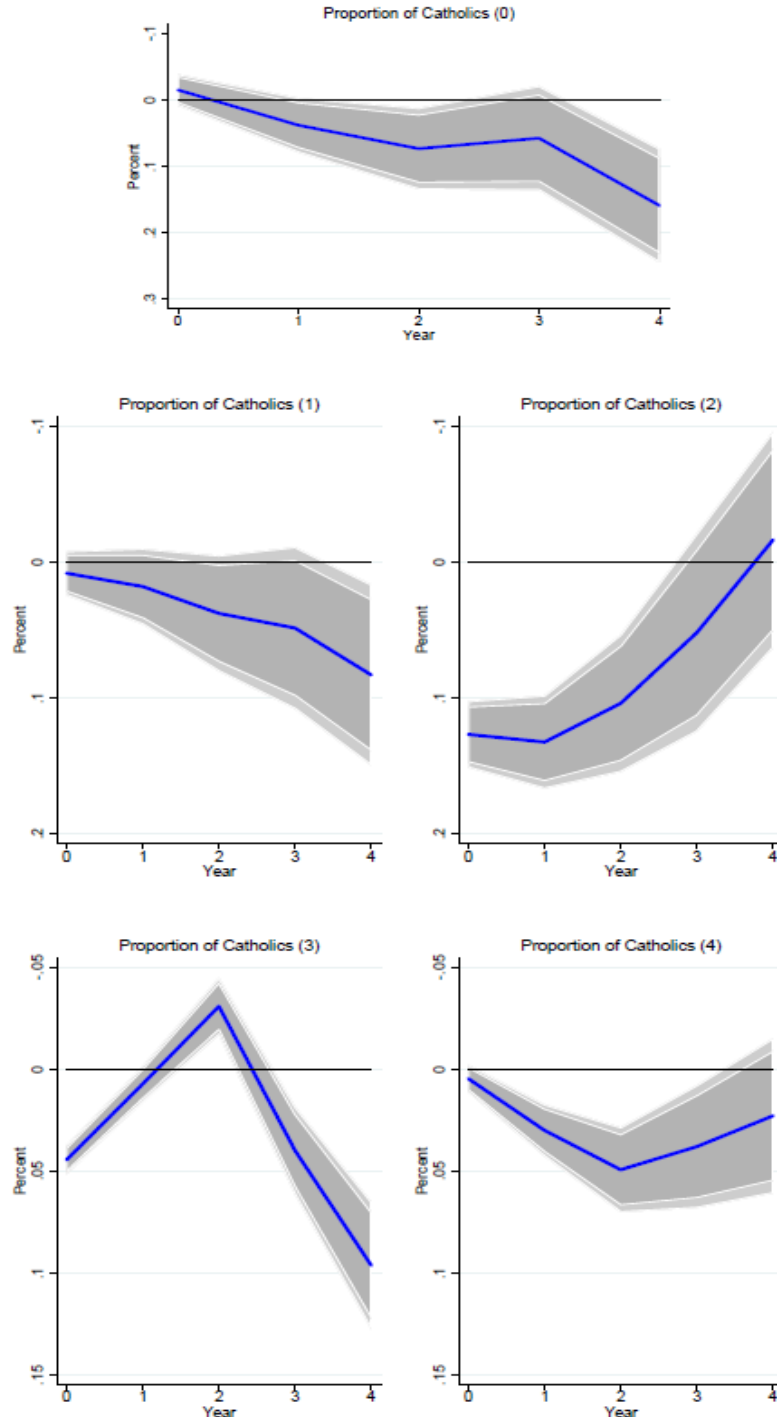
Source: Authors' compilation using the World Religion Project Dataset for religious groups' size and religious polarization variables, and the religious fractionalization variable of Alesina and al. (2003).

5.2 Alternative Dependent Variable

We reproduce our CATE model using an external source to measure the risk of political conflict. We use the index of internal conflict risk developed by the PRS group as a component of the International Country Risk Guide (ICRG) rating. This index is defined on a scale from 0 to 12 (then rescaled to vary in the range [0, 1]), where highest ratings correspond to countries experiencing no armed or civil opposition to the government and where governments are not actors of arbitrary violence against the population. Lowest ratings correspond to countries involved in an on-going civil war. Although this index is not available for years prior to 1984, the results reported in **Figure 6** are generally consistent with those of our model. They also point to a statistically significant increase in the risk in T+2 for polarized countries (with a similar magnitude of 3.1 pp.) and for a diminution in the risk in the other cases (again, particularly affecting category 0 countries). We note, however, two differences. First, while our model find weak evidence of a momentary increase in the risk of conflict for countries with a large majority of Catholics (4th category), the results rather suggest that these countries will face a lower risk. Secondly, we find a statistically significant general reduction of the risk for category 2 countries while our model was rather pointing towards non-significant effects. These differences have no impact on our conclusions and

rather confirm that measures of religious minority and majority that are too broad and might miss the indirect effect of religious demography on the risk of political conflict.

Figure 6: Local projections for each category of religious structure (ICRG data)



Notes: Local projections (blue lines), 95% and 90% confidence intervals (soft and dark gray band) are based on the results presented in online Appendix G; the ATE is negative (positive) and significant when the local projection and the confidence intervals are all below (above) zero; a larger index indicates more stability; ordinate axis' order is inverted to simplify comparisons with other figures.

Source: Author's compilation.

6. Discussion and Concluding Remarks

Before discussing the results of this study, several caveats should be made about its scope. Indeed, using a composite conflict risk index as a dependent variable is a double-edged sword. On the one hand, it provides a more detailed assessment of the evolution of political tensions over time than the use of a binary conflict variable would allow. On the other hand, it provides little guidance on the conflict actors' motivations. Nevertheless, it contributes to the literature on the link between religion and conflict by offering a methodology to investigate the timing of politico-religious violence and providing robust evidence that religious leaders' efforts in peacebuilding affects the risk of conflict.

The results of this study show that Pope John Paul II's trips reduce on average the risk of political conflict during the year of his displacement and in the medium term. This decline reaches approximately 9% during the year of the visit and the next one. It reaches 20% after three to four years. This suggests that religious leaders involved in peacebuilding activities can have an impact on the risk of political violence. We stay cautious on a systematic explanation of this causal effect, which appears to be heterogeneous depending on the religious demography of the host country (i.e. the proportion of Catholics in the population). Indeed, the effect's magnitude and sign appear to be linked to the level of religious polarization between the main recipients of the visit (i.e. the Catholics) and the rest of the population. When the level of religious polarization is high, papal visits increase the risk of political conflict by up to 19.5% after two years. When this level is low, the risk is demeaned by up to 36.4% in countries where Catholics are a religious minority, and 16% when Catholics are a very large majority. Finally, when there are almost no Catholics in the population, a large and continuous reduction of the risk is observed over time and reaches 75% four years after a visit. At first glance, it may seem surprising that countries that are the most affected by the Pope's visits are the ones with the least Catholics. However, the diplomatic issues related to papal visits should not be overlooked since the Pope is also a Head of State (Malis and Smith, 2020). For example, these countries may be willing to strengthen their image and international relations, particularly with Christian countries. The international visibility they obtain could encourage them to reduce the number of conflicts in the territory.

The results presented here shed light on one of the ways religious polarization indirectly influences the risk of conflict. Compared to other religious structures, the risk of political

conflict in polarized countries is more likely to be positively affected by shocks highlighting the religion of one of the two majority groups. In these countries we find little evidence of a continuous increase in grievances against the government. Since the response to the shock is brief and independent from the direct effect of the religious demographic structure on the risk of conflict, it would rather suggest a reuse of religious issues at a time deemed opportune. For example, there is sometimes a surge in religious issues during electoral periods in polarized countries. This increase leads to violent events which are not always caused by an increase in pre-existing tensions between religious groups but by the current political stake (Platteau, 2011; Iyer and Shrivastava, 2018).

Our results also suggest that the usual categorization of religious groups as either "minorities" and "majorities" might be too broad to fully assess the link between political conflict and religion. Although we observe a similar evolution of the risk of political conflict for countries where Catholics can be broadly considered a "minority group" (i.e. less than 25% of the population), the coefficients magnitude and significance vary depending on the size of the so-called minority (i.e. less or more than 5% of the population). The same variations are found for countries with a Catholic majority. A possible explanation is provided by Fox (2003), who finds that local religious institutions tend to facilitate social unrest if grievances have a religious importance, and inhibit them in the opposite case. Political grievances may more often present a religious importance in polarized countries since the political arena is rarely neutral concerning religion. In highly Catholic countries, religious grievances could be less common following papal visits because these events have little effect on the status quo. Ensuing demonstrations or conflicts could constitute historical exceptions in these countries. For example, five years after his 1981 travel to Philippines, the Cardinal Jaime Sin organized a campaign of pacific revolt that led to the resignation of the dictator Ferdinand Marcos. In Haiti, the Christian radio station "Radio Soleil" became popular by diffusing the messages of John Paul II during his visit in 1983. The station quickly became a symbol of a Haitian spirituality that was endangered by the dictatorship of the Duvalier dynasty. After its censorship by the government, it fueled a series of social unrest that led to the collapse of the authoritarian regime in 1986. Given the heterogeneity of the contexts, it would be interesting to carry out context-specific studies.

*Annex***Table A1: Political risk Index - Table of results**

	Conflict Incidence (UCDP-PRIO)				
	(1)	(2)	(3)	(4)	(5)
Minor Conflict	3.376*** (0.269)	3.382*** (0.272)	3.372*** (0.272)	3.379*** (0.267)	3.353*** (0.266)
Major Conflict	4.853*** (0.239)	4.831*** (0.236)	4.838*** (0.240)	4.842*** (0.242)	4.859*** (0.238)
Neighboring Minor Conflict	0.579*** (0.204)	0.581*** (0.203)	0.559*** (0.205)	0.578*** (0.208)	0.562*** (0.208)
Neighboring Major Conflict	0.651*** (0.197)	0.665*** (0.193)	0.628*** (0.195)	0.650*** (0.198)	0.662*** (0.196)
Social Unrest	0.084*** (0.024)	0.084*** (0.024)	0.086*** (0.024)	0.084*** (0.023)	0.083*** (0.024)
Level of Development	-0.349*** (0.081)	-0.349*** (0.084)	-0.341*** (0.084)	-0.348*** (0.080)	-0.340*** (0.082)
Oil/Gas Exports	0.026* (0.014)	0.024* (0.014)	0.025* (0.015)	0.026* (0.013)	0.024* (0.013)
Factional Democracy	0.385* (0.229)	0.389* (0.229)	0.407* (0.229)	0.394* (0.231)	0.389* (0.233)
Autocracy	-0.380** (0.185)	-0.355** (0.180)	-0.364** (0.182)	-0.372** (0.178)	-0.349** (0.177)
Catholics (%pop)		0.129 (0.346)			
Christians (%pop)			0.130 (0.428)		
Muslims (%pop)			0.158 (0.391)		
Christians x Muslims			2.258 (1.689)		
Religious Polarization				0.041 (0.359)	
Religious Fractionalization					-0.460 (0.324)
Constant	-4.029*** (0.458)	-4.058*** (0.480)	-4.261*** (0.549)	-4.048*** (0.524)	-3.794*** (0.460)
Pseudo R ²	0.57	0.56	0.57	0.56	0.57
Regional Dummies	x	x	x	x	x
Year FE	x	x	x	x	x
Hosmer Lemeshow p.val	0.89	0.82	0.45	0.89	0.55
Pearson Chi-Square p.val	0.49	0.47	0.64	0.52	0.48
Observations	3808	3798	3798	3798	3808

Notes: ***/**/*: p < 0.01/0.05/0.10. Results were estimated using logistic regression where all control variables present a one year lag. Robust standard errors (in parentheses) are clustered at the country-level and coefficients are in log-odds units. The model was selected according to the Akaike information criterion and the shrinkage statistics (Bilger and Manning, 2015).

Source: Author's compilation.

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RELIGIOUS AUTHORITIES, PEACE, AND POLITICAL CONFLICT: ASSESSING THE IMPACTS OF POPE JOHN PAUL II'S INTERNATIONAL TRAVELS

ONLINE APPENDICES

DESCRIPTION

This appendix consists of alternative tables, figures and robustness checks mentioned in “Religious Authorities, Peace, and Political Conflict: Assessing the Impacts of Pope John Paul II's International Travels”.

ALTERNATIVE TABLES AND FIGURES

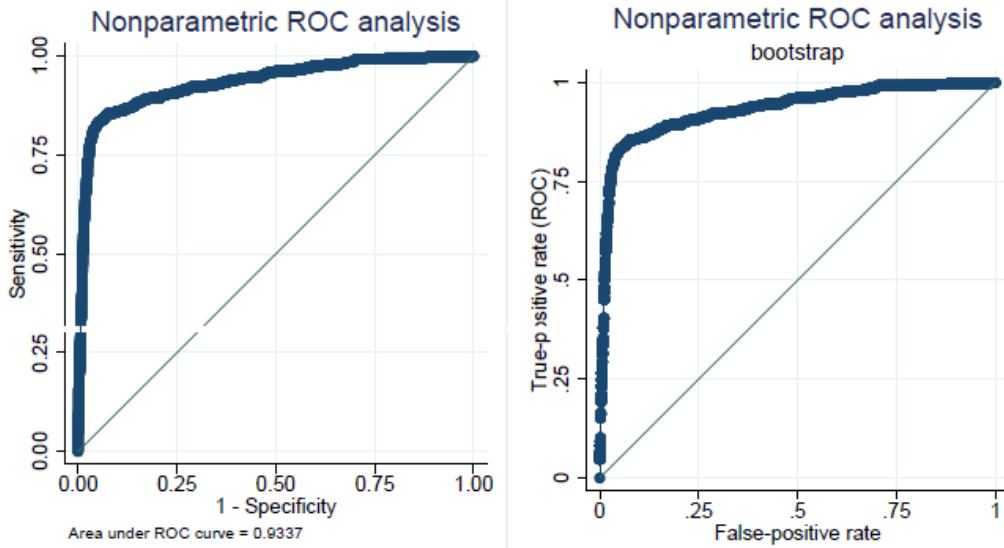
Appendix A: country list

Afghanistan	Czech Republic **	Laos	Rwanda *
Albania *	Democratic Republic of the Congo **	Lebanon	Senegal *
Algeria	Djibouti	Lesotho *	Sierra Leone
Angola *	Dominican Republic ***	Liberia	Slovakia **
Argentina *	Ecuador *	Libya	Slovenia **
Armenia *	Egypt *	Macedonia	Solomon Islands *
Azerbaijan *	El Salvador **	Madagascar *	Somalia
Bahrain	Equatorial Guinea	Malawi *	South Africa *
Bangladesh *	Eritrea	Malaysia	South Korea *
Belarus	Ethiopia	Mali *	Sri Lanka *
Benin **	Fiji *	Mauritania	Sudan *
Bhutan	Gabon *	Mauritius *	Suriname
Bolivia *	Gambia *	Mexico *****	Swaziland *
Bosnia and Herzegovina ***	Georgia *	Moldova	Syria *
Botswana *	Ghana *	Mongolia	Tajikistan
Brazil ****	Guatemala ***	Morocco *	Tanzania *
Bulgaria *	Guinea *	Mozambique *	Thailand *
Burkina Faso **	Guinea-Bissau *	Myanmar	Togo *
Burundi *	Guyana	Namibia	Trinidad and Tobago *
Cambodia	Haiti *	Nepal	Tunisia *
Cameroon **	Honduras	Nicaragua **	Turkey *
Cape Verde *	Hungary **	Niger	Turkmenistan
Central African Republic *	India **	Nigeria **	Uganda *
Chad *	Indonesia *	Oman	Ukraine *
Chile *	Iran	Pakistan *	Uruguay **
China	Iraq	Panama *	Uzbekistan
Colombia *	Ivory Coast ***	Papua New Guinea **	Venezuela **
Comoros	Jamaica *	Paraguay *	Vietnam
Congo *	Jordan *	Peru **	Yemen
Costa Rica *	Kazakhstan *	Philippines *	Yugoslavia/Serbia
Croatia ***	Kenya **	Romania *	Zambia *
Cuba *	Kyrgyzstan	Russia	Zimbabwe *

Note: Each * represents a visit of Pope John Paul II.

Source: Author's compilation using information from the Holy See's official website.

Appendix B: predictive power of the model based on the Receiver Operating Characteristics (ROC)



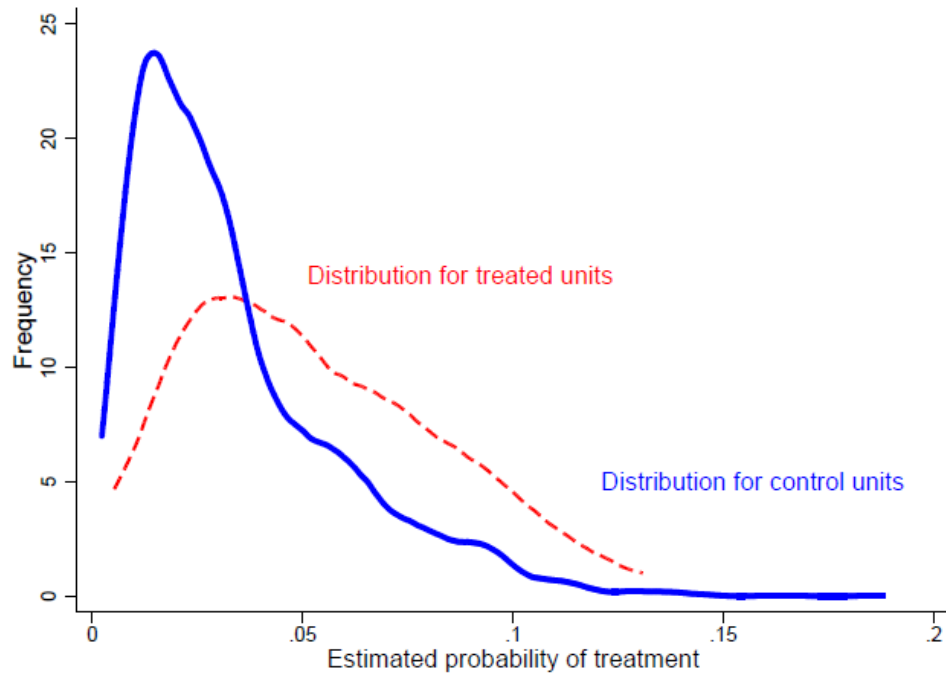
Source: Author's compilation.

Appendix C: treatment model - table of results

	(1) Treatment (t)
College of Cardinals (Lagged)	0.411* (0.217)
Embassies	0.648** (0.272)
Total Papal Visit	0.456*** (0.108)
Total Papal Visit sq.	-0.040*** (0.012)
Not Fair Election (4 prev. years mean)	-0.795 (0.586)
Election (lagged)	-0.022 (0.234)
Interstate Conflicts Magnitude for all Regional States (Lagged)	-0.010 (0.028)
Ruggedness (Terrain Ruggedness Index, 100 m.)	-0.103 (0.117)
Logarithm of the Population Size (Lagged)	-0.013 (0.101)
Presence of Lootable Diamonds	-0.262 (0.235)
SPEI (4 prev. years mean)	-0.013 (0.225)
Political conflict risk index controls:	
<i>Development (4 prev. years mean)</i>	-0.161 (0.101)
<i>Factional Democracy (4 prev. years mean)</i>	-0.385 (0.329)
<i>Value of the Oil/Gas Exports (4 prev. years mean)</i>	0.010 (0.018)
<i>Autocracy (4 prev. years mean)</i>	0.042 (0.275)
<i>Africa</i>	-0.505 (0.308)
<i>Asia</i>	-0.569 (0.400)
<i>Europe</i>	0.614 (0.388)
<i>Middle East</i>	-1.199** (0.493)
Constant	-4.029*** (1.484)
Observations	3332
Model AUC	0.703

Notes: *p<0.1, **p<0.05 and ***p<0.01. Results were estimated using Poisson regression by pseudo maximum likelihood. Treatment (t) is a dummy variable indicating a visit of John Paul II.

Source: Author's compilation.

Appendix D: overlap check

Notes: The probability of treatment is low because Papal visits are rare events. As suggested by the literature on P-score weighting in the presence of such variables, we use stabilized weights to take into account the real proportion of Papal visits in our sample.

Source: Author's compilation.

Appendix E: balance check

	Treated Variance	Control Variance	Standardized Diff.	Variance Ratio
Non-Weighted				
Cardinals	0.252	0.221	0.367	1.139
Embassies	0.185	0.241	0.394	0.766
Total Papal Visit sq.	670.54	737.942	0.11	0.909
Total Papal Visit	6.004	8.401	0.239	0.715
Not Fair Election (4 prev. years mean)	0.027	0.036	0.037	0.745
Election	0.182	0.182	0.007	1
Magnitude of Regional Conflicts	9.878	17.986	0.154	0.549
Rough Terrain	0.883	1.481	0.139	0.596
Population	2.175	2.415	0.137	0.901
Lootable Diamond	0.218	0.215	0.005	1.012
Development (4 prev. years mean)	2.66	2.175	0.11	1.223
SPEI (4 prev. years mean)	0.263	0.204	0.025	1.288
Factional Democracy (4 prev. years mean)	0.091	0.101	0.049	0.898
Oil/Gas Exports (4 prev. years mean)	50.097	53.701	0.131	0.933
Autocracy (4 prev. years mean)	0.187	0.203	0.094	0.92
Region=Africa	0.232	0.232	0.013	1.001
Region=Asia	0.109	0.157	0.2	0.69
Region=Europe	0.115	0.076	0.158	1.52
Region=Middle East	0.058	0.119	0.258	0.488
Weighted				
Cardinals	0.226	0.223	0.008	1.014
Embassies	0.236	0.24	0.075	0.983
Total Papal Visit sq.	903.458	732.389	0.036	1.234
Total Papal Visit	8.443	8.331	0.043	1.013
Not Fair Election (4 prev. years mean)	0.029	0.036	0.118	0.818
Election	0.182	0.182	0.006	1.001
Magnitude of Regional Conflicts	9.78	17.765	0.154	0.55
Rough Terrain	1.541	1.462	0.034	1.054
Population	2.641	2.399	0.04	1.101
Lootable Diamond	0.22	0.215	0.017	1.022
Development (4 prev. years mean)	2.068	2.193	0.015	0.943
SPEI (4 prev. years mean)	0.236	0.204	0.201	1.158
Factional Democracy (4 prev. years mean)	0.094	0.101	0.059	0.927
Oil/Gas Exports (4 prev. years mean)	50.489	53.688	0.003	0.94
Autocracy (4 prev. years mean)	0.179	0.203	0.123	0.884
Region=Africa	0.24	0.232	0.049	1.034
Region=Asia	0.149	0.156	0.033	0.956
Region=Europe	0.08	0.077	0.011	1.041
Region=Middle East	0.131	0.117	0.051	1.119

Notes: Variance of the treated and the control groups, standardized mean differences and variance ratio of the two groups with and without AIPW weights. Imbalance is characterized by a standard difference value greater than 0.25, and/or a ratio of the variances of the treated group and of the control group greater than 2 or less than 0.5; equilibrium is defined by a ratio close to 1 (Rubin, 2001).

Source: Author's compilation.

Appendix F: summary statistics and unit root tests

Variable	Mean	Std. Dev.	Obs	Min	Max	Statistic	P-value
Forecasting Model							
Conflict UCDP-PRIO	0.205	0.404	3808	0.000	1.000	-	-
Minor conflict	0.049	0.216	3808	0.000	1.000	-	-
Major conflict	0.155	0.362	3808	0.000	1.000	-	-
Neighboring conflict	1.104	0.820	3808	0.000	2.000	-	-
Social Unrest	1.400	3.602	3808	0.000	49.000	-	-
Development	-0.031	1.500	3808	-2.439	4.974	-	-
Oil/gas exports	7.078	7.334	3808	0.000	20.228	-	-
Factional Democracy	0.141	0.348	3808	0.000	1.000	-	-
Autocracy	0.336	0.472	3808	0.000	1.000	-	-
Predicted political conflicts	0.205	0.323	3808	0.002	0.998	-	-
Baseline model							
Conflict risk (t)	-0.000	0.182	3670	-0.873	0.907	147.422	0.000
Conflict risk (t+1)	0.001	0.216	3533	-0.903	0.950	135.415	0.000
Conflict risk (t+2)	0.004	0.235	3404	-0.910	0.958	46.975	0.000
Conflict risk (t+3)	0.005	0.258	3276	-0.924	0.939	29.994	0.000
Conflict risk (t+4)	0.007	0.269	3149	-0.932	0.907	40.075	0.000
Change in Conflict Risk	-0.000	0.182	3670	-0.873	0.907	147.422	0.000
Change in Autocracy	-0.011	0.185	3800	-1.000	1.000	40.144	0.000
SPEI	-0.092	0.785	3743	-3.979	3.567	60.747	0.000
Change in Oil/Gas Exports	0.098	0.897	3807	-9.030	13.627	28.995	0.000
Change in Factional Democracy	-0.000	0.187	3800	-1.000	1.000	30.985	0.000
Change in Development	0.044	0.048	3807	-0.164	0.280	6.344	0.000
Change in Neighbors Conflicts	-0.014	0.515	3807	-2.000	2.000	111.986	0.000
Oil/Gas Exports (4 prev. years mean)	6.952	7.270	3734	0.000	20.165	10.189	0.000
Development (4 prev. years mean)	-0.052	1.471	3448	-2.422	4.845	36.347	0.000
Factional Democracy (4 prev. years mean)	0.138	0.314	3726	0.000	1.000	17.351	0.000
Autocracy (4 prev. years mean)	0.355	0.455	3726	0.000	1.000	7.764	0.000
Treatment model							
Cardinals	0.323	0.468	3808	0.000	1.000	-	-
Vatican Embassies	0.538	0.492	3808	0.000	1.000	-	-
Total Papal Visit sq.	23.984	28.995	3808	0.000	121.000	-	-
Total Papal Visit	3.858	3.017	3808	0.000	11.000	-	-
Not Fair Election (4 prev. years mean)	0.171	0.187	3716	0.000	0.750	-	-
Election	0.235	0.424	3808	0.000	1.000	-	-
Magnitude of Regional Conflicts	1.868	4.121	3755	0.000	24.000	-	-
Rough Terrain	1.304	1.206	3808	0.115	6.740	-	-
Population	15.897	1.594	3808	12.269	20.968	-	-
Lootable Diamonds	0.308	0.462	3808	0.000	1.000	-	-
SPEI (4 prev. years mean)	-0.092	0.450	3677	-1.862	1.681	-	-
Africa	0.373	0.484	3808	0.000	1.000	-	-
Asia	0.192	0.394	3808	0.000	1.000	-	-
Europe	0.087	0.281	3808	0.000	1.000	-	-
Middle East	0.131	0.338	3808	0.000	1.000	-	-

Note: Unit root results are obtained using Fisher-type tests with Augmented Dicker-Fuller and Choi's modified version of the inverse chi-squared transformation.

Source: Author's compilation.

Appendix G: average treatment effect of papal visits using ICRG data

	(1)	(2)	(3)	(4)	(5)
	Year t	Year t+1	Year t+2	Year t+3	Year t+4
CATE 0	-0.015 (0.012)	-0.038* (0.021)	-0.074** (0.031)	-0.058 (0.040)	-0.159*** (0.044)
Observations	230	212	194	178	164
Country F.E.	x	x	x	x	x
CATE 1	0.008 (0.008)	0.018 (0.014)	0.038* (0.022)	0.049 (0.030)	0.083** (0.034)
Observations	331	313	295	278	259
Country F.E.	x	x	x	x	x
CATE 2	0.127*** (0.012)	0.132*** (0.017)	0.104*** (0.026)	0.052 (0.037)	-0.016 (0.040)
Observations	293	275	255	235	216
Country F.E.	x	x	x	x	x
CATE 3	0.044*** (0.004)	0.007 (0.004)	-0.031*** (0.007)	0.040*** (0.011)	0.096*** (0.016)
Observations	301	278	257	236	216
Country F.E.	x	x	x	x	x
CATE 4	0.005 (0.003)	0.030*** (0.006)	0.049*** (0.011)	0.038** (0.015)	0.023 (0.019)
Observations	321	303	284	267	250
Country F.E.	x	x	x	x	x

Notes: Each CATE's number corresponds to a category of religious structure. Standard errors (clustered at the country level) are in parentheses. ***/**/* Indicate $p < 0.01/0.05/0.10$. Controls: changes from t-1 to t-4 in y, autocracy level, factional democracy level, value of oil and gas exports, development indicator, conflicts in the neighboring countries, and number of Catholics; mean value during the four previous years of oil and gas exports, development, factional democracy and autocracy; changes from t to t-4 in SPEI index; religious structure; country fixed effects (Country F.E.).

Source: Author's compilation.

Appendix H: average treatment effect of papal visits for different specifications of the lags

	(1)	(2)	(3)	(4)	(5)	(6)
	1 lag	2 lags	3 lags	4 lags	5 lags	6 lags
ATE (T)	-0.013*** (0.003)	-0.010*** (0.003)	-0.017*** (0.003)	-0.018*** (0.004)	-0.019*** (0.003)	-0.020*** (0.003)
Observations	3320	3298	3170	3042	2914	2786
Country F.E.	x	x	x	x	x	x
ATE (T+1)	-0.007 (0.005)	-0.004 (0.005)	-0.016*** (0.005)	-0.020*** (0.006)	-0.021*** (0.006)	-0.019*** (0.005)
Observations	3190	3168	3041	2914	2787	2659
Country F.E.	x	x	x	x	x	x
ATE (T+2)	0.012 (0.007)	0.013* (0.007)	0.000 (0.008)	-0.005 (0.008)	-0.006 (0.008)	-0.008 (0.008)
Observations	3067	3045	2919	2793	2665	2537
Country F.E.	x	x	x	x	x	x
ATE (T+3)	-0.026*** (0.009)	-0.023** (0.009)	-0.039*** (0.010)	-0.043*** (0.010)	-0.047*** (0.010)	-0.043*** (0.010)
Observations	2944	2923	2798	2671	2543	2417
Country F.E.	x	x	x	x	x	x
ATE (T+4)	-0.024** (0.012)	-0.021* (0.012)	-0.037*** (0.012)	-0.042*** (0.013)	-0.045*** (0.013)	-0.040*** (0.012)
Observations	2824	2803	2677	2549	2423	2296
Country F.E.	x	x	x	x	x	x

Notes: Standard errors (clustered at the country level) in parentheses. ***/**/* Indicate $p < 0.01/0.05/0.10$.

Controls: changes from t-1 to t-4 in y, autocracy level, factional democracy level, value of oil and gas exports, development indicator and conflicts in the neighboring countries; mean value during the four previous years of oil and gas exports, development, factional democracy and autocracy; changes from t to t-4 in SPEI index; country fixed effects (Country F.E.).

Source: Author's compilation.

Appendix I: conditional average treatment effects of papal visits controlling for variations in the number of Catholics

	(1)	(2)	(3)	(4)	(5)
	Year t	Year t+1	Year t+2	Year t+3	Year t+4
CATE 0	-0.073*** (0.013)	-0.050* (0.024)	-0.073* (0.034)	-0.092* (0.040)	-0.192*** (0.053)
Observations	567	537	510	481	454
Country F.E.	x	x	x	x	x
CATE 1	-0.058*** (0.012)	0.015 (0.022)	-0.032 (0.026)	-0.082** (0.032)	-0.027 (0.035)
Observations	610	586	564	545	524
Country F.E.	x	x	x	x	x
CATE 2	-0.004 (0.009)	0.000 (0.013)	0.003 (0.017)	-0.025 (0.022)	-0.010 (0.027)
Observations	620	597	574	549	522
Country F.E.	x	x	x	x	x
CATE 3	0.006 (0.005)	-0.009 (0.006)	0.030** (0.011)	-0.031*** (0.010)	-0.022* (0.012)
Observations	621	589	560	531	504
Country F.E.	x	x	x	x	x
CATE 4	0.006 (0.003)	-0.032*** (0.006)	0.013 (0.008)	-0.019* (0.010)	-0.032*** (0.012)
Observations	610	591	571	551	531
Country F.E.	x	x	x	x	x

Notes: Each CATE's number corresponds to a category of religious structure. Standard errors (clustered at the country level) are in parentheses. ***/**/* Indicate $p < 0.01/0.05/0.10$. Controls: changes from t-1 to t-4 in y, autocracy level, factional democracy level, value of oil and gas exports, development indicator, conflicts in the neighboring countries, and number of Catholics; mean value during the four previous years of oil and gas exports, development, factional democracy and autocracy; changes from t to t-4 in SPEI index; religious structure; country fixed effects (Country F.E.).

Source: Author's compilation.

ALTERNATIVE ROBUSTNESS CHECKS

Changes in the Number of Lags

We test the sensitivity of the baseline results to the inclusion of different lags of the risk of political conflict and controls. The results, presented in **Online Appendix H**, show that the point estimates are stable for lags superior to 3 but are statistically different from each other when we compare estimations with one or two lags and estimations with a higher number of lags. This difference slightly affects the significance level and the magnitude of the coefficients but leaves unchanged our main conclusions on the sign of papal travels' effects. Indeed, the observed differences may come from inaccuracies inherent to the use of a smaller number of lags. The fact that the coefficients are similar for a number of lags equal or superior to the one used in our preferred model (i.e. 4 lags) indicates that adding more information on past variations in the risk of conflict doesn't influence our results.

Papal Visits and Subsequent Changes in the Catholic Demography

Papal visits may affect the national religious structure through its influence on birth rate, Catholic conversions, or people declaring themselves Catholics (Bassi and Rasul, 2017). In our empirical strategy, we interact papal visits with a broad categorical indicator of the proportion of Catholics and, therefore, already control for changes in the risk of conflict associated with large demographic variations. Smaller changes, however, may have been ignored. We test this possibility by controlling for past and contemporaneous variations (from $t-4$ to t) in the total number of Catholics in the population (in logarithm) in our model estimating the CATEs. We present the result in **Online Appendix I**. This modification hardly changes our resultsⁱ and has no effect on the magnitude and significance of the peak observed in $T+2$ for category 3 countries.

Regional Effects

Some regions of our sample as well as the very special period that we are studying could influence our results. For example, they might be driven by African countries since they are overrepresented in categories 2 (57.44%) and 3 (69.47%). We reproduce our model adding regional indicators for Sub-Saharan Africa, Middle East, Latin America, Europe and Asia. Our results remain unchanged and are available on request. John Paul II was also involved in

the fall of the Soviet Union (Troy, 2018). The effects that we observe could be driven by this influence specific to communist countries (although we control a certain number of political characteristics and withdraw Poland of our sample).ⁱⁱ We reproduce our model adding separately a dummy variable indicating Eastern Bloc countries (before 1991), and a dummy variable for the Cold War period. Again, our coefficients remain unchanged and the results are available on request.

ENDNOTES

ⁱ We also note that removing fixed effects does not change our coefficients. These results are available on request.

ⁱⁱ Alongside the Church, John Paul II supported the resistance of the population to the communist regime of Wojciech Jaruzelski in Poland.

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