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## Habemus Papam? Polarization and Conflict in the Papal States

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# Habemus Papam? Polarization and Conflict in the Papal States

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## ABSTRACT

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# Habemus Papam? Polarization and Conflict in the Papal States\*

We study the effect of divisions within the elite on the probability of internal conflict in the Papal States between 1295 and 1846. We assemble a new database using information on cardinals that participated in conclaves during this period, and construct measures of polarization and fractionalization based on the cardinals' birthplaces. The deaths of popes and cardinals provide plausible exogenous variation in the timing of the conclave and the composition of the College of Cardinals at the time of the election. We exploit this variation to analyze the causal effect of a divided conclave on conflict. We find that an increase of one standard deviation in our measure of polarization raised the likelihood of internal conflict by between 3 and 4 percentage points in a given year and by up to 19 percentage points in a given papacy. Consistent with the interpretation of an irresolute leader learning throughout his papacy, the effect is largest in the initial years after the conclave, to gradually vanish over time.

**JEL Classification:** D72, D74, N33, N43, Z12

**Keywords:** conflict, polarization, papal states, conclave

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*“[T]he history of man is the history of the continuous replacement of certain elites: as one ascends, another declines.”*

Wilfredo Pareto (1848–1923)

## 1 Introduction

When do oligarchic regimes arise? What are the consequences of oligarchic regimes on economic outcomes? Recent literature discusses the emergence of the elite and its role on a number of outcomes. For instance, [Acemoglu \(2008\)](#) analyzes the economic costs and benefits under both oligarchic and democratic societies and describes how an unequal distribution of income may sustain inefficient oligarchic institutions. [Besley and Kudamatsu \(2008\)](#) prove that economically successful autocracies occur when the group with the ability to choose a leader (the *selectorate*) is capable of removing bad rulers.

Can we assume, then, that the elite group (selectorate) of these oligarchic regimes is an undivided and uniformed group? There is theoretical work that focuses on the relationship between divisions within the elite and the quality of the leader. For example, [Guriev and Sonin \(2009\)](#) show that a strong dictator may expropriate individual oligarchs, while a weak dictator cannot prevent expropriation within the oligarchy. Divisions within the elite may also lead to an extension of the franchise ([Acemoglu and Robinson, 2000](#); [Lizzeri and Persico, 2004](#); [Llavador and Oxoby, 2005](#); [Acemoglu, 2008](#); [Ghosal and Proto, 2009](#)), inefficient policies ([Acemoglu, Robinson, and Verdier, 2004](#); [Padro i Miquel, 2007](#)) or to weaker states and internal conflicts ([Fearon and Laitin, 2003](#)). This literature provides abundant anecdotal evidence for their theoretical predictions. Systematic empirical evidence, however, has been elusive.

In this paper we empirically analyze the effect of a divided elite on the likelihood of internal conflict. To investigate this question, we assemble a new dataset on the composition of the College of Cardinals, internal conflicts (riots, revolts) and wars in the Papal States between 1295 and 1846. Three main features of the Papal States make this an ideal setting to test for this hypothesis. First, there is a well defined institutional context with the pope as ruler, a well established procedure for selecting the pope, known as *conclave*, and a small and well identified group of participants in the conclave (the College of Cardinals), which allow us to clearly identify an elite group as the pope and those who select him. Second, the deaths of popes and cardinals provide plausible exogenous variation in the timing of the

conclave and the composition of the College of Cardinals at the time of the election. We exploit this variation to analyze the causal effect of a divided conclave on conflict. Third, we take advantage of the relationships between European rulers and cardinals to identify division within the College of Cardinals.

Historians have highlighted divisions among cardinals based on places of origin (Colomer and Mclean, 1998; Baumgartner, 2003; Walsh, 2003; Duffy, 2006; Collins, 2009; Pattenden, 2017). Given that cardinals represented political interests of different states or kingdoms in Europe, we argue that these measures also reflect divisions within the conclave. We construct our measure of divisions in the College of Cardinals with indexes of fractionalization and polarization based on the birthplaces of cardinals attending the conclave. We opt for these measures since written secret ballots were the most common procedure to select a new pope.<sup>1</sup> These indexes weigh different aspects of the degree of diversity across groups: While fractionalization is maximized when all groups are of the same size, polarization reaches its maximum when there is a half and half split of groups.<sup>2</sup>

A critical challenge to our identification strategy is that changes in the composition of the College of Cardinals might not be random, and thus they can be possibly correlated with the likelihood of internal conflict. We argue that the deaths of popes and cardinals provide exogenous variation in the timing of the conclave and the composition of the College of Cardinals at the time of the election.<sup>3</sup> We also describe how the nomination of new cardinals closely followed cardinals' deaths, both in numbers and in the distribution of birthplaces. Moreover, by including only those cardinals present during the final vote, we exploit additional variation in the attendance of cardinals due to poor health. These fortuitous incidents are unlikely to have directly influenced internal conflict in the Papal States.

Our main finding indicates that polarization among cardinals increased the likelihood

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<sup>1</sup>There were two other procedures to select a pope: *Acclamation*, in which the cardinals unanimously proclaimed one of the candidates as pope, and *Compromissum*, in which the election was delegated to a small commission. These methods were rarely used during the period we study (Colomer and Mclean, 1998).

<sup>2</sup>Fractionalization has been traditionally used as the measure of ethnic/religious diversity in the literature. In section 4 later in the paper we argue that polarization is a relevant measure of diversity from both a theoretical and empirical point of view. See also Alesina, Devleeschauwer, Easterly, Kurlat, and Wacziarg (2003), Alesina and Ferrara (2005) and Ray and Esteban (2017) for recent reviews of the literature. For a discussion on the origin of diversity indexes see Ginsburgh and Weber (2014).

<sup>3</sup>We provide more details in section 4, including examples of popes dying unexpectedly. We also discuss the possibility of unnatural deaths due to poisoning.

of internal conflict: a one standard deviation increase in our measure of polarization raised the probability of an internal conflict in a given year by between 3 and 4 percentage points, or by 19 percentage points in a given papacy. The effect is particularly strong during the first years of the papacy, to gradually decline afterwards.

The effect of polarization on the incidence of internal conflict is robust to various alternative specifications. Birthplace is arguably not the only way to identify groups of cardinals and measure polarization and fractionalization in conclaves. Our results are less precise but qualitatively do not change if we instead use their workplace (the cardinals' bishopry). Neither do they change when we modify our polarization and fractionalization measures to consider inter-group distances between groups of cardinals, as in [Esteban, Mayoral, and Ray \(2012a\)](#). However, a measure of polarization derived from the popes that nominated cardinals (suggested in the literature as an alternative source of divisions among cardinals) does not have an effect on the likelihood of conflict. We interpret these results as evidence that geopolitical measures of polarization have more bite than the nomination-based ones in proxying for divisions among cardinals. Polarization also has a positive and significant effect on the intensity of conflict. Our results indicate that 1 standard deviation increase in polarization raises the intensity of conflict (conditional on its occurrence) by 81 percent.

We then proceed to discuss the mechanisms that could explain the relationship between divisions in the College of Cardinals and internal conflicts. Our results are consistent with polarized conclaves electing weaker popes: A divided conclave implied that cardinals had to make concessions and find a consensus candidate. These compromise choices might have resulted in selecting worse or weaker popes, or changing the incentives for them to implement better policies ([Caselli and Morelli, 2004](#); [Besley, 2005](#)), and, therefore had an effect on the likelihood of conflicts.

We first document a positive relationship between polarization of the College of Cardinals and the time to elect a new pope (i.e. the length of a conclave), even after controlling for the number of cardinals and the length of the previous papacy, among other variables. We interpret this result as evidence of the inability of a polarized College of Cardinals to unite behind a single candidacy. Therefore, popes elected in conclaves under high polarization generated less consensus. Second, we show that popes elected under a polarized conclave were more likely to face an antipope. Third, we show that the effect of polarization on conflict is larger in the first years of the papacy, consistent with a weak or inexperienced

pope learning during his term. Finally, we show that polarization has a positive (although not very robust) effect on the incidence of war between the Papal States and other states. We interpret this result as evidence of weak leaders being subject to two opposing forces that counterbalance each other: They might be less likely to initiate wars, but they might be more likely to be attacked. In addition, weak leaders could see war as an opportunity to increase their legitimacy and capabilities ([Chiozza and Goemans, 2004, 2011](#)).

Other explanations find less support in the data. First, it is possible that polarization among the cardinals might be proxying for overall conflict in Europe. We show that this is unlikely, since polarization does not have an effect on the incidence or intensity of conflict in the rest of the Italian peninsula (excluding the Papal States). Second, we provide evidence showing that polarization did not affect the popes' religious productivity, measured by the naming of saints and beats. Therefore it seems that increased polarization does not proxy for a pope's overall incompetence, but rather his inability to suppress revolts. We also show that electing a foreign-born pope does not have an effect on conflict in the Papal States. Taken together, these results provide support to the interpretation that a divided elite would decrease the ability of the leader to prevent or suppress revolts. Our data does not allow us to completely rule out the possibility that conflict erupted after a polarized conclave because the losing faction would organize revolts to undermine the pope.

Our paper relates to various strands of the economics literature. First, it is related to the literature looking at the effect of ethnic or religious divisions on conflict. Some examples are [Fearon and Laitin \(2003\)](#), [Montalvo and Reynal-Querol \(2005\)](#), [Esteban and Ray \(2011\)](#), [Esteban, Mayoral, and Ray \(2012a\)](#), and [Desmet, Ortuño-Ortín, and Wacziarg \(2012\)](#). We contribute to this literature by showing that in autocracies divisions among the elite can help explain conflict, particularly in contexts where non-economic markers for the society as a whole are less relevant.

Second, since it shows that popes and cardinals had an effect on the likelihood of conflict in the Papal States, our paper complements [Chaney \(2013\)](#) who provides empirical evidence that religious leaders exercised political power, particularly during periods of economic downturn. More generally, we contribute to the literature discussing the interplay between religion and conflict ([Iyigun, 2011](#); [Iyigun, 2013](#); [Aldashev and Platteau, 2014](#)).

Third, our paper relates to the literature explaining civil conflict in Europe. [Iyigun \(2008\)](#) shows that the Ottomans' military activity in Europe reduced military engagements



between Protestants and Catholics between 1520 and 1650. We show that the cohesiveness of an elite of a particular state/kingdom can be a determinant of conflict. Recent literature also emphasizes the effect of leadership on wars and internal conflicts. For instance, [Dube and Harish \(forthcoming\)](#) identify that gender and marriage status matter for war policies; [Jones and Olken \(2009\)](#) find that intense wars are more likely to end following a leader's assassination, but moderate wars are likely to intensify. Also, [Blattman and Miguel \(2010\)](#), in their comprehensive review of civil conflict, argue that the effect of leadership on conflict cannot be ignored. Our findings complement those of [Jones and Olken](#) in showing that not only leaders, but also the support they enjoy among the elite, can have an impact on the incidence and intensity of conflict.

Fourth, our paper connects to recent articles analysing the role of leadership on various other outcomes such as economic growth, stock prices and the provision of public goods.<sup>4</sup>

Finally, our paper is related to the literature on the economics of religious organizations. [Ekelund, Hébert, and Tollison \(2006, 2011\)](#) have argued that in the medieval catholic church the pope took the role of the CEO, while the College of Cardinals acted as the board of directors. Our results show that a higher level of consensus among the cardinals, measured by their polarization, improved the pope's performance in handling *earthly* matters.<sup>5</sup> We are, to the best of our knowledge, the first to provide empirical evidence showing that a divided elite in one of the largest and oldest organizations can have an impact on the selection of its leader and hence on conflict.

The remainder of this paper is organized as follows. Section 2 provides the historical context, describing popes, cardinals and the conclaves. Section 3 describes the sources of our data, while section 4 presents the econometric framework and discusses identification. Section 5 presents the results on conclave length and conflict, while section 6 provides evidence of the potential mechanisms. Finally, section 7 states the conclusion.

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<sup>4</sup>On leaders and economic growth, see [Jones and Olken \(2005\)](#) and [Besley, Montalvo, and Reynal-Querol \(2011\)](#). See [Johnson, Magee, Nagarajan, and Newman \(1985\)](#) on death of executives and stock prices, and [Chattopadhyay and Duflo \(2004\)](#) on the effect of female leaders on the provision of public goods at the village level. [Acemoglu, Reed, and Robinson \(2014\)](#) show that chiefdoms in Sierra Leone with a larger number of ruling families exhibit better human capital outcomes, which they attribute to a better performance of leaders facing increased political competition.

<sup>5</sup>We do not find evidence of polarization on the pope's performance in *spiritual* matters, measured by the number of beatifications and canonizations (see section 6).

## 2 Historical Background

### 2.1 The popes and the states of the church

The title *pope* is employed to denote the bishop of Rome, who as successor of St. Peter is the chief pastor of the whole catholic church (Joyce, 1911).<sup>6</sup> As other medieval bishops, the bishop of Rome possessed local estates and castles, but in addition the pope claimed much more widespread *temporal* possessions (Chambers, 2006). These possessions were acquired through political donations, such as the one made by emperor Constantine I (272–337), and their successive confirmations.<sup>7</sup> The most significant donation came from Pepin, King of the Franks, in 751, and was later confirmed by his son Charlemagne.<sup>8</sup>

Over the course of the next centuries the size of the states of the church varied considerably. The pope relied heavily on the support of the Carolingian emperors, and according to Schnürer (1912) this alliance remained the necessary condition for the existence of the papal states until the end of the Staufen dynasty in 1268. During this period a more coherent papal state starts to emerge in central Italy, with some recognised boundaries (Chambers, 2006). The first king of the Habsburg dynasty, Rudolph I, renounced all imperial rights in the Romagna region in 1279, allowing it to be integrated into the papal states (Collins, 2009). Figure 1 shows the extent of the states of the church around 1500.

Political control of the popes over the states of the church varied considerably throughout our period of analysis. Chambers (2006) argues that “it would be wrong to suppose that all papal claims of secular jurisdiction, taxation and service were exactly defined, or that local warlords and others readily conceded obedience to Rome. This was no modern state yet, no equivalent to the contemporary strong monarchies of France or England” [p. XV]. Indeed, from 1309 until 1377 the popes resided at Avignon instead of Rome, exercising control of the papal states through military legates who often had to compromise with those in effective control there (Chambers, 2006). The popes regained control in 1353, to face another set back during the Great Schism (1378–1417). After its end pope Martin V (r. 1417–31) attempted to establish a centralized monarchy. Analyzing the papacy during the sixteenth and seventeenth centuries, Collins (2009) states that “once elected, the popes

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<sup>6</sup>For a recent comprehensive history of the papacy and more references, see Duffy (2006) and Collins (2009).

<sup>7</sup>The “Donation of Constantine” allegedly gave the pope privileges and possessions in Italy, but there is consensus that the document is an eighth-century forgery.

<sup>8</sup>For details and more references on the states of the church, see Schnürer (1912) and Chambers (2006).

were absolute rulers within the city of Rome and the Papal States” [p. 371]. Before the outbreak of the French Revolution, the papal states comprised most of the territory that had belonged to them at the time of Charlemagne (Schnürer, 1912).

After the French Revolution the States of the Pope experienced important changes. In 1797 the pope had to give up Avignon to France, as well as other territories in Italy to the Cisalpine Republic. In 1809 the Papal States suffered from occupation by Napoleon, but were again restored in the Congress of Vienna (1815). However, the idea of national unification and the hatred against foreign rulers were already widespread in Italy (Schnürer, 1912). We end our period of analysis at the death of pope Gregory XVI in 1846, since his successor Pius IX implemented large changes in the temporal government of the Papal States. This is also the period regarded as the start of the process of unification of Italy with Count Cavour. The States of the Church were finally occupied in 1870, when France withdrew its troops because of the Franco-German war. In 1871 the law of the Papal Guarantees declared the Vatican, the Lateran Church and Castel Gandolfo as extra-territorial. However, pope Pius IX refused to accept this law, and locked himself in the Vatican. The Roman Question, as this conflict became known, was only resolved by the Lateran Treaty of 1929, establishing the Vatican City as an independent state.

Panel A of Table 1 shows characteristics of the popes in our sample. The average age of the pope when elected is 61, though it presents significant variation, from 37 to 80. Time in office also presents significant variation, from just a few days to more than 24 years, with an average of 9 years. These variables have been regarded as relevant controls for the incidence of conflict in the literature (Horowitz, McDermott, and Stam, 2005; Bak and Palmer, 2010). However, there is little evidence of whether the age or tenure of popes actually played a role in regard to conflict in the papal states. Collins (2009) reproduces a speech given by Pius II (1458–64) defining his role in military operations: “We do not go to fight in person, since we are physically weak and priest, whom it does not befit to wield the sword” [pp. 56–57].

## 2.2 The cardinals

The cardinals of the Catholic Church constitute the elite of the church. They follow immediately after the pope and are therefore considered “the Princes of the Church” (Sägmüller, 1908). They are organized in three orders: cardinal-bishops, cardinal-priests and

cardinal-deacons.<sup>9</sup> Together these three orders form the College of Cardinals. Since the twelfth century the College of Cardinals has played an important role in the church, both liturgically and politically. They have been traditionally regarded as advisers to the pope (Broderick, 1987), they participate in the administration of papal justice and finances, and can serve as legates of the pope (Sägmüller, 1908). More crucial for the purpose of this paper, cardinals have an important role after the death of the pope (*sede vacante*): the administration of the States of the church and the election of a new pope. We provide more details of this later in the paper.

A new cardinal can be nominated only by the pope. However, cardinals-to-be required the effort of other cardinals and civil rulers to secure their nomination.<sup>10</sup> Traditionally, the total number of cardinals was supposed to be limited to 53, with 7 cardinal-bishops, 28 cardinal-priests and 18 cardinal deacons. However, as shown in Figure 2, this theoretical maximum was not met for most of the three first centuries in our sample (1295-1846).<sup>11</sup> Panel B of Table 1 shows that the average number of cardinals participating in conclaves was 39. However, it is important to note that there were reforms in 1586-88 that increased the theoretical maximum number of cardinals from 53 to 70.<sup>12</sup>

The average number of cardinals participating in conclaves before those reforms was 27. There was only one conclave before 1586 with more than 53 cardinals: the election of

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<sup>9</sup>The orders of cardinalate had a major impact before the two-third rule, where the cardinal-bishops were conferred “principal judgment” (i.e. having priority in the election over cardinal-priests and cardinal-deacons). After the two-third rule was established, the cardinal-bishops established themselves as leaders of factions of cardinal-priests and cardinal-deacons.

<sup>10</sup>Cardinals nominated with the support of a king became known as *crown cardinals*. Broderick (1987) gives the example of the Aragon kings to illustrate the eagerness of rulers to obtain places in the College of Cardinals for their subjects. King Peter IV (r. 1336–1387) was particularly persistent in these efforts, sending letters and representatives to the papal court. After a personal visit to Pope Innocent VI, he succeeded in his pursue: Nicholas Rosell was named cardinal in 1356.

<sup>11</sup>Figure 2 shows the number of cardinals participating in each of the conclaves in our sample. In looking at cardinals participating in conclaves we follow Broderick (1987), who argues that for the Middle Ages the size of the College of Cardinals is better determined on the occasion of papal elections.

<sup>12</sup>Two apostolic constitutions issued in 1586 (*Postquam verus*) and 1588 (*Immensa*) by pope Sixtus V (r. 1585–90) changed the organization of the College of Cardinals and reduced its power permanently (Walsh, 2011a). He established 70 as the permanent maximum number of cardinals, with 6, 50, and 14 cardinals for the bishop, priest and deacon orders, respectively. He also set up a system of congregations, which reduced the role of *consistories* (regular gatherings of the College of Cardinals with the pope), and thus the opportunities for the cardinals to meet and exercise their influence acting as a college (Broderick, 1987; Walsh, 2003; Walsh, 2011a). The role of the cardinals as papal advisors also declined as their number increased (Collins, 2009). Even though succeeding popes were as free as Sixtus V to change limit on the number of cardinals, it was kept at 70 until 1958, when pope John XXIII (r. 1958–63) increased the number of cardinals to 75.

Paul IV in 1555, where 56 cardinals participated in the conclave. According to [Broderick \(1987\)](#), the reason to have few cardinals during this period is attributable to the pressure of the cardinals themselves: “Motivating this policy was ambition to inflate the power and prestige of individual cardinals, and to increase their income” [p. 28].<sup>13</sup> Therefore the pope had to weigh the requests of foreign nations against the refusal of cardinals to increase their number.<sup>14</sup>

Arguably, several families in the Papal States (Colonna, Orsini), Venice (Contarini, Morosini), Florence (Medici), Genoa (Spinola), Milan (Sforza) or Naples (Carafa) might have had a significant influence on the policies of the Pope given their socio-economic power in their respective regions. This, however, is unlikely to be the main driver of our results. In the aftermath of the Council of Basel (1431-1437) the decree *De numero et qualitate cardinalium* was accepted. It states that relatives of Popes and cardinals should not be made cardinals. Therefore, even though there existed family dynasties ([Pattenden, 2017](#)), it prevented that one family alone or even several families could become a dominant group within the College of Cardinals.<sup>15</sup> Our data confirm this hypotheses. First, we show that cardinals from all those families approximately represented a 15% of all cardinals in our period. One family alone could represent at most 1% of all cardinals. Second, we do

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<sup>13</sup>The College of cardinals tried to limit the power of elected popes by imposing conditions to candidates, known as *capitulations* ([Schaefer, 1908](#)). One example is the election of pope Innocent VI in 1352. [Schaefer \(1908\)](#) states that “the conditions then laid down by the cardinals restricted the rights of the future pope, especially with regard to the nomination, punishment, or deposition of cardinals.” However most popes dismissed the capitulations right after been elected.

<sup>14</sup>The autobiography of Pope Pius II (r. 1458–1464) provides first-hand evidence of this tension. When mentioning to the College in 1461 that the French and Spanish considered themselves slighted, Pius writes that “the cardinals were aghast at the mention of creating cardinals for there is nothing they dislike more than an increase in their number and the fewer they are the better they are pleased. In reply to the Pope they said there were already more of them than was necessary; a large number of itself cheapened the dignity; the provinces did not desire many cardinals, who were a burden to them, since they secured a good part of the recommendations to ecclesiastical benefices. If it was counsel that was needed, there were enough in the present college; if envoys were to be sent, they had enough for that too. They urged, begged, and implored that no more cardinals be added to those already created. The Pope said he could not disregard the request of the transalpine princes nor was it honorable for him to pass over foreign nations. The question was argued in the consistory for a long time, since the Pope was set upon a new election and the cardinals resisted. At last they agreed to put the matter over” (cited in [Broderick, 1987](#)).

<sup>15</sup>This decree was accepted in 1439. The second paragraph of the text states that “*Nephews of the Roman pontiff, related to him through his brother or sister, or of any living cardinal shall not be made cardinals; nor shall bastards or the physically handicapped or those stained by a reputation of crime or infamy. There can, however, be added to the aforesaid twenty-four cardinals, on account of some great necessity or benefit for the church, two others who are outstanding in their sanctity of life and excellence of virtues, even if they do not possess the above-mentioned degrees, and some distinguished men from the Greeks, when they are united to the Roman church.*” Translation from [Miranda \(2012\)](#).

not observe that the aforementioned decree was significantly violated. In fact, it is very rare to observe two or more members of the same family in the same conclave. It only occurred in three occasions and the number of members of the same family never exceeded three.<sup>16</sup>

### 2.2.1 Cardinals, secular princes, families and nobility

Popes appointed cardinals and had the power to strip them of their status, power and wealth if necessary (Pattenden, 2017). However, as mentioned above, a cardinal-to-be could receive support from secular princes, nobility, bishops, abbots, and even the family of the pope himself. Therefore, cardinals had to represent both the interests of the Church as well as those of his supporters.

Our measures of disagreement among the cardinals are constructed based on the birthplaces of cardinals attending the conclave. This choice is motivated by ample anecdotal evidence arguing that a relevant source of division among cardinals was their allegiance to each of the Christian kingdoms in Europe. For example, Walsh (2003) notes that in the 1314 election there were three discernible factions: Gascons, French and Italians. Baumgartner (2003), Duffy (2006) and Collins (2009) discuss how rivalries between the French and Spanish, or between Milan, Venice and Naples played a part in the selection of popes. More recently, Pattenden (2017) describes how Christian princes tried to influence the cardinals' vote in conclaves. The princes of France, Spain, Portugal, Poland, Savoy, England, but also Italian princes such as the ones in Mantua, Venice, Ferrara and Tuscany engaged in strategies to have a pope that favored their interests.<sup>17</sup> Figure 3 shows the geographical distribution of cardinals for 3 conclaves in our sample: 1316, 1492 and 1691.

How did the Christian princes increase their power on those elections? The end of the Great Schism (1378-1417) seems to be part of the answer. Popes wanted to recover the loss of prestige and territory of the papacy during the schism and needed the support of secular princes. Those took advantage of the situation and gained control over national churches, appointment of cardinals and their power inside the church, (Broderick, 1987; Thomson, 1980; Pattenden, 2017). In 1622, Gregory XV made reforms to the voting process making

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<sup>16</sup>In 1294, there were two members of the Orsini family as well as two members of its Roman rival, the Colonna family. In 1303, there were three members of the Orsini family, while the two members of the Colonna family were excommunicated and they could not vote in the conclave. In the conclave of John XXII, there were two members of each family, Colonna and Orsini. Even in this case, the members of the Orsini family only represented one sixth of all cardinals in the conclave.

<sup>17</sup>Pattenden (2017) describes several examples of the correspondence between Spanish cardinals and ambassadors and the King of Spain regarding future conclaves and potential alliances.

the votes less transparent and, therefore, increasing the difficulty to form coalitions. Princes, however managed to keep vetoing candidates until the very end of the 18th century when geopolitical factors became less relevant (Pattenden, 2017).

Historians also highlight other possible sources of conflict, such as the enmity between the two ruling families of Rome, Colonna and Orsini. However, according to Collins (2009), these two families were united against the French during the conclave of 1458. As shown in Table A-3 in the Online Appendix, none of these families (or any other Italian family) had a number of cardinals large enough to sway an election.<sup>18</sup>

Others point out that cardinals formed groups based on the pope who appointed them (Chadwick, 1981; Baumgartner, 2003; Collins, 2009; Pattenden, 2017). At least there would be two factions of cardinals based on what pope appointed them. One representing the previous papacy, those cardinals appointed by the previous pope; a second faction representing the new pope who would appoint cardinals in order to distinguish himself from his predecessor.<sup>19</sup> Alternatively Chadwick (1981) argues that the new pope would face cardinals that were appointed by earlier popes who might keep a different vision on the Church and its evolution. Therefore he supports the existence of several factions within the College of Cardinals. According to Baumgartner (2003) and Collins (2009) the leaders of the different factions were former cardinal-nephews. In our empirical analysis we allow for this possibility by constructing our measures of divisions among cardinals using this alternative grouping.

## 2.3 The conclaves

The conclave is the procedure to select a new pope. In this section we highlight key elements of the conclaves that are relevant for our empirical strategy. We focus on the rules that were in place during our period of analysis (1295–1846).<sup>20</sup>

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<sup>18</sup>Despite the existence of a rule forbidding the appointment of relatives of living cardinals, there are some cases in which more than one cardinal from the houses of Orsini or Colonna participated in the conclave. For example, in the conclave of 1305 there were 3 cardinals from the house of Orsini (the 2 cardinals from the house of Colonna had been excommunicated by the previous pope and could not participate in the conclave). Even in this conclave the Orsini family represented only one-sixth of the college of cardinals. We also show later that our results are robust to successively eliminating one papacy at a time from the sample.

<sup>19</sup>Pattenden (2017) describes this process based on the work of Reinhard (2004). They describe how the new pope would ally with the nephew of his predecessor's predecessor and so on.

<sup>20</sup>Colomer and Mclean (1998) and Toman (2004) discuss the main features of the conclaves, as well as changes that have occur along their history. See also Dowling (1908), Baumgartner (2003) and Walsh

The duty of electing a new ruler (the pope) falls solely into the hands of the College of Cardinals. These elections occur behind closed doors (hence the name of conclave, “with key”), and only the cardinals participate. Figure 4 presents the timing of the conclave. Once the pope dies, the see is declared vacant (*sede vacante*) and limited powers are transferred to the College of Cardinals. The conclave does not start immediately, since time is reserved for the pope’s burial and to allow cardinals traveling from other states to join the conclave. We denote the time between the death of the pope and the beginning of the conclave as *interregnum*.<sup>21</sup> The conclave ends when a new pope is successfully elected.

We start our analysis with the election of pope Boniface VIII in December of 1294 because from this year onward the conclave regulations were effectively enforced.<sup>22</sup> In theory, anyone (not only cardinals) could be elected as a pope, but most of the time the College ended up electing one of its own members. The election of the pope required a high level of consensus: two-thirds of the cardinals present in the conclave. The two-thirds rule was introduced in 1179 to achieve stability without having to reach unanimity.<sup>23</sup> The practice of locking cardinals was introduced later in order to speed up the election process, which suffered from long delays. Panel C of Table 1 shows that the average length of a conclave in our sample is 51 days. As explained earlier, the papacy of Sixtus V made changes to the College of Cardinals in 1586-1588. These changes affected the length of the conclave, with average lengths of 44 and 60 days for conclaves occurring before and after the reforms to the College of Cardinals, respectively.

Only one vote per day was allowed, and even though the secret vote was formally adopted in the sixteenth century, Colomer and Mclean (1998) assert it was used in earlier conclaves. They also state that from 1294 to 1621 the ballot used in the conclaves was a form of approval voting: the voter could choose either one or several candidates. Cardinals were advised though not to choose too many candidates.<sup>24</sup> The ballot was changed to a

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(2003) for more details and sources.

<sup>21</sup>Commonly interregnum has been used to symbolize the same period of sede vacante.

<sup>22</sup>This was not the first pope to be elected in a conclave. Pope Gregory X established the conclave in 1274, and the election of popes Innocent V, Adrian V and John XXI in 1276 lasted only for 2, 10 and 21 days, respectively. However, John XXI revoked the creation of the conclave, and the following and the following 5 elections were deadlocked for long periods. Finally, pope Celestine V in 1294 re-established the practice of the conclave (Miranda, 2012). See Colomer and Mclean (1998) for a discussion of the motives of Celestine V for adopting the conclave. He abdicated the throne the same year.

<sup>23</sup>See Colomer and Mclean (1998) for a discussion of the introduction of this rule and how, under concavity in voter preferences, the rule is invulnerable to cycles.

<sup>24</sup>Colomer and Mclean (1998) find that the average number of candidates voted by a cardinal during this



categorical ballot (single choice for a candidate) after 1621. Also in 1621 the number of votes per day was increased to two. Finally, there was no elimination of candidates between one round and the following, and candidates were always eligible even if they did not appear in previous rounds.

### 2.3.1 Divided conclaves, factions, policies and conflicts

Anecdotal evidence suggests that popes had more authority and support if they were elected in conclaves with low polarization levels. One example is the papacy of Nicholas V (r. 1447-1455), who was elected in just three days in a conclave where the three largest groups had similar strength.<sup>25</sup> Indeed, the level of polarization in that election is at the 10th percentile of our sample. During Nicholas' papacy there are no internal conflicts registered. Moreover, he was able to force the resignation of Antipope Felix V. Similarly, Paul III (1534-1549) was elected after a two day conclave and it is one of the conclaves with the lowest polarization index of the sample. He called for the Council of Trent, he did not suffer any internal conflict, he managed the political tensions between the Holy Roman Empire and France with a conciliating manner and approved the Society of Jesus, (Walsh, 2003; Pirie, 1965). On the contrary, the papacy of Innocent X (r. 1644-1655) suggests that popes elected in highly polarized conclaves faced internal authority issues. He was elected after a long conclave (37 days), in a conclave where the polarization level is on the 80th percentile of our sample. He had to face one internal conflict and lost Avignon to France, (Duffy, 2006).

However, if we focus our attention to the election of Clement VII (1523-1534), we might conclude that a fractionalised conclave, with many factions sharing a similar power inside the College of Cardinals, could be linked to conflicts. In that conclave, we observe a high degree of fractionalisation and the pope Clement VII faced the sack of Rome in 1527 as part of the conflict between the Papal States and the Holy Roman Empire as well as conflict with Florence. Pirie (1965) suggests that those conflicts were a consequence of the pope's policies, which neglected the support he received from the Emperor and the Florentines to be elected.

Baumgartner (2003) suggests that the election of a foreign pope might be another factor

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period was between 1.5 and 2.

<sup>25</sup>Of the 18 cardinals present in the conclave, 4 (22 percent) were Venetian, 3 (17 percent) were French and 3 (17 percent) were from the Papal States. Details of the largest groups participating in conclaves are provided in Table A-2 in the Online Appendix.

for the occurrence of internal revolts. The election of Adrian VI (1522-1523), also in a very fractionalised conclave, could support that view. Although his papacy only lasted for one year, [Walsh \(2003\)](#) emphasizes that his lack of achievements was due to the resentment and distrust he received, as a foreign pope, from the papal court and the citizens of Rome.

In summary, we can find suggesting evidence of the link between divisions within the College of Cardinals, the elite of the Papal States, and internal conflicts. Our purpose in section 5 is to provide empirical evidence to assess this relationship.

## 3 Data sources

### 3.1 Conclaves, popes and cardinals characteristics

Our list of officially recognized popes, together with the length of the papacy comes from [Duffy \(2006\)](#). We exclude anti-popes and pseudo-cardinals (cardinals created by anti-popes) from the main analysis. During the Great Schism (1378–1417) we consider the popes of the Roman Obedience.<sup>26</sup>

Our primary sources of information regarding the length of conclaves and vacant see, and cardinals’ birthplaces are the datasets “The Cardinals of the Holy Roman Church”, constructed by [Miranda \(2012\)](#), and “The Hierarchy of the Catholic Church” by [Cheney \(2012\)](#). We classify cardinals’ birthplaces according to the political entity (e.g. kingdom, city-state, duchy) that controlled them when they were born.<sup>27</sup> For instance, if a cardinal was born in Milan in a period in which Milan was under the Spanish rule, we classify his birthplace as Spain. We consider political unions across our dataset. For example, we classify as Aragonese those cardinals born in Barcelona before 1469, the year of the marriage of the Catholic Kings.<sup>28</sup> If they were born after 1469, we classify them as Spanish. Online Appendix A gives precise details of the creation of birthplace-groups.

Table [A-1](#) in the Online Appendix shows our resulting groups. Our sample consists of 1,292 cardinals in 43 different birthplace-groups. Cardinals from the Papal States constitute 31 percent of the sample, followed by French cardinals with 15 percent of the sample, and

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<sup>26</sup>Section 6.5 analyses the relation between polarization and the existence of anti-popes.

<sup>27</sup>Similarly, we classify cardinal’s workplaces according to the political power that ruled over the last place where a bishop was based before he was nominated cardinal.

<sup>28</sup>The marriage of the Catholic Kings implied the unification of the kingdom of Aragon and the kingdom of Castile.

Spanish cardinals with 13 percent.<sup>29</sup> But not all groups are present in every conclave: The average number of groups in our sample is 11, ranging from 4 groups in the conclaves that elected Innocent VI (1352) and Urban V (1362) to 16 groups in the conclaves that elected Urban VII (1590), Gregory XIV (1590), Innocent IX (1591), Clement VIII (1592), Innocent XII (1721) and Benedict XIV (1740). Table A-2 in the Online Appendix presents the list of all conclaves in our sample, detailing the groups participating in each conclave.

Additional information for cardinals (year of birth/death, and year of nomination to the cardinalate) comes from [Miranda \(2012\)](#).

## 3.2 Conflict

Our main source of information for internal disturbances within the Papal States is [Sorokin \(1937\)](#). The third volume of his book “Social and Cultural Dynamics” is devoted to the fluctuation of social relationships, war, and revolution, and it includes most of the recorded internal disturbances of importance in Europe. Internal disturbances are defined as disorders, riots, revolts or revolutions. Relying on various sources, he argues that the fact that these disturbances are mentioned in the annals of history is considered a sign of its importance.<sup>30</sup> He also constructs a measure of the intensity of the disturbance, which relies on four elements: the extent of the area of the disturbance, the population involved, its duration, and the amount of violence. The index ranges from 0 to 100.

[Sorokin](#) does not distinguish between disturbances in the Papal States and other states within Italy. Therefore we classify the disturbances according to the place where they occurred. Of the 98 disturbances that [Sorokin](#) registered for Italy between 1295 and 1846, 18 occurred within the Papal States territories. It is somewhat surprising that [Sorokin](#) did not record any disturbance in the Papal States between 1511 and 1796. However, [Sorokin](#) does record internal disturbances for the rest of Italy for the period of 1511–1796 (used as a control in our regressions), although less frequent and smaller in magnitude than those before 1511. Therefore, there is no evidence that disturbances in the Papal States during the 16th and 17th centuries were overlooked by [Sorokin](#). We nonetheless enlarge these

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<sup>29</sup>Cardinals can be grouped in broader categories, such as North, Center, and South Italy. The results of this exercise, available upon request, are quantitatively similar to those presented here.

<sup>30</sup>Sorokin argues that many insignificant disorders “pass by without leaving any traces in the records of history. Even if they are mentioned by some of the contemporaries who happen to witness such disturbances . . . they are soon forgotten and have little chance of being passed on to subsequent generations” ([Sorokin, 1937](#), p. 385).

data with information on internal conflicts from [Alfani \(2013\)](#). This author does not report conflict intensity (at least comparable to Sorokin’s measure), therefore we only include these data when looking at incidence of conflict.<sup>31</sup> Table [B-1](#) in the Online Appendix lists all internal disturbances included in our analysis.

Panel D of Table [1](#) shows our descriptive statistics for internal conflict. About one quarter of papacies had at least one disturbance, as can be seen if we aggregate the data at the papacy level. When looking at the yearly data, the incidence of conflict in the Papal States is 5.3 percent, since we observe 24 years with disturbances. Average intensity, conditional on the existence of conflict, is 13.37. As a comparison, [Sorokin](#) gives the Glorious Revolution in England (1688) an intensity of 25.59, and the French Revolution (1789) an index of 79.43.

Information regarding wars fought by the Papal States and other European powers was obtained from [Brecke \(2001\)](#), [Sobek \(2003\)](#), [Lee \(2012\)](#) and [Ganse \(2012\)](#). The inclusion of wars allows us to control for the possibility that revolts might be more likely to occur when the sovereign has focused his military resources on fighting wars ([Vidal-Robert, 2013](#)). Panel E of Table [1](#) shows that the Papal States were at war with other states 26 percent of the time in our sample.

### 3.3 Additional controls

Recent evidence shows that climate can be a relevant factor of civil conflict, particularly in Europe ([Tol and Wagner, 2010](#); [Hsiang, Burke, and Miguel, 2013](#); [Lee, Zhang, Brecke, and Fei, 2013](#); [Dell, Jones, and Olken, 2012](#); [Chambru, 2019](#)). To account for this, we use data from Germany and Central Europe temperature anomalies during our period of study ([Glaser and Riemann, 2009](#)).<sup>32</sup>

We construct a dummy variable that takes the value of 1 if the year is a holy year of jubilee. This celebration, instituted by pope Boniface VIII in year 1300, granted a plenary indulgence (forgiveness of sins) to pilgrims to the four Basilicas in Rome during this year. The great influx of pilgrims during these years was an additional source of income for the

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<sup>31</sup>Our results continue to hold if we restrict the sample to events mentioned in [Sorokin \(1937\)](#).

<sup>32</sup>[Glaser and Riemann \(2009\)](#) define a temperature anomaly as the 11 year-moving average temperature difference versus the reference period (1761–1970). Following [Lee, Zhang, Brecke, and Fei \(2013\)](#), in alternative specifications we have included data for the North Atlantic Oscillation (NOA) from [Trouet, Esper, Graham, Baker, Scourse, and Frank \(2009\)](#). We do not present the results since they are very similar.

papal finances (Collins, 2009). Panel F of Table 1 presents summary statistics for these variables.

In alternative specifications (not shown) we control for the price of wheat in Tuscany taken from Arroyo Abad and Lindert (2005) who constructed it from Malanima (2002), or for the consumer price index for Center and North Italy taken from Malanima (2013). The results are similar but we lose precision, since these variables are not available for all years we consider.<sup>33</sup>

## 4 Empirical Strategy

### 4.1 Measures of divisions among the cardinals

Our measures of disagreement among the cardinals are constructed based on the birthplaces of cardinals attending the conclave.<sup>34</sup> We follow Montalvo and Reynal-Querol (2005) to construct the following indexes:

$$FRAC = 1 - \sum_{i=1}^N \pi_i^2 \quad (1)$$

$$POL = \sum_{i=1}^N \pi_i^2 (1 - \pi_i) \quad (2)$$

where  $\pi_i$  is the proportion of cardinals attending the conclave that belong to the same birthplace group  $i$ . The fractionalization index (FRAC) can be interpreted as the probability that two randomly selected individuals in a given conclave will not belong to the same birthplace group. The polarization index (POL) corresponds to the index RQ in Montalvo and Reynal-Querol (2005), but it is also the index P used in Esteban, Mayoral, and Ray (2012a) when the inter-group measure is binary. POL captures how far the distribution of groups is from a bipolar distribution (i.e. a distribution with its mass concentrated in two poles), which has the highest level of polarization.<sup>35</sup>

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<sup>33</sup>None of these controls is statistically significant when included in the regressions, and both are fairly correlated with weather anomalies (-0.22 for the consumer price index and -0.18 for the price of wheat).

<sup>34</sup>We exclude cardinals who die during the conclave, and are thus not present in the final vote that elects the pope.

<sup>35</sup>See the discussion in Montalvo and Reynal-Querol (2005) and Esteban, Mayoral, and Ray (2012a). Esteban, Mayoral, and Ray argue that POL and FRAC are based only on group sizes, and do not exploit variations in inter-group distances. Therefore they consider FRAC, a version of POL with a non-binary distance, and the Greenberg-Gini index as their distributional measures. They proxy for inter-group distance (which in their model is the inter-group difference in preferences over public goods) by using the groups'

The distributional measures for the cardinals’ birthplace are labeled as FRACBIRTH and POLBIRTH for fractionalization and polarization, respectively. In alternative specifications we use the cardinals’ working place to construct FRACWORK and POLWORK. We also construct FRACNOM and POLNOM based on the popes who nominated the cardinals. Panel G of Table 1 shows descriptive statistics for these variables. In the Online Appendix C we further describe these variables, as well as provide additional details on their construction.

## 4.2 Identification

We estimate the following model:

$$y_t = \alpha + X_p\beta + Z_p\lambda + W_t\eta + \mu_{century} + \epsilon_t \quad (3)$$

where  $y_t$  is the outcome of interest (length of the conclave or a measure of internal conflict in the Papal States) in year  $t$ .  $X_p$  are the measures of disagreement among the cardinals (FRACBIRTH and POLBIRTH in our main regressions),  $Z_p$  are a set of controls at the papacy level (e.g. number of cardinals present in the conclave, length of the previous papacy),  $W_t$  is a set of year-varying controls (e.g. disturbances in other Italian regions, wars against other European states, weather, jubilee year), and  $\epsilon_t$  is the error term. We cluster standard errors at the papacy level.<sup>36</sup>

Our coefficient of interest is  $\beta$ , namely the effect of FRACBIRTH and POLBIRTH on internal disturbances. As discussed earlier, we expect both to have a positive effect on the incidence of conflict. The identification assumption is that, conditional on papacy and time controls, the vector of measures of divisions among cardinals  $X_p$  is uncorrelated with the error term  $\epsilon_t$ .

As previously mentioned, the death of popes, together with the deaths of cardinals, provide plausible exogenous variation in the timing of the conclave and in the composition of the College of Cardinals at the time of the conclave, and therefore in our measures of disagreement among them. Examples of popes dying unexpectedly abound. Leo X (r.

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linguistic distance. We discuss this issue in the robustness section.

<sup>36</sup>In alternative specifications we have allowed for  $\epsilon_t$  to be autocorrelated up to 10 lags and heteroscedastic (Newey and West, 1987). We chose 10 lags since the average tenure for popes is around 10 years. Our results are unaffected if we allow for more lags. Our results are also unchanged if we use a logistic regression correcting for rare events (King and Zeng, 2001).

1513–1521) suddenly died of malaria at age forty-six, while Marcellus II (r. 1555) died of a stroke only twenty-two days after being elected (O’Malley, 2009). Baumgartner (2003) recounts how the death of Julius III (r. 1550–1555) caught both the emperor of the Holy Roman Empire and the king of France by surprise. Upsets in the other direction were also common. One example is John XXII (r. 1316–1334), elected when he was seventy-two and reigning for eighteen more years. Figure E-1 in the Online Appendix shows that there is little correlation between the pope’s age and tenure length.

The same is true for cardinals. Moreover, since we construct our measures of fractionalization and polarization taking into account only cardinals present at the final vote, we further exploit variation in the cardinals’ presence due to poor health: Old cardinals were less likely to travel to the conclave, and those who became sick during the conclave would either abandon it or eventually die before it ended.<sup>37</sup> Still, cardinals are appointed by the pope himself, and popes with long tenures might have been able to replace a significant number of cardinals (conditional on their predecessors’ deaths). In addition, the naming of cardinals changes the pool of potential candidates in the subsequent election. We address this issue in two ways. First, we control in all our specifications for tenure length of the previous pope. A long papacy might be able to replace more cardinals, and therefore have more influence on the subsequent conclave. Second, in Figure D-1 in the Online Appendix we show that nominations of cardinals closely follow cardinals’ deaths, at least in terms of numbers and distribution of places of birth. In Table D-1 we also show that taking into account the differences between cardinals’ deaths and appointments in our regressions does not affect the results.

Deaths as a source of exogenous variation has been already employed in the literature (e.g. Jones and Olken, 2005; Fracassi and Tate, 2012). Our exogeneity assumption might be violated if many cardinals died of unnatural causes.<sup>38</sup> Fornasin, Breschi, and Manfredini (2010) analyze mortality patterns of cardinals between the sixteenth and twentieth centuries and report that poisoning is suspected as the cause of death for ten or more cardinals. However, Bellenger and Fletcher (2001) mention that stating poisoning as the cause of death was used to cover medical incompetence. Of the 1,292 cardinals in our sample, Miranda

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<sup>37</sup>There was no age limit for cardinals to participate in conclaves. A limit was introduced by Pope Paul VI in 1970, restricting the right to vote to cardinals under eighty.

<sup>38</sup>Wikipedia lists only two popes that were allegedly murdered within our period of analysis: Boniface VIII in 1303 and Benedict XI in 1305 (see [http://en.wikipedia.org/wiki/List\\_of\\_murdered\\_popes](http://en.wikipedia.org/wiki/List_of_murdered_popes)). Our results are unaffected if we drop these papacies from the regressions.

(2012) only states poisoning as the certain cause of death in 8 of them. There are other 26 cardinals described as “probably poisoned”, though some of them also list other probable causes of death.<sup>39</sup> Therefore we do not regard deaths by poisoning as a concern to our empirical strategy. Arguably, we may think that the time waited to start the conclave could depend on the cardinals already in Rome. However, there is anecdotal evidence showing that contrary occurred in 1769 after the death of Clement XIII. Italian cardinals waited almost three months so Spanish cardinals could arrive to Rome. In previous conclaves, especially those before the 16th century, there was an interest to start the conclave soon after the death of the pope to have a new authority in the Papal States. Historically, during the Vacant See, criminality increased in Rome given the lack of authority of cardinals and the *vacuum* of power in Rome. By the 16th century however, cardinals had developed an apparatus to implement their authority during *Sede Vacante* (Pattenden, 2017).

A final concern for identification is reverse causality: A conflict in the Papal States might have increased divisions in the College of Cardinals. This is unlikely to be the mechanism driving our results. First, as explained earlier cardinals come from multiple places in Europe, not only from the Papal States. Second, in Table 2 we test whether conflict in the previous papacy had an effect on polarization and fractionalization in the subsequent papacy. In Panel A we present results for our measures constructed using cardinals’ place of birth, while Panel B show results when we use cardinals’ place of work. We include each measure of conflict separately and then we include all together. Our main regressor, a dummy for at least one internal conflict in the previous papacy (DIST), does not have an effect on polarization or fractionalization. Our alternative measure, PROPDIST (proportion of years under disturbances in the previous papacy) does not have an effect on polarization constructed using cardinals’ place of work. It does have an effect on polarization using cardinals’ place of birth (column 3). However, it is only significant at 10 percent, and only when both DIST and PROPDIST are included. On the other hand, PROPDIST has a significant effect on fractionalization when constructed using both places of birth and work. However, an increase in PROPDIST reduces fractionalization in the subsequent papacy. Taken together, these results suggest that reverse causality is not a major concern in our setting.

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<sup>39</sup>For example, for cardinal Jacques de Via, who died in 1317, Miranda (2012) states that “Some sources have indicated that he may have died because of ‘witchcraft’ or due to being poisoned; others (...) indicate that he died of natural causes”.



## 5 Conflict in the Papal States: Evidence

### 5.1 Main result: polarization and conflict

Table 3 presents the results of estimating a linear probability model for equation (3) to analyze the effect of polarization and fractionalization in the College of Cardinals on the incidence of internal conflict. The dependent variable,  $disturbances_t$ , is a dummy variable taking the value of 1 if there was an internal disturbance in year  $t$ . In column 1 we include the measures of fractionalization and polarization constructed considering cardinals' birthplaces (FRACBIRTH and POLBIRTH, respectively), and only controlling by the number of cardinals attending the conclave,  $ncard_p$ . It is commonly believed that after long papacies the cardinals would choose older popes to have a *transitory regime*. Therefore in column 2 we add controls for the length of the previous papacy ( $lpapacy_{p-1}$ ), as well as the number of days to start the conclave ( $interregnum_p$ ) and the age of the pope when elected ( $ageelected_p$ ). In column 3 we include the length of the current papacy up to year  $t$  ( $tenure_t$ ), and controls for disturbances in other parts of Italy ( $distitaly_t$ ), and wars of the Papal States with other European powers ( $wars_t$ ). In column 4 we include controls for weather anomalies ( $weather_t$ ) and jubilee years ( $jubilee_t$ ). Finally, in columns 5 and 6 we include century and half-century dummies, respectively.

The estimates for POLBIRTH are positive and statistically significant at 1 percent across all specifications. An increase of 1 standard deviation in POLBIRTH (0.084) raises the probability of conflict by between 2.9 and 4 percentage points, depending on the specification. Given that the average incidence of conflict is 5.3 percent, these estimates imply an increase in the likelihood of conflict of between 55 and 75 percent. On the other hand, FRACBIRTH is statistically insignificant in all specifications.

Most of our controls are statistically insignificant, specially after including century and half-century dummies. Being at war with other states significantly increase the probability of internal conflict by 8.2 percentage points (column 7), while being in a holy year of jubilee decreases the probability of conflict by 5 percentage points (column 6-8).

To analyze the overall effect of POLBIRTH on the probability of internal conflict we estimate equation (3) with papacy-level (instead of year-level) data. We present these results in Table 4. In columns 1 and 2 we include the dummy variable DIST as dependent variable, which is takes the value of 1 if there was an internal disturbance during the papacy. In

columns 5 and 6 we consider the fraction of the papacy under disturbances (PROPDIST) as the dependent variable. By and large these results confirm our previous findings: an increase in polarization during the conclave, measured by POLBIRTH, has a positive effect on the probability of disturbances in the following papacy. Regarding the magnitude of the effect, a one standard deviation increase in POLBIRTH (0.084) raises the probability of at least one conflict during a papacy by 19 percentage points (column 2). Polarization also has a large effect on the fraction of the papacy under disturbances: a 1 standard deviation increase in POLBIRTH raises the fraction of the papacy under disturbances by 4 p.p. (the average of PROPDIST is 4 percent).

## 5.2 Robustness

In this section we describe several regressions we perform to assess the robustness of our main result.

### 5.2.1 Alternative groupings: Workplace and nominators of cardinals

As mentioned earlier, cardinals needed the support of civil rulers for their nomination, and therefore their workplace could play a relevant role. In Table 5 we replicate our main result but now constructing the measures of polarization and fractionalization using the cardinals' place of work instead of their birthplace. These variables are labeled as FRACWORK and POLWORK for fractionalization and polarization, respectively. The correlation between the measures using workplace and birthplace is positive, but not immense, since many of the non-Italian cardinals in our sample resided in the Papal States (48 percent), compared to the share of cardinals whose place of birth is in the Papal States (31 percent). The correlation between POLBIRTH and POLWORK is 0.27.

The results shown in Table 5 show that polarization in the College of Cardinals constructed with the cardinals workplaces significantly increased the likelihood of conflict (columns 2-6). The magnitude of the effect is smaller than when birthplace is used to construct the groups: One standard deviation increase in polarization raises the likelihood of conflict by between 2 and 3 percentage points. However the magnitude and significance of these coefficients disappear once we include century and half-century fixed effects. Columns 4-6 show a negative and significant effect of fractionalization on the incidence of internal conflict, with a 1 standard deviation increase decreasing the likelihood of conflict

by 2 percent approximately. This result could suggest that an increase in the number of states represented in the conclave decreases the incidence of internal conflicts. However, any significant effect disappears when we include century and half-century fixed effects.

Some authors (e.g. Baumgartner, 2003) have pointed out that cardinals nominated by the same pope would constitute a faction in the conclave, usually commanded by the cardinal-nephew of the pope. We therefore test whether distributional measures constructed using this alternative grouping had an effect on the likelihood of conflict. We include in the regressions the variables `FRACNOM` and `POLNOM`, which are measures of fractionalization and polarization constructed using the popes that nominated cardinals as the grouping variable. The results presented in Table 6 show that neither measure has a statistically significant effect on conflict, suggesting that geography-based measures of differences among cardinals played a more important role in the incidence of conflict in the Papal States.

### 5.2.2 Polarization and fractionalization weighted by distance

Throughout the paper we use “unweighted” measures of fractionalization and polarization, i.e. without considering inter-group distances. Esteban, Mayoral, and Ray (2012a) find that distributional measures that take into account inter-group distances better predict the incidence of ethnic conflict. We allow for this possibility by replacing our measures of polarization and fractionalization by the following indexes:

$$FRACBIRTH^* = \sum_{i=1}^N \sum_{j=1}^N \pi_i \pi_j d_{ij} \quad (4)$$

$$POLBIRTH^* = \sum_{i=1}^N \sum_{j=1}^N \pi_i^2 \pi_j d_{ij} \quad (5)$$

where as before  $\pi_i$  is the proportion of cardinals belonging to a birthplace group  $i$ , and  $d_{ij}$  is a measure of distance between birthplace groups  $i$  and  $j$ . These indexes collapse to `FRACBIRTH` and `POLBIRTH` when  $d_{ij}$  is just a 0—1 variable. This distance is meant to capture differences in preferences over public goods. We depart from the conflict literature and use the log of the distance between capital cities as our measure of distance, instead of linguistic distance.<sup>40</sup> Our argument for this choice is both historical as well as

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<sup>40</sup>We computed “as the crow flies” distances (the shortest distance between two points) using the Google Maps API.

practical. Latin was the common language of the clergy, and most cardinals spoke several languages.<sup>41</sup> Therefore geographic distance seems more appropriate than language as a proxy for differences in cardinals' preferences.

We present the results of this exercise in Table 7. Columns 1 and 2 show the results when using the log of the distance between capital cities to calculate FRACBIRTH\* and POLBIRTH\*. Columns 3 and 4 use a standardised measure of distance instead. Polarization has a positive and significant effect, while fractionalization has a negative association with conflicts and is only statistically significant at 10 percent when using the standardised measure of distance. A one standard deviation increase in polarization for the whole sample (0.135) raises the probability of conflict by between 3 and 3.6 percentage points (columns 1 and 2), while for columns 3 and 4 a one standard deviation increase in polarization raises the probability of conflict between 2.8 and 3.2 p.p. Regarding fractionalization we only find suggestive evidence rather than a robust and significant effect. A one standard deviation increase in FRACBIRTH\* decreases the likelihood of conflict by 2.9 p.p. only when using our standardised measure of distance (columns 3-4). The similarity in terms of magnitudes of these results to the ones in our benchmark specification validate the use of the unweighted measures of disagreement among the cardinals.

### 5.2.3 Dropping one papacy at a time

In this section we investigate whether our results are driven by specific events occurring during a year (such as an abnormal internal conflict) or during an exceptional papacy (such as a particularly long or polarized conclave). In Figure 5, each dot represents the estimated coefficient for POLBIRTH in equation (3), where one papacy (indicated in the horizontal axis) has been eliminated from the sample. All estimates are similar in magnitude and statistically significant. The average estimate is 0.443, with minimum and maximum of 0.377 and 0.494, respectively. This implies that the effect of polarization on the likelihood of conflict ranges between 3.2 and 4.1 percentage points.

Overall, the results in Figure 5 show that the relationship between polarization and conflict in the Papal States is unaffected when a papacy is excluded from the sample, alleviating concerns that the results are driven by exceptional events.

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<sup>41</sup>See [Burke \(2004\)](#) for a discussion on the use of Latin in the church. Latin was also used by lawyers, officials, diplomats and travellers.

### 5.3 Intensity of internal disturbances

We have seen that a more polarized College of Cardinals increases the probability of internal conflict during the subsequent papacy. But does increased polarization affect the magnitude of these disturbances? We test for this possibility by estimating equation (3), but now with the intensity of conflict as the dependent variable. As explained before, we only have this variable available for conflicts reported in Sorokin (1937).

Table 8 presents our results. We show results using OLS in columns 1 and 2. Columns 3 and 4 show results for Tobit estimations to account for censoring at zero. Our measure of polarization in the College of Cardinals is positive and significant in all specifications. Conditional on observing a conflict, a one standard deviation increase in POLBIRTH raises the intensity of conflict by 10.68, equivalent to an increase of 81 percent in the average intensity (column 2).

### 5.4 Why polarization and not fractionalization

Our results show strong evidence of the effect of polarization of the College of Cardinals in the likelihood of conflict in the Papal States. By contrast, fractionalization does not exhibit the same effect. The standard errors for FRACBIRTH in Table 3 are comparable to those of POLBIRTH; however the point estimates are significantly smaller and even negative. In none of our specifications fractionalization becomes statistically significant.

What is special about polarization? The existence of two strong opposition groups in the conclave, a large polarization level, may lead to a compromise election of a weak candidate. It could also occur that the candidate of one of the two groups wins and the loser group does not support the new pope. Both cases would cause a decline in the capacity of the new pope to prevent or suppress possible revolts. We could also argue that even though there are private rents associated with holding the papacy, conflict is primarily driven by control over public goods. Since population is more likely to observe how public goods are managed and they cannot observe or benefit from the private rents about which cardinals may disagree, polarization is, therefore, more relevant for the occurrence of internal conflicts.

Esteban, Mayoral, and Ray (2012a,b) propose a framework to test for this prediction, where polarization has a larger effect of conflict the larger is the relative importance of public vs. private rents. They proxy public rents with measures of lack of executive constraints or the level of autocracy, while their proxy for private rents are oil reserves. We do not have

a good proxy for public rents in our setting, but we do for private rents. We construct a measure of papal revenues from Caselli (2014). Because we do not observe revenues every year, and because the data is silver scudi of each year, we either linearly interpolate the data or use the last available figure, and adjust it by CPI using data from Malanima (2013). Since it is possible to interpolate and then deflate, or viceversa, we follow both approaches. Figure E-2 in the Online Appendix shows the time series for each of the alternatives we consider.

We re-estimate equation (3) adding an interaction term between our measures of disagreement among the cardinals and the size of the private rents. Table 9 shows the results of this exercise. In columns 1, 3 and 5 we impute missing years using the last known revenue value, while in columns 2, 4 and 6 we use linear interpolation. Columns 1 and 2 do not adjust revenues by CPI, columns 3 and 4 impute missing values and then adjust for CPI, while in columns 5 and 6 we first adjust for CPI and then impute missing values. The results are overall supportive of Esteban, Mayoral and Ray’s model: The coefficient on the interaction between polarization and revenue is always negative, and statistically significant in columns 3-6. This indicates that in years when revenues were smaller (i.e. the size of private rents was smaller) the effect of polarization on conflict was larger. For the case of fractionalization we do not find a clear pattern, as the coefficient on the interaction is positive in half the specifications.

## 6 Identifying the Mechanism

We have argued that a more polarized conclave increases the likelihood of internal conflict in the Papal States in the following papacy. There are several explanations why this might be the case. In this section we discuss them and provide suggestive evidence supporting or dismissing some of them.

### 6.1 Polarization is proxying for overall conflict in the region

If division among the cardinals had an effect on internal conflict only in the Papal States because it proxies for the quality of the pope as a leader, we should not observe an increase in disturbances elsewhere. In Table 10 we perform this falsification test, with a dummy for disturbances in Italy excluding the Papal States ( $distitaly_t$ ) as our dependent variable in columns 1 and 2. Columns 3-6 use intensity of conflict as a dependent variable; columns

3 and 4 show results for OLS estimating and columns 5 and 6 for Tobit estimations. We find that polarization has no effect either on the likelihood of disturbances in the rest of Italy or on the intensity of conflict. The only exception is column 3, where we do not include century fixed effects. These results indicate that it is unlikely that polarization in the College of Cardinals is proxying for conflict throughout all Italy. They also provide evidence against an increase in the incidence of conflict because of the weakness of the pope on religious grounds. If this were the case, conflict should be observed elsewhere in Italy, and not only within the Papal States.

## 6.2 Polarization is proxying for the pope’s overall incompetence

We have shown that a more polarized conclave leads to more conflict within the Papal States. We have argued that a more polarized conclave elects consensus candidates that might not have enough support to suppress revolts. But is polarization proxying for the pope’s overall incompetence? In particular, did polarization also weaken the religious productivity of popes? To investigate this possibility we analyze canonizations (the naming of saints) and beatifications (the naming of blessed) as proxies for the pope’s religious productivity.<sup>42</sup> We rely on Barro, McCleary, and McQuoid (2011) for data on the number of beatified and canonized after 1592, and on Walsh (2011b) for data before 1592 (available only for the number of canonized).

Table 11 shows papacy-level regressions where the dependent variable is the rate of canonizations (number of canonizations per papacy) in columns 1-2, and the rate of beatifications (number of beatifications per papacy) in columns 3-4. None of these specifications provide evidence of a change in religious productivity due to polarization in the College of Cardinals, suggesting a low degree of complementarity between warfare and sainthood making.

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<sup>42</sup>See Barro, McCleary, and McQuoid (2011) for a discussion on the determinants of canonizations and beatifications. The process of canonization requires papal approval, and it is a major activity of the Catholic Church.

## 6.3 Foreign popes

Some scholars have pointed out that the Roman people were not pleased when a conclave culminated in the election of a foreign pope (Baumgartner, 2003).<sup>43</sup> In columns 1-2 of table 12 we investigate whether the place of birth of the pope has an effect on the occurrence of conflict. We add a dummy variable indicating whether the pope is Italian but not from the Papal States, and a dummy for whether the pope is non-Italian.<sup>44</sup> These two variables do not have a statistically significant effect on the likelihood of conflict and, perhaps more importantly, the estimates for POLBIRTH remain unaltered.

## 6.4 Polarization and weak popes

In what follows we provide evidence suggesting that the mechanism through which polarization has an effect on internal conflict is the selection of weak popes. We show that polarization leads to longer conclaves and a higher likelihood of observing an antipope. We also show that disturbances are more likely to occur at the beginning of the papacy, suggesting that (weak) popes learn on the job.

### 6.4.1 Length of the conclave

We explore whether disagreement among the cardinals had an effect on the length of the conclave. Evidence shows that U.S. juries deliberate longer when cases are more complex (Brunell, Dave, and Morgan, 2009). Moreover, Hannaford-Agor, Hans, Mott, and Munsterman (2002) show that trials for which the jury is hung on any count have a much higher average juror response for “time and effort spent trying to convince others”. Therefore, the length of the conclave can be seen as an indicator for the struggle of cardinals to find a consensus candidate, but it can also indicate the complexity of the screening process.

In Table 13 we assess whether our measures of fractionalization and polarization influence the length of the conclave. We estimate a duration model with conclave length,  $lconclave$ , as our dependent variable. We present the coefficients estimates instead of the hazard ratios since we have continuous covariates. Column 1 only includes fractionalization and polarization measured using cardinals’ birthplaces (FRACBIRTH and POLBIRTH)

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<sup>43</sup>Baumgartner (2003) argues that when a foreigner was elected the Roman mob was not able to plunder his house. Also, some feared that the papacy could be moved away from Rome.

<sup>44</sup>We depart from our grouping strategy for birthplaces and define Italian as being born in the Italian peninsula.



and the number of cardinals. Column 2 adds controls for the length of the previous papacy, the *interregnum<sub>p</sub>* time and the age at which the pope was elected. Finally, column 3 adds century dummies. The results show that in all specifications POLBIRTH significantly reduces the hazard of an end of the conclave. A 1 standard deviation increase in POLBIRTH reduces the hazard of an end of the conclave by 36 percent (column 3). By and large, these results indicate that a more polarized College of cardinals faced a longer conclave. We only find a significant effect of fractionalization on the length of the conclave in column 3, in which a 1 s.d. increase in FRACBIRTH reduces the hazard of an end of the conclave by 58 percent.

### 6.4.2 Antipopes

Antipopes were cardinals who challenged the papal authority, typically elected by the losing faction in a conclave. They were common before the conclave was established, and then reappeared during *The Great Schism*, where three popes simultaneously claimed the see of Saint Peter. We have created the dummy variable *antipope<sub>t</sub>* equal to 1 if there was an antipope in year *t*.<sup>45</sup>

Column 3 of Table 12 analyzes whether divisions among the cardinals had an effect on the likelihood of observing an antipope. The results show that increased polarization made it more likely to have an antipope challenging the authority of the pope during his tenure. The effect is sizable, as one s.d. increase in polarization raises the probability of observing an antipope by 9 p.p., or an increase of 74 percent.

### 6.4.3 Timing of internal disturbances

Our results indicate that increasing polarization in the conclave by 1 standard deviation raises the likelihood of conflict in the years following the conclave. But the timing of internal conflicts could matter. Enforcing authority after the conclave was one of the main issues of a new pope (Pattenden, 2017). If conflicts arise earlier in the papacy, it could mean that a weak or inexperienced pope was elected and that he learnt from his mistakes over time. In Table F-1 in the online appendix we present the results of estimating equation (3), but now including dummies for each lustrum after the conclave, as well as interactions with POLBIRTH and FRACBIRTH. The table reports the marginal effect of POLBIRTH on

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<sup>45</sup>We follow the literature and classify as antipopes those elected outside the Roman obedience.

the probability of conflict for each quinquennium after the conclave. We observe a positive and significant effect of POLBIRTH on conflict in the first 5 years after the conclave. The effect is the largest in this period after the conclave, with a 1 standard deviation increase in POLBIRTH raising the likelihood of conflict by 4.3 and 5 percentage points (columns 1 and 2 respectively). After year 5 the effect becomes smaller and only statistically significant at 10% when including century fixed effects. A 1 standard deviation increase in POLBIRTH raises the likelihood of conflict by 3.6 percent. In years 10-14 the conclave the effect becomes statistically not significant. After year 14 the effect of POLBIRTH bounces back and forth between positive and negative, with a large positive and significant effect in years 15-19 after the conclave. These extreme values, however, are driven by very few observations, since the first 3 bins contain 92 percent of the sample. In Figure 6 we plot the results from column 2, scaled so that each dot represents the effect of a 1 standard deviation increase in POLBIRTH on the probability of internal conflict. We only include the first 3 bins for ease of exposition, and because they comprise 92 percent of the sample. These results are compatible with a learning hypothesis, where an initially weak pope becomes more experienced in suppressing revolts later in his tenure.

#### 6.4.4 Wars against other states

In this section we analyze whether our measures of disagreement among the cardinals can explain the incidence of wars against other states. We do not have a clear prediction regarding the sign of the coefficient on polarization. On the one hand, more polarized conclaves might debilitate the position of an elected pope to fight wars against other states, either by “tying his hands” with capitulations, or by agreements among different factions of cardinals. On the other hand, a weaker pope might make the Papal States more likely to be attacked by other states. [Chiozza and Goemans \(2011\)](#) also argue that weak leaders might find worthy to start a war to increase their legitimacy at home.

We estimate a linear probability model where the dependent variable is a dummy indicating whether the Papal States were at war with other state. Columns 1-2 of Table 14 present these results. We find that polarization has a positive association on the probability of war, but its coefficient is not statistically significant at conventional levels. The effect of fractionalization on the likelihood of war, on the other hand, is positive and significant in column 1 but disappears when we include controls in column 2. In columns 3 and 4 we

estimate a linear probability model where the dependent variable is a dummy indicating if the Papal States were at war with other political entities in the Italian peninsula. The effect of fractionalization is positive and significant in column 3 but disappears when we include controls in column 4, as it was the case with wars involving the Papal States. However, the coefficient on polarization is positive and significant at 10 percent when we include controls in column 4. A one standard deviation increase in POLBIRTH is associated with a 5.7 p.p. increase in the likelihood of being at war in the Italian peninsula.

Taken together, these results suggest that more polarization among the cardinals had a positive (although not very robust) effect on the likelihood of being at war with other states. This would be consistent with a weak pope being more likely to be attacked.

## 6.5 Losing faction organizing a revolt

The mechanism abovementioned is difficult to differentiate from an alternative mechanism where the losing faction in the conclave is dissatisfied with the outcome of the election and decides to organize a revolt. This mechanism would be also consistent with the increase in the likelihood of antipopes after polarized conclaves.

Indeed, these two mechanisms were likely to reinforce each other: Weak popes were less able to keep their cardinals at bay, while dissident cardinals further weakened the political power of the pope. Two of the results we have discussed in the previous sections suggest that the “weak pope” explanation is more plausible. First, we do not find strong evidence of a statistically significant relationship between increased polarization and the likelihood of wars involving the Papal States, which would support the “losing faction” mechanism. And second, the effect of polarization on internal conflict is the largest at the beginning of the papacy, suggesting a process of learning-by-doing of the initially weak or inexperienced pope.

## 7 Conclusions

Traditional models of conflict consider two parties (an elite and an oppressed group) that fight against each other. We argue that in most cases the elite is not a unified body, but it is composed of several groups that can disagree, particularly when selecting their leader. If we were able to find exogenous variation on the level of disagreement among elite groups, we could tease out its effect on the incidence and intensity of internal conflict. But two

problems arise: First, how can we identify the different elite groups, and measure their disagreement? And second, disagreement among these groups can be spurred by conflict if it is not measured before conflict takes place.

In this paper we overcome these issues by analyzing the effect of disagreement among cardinals during conclaves on internal conflict in the Papal States in 1295–1846. In the Catholic church the elite is clearly defined: the College of Cardinals elects the pope, and most of the time the successor comes from their own ranks. We construct measures of political grievances among the cardinals during the conclave based on their birthplace and analyze their impact on internal conflicts that took place in the subsequent papacy.

We first show that our measure of polarization significantly increases the probability of internal conflict, while our measure of fractionalization has a negative effect but statistically insignificant. These results are robust to several alternative specifications, such as using cardinals' workplace instead of birthplace to construct our measures of divisions, or taking into account distances between groups. We also find the effect of polarization to be larger in the first years of the papacy, to gradually fade after the fifth year.

We then document that the length of a conclave is positively associated with an increase in polarization of the College of Cardinals. We interpret this result as evidence of the struggle of the cardinals to unite behind a single candidate, since even after controlling for the number of candidates attending the conclave (which we see as a proxy for the cost of the screening process), the coefficient on polarization measured by the cardinals' birthplaces is still large and statistically significant. Polarization also increases the intensity of conflict, but does not have a robust effect on the probability of being at war with other states.

Our results complement those of [Montalvo and Reynal-Querol \(2005\)](#) and [Esteban, Mayoral, and Ray \(2012a\)](#), who find that polarization is the driving force of ethnic conflict, on two dimensions. First, we show that polarization among the elite significantly increases the incidence and intensity of internal conflict. This result is particularly relevant for autocracies, and in contexts where ethnicity is not a relevant marker. Second, we make use of the time series variation in our measures of both conflict and polarization within the Papal States, instead of relying on cross country data for identification. Between 1295 and 1846 the institution of the conclave remained almost unaltered, making it one of the longest lasting mechanisms for leader selection.

Our results provide two possible mechanisms why we might see a link between polar-

ization and internal conflict: election of weak leaders and losing factions creating dissent. Both mechanism may not be exclusive and, instead, they may reinforce each other. However, the results of the timing of the internal conflicts (more significant at the beginning of a papacy) and the evidence from the determinants of the length of the conclave suggest that election of weak leaders might be the driving force behind the internal conflicts after polarized conclaves.

Even though the evidence provided in this paper is derived from a context different to contemporary nations, its implications can inform the current debate on the effects of a polarization among the governing elite. Polarized legislatures such as those in Belgium, Spain, Israel or the U.S. might face longer periods without a functioning government, delays in implementing reforms, and more frequent challenges to the head of government in the form of no-confidence votes.

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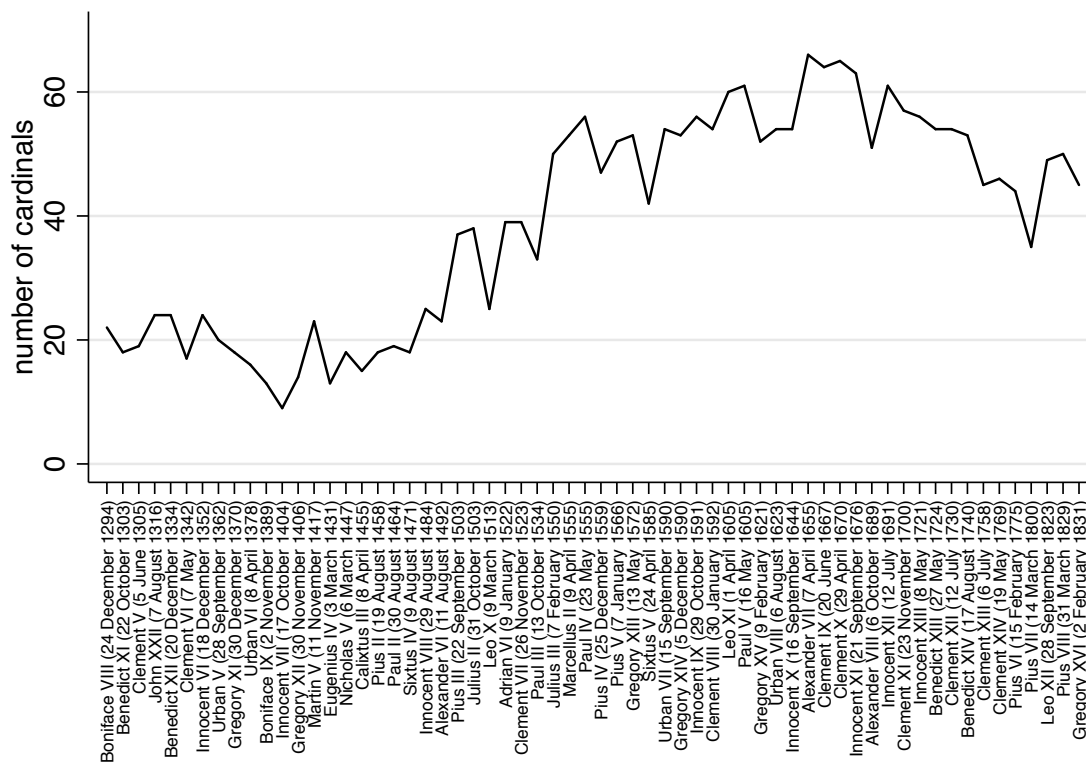
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Figure 1: The Papal States, c. 1500



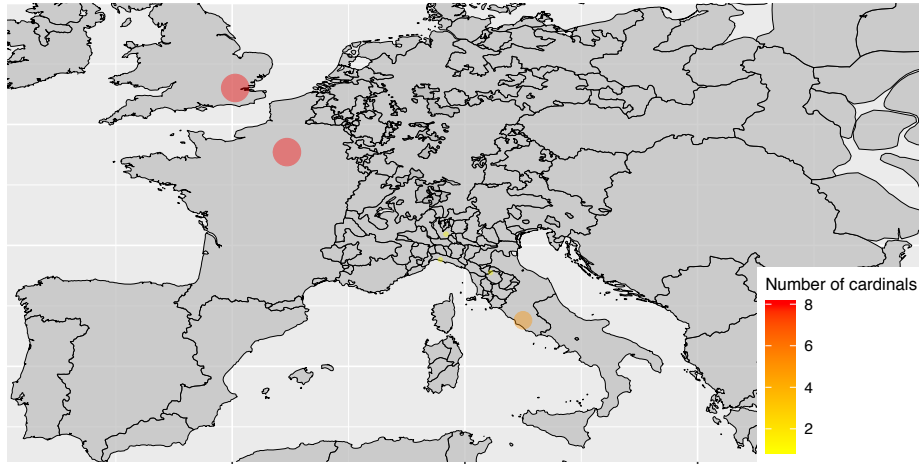
Source: Euratlas ([www.euratlas.com](http://www.euratlas.com)).

**Figure 2:** Number of cardinals in conclaves

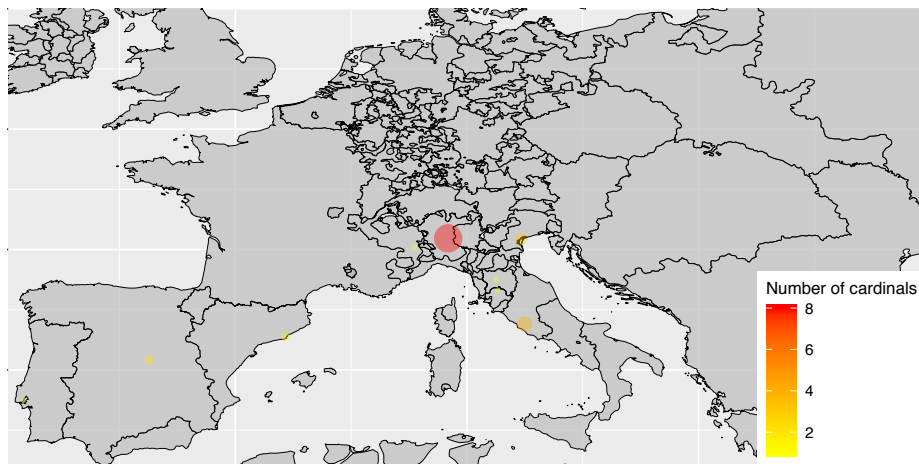


**Notes:** The figure plots the number of cardinals present in each conclave. The horizontal axis shows the name of the pope elected, with the date of election in parenthesis.

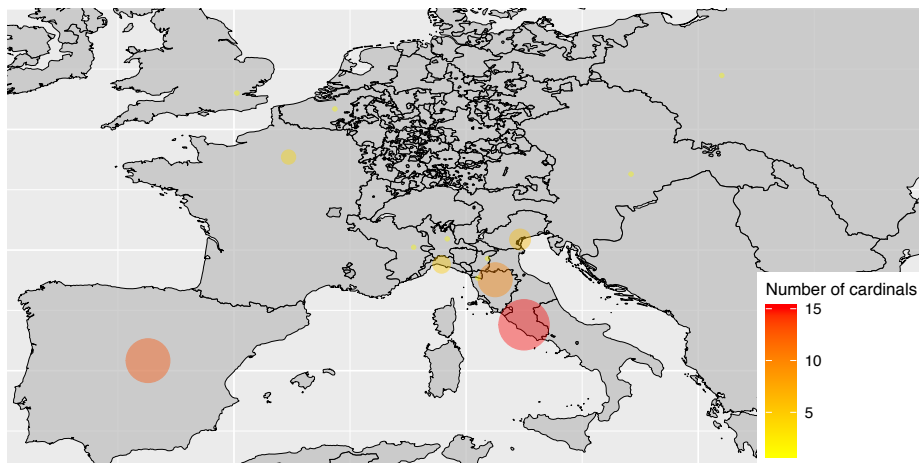
**Figure 3: Cardinals by birthplace**



**(a) Conclave of 1316**

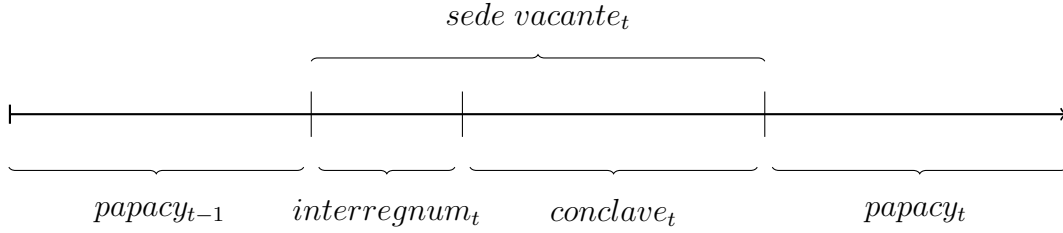


**(b) Conclave of 1492**

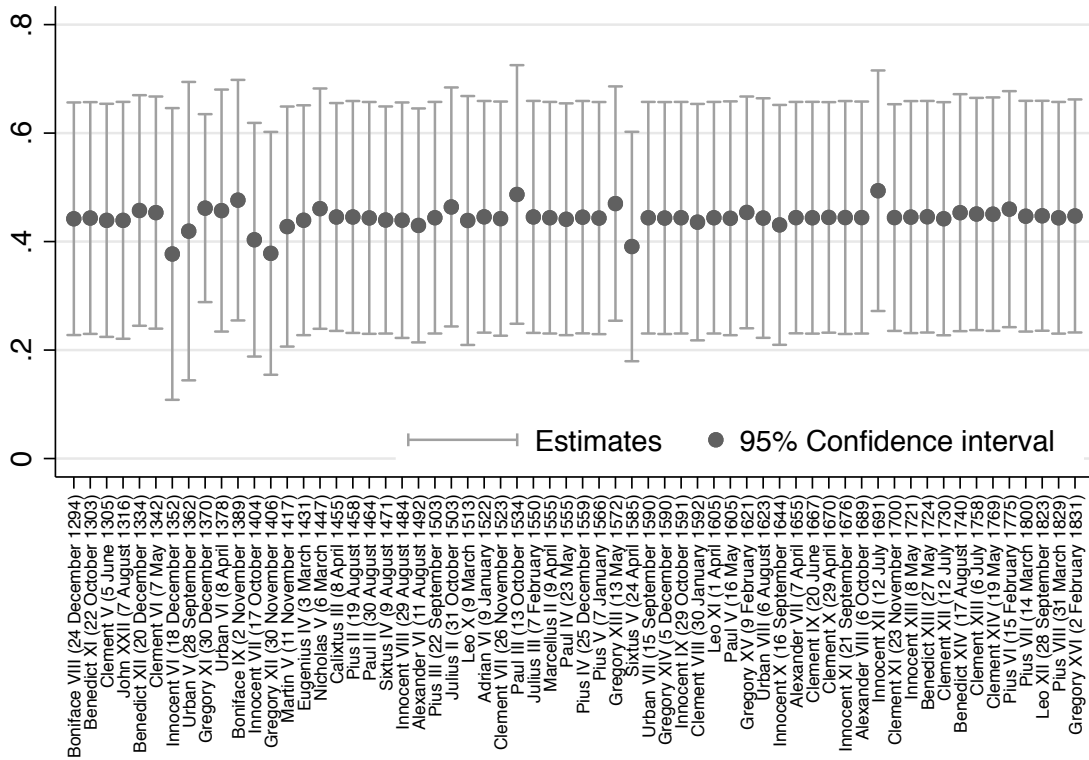


**(c) Conclave of 1691**

**Figure 4:** Timing of papal elections

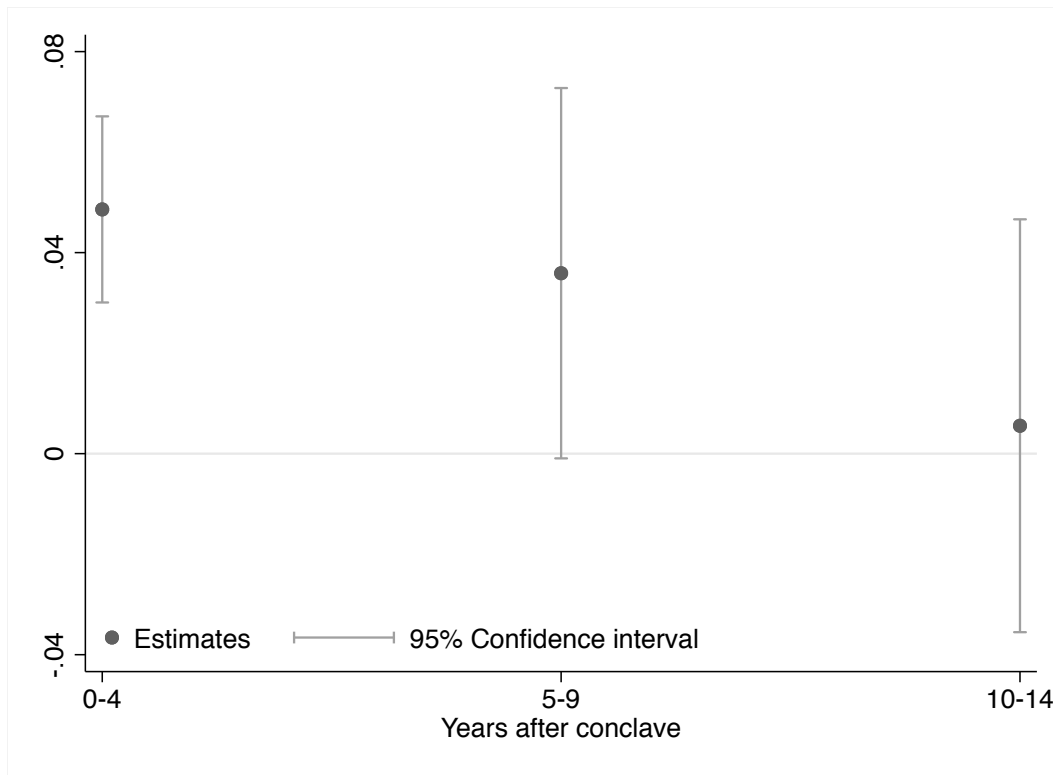


**Figure 5:** The effect of polarization on conflict: dropping one papacy at a time



**Notes:** The figure shows estimates and 95% confidence intervals of POLBIRTH when one papacy is excluded from the sample. The horizontal axis shows the name of the pope whose papacy is excluded, with the date of election in parenthesis.

**Figure 6:** The effect of polarization on conflict: Interaction with tenure



**Notes:** The figure shows estimates of the effect of a 1 s.d. increase in POLBIRTH on the probability of conflict. The estimates are computed using the coefficients from column 3 in Table F-1.



**Table 1:** Descriptive statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
<b>A. Popes</b>					
Age when elected (years)	61.42	10.54	37.30	79.90	62
Tenure (100 days)	31.72	22.11	0.12	89.62	62
<b>B. Cardinals</b>					
Number of cardinals	39.19	17.24	9.00	66.00	62
<b>C. Conclaves</b>					
Conclave length (100 days)	0.509	1.140	0.02	8.17	62
Vacant see (100 days)	0.788	1.541	0.12	8.62	62
Interregnum (100 days)	0.279	1.077	0.08	8.58	62
<b>D. Internal Disturbances</b>					
D.1. Papacy-level					
Disturbances in Papal States (DIST)	0.242	0.432	0.00	1.00	62
Share of papacy under disturbances (PROPDIST)	0.041	0.099	0.00	0.50	62
D.2. Year-level					
Disturbances in Papal States (incidence)	0.053	0.223	0.000	1.000	552
Disturbances in Papal States (intensity)	0.581	3.023	0.000	24.100	552
Conditional on conflict	13.366	6.378	3.910	24.100	24
Disturbances in the rest of Italy (incidence)	0.168	0.375	0.000	1.000	552
<b>E. Wars</b>					
Wars against other states (incidence)	0.261	0.440	0.000	1.000	552
Wars against other states (number)	0.315	0.573	0.000	3.000	552
<b>F. Additional controls</b>					
Temperature anomalies	-0.249	0.262	-1.168	0.492	552
Jubilee year	0.034	0.182	0.000	1.000	552
<b>G. Polarization and fractionalization</b>					
FRACBIRTH	0.739	0.115	0.265	0.890	552
POLBIRTH	0.607	0.084	0.385	0.790	552
FRACWORK	0.618	0.202	0.185	0.920	552
POLWORK	0.585	0.110	0.292	0.739	552
FRACNOM	0.539	0.180	0.000	0.766	552
POLNOM	0.723	0.190	0.000	0.988	552

**Notes:** All sources are listed in the text. In panels A, B, C and D1 the unit of observation is a papacy, while in panels D1, E, F and G the unit of observation is a year. In panel B we include only cardinals participating in conclaves. In Panel D, intensity of disturbances is constructed with data from [Sorokin \(1937\)](#).

**Table 2:** Determinants of Polarization and Fractionalization in the Papal States

Panel A: Measures based on cardinals' place of birth						
Dep. Variable:	POLBIRTH <sub>p</sub>			FRACBIRTH <sub>p</sub>		
	(1)	(2)	(3)	(4)	(5)	(6)
DIST <sub>p-1</sub>	0.012 (0.021)		-0.020 (0.020)	0.027 (0.042)		0.045 (0.041)
PROPDIST <sub>p-1</sub>		0.138 (0.073)	0.190* (0.081)		0.013 (0.121)	-0.105* (0.047)
Panel B: Measures based on cardinals' place of work						
Dep. Variable:	POLWORK <sub>p</sub>			FRACWORK <sub>p</sub>		
	(1)	(2)	(3)	(4)	(5)	(6)
DIST <sub>p-1</sub>	0.023 (0.040)		-0.039 (0.042)	-0.014 (0.030)		0.038 (0.026)
PROPDIST <sub>p-1</sub>		0.267 (0.188)	0.370 (0.247)		-0.215* (0.087)	-0.315** (0.088)
Century dummies	yes	yes	yes	yes	yes	yes
Observations	61	61	61	61	61	61

**Notes:** Coefficients are estimated from a linear model with standard errors clustered at the century level in parentheses. DIST is a dummy variable indicating whether there were disturbances within the Papal States during papacy  $p$ . PROPDIST is the proportion of the papacy under disturbances. All regressions include  $ncard$  (the number of cardinals in the conclave),  $interregnum$  (the number of days between the death of the pope and the start of the conclave), and  $ageelected$  (the age of the pope when elected, in years) as controls. \*\*\*, \*\* and \* indicate statistical significance at the 99%, 95% and 90%, respectively.

**Table 3:** Fractionalization, polarization, and disturbances in the Papal States

Dep. Variable:	Disturbances within the Papal States <sub>t</sub>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FRACBIRTH	-0.115 (0.139)		-0.017 (0.100)	-0.008 (0.109)	-0.054 (0.121)	-0.037 (0.114)	-0.079 (0.103)	-0.072 (0.092)
POLBIRTH		0.417*** (0.119)	0.410*** (0.122)	0.390*** (0.109)	0.361*** (0.095)	0.346*** (0.091)	0.446*** (0.107)	0.479*** (0.122)
<i>ncard<sub>p</sub></i>	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.000)	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.004*** (0.001)	-0.004* (0.002)
<i>lpapacy<sub>p-1</sub></i>				-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
<i>interregnum<sub>p</sub></i>				-0.003 (0.002)	0.001 (0.003)	0.000 (0.003)	0.007* (0.004)	0.006 (0.006)
<i>ageelected<sub>p</sub></i>				0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
<i>tenure<sub>t</sub></i>					0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)
<i>distitaly<sub>t</sub></i>					0.029 (0.032)	0.030 (0.032)	0.033 (0.033)	0.033 (0.034)
<i>wars<sub>t</sub></i>					0.079** (0.032)	0.081** (0.033)	0.082** (0.035)	0.079** (0.039)
<i>weather<sub>t</sub></i>						0.054 (0.040)	0.030 (0.041)	0.023 (0.044)
<i>jubilee<sub>t</sub></i>						-0.046*** (0.017)	-0.044** (0.019)	-0.044** (0.019)
Century FE	no	no	no	no	no	no	yes	no
Half-century FE	no	no	no	no	no	no	no	yes
Observations	550	550	550	550	550	550	550	550
R-squared	0.029	0.050	0.051	0.059	0.084	0.088	0.100	0.101

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. The dependent variable is a dummy indicating whether there were disturbances within the Papal States during year  $t$ . FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping.  $ncard_p$  is the number of cardinals in the conclave,  $lpapacy_{p-1}$  is the length of the previous papacy.  $interregnum_p$  is the number of days between the death of the pope and the start of the conclave.  $lpapacy_{p-1}$  and  $interregnum_p$  are measured in hundreds of days.  $ageelected_p$  is the age of the pope when elected, in years.  $tenure_t$  is the length of the papacy up to year  $t$ , in years.  $distitaly_t$  is a dummy indicating whether there were disturbances in Italy (not including the Papal States) during year  $t$ .  $wars_t$  is a dummy indicating whether the Papal States were at war with other European states.  $weather_t$  is a measure of temperature anomalies.  $jubilee_t$  is an indicator for Holy years of Jubilee. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 4:** Fractionalization, polarization, and disturbances in the Papal States (papacy-level regression)

Dep. Variable:	DIST			PROPDIST		
	(1)	(2)	(3)	(4)	(5)	(6)
FRACBIRTH	0.069 (0.315)	0.075 (0.319)	0.024 (0.467)	-0.057 (0.120)	-0.061 (0.131)	-0.257 (0.183)
POLBIRTH	2.259*** (0.408)	2.229*** (0.365)	2.220*** (0.448)	0.503*** (0.166)	0.501*** (0.166)	0.572*** (0.200)
$ncard_p$	-0.013*** (0.002)	-0.013*** (0.003)	-0.011 (0.007)	-0.002*** (0.001)	-0.003*** (0.001)	-0.003* (0.002)
$lpapacy_p$		0.004** (0.002)	0.004* (0.002)		-0.000 (0.000)	-0.000 (0.001)
$lpapacy_{p-1}$		-0.004** (0.002)	-0.004* (0.002)		-0.001** (0.000)	-0.001 (0.000)
$interregnum_p$		-0.032** (0.014)	-0.033 (0.025)		-0.000 (0.003)	-0.000 (0.004)
$ageelected_p$		-0.002 (0.004)	-0.002 (0.004)		0.001 (0.001)	0.000 (0.002)
Century dummies	no	no	yes	no	no	yes
Observations	62	62	62	62	62	62
R-squared	0.474	0.578	0.584	0.430	0.458	0.524

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. DIST is a dummy variable indicating whether there were disturbances within the Papal States during papacy  $t$ . PROPDIST is the proportion of the papacy under disturbances. FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping.  $ncard_p$  is the number of cardinals in the conclave,  $lpapacy_p$  and  $lpapacy_{p-1}$  are the length of the current and previous papacy, respectively.  $interregnum_p$  is the number of days between the death of the pope and the start of the conclave.  $lpapacy_p$ ,  $lpapacy_{p-1}$  and  $interregnum_p$  are measured in hundreds of days.  $ageelected_p$  is the age of the pope when elected, in years. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 5:** Fractionalization and polarization computed using cardinals' workplace

Dep. Variable:	Disturbances within the Papal States <sub><i>t</i></sub>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FRACWORK	-0.037 (0.062)		-0.077 (0.056)	-0.099** (0.041)	-0.094** (0.036)	-0.077** (0.032)	-0.120 (0.098)	-0.140 (0.172)
POLWORK		0.233*** (0.084)	0.257*** (0.087)	0.198*** (0.074)	0.232*** (0.061)	0.203*** (0.064)	0.127 (0.107)	0.060 (0.117)
<i>ncard<sub>p</sub></i>	-0.002*** (0.001)	-0.002*** (0.001)	-0.003*** (0.001)	-0.004*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)	-0.004** (0.001)	-0.004* (0.002)
<i>lpapacy<sub>p-1</sub></i>				-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
<i>interregnum<sub>p</sub></i>				-0.004 (0.003)	0.000 (0.003)	-0.001 (0.003)	0.002 (0.003)	-0.002 (0.006)
<i>ageelected<sub>p</sub></i>				0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
<i>tenure<sub>t</sub></i>					0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)
<i>distitaly<sub>t</sub></i>					0.028 (0.032)	0.029 (0.031)	0.030 (0.033)	0.030 (0.033)
<i>wars<sub>t</sub></i>					0.083*** (0.030)	0.085*** (0.031)	0.088** (0.036)	0.085** (0.039)
<i>weather<sub>t</sub></i>						0.051 (0.045)	0.044 (0.046)	0.046 (0.051)
<i>jubilee<sub>t</sub></i>						-0.044** (0.017)	-0.042** (0.018)	-0.042** (0.018)
Century FE	no	no	no	no	no	no	yes	no
Half-century FE	no	no	no	no	no	no	no	yes
Observations	550	550	550	550	550	550	550	550
R-squared	0.026	0.038	0.041	0.049	0.076	0.079	0.085	0.087

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. The dependent variable is a dummy indicating whether there were disturbances within the Papal States during year  $t$ . FRACWORK and POLWORK are fractionalization and polarization measures using the workplace of cardinals at the time of their elevation to cardinalate as grouping.  $ncard_p$  is the number of cardinals in the conclave,  $lpapacy_p$  is the length of the previous papacy.  $interregnum_p$  is the number of days between the death of the pope and the start of the conclave.  $lpapacy_{p-1}$  and  $interregnum_p$  are measured in hundreds of days.  $ageelected_p$  is the age of the pope when elected, in years.  $tenure_t$  is the length of the papacy up to year  $t$ , in years.  $distitaly_t$  is a dummy variable indicating whether there were disturbances in Italy, excluding the Papal States, in year  $t$ .  $wars_t$  is a dummy indicating whether the Papal States were at war with other European states.  $weather_t$  is a measure of temperature anomalies.  $jubilee_t$  is an indicator for Holy years of Jubilee. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 6:** Fractionalization and polarization computed using cardinals' nominators

Dep. Variable:	Disturbances within the Papal States <sub>t</sub>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FRACNOM	0.047 (0.052)		-0.063 (0.067)	-0.068 (0.066)	-0.086 (0.070)	-0.055 (0.073)	-0.017 (0.085)	-0.054 (0.098)
POLNOM		0.093* (0.047)	0.137** (0.068)	0.086 (0.064)	0.084 (0.062)	0.061 (0.057)	0.043 (0.064)	0.074 (0.068)
<i>ncard<sub>p</sub></i>	-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.003*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)	-0.003** (0.001)	-0.004* (0.002)
<i>lpapacy<sub>p-1</sub></i>				-0.001* (0.000)	-0.001 (0.000)	-0.000 (0.000)	-0.000 (0.001)	-0.000 (0.001)
<i>interregnum<sub>p</sub></i>				-0.007** (0.003)	-0.003 (0.003)	-0.005 (0.004)	-0.000 (0.003)	-0.003 (0.007)
<i>ageelected<sub>p</sub></i>				0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.002 (0.001)	0.001 (0.001)
<i>tenure<sub>t</sub></i>					0.002 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)
<i>distitaly<sub>t</sub></i>					0.039 (0.033)	0.038 (0.032)	0.035 (0.034)	0.035 (0.034)
<i>wars<sub>t</sub></i>					0.074** (0.028)	0.078** (0.030)	0.088** (0.034)	0.083** (0.036)
<i>weather<sub>t</sub></i>						0.067 (0.045)	0.052 (0.046)	0.055 (0.046)
<i>jubilee<sub>t</sub></i>						-0.044*** (0.016)	-0.039** (0.018)	-0.038** (0.018)
Century FE	no	no	no	no	no	no	yes	no
Half-century FE	no	no	no	no	no	no	no	yes
Observations	550	550	550	550	550	550	550	550
R-squared	0.027	0.032	0.033	0.041	0.066	0.073	0.082	0.087

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. The dependent variable is a dummy indicating whether there were disturbances within the Papal States during year  $t$ . FRACNOM and POLNOM are fractionalization and polarization measures using the popes who nominated the cardinals as grouping.  $ncard_p$  is the number of cardinals in the conclave,  $lpapacy_p$  is the length of the previous papacy.  $interregnum_p$  is the number of days between the death of the pope and the start of the conclave.  $lpapacy_{p-1}$  and  $interregnum_p$  are measured in hundreds of days.  $ageelected_p$  is the age of the pope when elected, in years.  $tenure_t$  is the length of the papacy up to year  $t$ , in years.  $distitaly_t$  is a dummy variable indicating whether there were disturbances in Italy, excluding the Papal States, in year  $t$ .  $wars_t$  is a dummy indicating whether the Papal States were at war with other European states.  $weather_t$  is a measure of temperature anomalies.  $jubilee_t$  is an indicator for Holy years of Jubilee. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 7:** Fractionalization and polarization weighted by distance

Dep. Variable: Weight:	disturbances <sub>t</sub>			
	log( <i>distance</i> )		$\frac{distance}{max(distance)}$	
	(1)	(2)	(3)	(4)
FRACBIRTH*	-0.007 (0.016)	-0.015 (0.016)	-0.759* (0.404)	-0.793* (0.441)
POLBIRTH*	0.226*** (0.068)	0.264*** (0.070)	3.535** (1.624)	3.982** (1.823)
<i>ncard</i> <sub>p</sub>	-0.002*** (0.000)	-0.005*** (0.001)	-0.002*** (0.000)	-0.004** (0.002)
<i>lpapacy</i> <sub>p-1</sub>		-0.000 (0.000)		-0.000 (0.000)
<i>interregnum</i> <sub>p</sub>		0.006* (0.004)		0.002 (0.003)
<i>ageelected</i> <sub>p</sub>		0.001 (0.001)		0.002 (0.001)
<i>tenure</i> <sub>t</sub>		0.000 (0.002)		0.000 (0.002)
<i>distitaly</i> <sub>t</sub>		0.036 (0.034)		0.035 (0.033)
<i>wars</i> <sub>t</sub>		0.082** (0.035)		0.086** (0.034)
<i>weather</i> <sub>t</sub>		0.032 (0.040)		0.036 (0.042)
<i>jubilee</i> <sub>t</sub>		-0.042** (0.019)		-0.039** (0.018)
Century dummies	no	yes	no	yes
Observations	550	550	550	550
R-squared	0.047	0.098	0.039	0.089

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. FRACBIRTH\* and POLBIRTH\* are measures of fractionalization and polarization that take into account inter-group distances, and are defined in the text. *ncard*<sub>p</sub> is the number of cardinals in the conclave, *lpapacy*<sub>p</sub> is the length of the previous papacy. *interregnum*<sub>p</sub> is the number of days between the death of the pope and the start of the conclave. *lpapacy*<sub>p-1</sub> and *interregnum*<sub>p</sub> are measured in hundreds of days. *ageelected*<sub>p</sub> is the age of the pope when elected, in years. *tenure*<sub>t</sub> is the length of the papacy up to year *t*, in years. *distitaly*<sub>t</sub> is a dummy variable indicating whether there were disturbances in Italy, excluding the Papal States, in year *t*. *wars*<sub>t</sub> is a dummy indicating whether the Papal States were at war with other European states. *weather*<sub>t</sub> is a measure of temperature anomalies. *jubilee*<sub>t</sub> is an indicator for Holy years of Jubilee. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 8:** Fractionalization, polarization and conflict intensity

Dep. Variable: Model:	intensity <sub>t</sub>			
	OLS		Tobit	
	(1)	(2)	(3)	(4)
FRACBIRTH	-2.317 (2.714)	-2.953 (2.340)	-26.519 (26.939)	-19.449 (19.745)
POLBIRTH	4.336** (1.968)	4.741** (1.926)	123.639*** (29.143)	103.627*** (26.353)
ncard <sub>p</sub>	-0.027*** (0.008)	-0.039** (0.019)	-0.641*** (0.170)	-0.541 (0.566)
lpapacy <sub>p</sub>		-0.016 (0.011)		-0.088 (0.131)
lpapacy <sub>p-1</sub>		-0.005 (0.005)		-0.137* (0.081)
ageelected <sub>p</sub>		-0.003 (0.025)		-0.193 (0.218)
distitaly <sub>t</sub>		0.341 (0.522)		5.674 (5.115)
wars <sub>t</sub>		1.651** (0.804)		20.576** (9.057)
weather <sub>t</sub>		1.013 (0.651)		14.523 (11.305)
Century dummies	no	yes	no	yes
Observations	550	550	550	550
R-squared	0.062	0.134	0.143	0.222

**Notes:** Coefficients are estimated from a linear model in columns 1-2 and a Tobit model in columns 3-4, with standard errors clustered at the papacy level in parentheses. FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping.  $ncard_p$  is the number of cardinals in the conclave,  $lpapacy_p$  is the length of the previous papacy.  $interregnum_p$  is the number of days between the death of the pope and the start of the conclave.  $lpapacy_{p-1}$  and  $interregnum_p$  are measured in hundreds of days.  $ageelected_p$  is the age of the pope when elected, in years.  $tenure_t$  is the length of the papacy up to year  $t$ , in years.  $distitaly_t$  is a dummy variable indicating whether there were disturbances in Italy, excluding the Papal States, in year  $t$ .  $wars_t$  is a dummy indicating whether the Papal States were at war with other European states.  $weather_t$  is a measure of temperature anomalies.  $jubilee_t$  is an indicator for Holy years of Jubilee. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.



**Table 9:** Fractionalization, polarization, and Papal finances

Dep. Variable:	Disturbances within the Papal States <sub>t</sub>					
	(1)	(2)	(3)	(4)	(5)	(6)
FRACBIRTH	-0.203 (0.150)	-0.272 (0.166)	-0.169 (0.157)	-0.314 (0.191)	-0.187 (0.172)	-0.096 (0.190)
POLBIRTH	0.703*** (0.200)	0.692*** (0.222)	1.141*** (0.341)	1.484*** (0.433)	1.034*** (0.345)	1.085*** (0.378)
Revenue <sub>t</sub>	0.286 (0.271)	0.175 (0.251)	1.035 (0.623)	1.184* (0.601)	0.878 (0.571)	1.025 (0.664)
FRACBIRTH*Revenue <sub>t</sub>	-0.065 (0.190)	0.070 (0.192)	0.010 (0.373)	0.174 (0.358)	-0.059 (0.383)	-0.168 (0.416)
POLBIRTH*Revenue <sub>t</sub>	-0.384 (0.242)	-0.299 (0.243)	-1.743** (0.699)	-2.232*** (0.798)	-1.200* (0.644)	-1.306* (0.682)
Century dummies	yes	yes	yes	yes	yes	yes
Observations	512	512	512	512	512	512
R-squared	0.116	0.117	0.120	0.124	0.118	0.117
Joint test POLBIRTH variables	0.001	0.001	0.000	0.000	0.001	0.001

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping. *Revenue<sub>t</sub>* comes from Caselli (2014). Each column considers a different methodology for imputing years where data is not available, explained in the text. In columns 3-6 revenue is adjusted by CPI from Malanima (2013). All columns include *ncard<sub>p</sub>*, *lpapacy<sub>p</sub>*, *lpapacy<sub>p-1</sub>*, *interregnum<sub>p</sub>*, *agelected<sub>p</sub>*, *tenure<sub>t</sub>*, *distitaly<sub>t</sub>*, *wars<sub>t</sub>*, *weather<sub>t</sub>* and *jubilee<sub>t</sub>* as controls. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 10:** Fractionalization, polarization, and disturbances in other Italian states

Dep. Variable:	distitaly <sub>t</sub>		intensity <sub>t</sub>			
	OLS		OLS		Tobit	
	(1)	(2)	(3)	(4)	(5)	(6)
FRACBIRTH	-0.225 (0.146)	0.136 (0.255)	-0.379 (0.582)	1.320 (1.268)	-2.609 (2.158)	3.369 (3.827)
POLBIRTH	0.253 (0.202)	-0.020 (0.213)	1.551** (0.749)	0.482 (0.723)	5.063 (3.533)	-0.661 (4.125)
<i>ncard<sub>p</sub></i>	-0.005*** (0.001)	-0.000 (0.003)	-0.023*** (0.005)	-0.008 (0.010)	-0.114*** (0.024)	-0.003 (0.067)
<i>lpapacy<sub>p-1</sub></i>	-0.002** (0.001)	-0.002** (0.001)	-0.007* (0.004)	-0.006 (0.004)	-0.038* (0.021)	-0.038* (0.020)
<i>interregnum<sub>p</sub></i>	-0.011** (0.005)	-0.016** (0.007)	-0.041* (0.023)	-0.049 (0.032)	-0.247* (0.132)	-0.386** (0.163)
<i>ageelected<sub>p</sub></i>	0.000 (0.002)	-0.000 (0.002)	0.004 (0.008)	0.003 (0.009)	0.016 (0.038)	0.010 (0.036)
<i>tenure<sub>t</sub></i>	-0.005 (0.004)	-0.005 (0.005)	-0.022 (0.018)	-0.019 (0.020)	-0.107 (0.110)	-0.085 (0.112)
<i>disturbances<sub>t</sub></i>	0.085 (0.090)	0.094 (0.093)	0.324 (0.352)	0.343 (0.358)	0.996 (1.235)	1.353 (1.247)
<i>wars<sub>t</sub></i>	-0.040 (0.039)	-0.018 (0.045)	-0.216 (0.162)	-0.119 (0.180)	-1.076 (0.831)	-0.791 (0.944)
<i>weather<sub>t</sub></i>	-0.016 (0.069)	-0.003 (0.080)	0.197 (0.301)	0.223 (0.373)	0.190 (1.401)	0.852 (1.574)
<i>jubilee<sub>t</sub></i>	0.048 (0.075)	0.051 (0.075)	0.053 (0.264)	0.058 (0.264)	0.370 (1.465)	0.264 (1.457)
Century dummies	no	yes	no	yes	no	yes
Observations	550	550	550	550	550	550
R-squared	0.086	0.105	0.105	0.130	0.073	0.083

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. The dependent variable is a dummy variable indicating whether there were disturbances in Italy, excluding the Papal States, in year  $t$  (columns 1-2), and the intensity of these disturbances (columns 3-6). FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping. *ncard<sub>p</sub>* is the number of cardinals in the conclave, *lpapacy<sub>p-1</sub>* is the length of the previous papacy. *interregnum<sub>p</sub>* is the number of days between the death of the pope and the start of the conclave. *lpapacy<sub>p-1</sub>* and *interregnum<sub>p</sub>* are measured in hundreds of days. *ageelected<sub>p</sub>* is the age of the pope when elected, in years. *tenure<sub>t</sub>* is the length of the papacy up to year  $t$ , in years. *disturbances<sub>t</sub>* is a dummy for internal disturbances in the Papal States. *wars<sub>t</sub>* is a dummy indicating whether the Papal States were at war with other European states. *weather<sub>t</sub>* is a measure of temperature anomalies. *jubilee<sub>t</sub>* is an indicator for Holy years of Jubilee. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 11:** Canonizations and beatifications

Dep. Variable:	Canonization rate <sub>p</sub>		Beatification rate <sub>p</sub>	
	(1)	(2)	(3)	(4)
FRACBIRTH	0.343 (0.267)	0.959 (0.888)	-0.414 (3.411)	1.091 (3.996)
POLBIRTH	0.184 (0.752)	-0.796 (1.319)	0.749 (3.250)	1.802 (3.489)
<i>ncard<sub>p</sub></i>	0.005 (0.003)	-0.030* (0.017)	-0.004 (0.008)	-0.021 (0.016)
<i>lpapacy<sub>p</sub></i>		-0.007* (0.004)		0.001 (0.004)
<i>lpapacy<sub>p-1</sub></i>		-0.001 (0.003)		-0.000 (0.005)
<i>interregnum<sub>p</sub></i>		0.031 (0.022)		-0.471 (0.773)
<i>ageelected<sub>p</sub></i>		0.015 (0.010)		0.004 (0.014)
Century dummies	no	yes	no	yes
Observations	62	62	25	25
R-squared	0.034	0.343	0.057	0.219

**Notes:** Coefficients are estimated from a linear model with robust standard errors in parentheses. In columns 1-2, the dependent variable is the canonization rate, defined as the number of canonizations in papacy  $p$  divided by the length of the papacy in years; while in columns 3-4 the dependent variable is the beatification rate, defined as the number of beatifications in papacy  $p$  divided by the length of the papacy in years. Data for beatifications is only available from 1592. FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping. *ncard<sub>p</sub>* is the number of cardinals in the conclave, *lpapacy<sub>p</sub>* and *lpapacy<sub>p-1</sub>* are the length of the current and previous papacy, respectively. *interregnum<sub>p</sub>* is the number of days between the death of the pope and the start of the conclave. *lpapacy<sub>p</sub>*, *lpapacy<sub>p-1</sub>* and *interregnum<sub>p</sub>* are measured in hundreds of days. *ageelected<sub>p</sub>* is the age of the pope when elected, in years. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 12:** Foreign popes, antipopes and papal territories

Dep. Variable:	disturbances <sub>t</sub>	intensity <sub>t</sub>	antipope <sub>t</sub>	size <sub>t</sub>
Model:	OLS	Tobit	OLS	OLS
	(1)	(2)	(3)	(4)
FRACBIRTH	-0.080 (0.101)	-28.245 (19.194)	-0.136 (0.331)	-0.068 (0.159)
POLBIRTH	0.446*** (0.104)	119.067*** (27.210)	1.059** (0.448)	-0.309 (0.211)
popeitalian <sub>p</sub>	-0.010 (0.014)	-5.812 (6.129)		
popeforeign <sub>p</sub>	-0.006 (0.031)	2.605 (5.182)		
ncard <sub>p</sub>	-0.004*** (0.001)	-0.591 (0.511)	-0.009** (0.004)	0.006** (0.002)
lpapacy <sub>p-1</sub>	-0.000 (0.000)	-0.149* (0.080)	0.000 (0.001)	-0.001 (0.001)
interregnum <sub>p</sub>	0.006 (0.004)	-19.101 (15.550)	0.094*** (0.013)	-0.029*** (0.006)
Century dummies	yes	yes	yes	yes
Observations	550	550	550	550
R-squared	0.100	0.195	0.439	0.842

**Notes:** Coefficients are estimated from a linear model in columns 1, 3 and 4, and from a Tobit model in column 2, with standard errors clustered at the papacy level in parentheses. In column 1, the dependent variable is a dummy indicating whether there were disturbances within the Papal States during year  $t$ ; in column 2 it is the intensity of the disturbance; in column 3 it is a dummy indicating whether an antipope was elected in year  $t$ ; and in column 4 it is the log of the size of the papal states, measured in  $km^2$ . FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping.  $ncard_p$  is the number of cardinals in the conclave,  $lpapacy_{p-1}$  is the length of the previous papacy.  $interregnum_p$  is the number of days between the death of the pope and the start of the conclave.  $lpapacy_{p-1}$  and  $interregnum_p$  are measured in hundreds of days.  $popeitalian_p$  is a dummy for whether the pope was born in Italy, excluding the Papal States.  $popeforeign_p$  is a dummy for whether the pope was not born in Italy. All regressions include  $ageelected_p$ ,  $tenure_t$ ,  $distitaly_t$ ,  $warst_t$ ,  $weather_t$  and  $jubilee_t$  as controls. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 13:** Determinants of conclave length

Dep. Variable:	<i>lconclave</i>		
	(1)	(2)	(3)
FRACBIRTH	-0.817 (0.840)	-1.223 (0.764)	-5.029*** (1.934)
POLBIRTH	-3.587** (1.604)	-4.502*** (1.539)	-4.345** (2.182)
$ncard_p$	-0.026*** (0.010)	-0.019* (0.012)	-0.007 (0.020)
$lpapacy_{p-1}$		0.001 (0.005)	0.005 (0.007)
$interregnum_p$		0.065 (0.077)	0.054 (0.068)
$ageelected_{p-1}$		-0.022 (0.017)	-0.026 (0.019)
Century dummies	no	no	yes
Observations	62	62	62
R-squared	0.028	0.034	0.088

**Notes:** Coefficients are estimated from a Cox Proportional Hazard model. Coefficients, and not hazard ratios, are reported with robust standard errors in parenthesis. The dependent variable *lconclave* is the length of the conclave. FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping.  $ncard_p$  is the number of cardinals in the conclave,  $ageelected_p$  is the age of the previous pope when elected,  $lpapacy_{p-1}$  is the length of the previous papacy, and  $interregnum_p$  is the number of days between the death of the pope and the start of the conclave. *lconclave*,  $lpapacy_{p-1}$  and  $interregnum_p$  are measured in hundreds of days, while  $ageelected_p$  is measured in years. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

**Table 14:** Fractionalization, polarization and wars

Dep. Variable:	Wars <sub>t</sub>		Wars in Italy <sub>t</sub>	
	(1)	(2)	(3)	(4)
FRACBIRTH	0.614*** (0.210)	0.038 (0.282)	0.482** (0.198)	0.082 (0.232)
POLBIRTH	0.360 (0.428)	0.643 (0.412)	0.516 (0.389)	0.675* (0.349)
<i>ncard<sub>p</sub></i>	-0.005* (0.003)	-0.011** (0.004)	-0.007*** (0.002)	-0.013*** (0.004)
<i>lpapacy<sub>p-1</sub></i>		-0.005*** (0.001)		-0.002** (0.001)
<i>interregnum<sub>p</sub></i>		-0.039** (0.016)		-0.029** (0.014)
<i>ageelected<sub>p</sub></i>		0.000 (0.003)		0.004 (0.003)
<i>yearsinceconc</i>		0.010 (0.008)		0.011** (0.004)
<i>distitaly<sub>t</sub></i>		-0.013 (0.054)		0.022 (0.046)
<i>weather<sub>t</sub></i>		-0.083 (0.133)		0.012 (0.109)
<i>jubilee<sub>t</sub></i>		-0.139** (0.063)		-0.144*** (0.051)
Century dummies	no	yes	no	yes
Observations	550	550	550	550
R-squared	0.042	0.210	0.136	0.266

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. FRACBIRTH and POLBIRTH are fractionalization and polarization measures using the birthplace of cardinals as grouping. *ncard<sub>p</sub>* is the number of cardinals in the conclave, *lpapacy<sub>p</sub>* is the length of the previous papacy. *interregnum<sub>p</sub>* is the number of days between the death of the pope and the start of the conclave. *lpapacy<sub>p-1</sub>* and *interregnum<sub>p</sub>* are measured in hundreds of days. *ageelected<sub>p</sub>* is the age of the pope when elected, in years. *tenure<sub>t</sub>* is the length of the papacy up to year *t*, in years. *distitaly<sub>t</sub>* is a dummy variable indicating whether there were disturbances in Italy, excluding the Papal States, in year *t*. *weather<sub>t</sub>* is a measure of temperature anomalies. *jubilee<sub>t</sub>* is an indicator for Holy years of Jubilee. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

# ONLINE APPENDIX (NOT FOR PUBLICATION)

## Habemus Papam? Polarization and Conflict in the Papal States

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### A. Data construction of cardinals' birthplaces

Information on cardinals is directly extracted from the short biographies contained in [Miranda \(2012\)](#) and [Cheney \(2012\)](#).

Birthplaces have been grouped considering the political entity that was ruling them at the time cardinals were born. In order to classify birthplaces we collected information from Encyclopedia Britannica and Euratlas ([www.euratlas.net/history/europe/](http://www.euratlas.net/history/europe/)). We describe the details of the most relevant regions of the classification below.

Savoy, including Turin, was independent until 1714, when it became part of the Kingdom of Sicily. In 1720 it passed to the Kingdom of Sardinia and after a short period under France (1792-1815) it returned to Sardinia.

Genoa remained independent until 1528, with the exception of two short periods, one under France (1394-1409) and one under Milan (1421-1435). After 1528 it was a Spanish political satellite. In 1746 it passed under the Austrian Habsburgs and afterwards, in 1797, to France and in 1814 to Savoy.

Milan was under French rule between 1499-1513 and it fell under Spanish rule between 1535 and 1706. From that year onwards it remained under the Austrian Habsburgs (and then Austro-Hungarian Empire) with the exception of a small period (1796-1815) when it was under France.

Vercelli was annexed to Milan in 1335. In 1427 it became part of Savoy until the end of the period of analysis, except for years 1638-1659 in which it was under Spain.

Trent was part of the Holy Roman Empire.

Venice was independent until 1797, when it was conquered by France. In 1814, it passed to the Austro-Hungarian Empire and it regained independence in 1849.

Verona was annexed to Venice in 1405.

Udine was annexed to Venice in 1420. In 1797 it was annexed to Austria.

Treviso was annexed to Venice in 1339. In 1797 it was annexed to Austria.

Padua was annexed to Venice in 1405. In 1797 it became part of the Austro-Hungarian Empire, except for a short period of time (1805-1814) when it was part of France.

Pavia was annexed to Milan in 1361. Spain gained its possession in 1525 and it kept Pavia under its control until 1713, when it became part of Austria until the end of our period of analysis; with the exception of the period between 1796-1815 when it was part of France.

Mantua was annexed to the Austrian Empire in 1707. Except for a brief period (1797-1814) in which Mantua was under French rule, it was part of the Austrian Habsburg's Empire.

Modena remained independent until 1598, when it joined the Papal States. In 1816 it fell under the Austrian rule.

Parma was annexed to Milan in 1341. After a short period under French rule (1500-1521), it became part of the Papal States until 1545, when it regained its independence. In 1731 was annexed to Austria. With the exception of the French period between 1797 and 1815, it remained under the Austrian rule.

Ravenna was annexed to Venice in 1440. In 1509, it joined the Papal States until the end of the period, except for years 1796-1814 in which France took it.

Siena became part of the Grand Duchy of Tuscany in 1555. Pisa became part of Florence in 1406; it regained independence in 1494, but it was conquered by Florence (afterwards Grand Duchy of Tuscany) in 1509. Prato became part of Florence in 1350.

Lucca was independent until 1799, when it was annexed to France. In 1847 it passed to Tuscany.

Arezzo fell into the dominion of Florence in 1384 and later on was part of the Grand Duchy of Tuscany.

Urbino remained independent until 1626, when it joined the Papal States. Cesena joined the Papal States in 1645. Todi joined the Papal States in 1367. Rimini joined the Papal States in 1509. Perugia joined the Papal States in 1540. Ferrara remained independent until it became part of the Papal States in 1598. Benevento, just the city, was part of the Papal States. Bologna joined the Papal States in 1506. Ancona joined the Papal States in 1532. Rieti was part of the Papal States except for a short period of time (1309-1354) when it was part of Naples. Senigallia was annexed to Ravenna in late 15th century and then to Urbino; it became part of the Papal States in 1631.

Naples was annexed to Aragon in 1442. It was part of Spain from 1468 until 1714 when it regained independence.

Sicily became part of the Crown of Aragon in 1409, and then part of Spain, when Aragon unified with Castile, until 1714. From then onwards it was part of the Kingdom of Naples.

Carpentras was part of the Papal States until 1791, when it was annexed to France.

Arras was part of Burgundy from 1329 until 1477, when it became part of France. In 1556 it



became part of the Spanish Netherlands. In 1659 it became part of France. Dax was English until 1451, when it became part of France. Douai belonged to Flanders until 1384, when it passed to Burgundy. In 1667 it became French. Aquitaine was English until 1453, when it became part of France. Cambrai was frequently conquered, but it finally became part of France in 1678. Lyon belonged to the Holy Roman Empire until it was annexed to France in 1312. Gascony was English until the Hundred Years War; from 1453, it was annexed to France. Burgundy joined France in 1477. Brittany was English until it was annexed to France in 1488.

Provence was annexed to France in 1486. Avignon was part of Provence until 1309, when it became part of the Papal States until 1791. That year it was annexed to France.

Narbonne was part of Aragon, and then Spain, until 1659, when it was annexed to France.

Douai was part of Flanders until 1384, when it was annexed to Burgundy. Douai became French in 1667.

Nice was part of Provence until it was annexed to Savoy in 1388. Although France occupied it several times, the Dukes of Savoy kept its control until 1860 when it became part of France.

Saint-Omer was annexed to Burgundy in 1340. In 1493 it was annexed to Spain, which kept its possession until 1677 when Saint-Omer was annexed to France.

Montpellier was part of Aragon until 1349, when it became part of France. Narbonne was under Aragonese rule, and then Spanish rule (from 1469 onwards) until 1659, when it became French.

Flanders, including Therouanne, was annexed to Burgundy in 1384. In 1477 it became part of Austria. Spain took its control from 1680 until 1714, when it returned to Austria until 1801. In 1830 became part of Belgium.

Liege was part of Burgundy first (end of 15th century) and then part of the Holy Roman Empire, although it had a large degree of independence. During the French Revolutionary Wars it was part of France. In 1815 became part of the Netherlands and in 1830 part of Belgium.

Krakow was annexed to Austria in 1795.

Thebe was under France until 1311, when it became part of Aragon. In 1379 it was annexed Navarra and in 1458 to the Ottoman Empire. The latter ruled it until the end of the period, with the exception of a brief period under Venice (1687-1699).

Cyprus was annexed to Venice in 1473. In 1570 it became part of the Ottoman Empire.

Table A-1 shows the resulting groups, while Table A-2 lists all conclaves included in our sample, with the breakdown of groups participating in each conclave.

**Table A-1:** Grouping of Cardinals' place of birth

Origin	Number	Percent	Origin	Number	Percent
Aragon	14	1.08	Milan	34	2.63
Austria	39	3.02	Modena	4	0.31
Baden	1	0.08	Naples	52	4.02
Bamberg	2	0.15	Papal States	404	31.27
Bavaria	1	0.08	Parma	6	0.46
Belgium	1	0.08	Perugia	1	0.08
Bologna	2	0.15	Poland	6	0.46
Burgundy	3	0.23	Portugal	20	1.55
Castile	11	0.85	Prato	1	0.08
Cyprus	1	0.08	Provence	1	0.08
England	27	2.09	Ravenna	1	0.08
Ferrara	3	0.23	Sardinia	10	0.77
Flanders	2	0.15	Savoy	18	1.39
Florence	89	6.89	Saxony	2	0.15
France	190	14.71	Sicily	1	0.08
Genoa	44	3.41	Siena	9	0.7
Hesse-Darmstadt	1	0.08	Spain	161	12.46
Holy Roman Empire	25	1.93	Swiss Confederation	1	0.08
Hungary	11	0.85	Todi	1	0.08
Lithuania	1	0.08	Urbino	2	0.15
Lucca	5	0.39	Venice	76	5.88
Mantua	8	0.62	Total	1,292	100

**Notes:** All sources are listed in the text. The unit of observation is a cardinal.

**Table A-2:** Conclaves and cardinals according to their birthplace group

Pope elected	Conclave year	Largest group	%	Second largest	%	Third largest	%	Fourth largest	%	Other groups	%	Cardinals in conclave
Boniface VIII	1294	<b>Papal States</b>	0.45	France	0.23	Milan	0.09	Naples	0.09	Burgundy, England, Todi	0.14	22
Benedict XI	1303	Papal States	0.56	France	0.11	Castile	0.06	Genoa	0.06	Milan, Naples, Siena, <b>Venice</b>	0.22	18
Clement V	1305	Papal States	0.53	Castile	0.07	England	0.07	<b>France</b>	0.07	Genoa, Milan, Naples, Prato	0.27	15
John XXII	1316	England	0.33	<b>France</b>	0.33	Papal States	0.21	Genoa	0.04	Milan, Prato	0.08	24
Benedict XII	1334	<b>France</b>	0.46	Papal States	0.21	England	0.17	Aragon	0.04	Castile, Genoa, Naples	0.12	24
Clement VI	1342	<b>France</b>	0.59	England	0.12	Papal States	0.12	Aragon	0.06	Castile, Naples	0.12	17
Innocent VI	1352	<b>France</b>	0.83	Papal States	0.08	Castile	0.04	England	0.04		0	24
Urban V	1362	<b>France</b>	0.85	Papal States	0.1	Burgundy	0.05					20
Gregory XI	1370	<b>France</b>	0.72	Papal States	0.11	England	0.06	Florence	0.06	Provence	0.06	18
Urban VI	1378	France	0.69	Papal States	0.12	Aragon	0.06	Florence	0.06	Milan	0.06	16
Boniface IX	1389	<b>Naples</b>	0.46	Papal States	0.23	Florence	0.08	Genoa	0.08	Milan, Perugia	0.15	13
Innocent VII	1404	<b>Naples</b>	0.56	Papal States	0.22	Florence	0.11	Milan	0.11		0	9
Gregory XII	1406	Papal States	0.43	Naples	0.29	Florence	0.07	France	0.07	Milan, <b>Venice</b>	0.14	14
Martin V	1417	France	0.22	Venice	0.22	<b>Papal States</b>	0.13	Milan	0.09	Naples, Savoy, Castile, Florence, Genoa, Ravenna	0.35	23
Eugenius IV	1431	Papal States	0.31	<b>Venice</b>	0.23	Milan	0.15	Bologna	0.08	Castile, France, Siena	0.23	13
Nicholas V	1447	Venice	0.22	<b>France</b>	0.17	Papal States	0.17	Castile	0.11	Milan, Aragon, Naples, Portugal, Sicily	0.33	18
Calixtus III	1455	<b>Aragon</b>	0.2	France	0.2	Papal States	0.2	Venice	0.2	Castile, Milan	0.2	15
Pius II	1458	Aragon	0.28	France	0.17	Castile	0.11	Milan	0.11	Papal States, Venice, Portugal, <b>Siena</b>	0.33	18

**Table A-2:** (continued)

Pope elected	Conclave year	Largest group	%	Second largest	%	Third largest	%	Fourth largest	%	Other groups	%	Cardinals in conclave
Paul II	1464	France	0.26	<b>Venice</b>	0.21	Castile	0.16	Aragon	0.11	Papal States, Siena, Mantua	0.26	19
Sixtus IV	1471	Papal States	0.28	Venice	0.28	Aragon	0.11	France	0.11	Mantua, <b>Genoa</b> , Siena	0.22	18
Innocent VIII	1484	<b>Milan</b>	0.32	Aragon	0.16	Papal States	0.16	Venice	0.16	France, Portugal, Savoy, Siena	0.2	25
Alexander VI	1492	Milan	0.35	Papal States	0.17	Venice	0.13	<b>Aragon</b>	0.09	Spain, Florence, Portugal, Savoy, Siena	0.26	23
Pius III	1503	Spain	0.41	Milan	0.22	Papal States	0.11	Venice	0.08	Florence, France, Aragon, Portugal, <b>Siena</b>	0.19	37
Julius II	1503	Spain	0.42	<b>Milan</b>	0.21	Papal States	0.11	Venice	0.08	Florence, France, Aragon, Ferrara, Portugal	0.18	38
Leo X	1513	<b>Florence</b>	0.16	Milan	0.16	Genoa	0.12	Papal States	0.12	Spain, Venice, England, France, Hungary, Mantua, Siena, Swiss Confederation	0.44	25
Adrian VI	1522	Papal States	0.33	Florence	0.23	Milan	0.1	Spain	0.08	Venice, Genoa, Siena, Mantua, Savoy, Swiss Confederation	0.26	39
Clement VII	1523	Papal States	0.33	<b>Florence</b>	0.23	Milan	0.1	France	0.08	Spain, Genoa, Venice, Mantua, Savoy, Siena	0.26	39
Paul III	1534	Florence	0.15	France	0.15	Spain	0.15	<b>Papal States</b>	0.12	Genoa, Milan, Venice, Savoy, Holy Roman Empire, Mantua, Siena	0.42	33
Julius III	1550	<b>Papal States</b>	0.28	France	0.24	Spain	0.14	Florence	0.06	Venice, Genoa, Holy Roman Empire, England, Ferrara, Mantua, Modena, Portugal, Savoy, Urbino	0.28	50
Marcellus II	1555	<b>Papal States</b>	0.32	France	0.21	Spain	0.15	Venice	0.06	Ferrara, Genoa, Modena, Portugal, England, Holy Roman Empire, Mantua, Parma, Siena, Urbino	0.26	53
Paul IV	1555	Papal States	0.29	France	0.21	<b>Spain</b>	0.18	Venice	0.05	Ferrara, Genoa, Holy Roman Empire, Modena, Portugal, England, Mantua, Parma, Siena, Urbino	0.27	56
Pius IV	1559	Papal States	0.32	Spain	0.21	<b>France</b>	0.17	Florence	0.04	Genoa, Holy Roman Empire, Venice, Ferrara, Mantua, Milan, Modena, Parma, Urbino	0.26	47

**Table A-2:** (continued)

Pope elected	Conclave year	Largest group	%	Second largest	%	Third largest	%	Fourth largest	%	Other groups	%	Cardinals in conclave
Pius V	1566	Papal States	0.29	Spain	0.27	Venice	0.1	Florence	0.06	Genoa, Holy Roman Empire, <b>Milan</b> , Savoy, Ferrara, France, Mantua, Parma, Urbino	0.29	52
Gregory XIII	1572	<b>Papal States</b>	0.36	Spain	0.28	Holy Roman Empire	0.08	Venice	0.08	Genoa, Savoy, Ferrara, Florence, France, Mantua, Milan, Poland, Urbino	0.21	53
Sixtus V	1585	<b>Papal States</b>	0.4	Spain	0.26	Florence	0.1	France	0.07	Holy Roman Empire, Venice, Parma, Savoy	0.17	42
Urban VII	1590	<b>Papal States</b>	0.3	Spain	0.3	Venice	0.09	Florence	0.07	Genoa, Holy Roman Empire, Savoy, England, France, Lucca, Mantua, Modena, Parma	0.24	54
Gregory XIV	1590	<b>Spain</b>	0.3	Papal States	0.28	Florence	0.08	Venice	0.08	Genoa, Holy Roman Empire, Savoy, England, France, Lucca, Mantua, Modena, Parma	0.26	53
Innocent IX	1591	<b>Papal States</b>	0.3	Spain	0.3	Florence	0.07	Genoa	0.05	Holy Roman Empire, Venice, Parma, England, France, Lithuania, Lucca, Mantua, Modena, Savoy	0.27	56
Clement VIII	1592	<b>Papal States</b>	0.31	Spain	0.28	Florence	0.07	Genoa	0.06	Holy Roman Empire, Venice, Parma, England, France, Lithuania, Lucca, Mantua, Modena, Savoy	0.28	54
Leo XI	1605	Papal States	0.42	Spain	0.18	<b>Florence</b>	0.1	France	0.07	Genoa, Venice, Parma, Savoy, Mantua, Modena	0.23	60
Paul V	1605	<b>Papal States</b>	0.41	Spain	0.21	Florence	0.08	France	0.07	Genoa, Venice, Parma, Savoy, Mantua, Modena	0.23	61
Gregory XV	1621	<b>Papal States</b>	0.48	Florence	0.19	Spain	0.13	Genoa	0.08	Venice, Parma, Savoy	0.12	52
Urban VIII	1623	Papal States	0.54	<b>Florence</b>	0.11	Spain	0.11	Genoa	0.07	Venice, Parma, Savoy, Austria, Holy Roman Empire	0.17	54
Innocent X	1644	<b>Papal States</b>	0.48	Spain	0.19	Florence	0.13	Genoa	0.06	France, Venice, Holy Roman Empire, Lucca, Parma, Savoy	0.15	54

**Table A-2:** (continued)

Pope elected	Conclave year	Largest group	%	Second largest	%	Third largest	%	Fourth largest	%	Other groups	%	Cardinals in conclave
Alexander VII	1655	Papal States	0.5	Spain	0.14	<b>Florence</b>	0.11	Genoa	0.09	Venice, France, Hesse-Darmstadt, Holy Roman Empire, Lucca, Milan, Parma, Savoy	0.17	66
Clement IX	1667	<b>Papal States</b>	0.48	Florence	0.11	Genoa	0.11	Spain	0.11	Venice, France, Hesse-Darmstadt, Holy Roman Empire, Lucca, Milan, Parma	0.19	64
Clement X	1670	<b>Papal States</b>	0.48	Florence	0.15	Spain	0.11	Genoa	0.09	France, Venice, Milan, Hesse-Darmstadt, Lucca, Savoy	0.17	65
Innocent XI	1676	Papal States	0.41	Florence	0.16	<b>Spain</b>	0.13	Genoa	0.11	Venice, France, Baden, England, Holy Roman Empire, Lucca	0.19	63
Alexander VIII	1689	Papal States	0.29	Florence	0.18	Spain	0.18	Genoa	0.1	<b>Venice</b> , France, England, Holy Roman Empire, Hungary, Modena, Poland, Savoy	0.25	51
Innocent XII	1691	Papal States	0.25	<b>Spain</b>	0.21	Florence	0.16	Venice	0.1	Genoa, France, England, Flanders, Hungary, Lucca, Milan, Modena, Poland, Savoy	0.28	61
Clement XI	1700	<b>Papal States</b>	0.32	Spain	0.21	Venice	0.16	France	0.12	Florence, Genoa, Holy Roman Empire, Milan, Savoy	0.19	57
Innocent XIII	1721	<b>Papal States</b>	0.38	Spain	0.18	Florence	0.09	Venice	0.07	Austria, Naples, France, Holy Roman Empire, Hungary, Flanders, Genoa, Lucca, Parma	0.29	56
Benedict XIII	1724	Papal States	0.41	<b>Spain</b>	0.22	Florence	0.09	Austria	0.06	France, Venice, Naples, Genoa, Lucca, Parma, Portugal	0.22	54
Clement XII	1730	Papal States	0.39	Spain	0.13	Naples	0.11	<b>Florence</b>	0.07	France, Venice, Austria, Genoa, Hungary, Holy Roman Empire, Parma, Savoy	0.3	54
Benedict XIV	1740	<b>Papal States</b>	0.38	Naples	0.15	Florence	0.12	France	0.08	Spain, Venice, Austria, Genoa, Flanders, Hungary, Mantua, Savoy	0.27	52
Clement XIII	1758	Papal States	0.42	Florence	0.18	Austria	0.11	Naples	0.07	France, Genoa, Sardinia, <b>Venice</b> , Holy Roman Empire, Spain	0.22	45

**Table A-2:** (continued)

Pope elected	Conclave year	Largest group	%	Second largest	%	Third largest	%	Fourth largest	%	Other groups	%	Cardinals in conclave
Clement XIV	1769	<b>Papal States</b>	0.48	Austria	0.11	Naples	0.11	Venice	0.09	Florence, France, Genoa, Spain, Sardinia	0.22	46
Pius VI	1775	<b>Papal States</b>	0.48	Naples	0.14	Austria	0.11	Florence	0.07	Venice, France, Genoa, Sardinia, Spain	0.2	44
Pius VII	1800	<b>Papal States</b>	0.49	Austria	0.14	Naples	0.11	Venice	0.09	France, Florence, Holy Roman Empire, Sardinia, Spain	0.17	35
Leo XII	1823	<b>Papal States</b>	0.49	Austria	0.12	Naples	0.12	France	0.1	Florence, Sardinia, Holy Roman Empire, Hungary, Spain, Venice	0.16	49
Pius VIII	1829	<b>Papal States</b>	0.48	Austria	0.16	France	0.16	Naples	0.08	Sardinia, Venice, Florence, Spain	0.12	50
Gregory XVI	1831	Papal States	0.53	Austria	0.13	France	0.11	Naples	0.07	Sardinia, Spain, England, Florence, <b>Venice</b>	0.16	45

**Notes:** The table lists the groups present at each conclave, as well as the share of cardinals in each group. Groups in bold indicate the group to which the elected pope belonged. Ties are broken based on alphabetical order. Clement V, elected in 1305, was not a cardinal (and therefore was not present in the conclave) but was archbishop of Bordeaux (France). Urban V, elected in 1362, was not a cardinal, but a French abbot acting as a papal emissary in Naples. Urban VI, elected in 1378, did not belong to any of the groups present in the conclave since he was from Naples. Adrian VI, elected in 1522, was born in territories of the Holy Roman Empire. Neither he nor the other two cardinals from the Empire attended the conclave.

**Table A-3:** Cardinals and families (1295–1846)

Family	Number	Percent	Cumulative
Albani	6	0.46	0.46
Aldobrandini	6	0.46	0.93
Barberini	7	0.54	1.47
Boncompagni	5	0.39	1.86
Borgia	5	0.39	2.24
Borromeo	5	0.39	2.63
Caetani	6	0.46	3.10
Carafa	14	1.08	4.18
Cesi	5	0.39	4.57
Cibo	5	0.39	4.95
Colonna	15	1.16	6.11
Conti	8	0.62	6.73
Cornaro	7	0.54	7.28
Corsini	5	0.39	7.66
D'Este	6	0.46	8.13
Delfino	5	0.39	8.51
Farnese	5	0.39	8.90
Fieschi	6	0.46	9.37
Gonzaga	7	0.54	9.91
Medici	10	0.77	10.68
Orsini	16	1.24	11.92
Rovere	5	0.39	12.31
Savelli	5	0.39	12.69
Sforza	6	0.46	13.16
Spinola	12	0.93	14.09
Other families	1110	85.91	100.00
Total	1292	100.00	

**Notes:** The table lists families with at least 5 cardinals in 1295–1846.



## B. List of internal disturbances in the Papal States

**Table B-1:** List of internal disturbances in the Papal States

Year	Disturbance	Source	Intensity
1296	Coup d'etat at Rimini	Sorokin (1937)	5.60
1303	Armed attack of Pope	Sorokin (1937)	3.91
1308	Civil war at Ferrara, Modena and Reggio	Sorokin (1937)	12.05
1317	Insurrection at Ferrara	Sorokin (1937)	6.60
1327	Revolution at Rome	Sorokin (1937)	7.92
1332	Disturbances at Bologna	Sorokin (1937)	5.82
1349	Roman revolution (Cola di Rienzi)	Sorokin (1937)	16.14
1375-8	Uprising in the Pope's province	Sorokin (1937)	24.1
1393	Disturbances at Viterbo and Perugia	Sorokin (1937)	9.08
1405	Disturbances at Rome	Sorokin (1937)	9.66
1410-2	Civil war at Bologna	Sorokin (1937)	15.52
1416	Insurrection at Bologna	Sorokin (1937)	15.17
1434	Republican insurrection at Rome	Sorokin (1937)	17.10
1488	Murder of the tyrant at Forli-Fachino	Sorokin (1937)	4.54
1502	Uprising of the condottieri in Romagna	Sorokin (1937)	9.06
1511	Disturbances at Rome	Sorokin (1937)	9.66
1528	Anti-Spanish uprising in Aquila	Alfani (2013)	-
1545	Farnese vs. The Papal States	Alfani (2013)	-
1590	Disturbances at Mantua	Alfani (2013)	-
1635	Disturbances at Nonantola	Alfani (2013)	-
1648	Disturbances at Bologna	Alfani (2013)	-
1796-7	Republican insurrection in middle Italy	Sorokin (1937)	15.17
1831	Revolution at Romagna, Parma, and Modena	Sorokin (1937)	15.17

**Notes:** The table shows all conflicts in the Papal States included in our sample. The name of the disturbance is taken from the source. Intensity is an index that ranges from 0 to 100 constructed based on four elements: the extent of the area of the disturbance, the population involved, its duration, and the amount of violence.

## C. Fractionalization and Polarization, additional details

We present the time series of `FRACBIRTH` and `POLBIRTH` in Figure C-1. An example of a conclave with high fractionalization and low polarization is the election of pope Pius II in 1458, where cardinals of 8 different birthplace groups participated and none of these groups accounted for more than 22% of the total number of cardinals. Conversely, the election of pope Innocent VII in 1404 presented high polarization but low fractionalization, with cardinals of only 2 birthplace groups participating in the conclave.

We follow [Montalvo and Reynal-Querol \(2005\)](#) and present the relationship between polarization and fractionalization in Figure C-2. The pattern observed is a positive correlation for low values of fractionalization, zero correlation for intermediate values, and a slightly negative correlation for high values, more evident when using cardinals' birthplace groups. [Montalvo and Reynal-Querol](#) observe that the pattern for low values of fractionalization is expected, since the ratio of fractionalization to polarization is  $1/2$  when there are only two groups. Interestingly, we observe a similar pattern to [Montalvo and Reynal-Querol \(2005\)](#) for intermediate and high values of fractionalization.

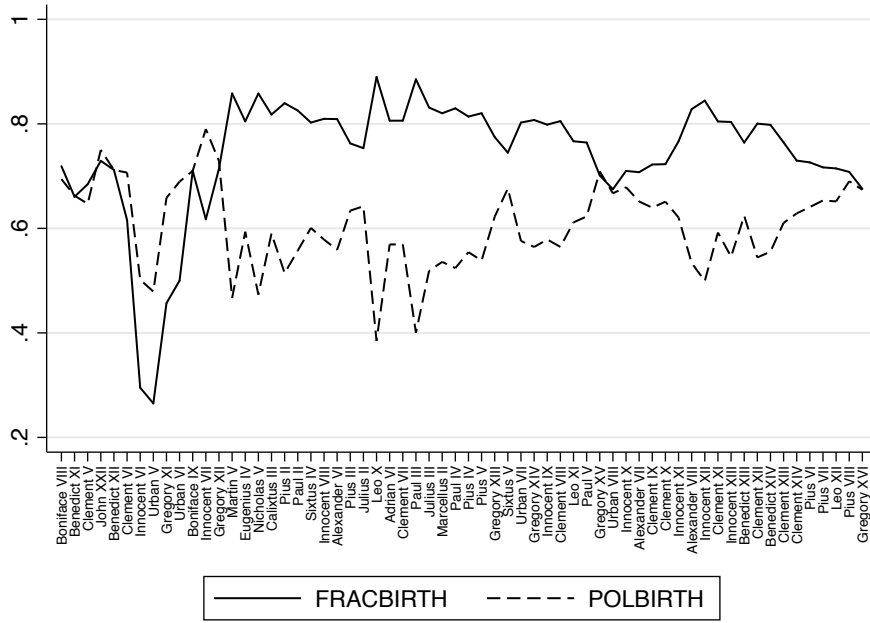
A final note on our measures of divisions. There are years in our sample with two or three officially recognized popes in power.<sup>46</sup> Given that our conflict data varies by year, in case of multiple popes per year we assign the pope (and therefore the measures of divisions during his election) that was in power for the longest time during that year. There are also 2 years where the see was vacant (1315 and 1416). Given that we consider only cardinals present until the last day of the conclave, we assign to these years the measures of divisions of the following year (i.e. the indexes at the time the conclave ended).

We have explored an alternative strategy in which, for years with multiple popes, we assign the pope that was first elected during that year. We obtain quantitatively the same results. Our papacy-level regressions (Table 4 in Online Appendix E), which do not suffer from these issues, confirm our main results.

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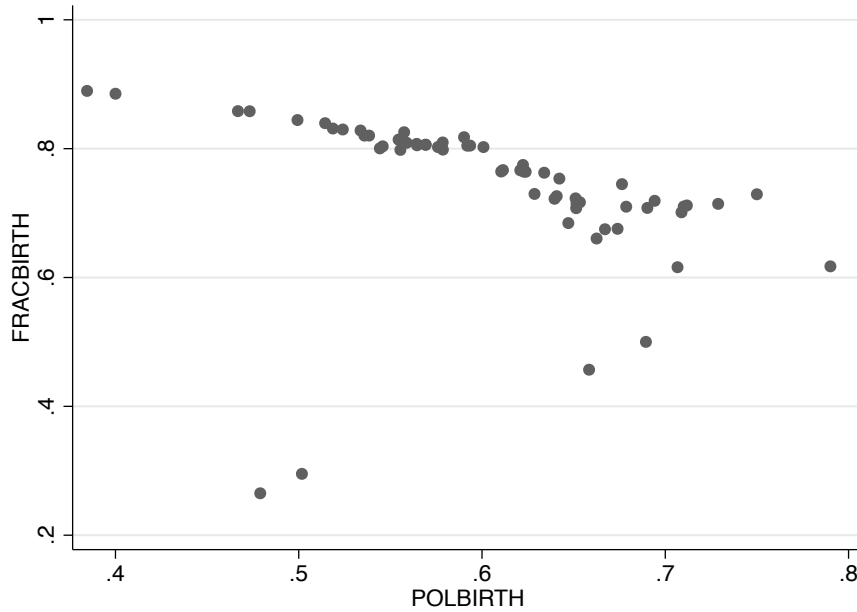
<sup>46</sup>For example, in August 18, 1503 pope Alexander VI died, and pope Pius III was elected in September 22. However, he died only 27 days after his election, and Julius II was elected in October 31.

**Figure C-1: Polarization and fractionalization, 1295–1846**



**Notes:** FRACBIRTH and POLBIRTH are computed as indicated in the text. The sample includes a total of 62 conclaves.

**Figure C-2: Fractionalization versus polarization**



**Notes:** FRACBIRTH and POLBIRTH are computed as indicated in the text. The sample includes a total of 62 conclaves.

## D. Deaths and nominations of cardinals

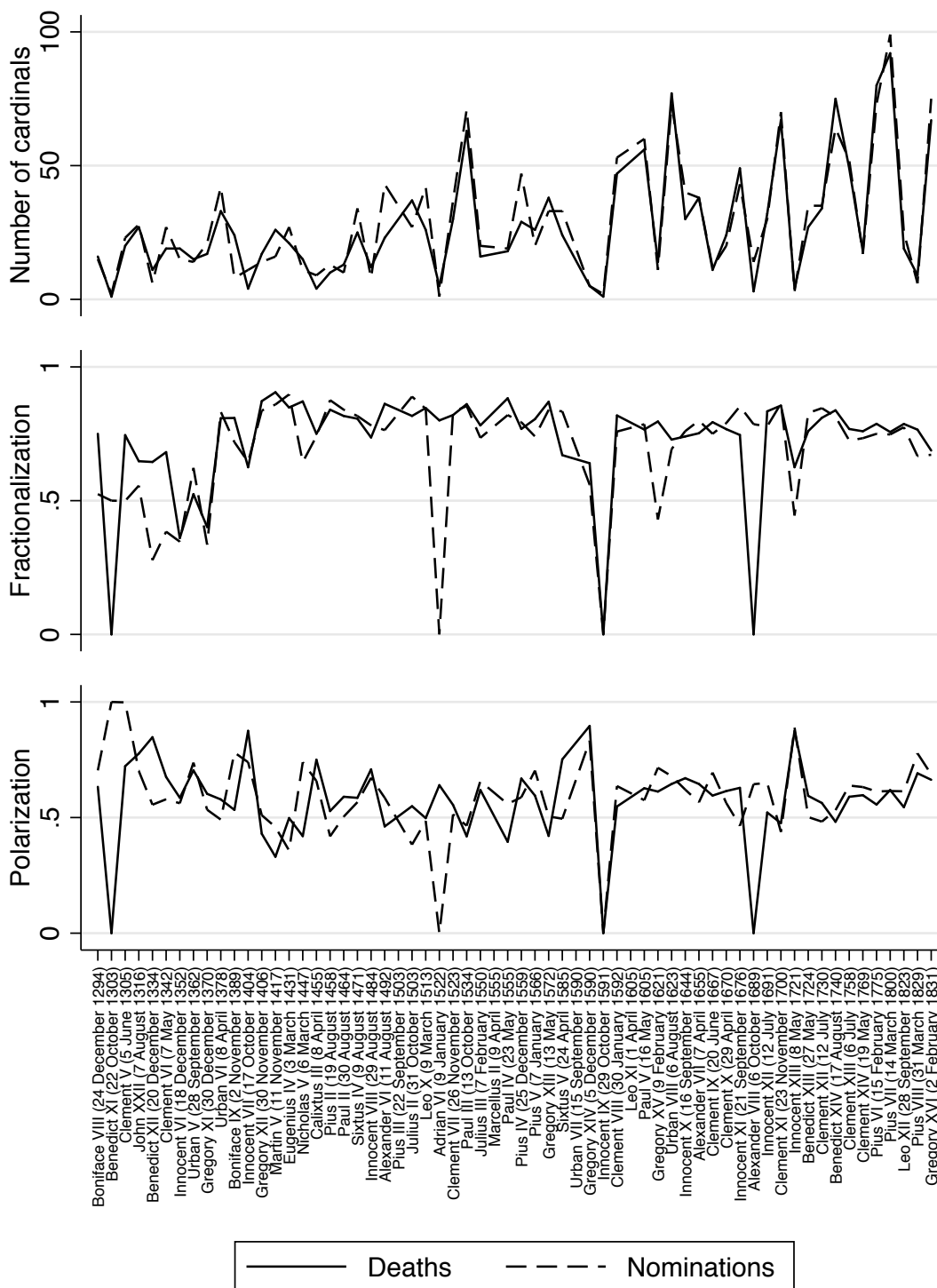
In this section we assess whether there are differences in the deaths and nominations of cardinals, both in terms of numbers and geographical distribution. To do this we construct time series of deaths and nomination of cardinals by papacy. Since there are cardinals for whom the exact date of death is not known, we use the following criteria: 1) If the year and month of death are known, we assign the day of death as 15; 2) if only the year of death is known, we assign July 1 as the date of death; 3) if the year of death is not known, we assign the date of nomination as the date of death; 4) if a cardinal dies during the interregnum or the conclave, we assign him to the next papacy, since it is the duty of the next pope to replace him. The time series of nomination of cardinals is easier to construct, since for each cardinal we know the pope who nominated him.

In the top panel of Figure D-1 we plot the number of cardinals' deaths and nominations. The nominations of new cardinals closely follows the number of deaths, despite some notable differences. For example, Alexander VIII (r. 1689–1691) nominated 14 cardinals, even though only 3 died during his reign. In contrast, Boniface IX (r. 1389–1404) nominated only 8 cardinals despite three times more cardinals died during his papacy. These differences are in part due to unexpected deaths of popes, who did not have time to nominate more cardinals, and also to unexpected deaths of cardinals.

We construct measures of polarization and fractionalization for both groups of cardinals (deaths and nominations), and plot them in the middle and bottom panels of Figure D-1. Similar to the number of cardinals, the indexes of fractionalization and polarization for both groups move together. Some of the largest differences occur in short papacies with few deaths or nominations. One example is the papacy of Adrian VI (r. 1522–1523), who nominated only one cardinal despite having five cardinals dying during his term (all of them with different birthplaces).

In Table D-1 we assess whether differences in the number of deaths and nominations of cardinals, as well as in the measures of fractionalization and polarization, attenuate the effect of polarization on conflict. We include the lagged difference between the number of cardinal deaths and nominations,  $\text{NDIFF}_{p-1}$ , as well as analogous differences for fractionalization ( $\text{FRACDIFF}_{p-1}$ ) and polarization ( $\text{POLDIFF}_{p-1}$ ). None of these measures have a statistically significant effect on the likelihood of conflict. On the other hand, our measure of polarization,  $\text{POLBIRTH}$ , is positive and statistically significant both in the full and pre-reform samples. The magnitude and significance is comparable to that found in our main regressions (Table 3).

Figure D-1: Deaths and nominations of cardinals



**Notes:** The top figure shows the number of cardinals’ deaths and nominations in each papacy. The middle and bottom figures show the indexes of fractionalization and polarization constructed using the birthplaces of deaths (continuous line) and nominations (segmented line) of cardinals in each papacy. Papacies with no deaths or nominations of cardinals are excluded.

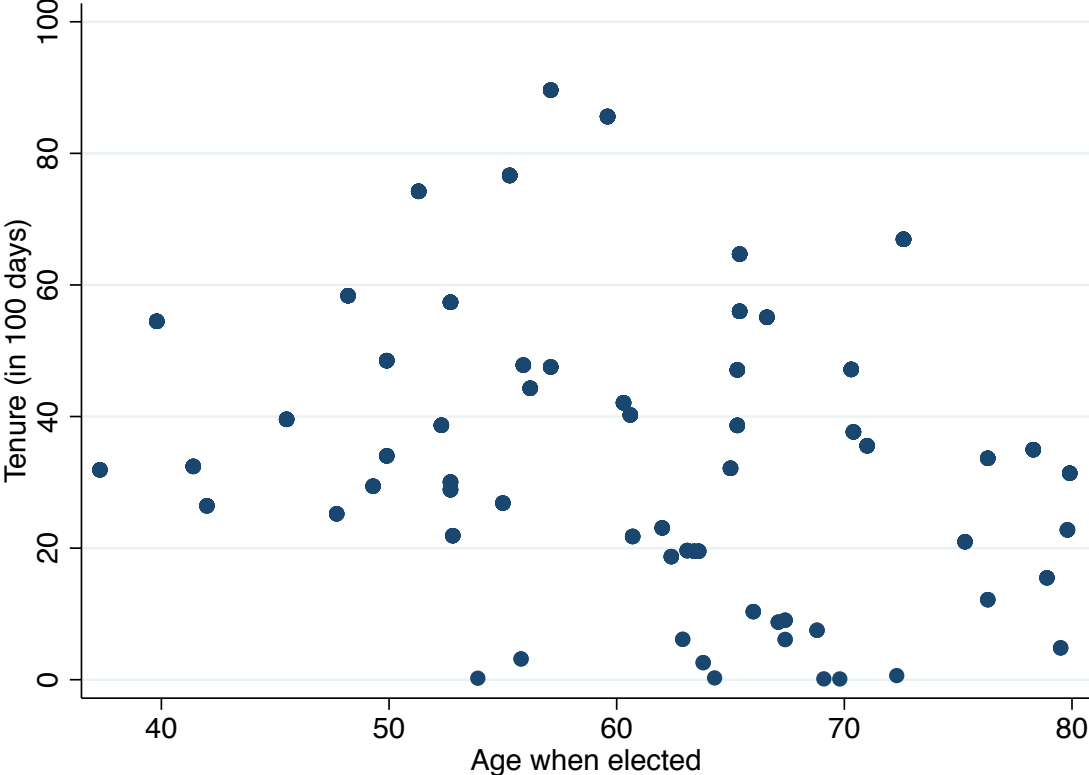
**Table D-1:** Differences in polarization and fractionalization between cardinals nominated and cardinals' deaths

Dep. Variable: Disturbances within the Papal States <sub>t</sub>			
	(1)	(2)	(3)
FRACBIRTH <sub>p</sub>	-0.025 (0.109)	-0.061 (0.116)	-0.144 (0.110)
POLBIRTH <sub>p</sub>	0.402** (0.151)	0.366*** (0.110)	0.518*** (0.123)
ncard <sub>p</sub>	-0.002*** (0.001)	-0.001** (0.001)	-0.004*** (0.001)
FRACDIFF <sub>p-1</sub>	0.019 (0.073)	0.048 (0.070)	0.063 (0.072)
POLDIFF <sub>p-1</sub>	-0.007 (0.053)	-0.021 (0.045)	-0.008 (0.042)
NDIFF <sub>p-1</sub>	0.001 (0.002)	0.000 (0.001)	0.001 (0.001)
Additional controls	no	yes	yes
Century dummies	no	no	yes
Observations	541	541	541
R-squared	0.048	0.087	0.101

**Notes:** Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. The dependent variable is a dummy indicating whether there were disturbances within the Papal States during year  $t$ . \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.

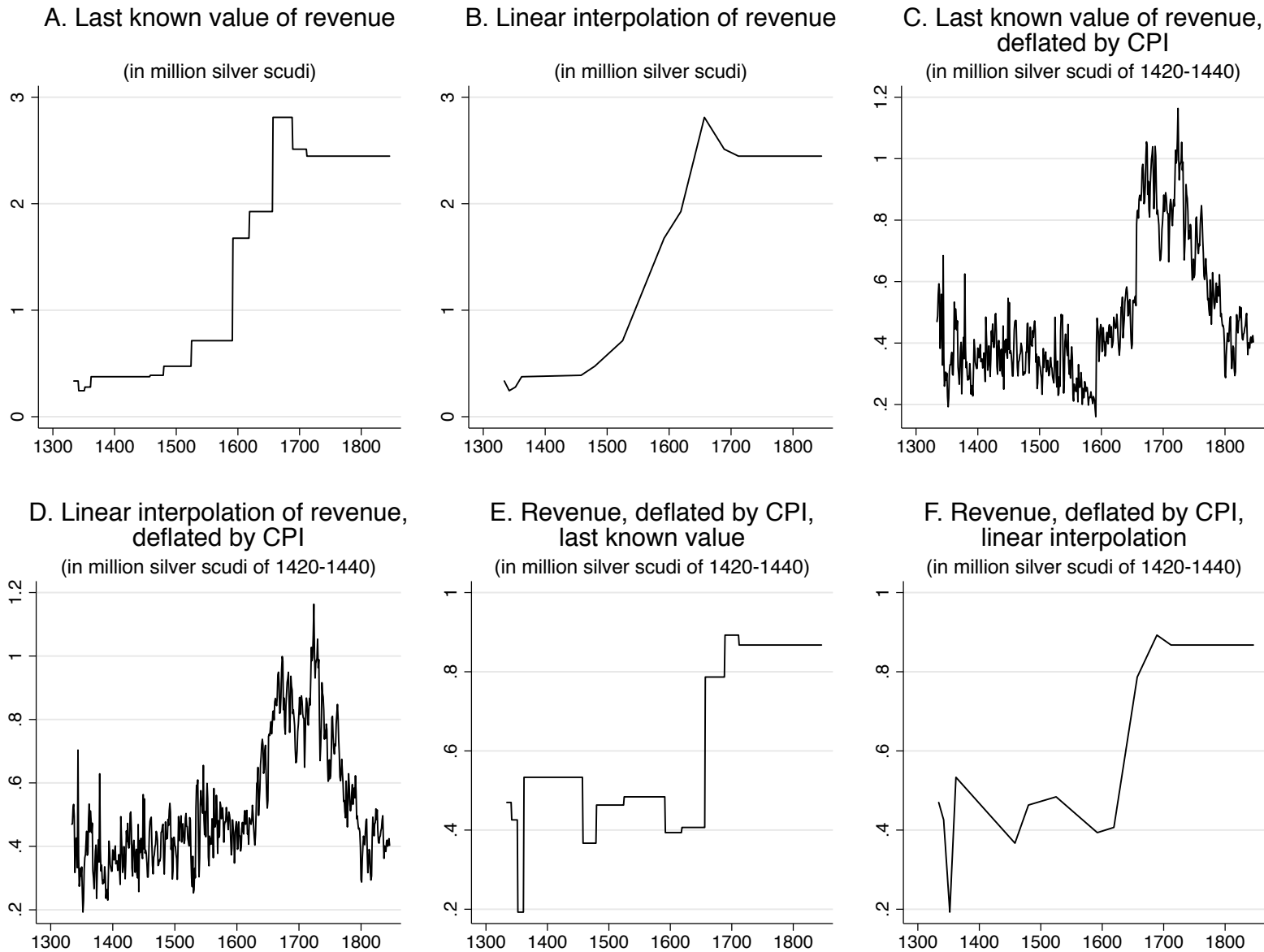
E. Additional figures

Figure E-1: Popes' tenure length by age



Notes: The sample includes a total of 62 popes.

Figure E-2: Papal Finances



**Notes:** Each figure shows a different method for imputing missing revenue values and deflating. Revenue data comes from [Caselli \(2014\)](#). In figures C-F revenue is adjusted by CPI from [Malanima \(2013\)](#).



## F. Additional tables

**Table F-1:** Persistence of the Effect

	(1)	(2)
Years since conclave:		
0-4	0.518*** (0.103)	0.583*** (0.111)
5-9	0.334 (0.201)	0.431* (0.221)
10-14	-0.122 (0.257)	0.067 (0.246)
15-19	1.374*** (0.422)	1.723*** (0.406)
20-24	-9.975 (14.893)	-6.744 (15.080)
Additional controls	yes	yes
Century dummies	no	yes
Observations	550	550
R-squared	0.106	0.117

**Notes:** The table reports marginal effects of POLBIRTH on the probability of conflict for each lustrum after the conclave. Coefficients are estimated from a linear probability model with standard errors clustered at the papacy level in parentheses. Additional controls are FRACBIRTH, dummies for demi-decades after the conclave and interactions with POLBIRTH and FRACBIRTH,  $n_{card_{p-1}}$ ,  $l_{papacy_{p-1}}$ ,  $interregnum_{p-1}$ ,  $ageelected_{p-1}$ ,  $tenure_t$ ,  $distitaly_t$ ,  $wars_t$ ,  $weather_t$  and  $jubilee_t$ . \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10%, respectively.