Religion and Persecution*

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Abstract

This paper investigates the relationship between Christian institutions and religiosity and the persecution of minorities in a sample of over 2,100 European cities during 1100-1850. We measure both the influence of local ecclesiastical authorities and the religious fervour of the general population by employing a novel proxy: the existence of the cults of saints in early Western Christianity (pre-1100). Our findings show that cities with an established cult of a saint are associated with a 13 percentage points (pp) increase in the likelihood of Jewish persecutions and were 21 pp more likely to engage in witch trials. However, cities with more progressive gender norms, measured by the presence of a female saint cult, are less likely to persecute witches compared to male-only saint cities. Our baseline relationship persists after controlling for a range of city-level economic, geographic and institutional characteristics and after accounting for other major confounders. We find two plausible mechanisms behind the saints-persecution relationship: (i) changes in norms induced by longer exposure to Christianity; and (ii) proximity of religious groups due to congruence of religious festivities.

JEL Codes: D74; N33; N43; N93; Z12

KEYWORDS: minority persecution; religious institutions; religiosity; Middle Ages

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1 Introduction

The role of religion is paradoxical. It makes prejudice and it unmakes prejudice. While the creeds of the great religions are universalistic, all stressing brotherhood, the practice of these creeds is frequently divisive and brutal. The sublimity of religious ideals is offset by the horrors of persecution in the name of these same ideals.

Allport (1954, p.466)

The question of when and how religion is associated with minority persecution continues to produce a large amount of scholarly work across multiple disciplines.[1] This is plausibly because religion has two faces in its relationship to violence. Throughout history, religion has contributed to violent conflicts, minority persecutions, and episodes of intolerance, a phenomenon that still plagues society in the current times.[2] On the other hand, it has also acted as a bridge to peaceful coexistence and a resource for reconciliation (Appleby, 1999). This ambivalence stems from the intrinsically paradoxical nature of religion, particularly monotheistic religion, which has a potential to both reduce conflict, by fostering sacred values of tolerance, and to create it, by generating outsiders due to the notion of "the one true God" (Allport, 1954; Norenzayan, 2013; Iyigun, 2015).[3] In this paper, we contribute to such debates by investigating whether Christianity was instrumental in the persecution of minorities in a sample of over 2,100 European cities across more than 800 years.

Economic historians have investigated empirically the determinants of persecution episodes perpetrated in the European Middle Ages and thereafter. For instance, it has been argued that Jewish persecutions intensified during periods of economic downturn (Grosfeld, Sakalli, and Zhuravskaya, 2020) and were more likely to occur following colder growing seasons (Anderson, Johnson, and Koyama, 2017). Oster (2004) establishes similar channels for witch trials between the 15$^{\text{th}}$ and 18$^{\text{th}}$ centuries. Other studies have highlighted the role of non-price competition between Protestants

[1] See, for example: Appleby (1999), Iyigun (2015), Juergensmeyer (2017), Johnson and Koyama (2019), Smelyansky (2020).

[2] Despite being an important player in conflict, religion has rarely been the primary determinant of war: in a survey of around 1,800 conflicts throughout history, Phillips and Axelrod (2004) found that less than 10 percent of them involved religion.

[3] The history of the Catholic treatment of the Jews is marked by this conflict. Elements of bigotry have prevailed at times, as illustrated by the following excerpt from a sermon by St. John of Chrysostom, one of the greatest saints of the church, written in the 4$^{\text{th}}$ century: "The synagogue is worse than a brothel [...] It is a criminal assembly of Jews [...] a den of thieves [...] I would say the same about their souls [...] We should not even salute them, or have the slightest converse with them" [cited in Allport (1954, p.470)]. At other times, such negative portraits have been counterbalanced by sentiments of broader compassion and inclusion, as embodied in the messages of tolerance towards the Jews expressed for instance by Pope Gregory the Great (d. 604), who wrote that Jews "must have free license to observe and celebrate all their festivals and holidays, as both they and their ancestors have held for a long time past." [cited in Lipton (2014, p.3)].

and Catholics on the incidence of witch trials (Leeson and Russ, 2018) and the absence of economic complementarities and increased economic competition on Jewish persecutions (Becker and Pascali, 2019; Jedwab, Johnson, and Koyama, 2019).

The role played by Christianity in promoting the use of violence against minorities has not been studied systematically across time and space: most of the available literature focuses on a specific geographic area or time period.[4] Cross-country studies on religion and religiosity are relatively scarce, and those investigating the consequences of religion have focused primarily on economic development and education.[5] We assemble a novel dataset measuring the pervasiveness of Christianity across European cities, combined with data on violence against minorities and city characteristics during 1100-1850 for 2,116 cities, covering the vast majority of Europe (24 countries). This allows us to exploit wider historical and geographic variation in local religious institutions and beliefs to test the religion-persecution relationship in a comprehensive and systematic way.

Since becoming the dominant religion of the Roman Empire under Constantine I, Christianity has at times advocated and embraced violence to maintain control of its ecclesiastical authority. The consolidation of a mainstream Christian doctrine and the power that Christianity enjoyed as state religion after the Edict of Thessalonica (380 C.E.) influenced the state-backed persecution of heretical groups and followers of other religions.[6] The massacres of the Jews during the Black Death, the campaigns against the pagan Balts and Slavs of northeastern Europe, the launching of the Crusades, the Inquisition, and the witch trials represent some of the most well known examples.[7] Violence was actively incorporated into liturgy, which included the blessings of weapons, and new militant religious orders, such as the Templars and the Knights Hospitaller, were established to fight the enemies of God (Barber, 2012).

We consider religion both as the presence of focal points of ecclesiastical power and as the expression of a belief system, particularly its manifestation in worship-based fervour among adherents. In order to quantify both components of religion we use a novel proxy: the existence of the cults of saints across European cities. In particular, we focus on the early saints of Western Christianity,

[4] See for example Pascali (2016) on role of the Catholic Church in Jewish expulsions in Italy; Becker and Pascali (2019) on the role of Protestantism in Jewish persecution in Germany; Finley and Koyama (2018) the role of bishopric and archbishopric cities in higher persecution intensity in the Holy Roman Empire during the Black Death; Spenkuch and Tillmann (2018) on Catholics lower likelihood to vote for the Nazi party than their Protestant counterparts.

[5] For a comprehensive survey of the recent literature on the economic history of religion, including the relationship between religion and violence, see Becker, Rubin, and Woessmann (2020).

[6] Since the Edict of Thessalonica of Theodosius I, which utilises for the first time the term heresy in a legal context, the Church enjoyed the support of the state to counter what it perceived as heresy. The war against heresy was waged in many forms since late Antiquity.

[7] Moore (2008) argues that the use of violence as a legitimate means to maintain power became formalised between the 10^{th} and 13^{th} centuries in Europe.

those whose cults began pre-1100 C.E. This restriction is motivated by two related concerns. First, post-1100, in the wake of the reforms initiated by Pope Gregory the VII, the power of Rome began to increase substantially; one aspect of this change was the control of the canonisation process of new saints, and was often used to mould and influence contemporaneous socio-political realities.[8] Second, since the early saints were primarily canonised as a result of local popular veneration with no de facto involvement from the Papacy, they are more likely to capture organically formed regional focal points of ecclesiastical authority and/or local religiosity, rather than top down, potentially strategic, decisions from Rome reflecting pan-Christian concerns. Overall, this implies that using pre-1100 saint veneration allows us to isolate pre-existing variation in religious institutions, which is likely to be less impacted by contemporaneous forces (post-1100) influencing the rise of religious persecution from the 12^{th} century onward. In other words, using pre-1100 saints helps us both isolate local conditions and alleviate reverse causality concerns. Nevertheless, given that we cannot completely rule out that pre-1100 local saint veneration is exogenous to post-1100 persecution, we also adopt an instrumental variable approach to complement our empirical strategy, as explained below.

In order to be relevant, our proxy needs to capture spatial variation in both religious fervour among local communities and in the power of local ecclesiastical authorities. We provide empirical evidence that our proxy is strongly correlated with measures of ecclesiastic power: bishopric/archbishopric cities, existence of churches, church height and size as well as with the proliferation of monasteries across European cities.[9] The value added that our proxy brings relative to available measures is twofold: its wider geographic coverage, allowing us to undertake a comprehensive Europe-wide analysis of the religion-persecution relationship; and its richer representation of religion, incapsulating both ecclesiastical power and popular expressions of religious devotion. We cannot empirically validate the relationship between saints and religious devotion, given the difficulty in measuring the latter in the absence of standard measures of religiosity, such as pre-1100 church attendance data. Nevertheless, a large body of literature has emphasised that the cult of the saints has embodied one of the central expression of Christian religiosity since Late Antiquity, a belief that continues to preserve this role in the Catholic Church until the present day. The *loca sanctorum*, places where the saints were believed to be present (their graves, and relics) were visited by pilgrims hoping to receive intercession and miraculous healing; they became sources of local pride

[8] This in turn could create simultaneity related issues since canonisations could be used to preempt future violent unrest in restive regions.

[9] Western monasticism primarily mushroomed between the 6^{th} and 12^{th} centuries.

and symbols of local identity (Klaniczay, 2014). The importance of the cult of saints in popular Christian culture is further manifested in the adoption of saints' names at baptism (Andersen and Bentzen, 2021), the popularity of burial *ad sanctos* (in close vicinity to the shrine), their veneration throughout the liturgical year (Price, 2014). Furthermore, saints veneration has been shown to be a good proxy for the strength of religious identity in other contexts: for instance, Saleh and Tirole (2021) use it to measure Copts' religious identity in medieval Egypt. Kung and Ma (2014) use the number of "chaste women" (*lienv*), which can be thought of as the Confucian analog of Christian virgin saints, to measure the strength of Confucian norms in Qing China.

The purpose of the current study is less about studying the direct determinants of the rise in persecution in European society and more about *where* these persecution episodes were likely to be realised. Was the church more likely and able to use violence against minorities in places where its presence was more pervasive as measured by saint veneration? Or was it more tolerant against minorities in its strongholds, possibly due to the lower threat non-Christians posed to its authority? To answer these questions we use our comprehensive dataset to study two major but distinct episodes of persecution of disadvantaged minorities: 1) the witch trials of 1300-1850 and 2) the Jewish persecutions of 1100-1800. While Jewish persecution was a persistent and recurring phenomenon during the European Middle Ages, witch trials surged during a period of around 200 years starting in the 16$^{\text{th}}$ century. Christianity's supersessionist claims fostered a rivalry with Judaism from its inception, resulting in periodic episodes of anti-semitic fervour in the masses often led by the clergy itself. On the other hand, witch trials represented a more direct persecution of heretics within the ambit of Christianity. Although throughout its history Christianity was opposed to black magic, which was viewed as the work of the devil, by the late 15$^{\text{th}}$ century the heresy and apostasy of the witch became more deliberate and 'threatening' to society, which led to systematic persecution.

Our baseline findings show that cities with an established cult of a saint were substantially more likely to witness episodes of both Jewish persecutions and witch trials, relative to locations with no saints presence. Country fixed effects help us control for sainthood practices within countries as regions across Europe had their own peculiar paths to both Christianisation and saint veneration. Population controls at the city level, a proxy for economic development in a Malthusian setting, help us account for the economic drivers of persecutions, as argued in the literature using pre-industrial data. We also provide evidence that cities with more progressive gender norms, as measured by the veneration of female saints Schulenburg (1998) were *less* likely to persecute witches relative to male-

only saint cities. We find no differential effect of female saints on Jewish persecutions. Furthermore, focusing only on martyrs, the first Christian saints who died in anti-Christian persecutions, we show that locations with strong anti-Christian repression persisted with religious persecution, post-1100, directed now towards the Jewish minorities.

We demonstrate that our results are not confounded by plausible alternative explanations of violence against minorities, by (i) accounting for a range of additional geographic, institutional, political factors, such as ruggedness, soil quality, elevation, distance from Rome, university presence, parliamentary activity, capital cities and distance from the coast; (ii) controlling for two key confounders of persecution: the Black Death and the spread of Protestantism.[10] Finally, in order to mitigate concerns that there may be omitted variables correlated with both pre-1100 saint cults and minority persecutions, we adopt an instrumental variable identification strategy based on pre-Christianity pagan temples location. We find a negative relationship between pagan temples and the presence of a pre-1100 saintly cult given the violent transition from paganism to Christianity. The second stage results are consistent with the OLS estimates, albeit stronger in magnitude.

After establishing a strong relationship between saints' presence and persecution episodes, we empirically investigate two plausible channels behind our results. First, we test whether longer exposure to *loca sanctorum* contributed to violence against non-Christian out-groups. This can, in part, be driven by altering pre-Christian norms that eventually led to a change in European psychological traits, as recently argued by Henrich (2020). We find that longer exposure to Christian norms, measured as centuries since the beginning of a saintly cult or the establishment of a bishopric, is indeed positively associated with a higher likelihood of violence against non-Christians and heretics. Second, we hypothesise that saints' veneration may have played a role in increasing religious fervour among the local population, particularly around annual saint festivities. Hence, minority groups can be particularly vulnerable in such settings. We show that persecution episodes were indeed more likely to occur in cities where Jewish religious festivals and saint festivities overlapped more often, potentially creating more opportunities for religious clashes.

The rest of the paper is organised as follows. Section 2 provides a detailed historical background on the institution of sainthood in Europe as well as on the persecution episodes we study. Section 3 details the sources that we have used to compile our dataset. Section 4 discusses our empirical approach and presents the results while Section 5 discusses our IV strategy. Section 6 investigates

[10] We provide a further set of robustness tests in section 4.6 including testing sensitivity to outliers, saturating the model with finer fixed effects, and employment of count data models, among other things.

some potential mechanisms behind our main findings. Section 7 concludes.

2 Background

2.1 The Cult of the Saints

In early church history saints were largely martyrs who had given their lives for their faith during the Roman persecutions.[11] By the end of the sixth century the graves of many of these early saints coalesced into being the ecclesiastical focal point of their regions (Brown, 1981). In later centuries, holy people who lived lives of heroic Christian virtue were bestowed the honor of sainthood. Saints' shrines and relics became the object of people's devotion who believed to benefit from being in their physical proximity in a number of ways: from witnessing miracles, to being cured of illnesses, to receiving protection from evil forces and misfortune (Ferrero, 2002). Alms and donations generated a profitable business around shines' visits and pilgrimages, so that the local clergy tried to secure a share of them as a strategy to enhance their prestige among the faithful and to increase their wealth.[12]

During this period saint making was not a centralised process, but was sanctioned by a tradition of popular worship: saints were typically designated by local communities who believed them to be able to perform miracles after death, and local bishops were either called to lend authority to a saint's cult or were instrumental themselves in initiating them at the local level.[13] Throughout the first millennium of the church's life, saints veneration was a local, bottom up practice: *"canonisatio per viam cultus"*, i.e. canonisation by popular veneration (Barro, McCleary, and McQuoid, 2011).

The first universal canonisation, involving a papal bull addressing all nations, occurred in 1041. Around two centuries later, in 1234, Pope Gregory IX asserted that only a pope had the authority to declare someone a saint (Kemp, 1948). This acceleration in the centralisation of ecclesiastical power in saint making was part of the set of reforms initiated by Pope Gregory VII (1073-85): such reforms brought innovations to the concept of papacy by placing more emphasis on the centralised role played by the pope, who came to be seen as the "universal ruler" (MacCulloch, 2010). These years brought

[11] Martyrs continued to be beatified and venerated throughout the church's history.

[12] Since economic motives played an important role in both the saint making process and minority persecutions, we control for city-level proxies of economic development, namely population density (in all specifications), university presence and capital city status (see Table 4).

[13] In a seminal study, Brown (1981) argues that the latter channel, i.e. local bishops initiating cults of saints was more common due to the substantial rise in wealth at the disposal of these bishops in the early centuries of the Christian era. Cultivating local foci of worship through shrine and tomb construction and organisation of feasts provided an ideal avenue for expenditure.

immense change to Western Christendom, as they coincided with important institutional reforms: the system of parishes, systematisation of canon law, and the papal-backed rise of monastic religious orders all precipitated post-1100. The transition to a completely centralised saint making process was gradual, culminating in 1634, when pope Urban VIII formalised it into a posthumous procedure, fully controlled by the pontiff. From then on, the decision to make someone a saint became a prerogative of the Holy See. Sainthood became (and still is) a universal cult, mandatory for the whole church. The complete concentration of authority over the whole process from beatification to sainthood in the hands of the papacy has been framed by the Counter-Reformation of the 17th century, and can thus be seen as one of the church's responses to the increased competition from the rise of Protestantism (Barro, McCleary, and McQuoid, 2011). This evolution of saint making from a local, decentralised process to a unified one is what motivates our choice of using the year 1100 as a cutoff in the empirical analysis: pre-1100 saints are more likely to reflect local ecclesiastical power and religiosity rather than the Church's top down decision of nominating saints in potentially strategic locations. This early period of Christianity was also characterised by a higher share of martyrs, who are by nature unlikely to reflect any papacy's strategic choice also correlated with minority persecutions.

Sainthood was predominantly a male feature throughout church history, a discrimination driven primarily by the lack of opportunity women had to hold leadership positions and hence to gain visibility, within the church and medieval life in general. It is extremely difficult to quantify the number of saints and their sex ratios in the first centuries of Christianity, but the data become more reliable from the 6th century.[14] Female saints shares grew from around 8.6% in the 6th century to 12.8 in the 12th century (Schulenberg, 1978). The most common ways to achieve sainthood for women were proselytisation, monastic/ascetic life, founding abbeys or monasteries or as mystics.[15] In the late medieval period female saints increased their prestige based on charismatic and mystical powers. The ascendancy of female saints has been considered a sign of female emancipation through religious life (Vauchez, 1999).

[14] Being a period of active proselytisation among the Germanic people, the 6th century also created few opportunities for women to achieve some sort of "visibility" required for sanctity. Despite not being numerous, this was the time when women saints began to surge, many of whom played an active role as proselytisers (Schulenberg, 1978). Another typical way used to achieve female sainthood, was through monastic life, which became common among many noble families at the time.

[15] For instance St Catherine of Siena and St Bridget of Sweden were female mystics.

2.2 Persecutions

Since the promulgation of the Edict of Thessalonica in 380, the church was able to resort to state-sponsored support to counter what it perceived as heresy, thus turning Christianity from a persecuted into a persecuting religion. Religious coercion was common practice and one of the "facts of life" during Late Antiquity and the Early Middle Ages (Brown, 1964).[16] However, it is the period between the 11th and 12th centuries that characterises a turning point in the history of violence in Europe (Moore, 2008).

2.2.1 Witch Trials

Belief in supernatural phenomena like witchcraft, sorcery, astrology and even sainthood and their associated miracles persisted in Europe and around the world for millenia. However, around the turn of the 15th century the active persecution of one set of 'practioners' of such arcane arts begun to intensify, that of the medieval witch.

Between 1400 and 1750 around 110,000 people, mostly women, were tried for witchcraft; and about half of them were executed, usually by burning at the stake (Levack, 2016; Leeson and Russ, 2018). While the Catholic inquisition began implementing witchcraft trials in the 13th century within the context of the persecution of heretics, there was a dramatic increase in the early 16th century, triggering an intensive witch-hunt in the subsequent 150 years. Witch-hunting involved the identification of individuals who were believed to be engaged in secret or occult activities, centred around black or maleficent magic used to perform harmful deeds (*maleficia*) and to make pacts with the devil (diabolism) (Levack, 2016, pp.2-3, 7). It has been hypothesised that this reinterpretation of witchcraft as a pact with the devil may have contributed to the increased persecution of witches witnessed in the Middle Ages (Robbins, 1959).

In addition, most witch killings were a culmination of a 'proper' judicial process as witches were tried in ecclesiastical courts under the direct auspices of the Church. Famed witch hunters were in great demand across Europe, like Matthew Hopkins who alone was involved in the conviction of around 200 witches in England just between 1645-47 (Thomas, 1971). Nevertheless, there is no consensus on the reasons behind the witch trials. In his comprehensive account, Levack (2016) summarises the hypotheses put forward by the literature; they range from religious competition (the

[16] Priscillan was the first heretic to be officially executed in 385. The edict of the Theodosius II (435) envisaged the death penalty for the followers of Nestorius and Arius (Gordon and Simón, 2010, pp. 135-6). Monophysitism (in its various forms) and Donatism feature among the main persecuted heretical movements during early Christianity. See Brown (1964) on Augustine's legitimisation of the use of violence against Donatists.

Reformation and Counter Reformation; the wars of religion; the attempt to wipe out paganism), to institutional (the rise of the modern state, the development of capitalism), to economic (agricultural crises) and cultural (religious zeal of the clergy, hatred of women).

The recent economics literature has considered witch trials as examples of scapegoating violence prompted by a deterioration in economic conditions (Oster, 2004); as the result of non-price competition between Catholic and Protestant churches (Leeson and Russ, 2018); and as the outcome of weak legal institutions (Johnson and Koyama, 2014). We contribute to this literature by studying the role of religiosity and extant religious institutions, as measured by presence of the cult of a saint, in the perpetration of witch killings.

2.2.2 Jewish Expulsions and Pogroms

While Christianity and its supersessionist claims fostered a rivalry with Judaism from its inception, the 11th century represents a critical moment in the church's policy towards Judaism, as demonstrated by the antisemitic legislation passed by the Fourth Lateran Council.[17] This period coincides also with a shift in attitudes towards the Jews, who turned from unwitting witnesses to the truth of Christianity, hence being allowed limited toleration, to being a direct conversionary target (Carlebach and Schacter, 2011, pp.1-4). Local clergy often headed anti-Jewish movements. Antisemitism in popular European Christian culture, based on beliefs such as blood libels and well poisonings, escalated in the 13th century. Similarly, antisemitic imageries such as the Judensau (representing Jews in obscene contact with a large female pig), became more widespread in Christian art and architecture.

The extensive literature studying the drivers of violence against Jews points to a variety factors motivating it. Among them, economic determinants play a key role: specifically, it has been argued that Jewish expulsions took place when their presence was no longer considered an economic necessity (Mundy, 2014) and that Jews were used as scapegoats during periods of economic downturn (Voigtländer and Voth, 2012; Anderson, Johnson, and Koyama, 2017; Grosfeld, Sakalli, and Zhuravskaya, 2020). Other explanations focus on political drivers, highlighting how religiously motivated antisemitism was used strategically by kings to reinforce their own standing: thus the hatred of the Jew in Christian societies legitimised persecutions and strengthened monarchs' political power (Menache, 1987).[18] More recently, the literature has also emphasised the role played by economic

[17] Supersessionism is the belief that once Christianity was established, Judaism as a religion was made unnecessary.

[18] For instance, the antisemitic sentiment clearly expressed in the anti-Jewish legislation of the Fourth Lateran Council triggered Jewish persecutions in both England and France (Chazan, 2019).

incentives and competition: Becker and Pascali (2019) show that labour market complementarities in the financial sector between the Jewish minority and the Christian (Protestant) majority explain the variation in anti-Semitic sentiments and violence in Germany during 1300-1900.

3 Data

3.1 Saint Presence

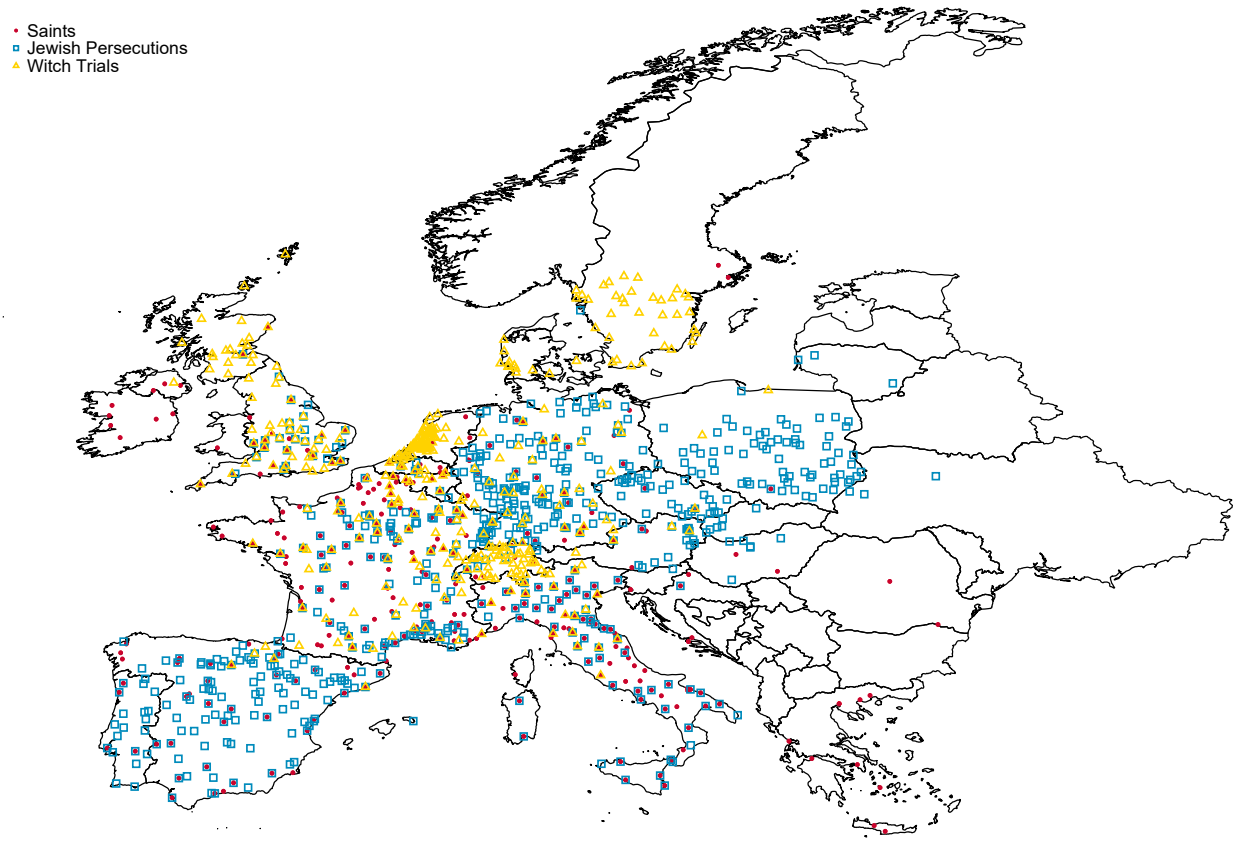
The data on the number of saints has been extracted from the *Martyrologium Romanum* (Roman Martyrology), the official martyrology of the Catholic Church, containing the list of recognised martyrs, saints and beati.[19] The Roman Martyrology was first published in 1583, underwent as few revisions over the following century, but after the 1748 edition by Pope Benedict XIV, there were only minor changes until 2001. We extract information on saints before 1100, namely before the centralisation of the canonisation process to capture the local nature of sainthood and the fact that saint making was the result of popular decisions from a local community (Bartlett, 2015).[20]

It is important to note that given the decentralised nature of the way saints were designated, it is impossible to compile a complete list of all saints ever sanctified (Delooz, 1983). While this may inevitably induce some measurement error in our measure of saints, it is unlikely that there was a systematic bias in misreporting saints from some locations and not others. With this caveat in mind, using the above sources, we extract information about several key characteristics of the saints: their year and place of birth/death, their gender, and their type (bishop, abbott, priest, ruler, pope, monk, hermit). We assign to each saint a location, corresponding to the place where they were venerated, predominantly based on their place of death. To do so, we use the information contained in their hagiography. For instance, the hagiography of Bartolo da San Gimignano (St. Bartholomew Buonpedoni), 1228-1300, documents that he was born in San Gimignano (near Siena), spent part of his life in a Benedictine convent in Pisa, and at the age of thirty was ordained a priest, serving the village of Peccioli (Pisa). He then withdrew to a leper hospital near San Gimignano where he spent the rest of his life, ministering to the lepers of the region. In this case we identified

[19] The martyrology has been accessed using both physical copies (Bibliotheca-Sanctorum, 1961) and the following websites: https://www.catholic.org/saints/ and http://www.boston-catholic-journal.com/roman-martyrology-complete-in-english-for-daily-reflection.htm; the latter reports the complete text of the Roman Martyrology circa 1900 A.D.

[20] The *Martyrologium Romanum* does not always indicate a saint's death date. In order to ensure that our dataset comprises only of pre-1100 saints we use data from (Barro, McCleary, and McQuoid, 2011). The latter focus predominantly on post-Canonization saints and record both the date of birth and death. We remove all saints that appear in both datasets and whose death occurred after 1100.

Figure 1: Location of the cults of saints, witch trials, and Jewish persecution episodes.



Sources: Saints' presence: *Martyrologium Romanum*; Jewish persecutions: Anderson, Johnson, and Koyama (2017); Witch trials Leeson and Russ (2018).

San Gimignano as Bartolo's veneration location.[21] Appendix A2 provides short hagiographies on a subsample of saints used in the analysis.

We retrieved data on 1,735 pre-1100 saints in 355 unique locations (cities) across 19 countries: 274 of them (15.8%) are women and 405 (23.3%) are martyrs. As illustrated in Figure A1 (a), while there is widespread geographic variation in saints' veneration, the bulk of saints was concentrated in Italy (38.5%), France (18.9%), Spain (7%), the UK (5%), and Germany (4%). When looking at variation within countries, we observe that most cities with a saint, had only one (53.9%): for this reason we use a dummy variable for saints presence as our preferred explanatory variable in our main regressions.[22] The cities with most saints were Rome (253 saints), followed by Milan (45),

[21] Bartolo da San Gimignano was buried inside the church of Sant'Agostino in San Gimignano.

[22] To ensure that outlier cities with a large number of saints do not drive our results, we drop locations with the top 1% of saints, see Table A4.

Perugia (42), Lyon (32) and Brescia (28). Figure A1 (b) describes saints' main types, which we use as additional controls in our empirical specification.

3.2 Persecution Data

We use Anderson, Johnson, and Koyama (2017)'s data on city-level Jewish persecutions, in turn extracted from *Encyclopedia Judaica*. These data indicate that between 1100 and 1800 Europe witnessed 795 episodes of Jewish expulsions and 616 pogroms. As illustrated in Figure A2 (a), the country with the highest number of persecutions was Germany (30% of total persecution events), followed by France (18.5%), Spain (15.5%) and Italy (9.9%). The vast majority of the cities of our sample reported only one episode of pogrom or of expulsion: 64% and 70% of the sample, respectively. The towns recording most persecutions are: Mainz (Germany) with 4 pogroms and 7 expulsions; Arles (France) and Krakow (Poland), both experiencing 7 pogroms and 1 expulsion.

We rely on Leeson and Russ (2018) for the witch-trial data, which report a total of 43,240 people prosecuted for witchcraft during 1300-1850. Figure A2 (b) shows the geographic variation by country: while the bulk of trials took place in Germany (38%), Switzerland (22.6%) and the UK (11%) and France (9.6%), they occurred also in the rest of Europe.[23]

4 Empirical Analysis

4.1 Baseline Specification

To investigate the relationship between saint veneration and persecution, we use the following straightforward set up:

$$Persecution_{ic}^{post-1100} = \beta\, saint_{ic}^{pre-1100} + \mathbf{X'_{ic}}\gamma + \theta_c + \varepsilon_{ic} \tag{1}$$

where $Persecution_{ic}^{post-1100}$ is a measure of persecution episodes (either witch trials or Jewish pogroms and expulsions) in city i and country c between 1100 and 1850. We use specifications with both binary or continuous measures of persecution. The former measures any persecution episode of a distinct type and takes the form of a dummy variable (extensive margins), while the latter uses the number of distinct episodes of such events (intensive margins). Similarly, $Saint_{ic}^{pre-1100}$ denotes a binary variable equal to 1 if location i in country c venerated a saint before 1100. X'_{ic} includes

[23] The two locations recording the highest number of trials were: Mecklenburg (Germany) and Navarra (Spain), with 3,844 and 1577 women tried, respectively.

a set of control variables: population density, the presence of Jewish population (when analysing Jewish persecutions), latitude and longitude and saints types.

Given the Malthusian setting, urban density captures location specific levels of economic development, consistent with a series of papers in the tradition of De Long and Shleifer (1993).[24] The population density data are based on the Clio-infra database on urban settlement sizes.[25] Latitude and longitude account for potential omitted geographic characteristics at the city level capturing economic development such as crop yields (Galor and Özak, 2016). Saint-specific characteristics such as high ranked secular occupations (queens and kings) control for the potentially confounding effect of secular power, and high ranked ecclesiastical occupations (popes, abbots, bishops) to account for their stronger ecclesiastical power (pope saints had wider cults, due to their prominent role among the faithful). Finally, we exploit information about saints' gender to test whether female saints played a different role that their male counterparts. This is of particular interest in case of the witch trials, given the gendered dimension of the persecution.

θ_c represents country fixed effects and allows to account for within region variation, such as the different processes governing the early spread of Christianity in Europe. Finally, ε_{ic} represents the error term. We cluster the standard errors at the country level and correct for the small number of clusters (23 countries) implementing the wild bootstrap procedure, as recommended by Cameron, Gelbach, and Miller (2008) and Cameron and Miller (2015).[26]

Using the year 1100 as a cut-off point for the presence of saint veneration is a crucial ingredient of our empirical strategy. From the 12$^{\text{th}}$ century onward, the canonisation of new saints started becoming increasingly political and the bottom-up approach through local veneration withered away (Delooz, 1983). Hence pre-1100 centres of saint veneration are more likely to isolate religiosity and ecclesiastical power structures which formed as a result of historical accidents or as the interaction of various complex historical phenomena, as discussed in section 2.1, as opposed to contemporary processes. This helps us avoid a potential reverse causality concern, given that post-1100 the Pope often strategically canonised Christian personalities in areas which had the potential of fomenting trouble or localised violence (Goodich, 1975). Motivated by a similar concern we focus on persecutions occurring only *after* 1100 to capture the effect of existing religiosity and ecclesiastical focal points on future persecutions rather than an ex-post endogenous decision by the Papacy to start

[24] City population is a widely used proxy for economic development; See, for instance, Dittmar (2011), Cantoni and Yuchtman (2014), Squicciarini and Voigtländer (2015).
[25] The data can be accessed here.
[26] We use the estimation procedure developed by Roodman, Nielsen, MacKinnon, and Webb (2019).

cults of saints in regions prone to persecution episodes.[27] The summary statistics are reported in Appendix Table A1.

4.2 Validating the Saint Presence Proxy

We start the discussion of our findings by analysing whether our saint presence measure is likely to proxy for the existence of localised structures of ecclesiastical power. Table 1 column (1) shows that a city with the seat of a price-archbishop or bishop is around 43.8 percentage points more likely to also have a cult of a saint. In column (2) we break down our proxy into bishopric and archbishopric cities and find that both measures of ecclesiastical power are associated with the presence of a cult of a saint. Historians have discussed the important role that local bishops played in elevating local Christian heroes to sainthood (Brown, 1981) and the first two columns of Table 1 provide empirical evidence for this assertion.

In columns (3)-(6) we analyse pre-1100 religious buildings, churches and monasteries, using data on medieval Belgium, France, Germany, Great Britain, Italy, the Netherlands and Switzerland.[28] Churches reflected societies' religious and cultural aspirations, and were a clear sign of the influence of the ecclesiastical hierarchy (Buringh, Campbell, Rijpma, and van Zanden, 2020). Western Europe also saw a slow adoption of monastic ideals from the 5th century onwards and in time these coalesced into well defined orders and brotherhoods. In later centuries, an important aspect of monastic life involved reciting daily prayers for the local saint, protecting holy relics, and at times managing the affairs of the shrine in general (Wilson, 1985). This proliferation of monasteries can provide a direct measure of the spread of Christianity and its success as an organised religion. Columns (3) and (4) show that one extra religious buildings in a city led to a 2.5 and 8.5 percentage points increase in the likelihood of the presence of a saint, respectively.

[27] This is an interesting research question in its own right for the literature studying the sociology and politics of canonization in Europe especially from the 13th century onward.

[28] The data on churches are from Buringh, Campbell, Rijpma, and van Zanden (2020). The data on monasteries are from the following sources: Cantoni (2012) for Germany; the census of monasteries in the Netherlands website for the Netherlands, accessed here; and wikipedia for Great Britain, accessed here.

Table 1: Validating saints' presence

	(1)	(2)	(3)	(4)	(5)	(6)
Archbishophric or bishophric city	0.438***					
	(0.047)					
	[0.001]					
Archbishophric city		0.572***				
		(0.089)				
		[0.002]				
Bishophric city		0.403***				
		(0.089)				
		[0.001]				
Monasteries			0.025**			
			(0.005)			
			[0.084]			
Churches				0.085**		
				(0.032)		
				[0.078]		
Large churches					0.261***	
					(0.021)	
					[0.082]	
Church height						0.021**
						(0.007)
						[0.044]
Country FE	Y	Y	Y	Y	Y	Y
Population	Y	Y	Y	Y	Y	Y
Lat. & long.	Y	Y	Y	Y	Y	Y
N	2,116	2,116	375	1,312	1,312	533

Notes: The dependent variable is saints' presence. Robust standard errors, clustered by country, are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). Pre-1100 church data are available only for Belgium, France, Germany, Great Britain, Italy, the Netherlands and Switzerland. Pre-1100 monasteries data are available only for Germany, Great Britain and the Netherlands. Large church [col. (5)] is a dummy equal to one for churches larger than 1000 m^2. Church height [col. (6)] measures church nave height in m.

Large church structures represented an additional signal of ecclesiastical power (Pfaff and Corcoran, 2012).[29] We define a pre-1100 large church using two metrics: we construct a binary variable equal to one for buildings whose size was larger than 1000 m^2, following Buringh, Campbell, Rijpma, and van Zanden (2020); and we use the height of the nave as alternative proxy for the size of a church, following Ekelund Jr, Hébert, and Tollison (2006). Both measures are strongly correlated with pre-1100 saints veneration [columns. (5)-(6)].

The results presented in Table 1 provide some initial evidence that the cult of saints is indeed associated with ecclesiastical power structures and can provide a useful measure to study persecution,

[29] Pfaff and Corcoran (2012) find that both the number of monasteries and church height decreased the probability of abolishing the Catholic mass in the Holy Roman Empire post-Reformation.

particularly religiously motivated one. One could argue for the employment of such direct measures of the power of the Church, as the one used above, for studying our research question. However, data limitations constraint such an approach. For instance, data on the number of monasteries or churches is available for a limited number of countries while bishopric cities lack enough spatial variation.[30] The key strength of our sainthood proxy derives from the fact that it is informative on saints' cults for the entire European region. At the same time, our pre-1100 measure of sainthood is likely to capture spatial variation in regional religious institutions that formed in the early centuries of the Christian era and hence is less likely to be endogenously linked to persecutions, or of being simultaneously determined, like with contemporaneous measures of ecclesiastical focal points. Saint veneration is also likely to capture elements of religious fervour in the local population. Most saint cites served as centres for localised pilgrimages and each saint city also celebrated a number of festivals dedicated to the memory of the saint (Turner and Turner, 2011). Religious processions were taken out where entire communities participated in various rites and rituals (Smoller, 2014).[31]

4.3 Baseline Results

Table 2 reports our main findings on the relationship between saint veneration and witch trials and Jewish persecutions. All columns control for country fixed effects, population density, latitude and longitude. Columns (2), (3), (5) and (6) additionally control for the local saints type, specifically for the number of saints members of the local ruling elite (queens and kings) or ecclesiastical elite (popes, abbots, bishops). This allows us to account for the role played by cities with stronger secular power or where the hold of the Church's institutional presence was more intense. These additional controls can also help us isolate the effect of local religious institutions and beliefs, beyond that of key secular and ecclesiastical figures of medieval Christendom.

Columns (1) and (2) of Table 2 show that European cities where the cult of a saint was present were around 22 to 18.5 percentage points more likely to witness a witch trial episode. By uncovering a strong association between the existence of local religious institutions and the perpetration of episodes of witch hunting, these results provide empirical evidence to the historical narrative outlined in section 2.2.1: although beliefs in witches and magic had persisted since ancient times, it was the reinterpretation by church officials, which started equating them to devil worship, that justified the trial of alleged witches as heretics using the full machinery of ecclesiastical justice.

[30] Most bishopric cities were located in the Holy Roman Empire.

[31] In section 6, we use this aspect of saintly cults to explore a religious fervour driven mechanism behind our baseline results presented in section 4.

The results in columns (4)-(6) point to a positive relationship between local religious power and the likelihood of observing episodes of Jewish persecution (expulsions and pogroms) during 1100-1800. Specifically, we observe that the cult of a saint is associated with a 14.3 percentage points increase in the likelihood of persecutions in the relevant city (column 1), and effect persisting with the addition of saints' type controls in column (2).[32] As outlined in section 2.2.2, the church contributed in creating diabolic images of the Jews, depicted as working in league with Satan for the downfall of Christendom (Raphael, 1972), in the same fashion as they did for sorcerers and witches (Cohn, 1975). Beyond diabolism, an ample literature has documented the Church's anti-Semitic attitudes, often motivated by its condemnation of Jewish usury.[33] Jewish moneylenders were vehemently opposed by the Church in general and even more so by Christian usurers (Koyama, 2010).[34]

Table 2: Saints, witch trials and persecutions

	Witch trials			Jewish persecutions		
	(1)	(2)	(3)	(4)	(5)	(6)
Saints presence	0.223***	0.185***	0.216***	0.143***	0.126***	0.118***
	(0.057)	(0.053)	(0.056)	(0.041)	(0.039)	(0.037)
	[0.014]	[0.019]	[0.002]	[0.031]	[0.010]	[0.014]
Female saints presence			-0.108**			0.026
			(0.040)			(0.026)
			[0.018]			[0.368]
Baseline controls	Y	Y	Y	Y	Y	Y
Saints types	N	Y	Y	N	Y	Y
N	2,116	2,116	2,116	2,116	2,116	2,116

Notes: Fixed effects OLS regressions. Robust standard errors, clustered by country, are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). The baseline controls include: country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude. Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishop.

Although the European Middle ages were largely categorised with regressive gender norms, it is still reasonable to expect spatial variation in these norms across the European continent. Historians

[32] In Table A2 we break down our measure of Jewish persecutions into its subcomponents: expulsions and pogroms. The results suggest that the findings reported in Table 2 are largely driven by expulsions.

[33] For instance, while The Fourth Lateran Council of 1215 tolerated the practice of Jewish lending at an interest, it declared that Jewish usurers had to be ostracised.

[34] For instance, the founding of *monti di pietà* by Franciscans (loan-banks for the poor which could lend at interest) in Italy was associated with the expulsion of the Jews (Pascali, 2016).

have long hypothesised how these could potentially have contributed to the witch 'craze' of the 16th and 17th century (Thomas, 1971). However, empirical evidence in this regard has been elusive. In column (3) we use the veneration of female saints as a proxy for spatial variation in relatively progressive gender norms. In a seminal work, Schulenburg (1998) provides a thorough discussion of this assertion and argues that regions where more female saints were venerated were more likely to have "a certain tolerance toward women; a favourable atmosphere which encouraged, appreciated, and valued women's active participation in society and the Church".[35]

We add a binary control for whether the city had the cult of a female saint pre-1100. The point estimates reported in column (3) show that cities that venerated female saints were around 10 percentage points *less* likely to witness witch trial episodes compared to cities with only male saint presence. This offers a new insight into understanding the complex phenomenon of the spread of witch trials across Europe and documents a more fundamental determinant of such episodes: status of women in local societies. Crucially enough, the presence of female saints is *not* statistically associated with Jewish persecutions [column (6)]. This provides an important falsification test since if the above negative effect was driven by some underlying unobservable characteristics that are negatively correlated with both female saints and religious persecution then this relationship would have likely persisted in column (6) as well. We obtain consistent estimates when using the total number of (female) saints in a city instead of a binary measure of saint presence for all results of Table 2.[36]

4.4 Other Episodes of Violence

While we have established the existence of a positive relationship between saints' veneration and the perpetration of violence against two important minorities (Jewish persecutions and witch trials), in order to assess the extent to which these results can be generalised across other episodes of persecution, one would need to observe other forms of intolerance, both against heretics and followers of other religions. Indeed, beginning with the 11th and 12th centuries, Europe witnessed a marked increase in persecution, shaped by more rigid definitions of religious orthodoxy and new methods of social control (Moore, 2008; Smelyansky, 2020). However, despite the proliferation of violence against groups deemed to be deviant of the core values of Christianity, only a few of them have

[35] Regions spanning the homelands of Germanic nations, England, France, Belgium, Germany, boast the highest proportion of female saints in Europe pre-1100. This can potentially be a continuation of the ancient Germanic respect for women as prophetesses and seers as observed by Tacitus in his famous work *Germania*.

[36] Results available upon request from the authors.

been systematically documented. Constrained by data availability, we are able to analyse two other contexts of religious persecution to corroborate the external validity of our findings: the conflict between Catholics and Protestants, and episodes violence against religious minorities during 1661-1789 France.

We start by focusing on the European Wars of Religion (1524-1648) and test whether *loca sanctorum* are associated with higher Catholic-Protestant battle deaths.[37] We hypothesise that locations with an established saintly cult may have more actively promoted Catholic values and triggered hatred against Protestants.[38] We then use data on French violence against religious minorities during 1661-1789 and identify episodes of collective violence perpetuated against heretical movements, including assaults and attacks to property, buildings, and the belongings of these minorities.[39] We isolate 325 episodes of religious violence taking place in 123 localities, involving protestants (Huguenots), Jansenists, individuals practicing local rituals and beliefs and other religious minorities.[40]

The findings, reported in Table 3 confirm the existence of a strong positive effect of saints on both types of violence, both at the extensive margins [columns (1)-(3)] and at the intensive margins [columns (2)-(4)]. This additional evidence from different historical contexts helps corroborating our main result that cities with an established saintly cult were more likely to engage in minority persecutions. Given the limited geographic scope of these alternative outcomes, the subsequent analysis will focus on our baseline Europe-wide measures of persecution (against the Jews and witches).

4.5 Alternative Explanations

In this section we examine a range of plausible confounding factors that have the potential to explain our results. We attempt to rule out some of the most likely confounders and try to establish that our results above indeed capture the relationship between ecclesiastical power, religiosity and persecutions.

[37] The data on Catholic-Protestant battle deaths are from Leeson and Russ (2018).

[38] Leeson and Russ (2018) argue that heightened religious competition between Catholics and protestants is positively related to witchcraft trials.

[39] The data are from the Historical Social Conflict Database, accessed at https://www.unicaen.fr/hiscod/?locale=en. We are grateful to Cedric Chambru for sharing them.

[40] Some examples of violent episodes include: casualties from the resistance of the Camisards (Huguenots of the Cévennes region and the Vaunage in southern France) against the persecutions following the revocation of the Edict of Nantes, making Protestantism illegal. Attacks to the Jesuits after the suppression of their order in 1764; episodes of violence against the Jansenists, a Catholic movement criticising the Catholic Church and hierarchies (followers of Augustine of Hippo's teachings); clashes between Jesuit supporters and Jansenist supporters.

Table 3: Catholic-Protestant battle deaths and religious violence in France

	Protestant-Catholic battle deaths		Religious violence in France (1660-1789)	
Dep. var	Violence probability	N. violent events	Violence probability	N. violent events
	(1)	(2)	(3)	(4)
Saints presence	0.117**	0.480***	0.198**	0.952***
	(0.045)	(0.035)	(0.084)	(0.152)
	[0.016]	[0.056]	[0.045]	[0.019]
Baseline Controls	Y	Y	Y	Y
Saints Types	Y	Y	Y	Y
N	1,732	1,460	347	344

Notes: In cols. (1) and (2) robust standard errors, clustered by country, are in round brackets. In cols. (3)-(4) robust standard errors, clustered by region (18 clusters), are in round brackets. Wild cluster bootstrap p values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). All regressions include region fixed effects. The baseline controls include: population density, 1500-1700 in cols. (1)-(2) and 1650-1800 in cols. (3)-(4); latitude and longitude. Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/ abbess, bishops. Cols. (1)-(3) are estimated fixed effects poisson regressions, cols. (2)-(4) using OLS.

First, in Table 4 we introduce additional controls to our baseline specification, in order to better account for geographical and institutional characteristics at the city level.[41] Specifically, we include distance from Rome with the aim of accounting for the influence of the Church, which can help us further isolate local ecclesiastical power [columns (1)-(10)]. In columns (2) and (6) we add a dummy variable for university presence and one for parliamentary activity: universities, which started being established from around the 12th century in Europe, have been shown to be positively related with growth (Cantoni and Yuchtman, 2014), and can thus be considered an additional proxy for economic development; moreover from the enlightenment onwards, universities have been associated with religious toleration, opposition to bigotry and ecclesiastic authority (Domínguez, 2017). The parliamentary activity dummy, which indicates whether a city had representatives in an active parliament, aims at capturing the institutional developments that have been associated with Europe's economic growth (Acemoglu, Johnson, and Robinson, 2005). Columns (3) and (8) have additional geographic controls, namely soil quality, ruggedness, elevation, and wheat suitability, aimed at better capturing a location's agricultural potential and land productivity beyond the

[41] The additional controls are from Bosker, Buringh, and Van Zanden (2013) and Anderson, Johnson, and Koyama (2017).

effect of latitude and longitude. We further control for capital city status as a proxy for a location's political importance [columns (4) and (9)] and distance from the sea [columns (5) and (10)] to capture a city's potential for water-based trade (Bosker, Buringh, and Van Zanden, 2013). The results, reported in Table 4 are qualitatively similar to those of our baseline specification in Table 2, thus suggesting that the positive relationship between saints veneration and minority persecutions continues to hold when accounting for institutional, geographic and political factors.

Table 4: Accounting for geography and institutions

Dep. var	Jewish persecution					Witch trials				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Saints presence	0.125***	0.113***	0.122***	0.128***	0.129***	0.184***	0.148**	0.127**	0.120**	0.184***
	(0.038)	(0.037)	(0.041)	(0.041)	(0.036)	(0.053)	(0.053)	(0.056)	(0.055)	(0.054)
	[0.019]	[0.008]	[0.027]	[0.017]	[0.006]	[0.022]	[0.043]	[0.070]	[0.048]	[0.016]
Distance from Rome	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Institutions	N	Y	N	N	N	N	Y	N	N	N
Geography	N	N	Y	N	N	N	N	Y	N	N
Wheat suitability	N	N	Y	N	N	N	N	Y	N	N
Capital city	N	N	N	Y	N	N	N	N	Y	N
Distance from sea	N	N	N	N	Y	N	N	N	N	Y
Baseline Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Saints Types	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	2,116	2,116	642	642	2,116	2,116	2,116	642	642	2,116

Notes: Fixed effects OLS regressions. Robust standard errors, clustered by country, are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). The baseline controls include: country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude; Jewish presence when the dependent variable is Jewish persecutions). Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishops. The additional controls include: for institutions, a dummy for university presence and parliamentary activity [columns (2); (5)]; for geography, soil quality, ruggedness and elevation [columns (3); (6)]; a dummy for capital city [columns (4); (8)].

Second, we control for two additional confounders of minority group persecutions: Black Death pogroms and the adoption of Protestantism. Major economic shocks, including those brought about by the Black Death, have been associated with an increase in hostility towards minorities and can thus be considered an exogenous trigger to persecution (Voigtländer and Voth, 2012; Finley and Koyama, 2018; Grosfeld, Sakalli, and Zhuravskaya, 2020). During economic downturns persecutions are likely to occur particularly if minorities are held responsible for the shock, like in the case Jews during the Black Death, who were accused to have caused the plague by poisoning wells (and

tortured into confession). To account for this potential confounder, we control for the number of plague years, using data from Anderson, Johnson, and Koyama (2017).[42] The results, illustrated in columns (1)-(2) of Table 5, show that the positive relationship between the presence of a saint's cult and persecution persists and has a coefficient of similar magnitude to the baseline.

Table 5: Accounting for the Black Death and the Reformation

	Black Death		Pre-Reformation		Protestant cities	
Dep. var	Jewish persecutions	Witch trials	Jewish persecutions	Witch trials	Jewish persecutions	Witch trials
	(1)	(2)	(3)	(4)	(5)	(6)
Saints presence	0.107**	0.252***	0.106**	0.121**	0.112**	0.161**
	(0.040)	(0.063)	(0.045)	(0.032)	(0.038)	(0.065)
	[0.085]	[0.002]	[0.040]	[0.032]	[0.012]	[0.030]
Plague years	0.005	0.004				
	(0.005)	(0.003)				
	[0.559]	[0.355]				
Protestant city					0.081*	-0.053
					(0.046)	(0.053)
					[0.030]	[0.566]
Baseline Controls	Y	Y	Y	Y	Y	Y
Saints Types	Y	Y	Y	Y	Y	Y
N	852	852	2,116	2,116	740	740

Notes: Robust standard errors, clustered by country are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). All regressions include country fixed effects, population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude. Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishops. Cols. (1)-(2) control for plague years; cols. (3)-(4) restrict the sample to the pre-Reformation period (pre 1517); cols. (5)-(6) control for Protestant cities.

The spread of the Reformation has been linked to an increase in persecution against minority groups: Jewish persecutions become more common in Protestant areas relative to Catholic areas, due to higher economic competition between the Jewish and the Protestant populations, who had less restrictive views on usury (Becker and Pascali, 2019). Similarly, the European witch trials have been shown to reflect non-price competition between the Catholic and Protestant churches for religious market shares (Leeson and Russ, 2018). Not considering for the role of Protestantism may therefore bias our estimates upwards. On the other hand, it is argued that the cult of the saints may have helped some European regions resist the spread of Protestantism (Pfaff, 2013), a pattern that may bias our estimates downwards. We use two strategies to account for protestant

[42] A city had an average of 4.2 plague years.

cities: in columns (3)-(4), we restrict our sample to persecution episodes occurring during the pre-reformation period (pre-1517); in columns (5)-(6) we assign a dummy variable equal to one to cities that embraced Protestantism by 1600, using data from Rubin (2014). The results remain robust to both specifications.[43]

4.6 Robustness Checks

This section presents some key tests to explore the robustness of our findings. First, to account for unobservables at a finer geographical level, such as changes in monarchs' ability (Ottinger and Voigtländer, 2021), we replicate Table 2 controlling for region and county fixed effects, clustering the standard errors at the county level. The results, reported in Appendix Table A3, are robust to this demanding specification (there are 210 regions and 640 counties in the sample).

Second, we check whether our findings are driven by certain outlier cities both in terms of persecutions and saints. For instance, cities that saw persistently high rates of religious persecutions could be important centres of secular power and hence might also have venerable local saints as a correlate of city power. This could spuriously present itself as an association between saint presence and persecutions. We address these concerns in columns (1)-(2) of Appendix Table A4. In column (1) we drop the top 1% persecuting cities in our data, namely those that experienced six or more persecution events and still estimate a strong and only slightly diminished effect of 12.4 percentage points increase in persecution episodes. In column (2) we drop the locations with the highest number of witch trials (top 1%), namely those which held more than 256 trials, and the results are virtually identical to the baseline findings in Table 2, col.(2).

Although the vast majority of cities have only between 1 and 3 saints, some cities were particularly prolific in venerating local heroes as saints, like Rome with 350 and Milan with 48.[44] Cities with a large number of saints might also be more prone to religious violence due to their role as the prime centres of power of Latin Christianity. It could be argued that stronger religious establishments reacted particularly forcefully to heretical behaviour and to other religions, a phenomenon which might be driving our baseline findings. In columns (3) and (4) we drop from our sample the cities which venerated more than 12 saints (top 1% of the distribution): these cities were spread across five countries, Italy (12 cities), France (nine cities), Germany (two cities), Greece and Spain

[43] The protestant city dummy has a positive and significant coefficient in col. (5), consistently with Becker and Pascali (2019)'s findings that Jewish persecutions were more likely to occur in Protestant cities relative to those who remained Catholic.

[44] Conditional on venerating a saint, 45% of cities had one saint, 16% two and 12% three saints.

(one city each). Our findings remain robust, signifying a fundamental underlying association between our proxy of local ecclesiastical power and persecution throughout the European Christian realm.[45]

A further concern may arise from the fact that the choice of restricting our proxy of religiosity/ecclesiastical power to pre-1100 may bias our estimates (upwards or downwards) for not accounting for successive developments in the spread of saintly cults across time and space. Bearing in mind that post-1100 *loca sanctorum* are more likely to suffer from endogeneity, due to the increased centralisation of the saint making process, we control for post-1100 saint cities in columns (5)-(6) of Appendix Table A4. We find that the magnitude of our main estimates diminishes slightly but the coefficient on post-1100 saints is smaller and statistically significant only when using Jewish persecutions as the outcome variable.

Next, we examine whether our results are robust to individually dropping each countries in our sample, one by one. As illustrated in Figure 2, in all cases, our coefficient of interest remains positive and statistically significant. Finally, we test the robustness of our regressions' specification, using the conditional logit model, instead of the OLS. The results are robust to this alternative specification, see Appendix Table A5.

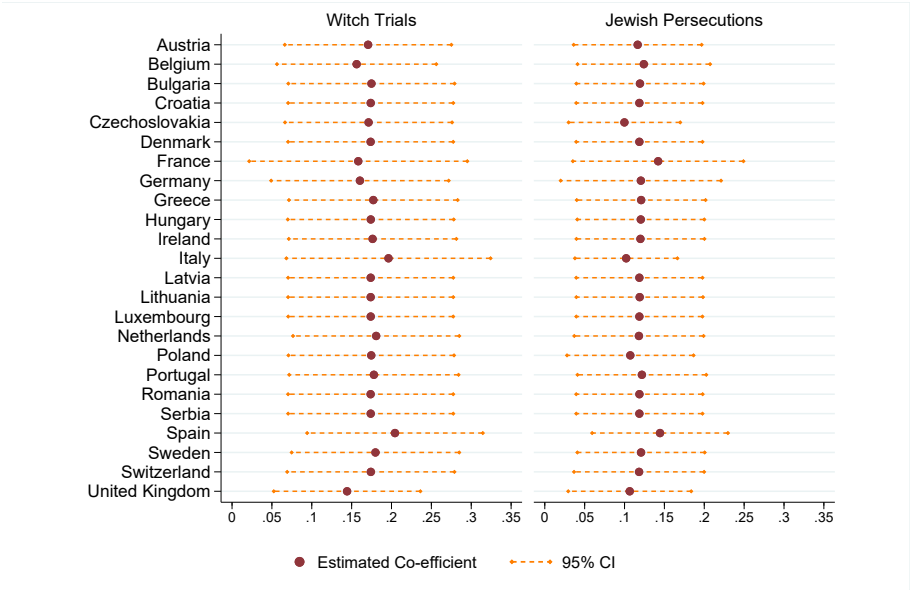
4.6.1 Spillovers from Neighbouring Cities

So far we have focused on how pre-1100 cults of saints in a city impacted the likelihood of persecution episodes post-1100. However, part of our above findings could be, at least partially, driven by potential contagion effects in the spread of persecution episodes, especially if this contagion happens across closely connected saint cities. Although saint cities are fairly spread out across Europe (see Figure 1), they do tend to both cluster in certain geographic areas and to overlap with clusters of persecution episodes. To study whether this phenomenon can contribute to explaining our findings, we implement the following exercise: for each city in our estimation sample we calculate three attributes, whether any neighbouring cities within 10 km also has a cult of saints, or has experienced either of the two types of persecution events.

In columns (1) and (5) of Table 6 we control for nearby saint cities and our baseline estimate remains robust to this inclusion. Columns (2) and (6) repeat this exercise for nearby Jewish perse-

[45] We also implement a more formal check of the influence of outliers on our baseline results. We sequentially drop each observation and thus estimate 2,116 coefficients of saints presence. We then divide each of these point estimates by the standard error in our baseline specification. This gives us a measure of the sensitivity of our coefficient to outliers in units of our standard error with the vast majority lying within 0.1 units. Further, our results remain robust when we trim the top and bottom 1% of observations by this measure.

Figure 2: Robustness to dropping countries one by one



Notes: This figure illustrates the coefficients and confidence intervals of saints' presence when dropping a specific country with the y-axis representig the dropped country. All regressions control for country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude; Jewish presence when the dependent variable is Jewish persecutions, and saints types.

cutions, while columns (3) and (7) control for nearby witch trials. In both cases our main findings remain robust, signifying that the effects we have uncovered are indeed likely to me more localised in nature, i.e. local religious power and religiosity seem to be driving persecution episodes. Finally, columns (4) and (8) adds all three forms of potential spillovers together with similar conclusions.

We also repeat this exercise by varying the distance threshold between 5 and 30 km with increments of 5 km. In all instances, the spillover parameters remain statistically insignificant while the own city saint presence variable continues to be positively associated with both forms of persecution episodes.[46]

[46]Results available from the authors.

Table 6: Spillover effects

	Jewish persecutions				Witch trials			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Saints	0.124***	0.124***	0.125***	0.123***	0.185***	0.187***	0.184***	0.186***
presence	(0.039)	(0.038)	(0.039)	(0.038)	(0.053)	(0.052)	(0.053)	(0.052)
	[0.010]	[0.016]	[0.011]	[0.010]	[0.017]	[0.011]	[0.020]	[0.024]
Neighbouring	-0.033			-0.017	0.017			0.015
saints presence	(0.027)			(0.037)	(0.025)			(0.052)
(10 km)	[0.256]			[0.769]	[0.505]			[0.824]
Neighbouring		-0.035		-0.029			-0.017	-0.033
persecutions		(0.048)		(0.055)			(0.013)	(0.019)
(10 km)		[0.485]		[0.646]			[0.162]	[0.104]
Neighbouring			-0.017	-0.004		0.054		0.059
trials			(0.020)	(0.020)		(0.122)		(0.137)
(10 km)			[0.372]	[0.873]		[0.945]		[0.967]
Baseline								
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Saints								
Types	Y	Y	Y	Y	Y	Y	Y	Y
N	2,116	2,116	2,116	2,116	2,116	2,116	2,116	2,116

Notes: Robust standard errors, clustered by country are in round brackets and wild cluster bootstrap p values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). All regressions include country fixed effects, population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude. Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishops.

4.6.2 Count Models

After having established the existence of a positive relationship between saints and persecutions at the intensive margins, we analyse such relationship at the extensive margins. We report the results in Table 7, employing a variety of count models. Specifically, we use the poisson specification in columns (1)-(2), poisson pseudo maximum likelihood in columns (3)-(4), negative binomial in columns (5)-(6), and OLS in columns (7)-(8). The point estimates indicate that saint cities are associated with 1.6 to 1.7 more persecution events [columns (1)-(3)-(5)] and between 2 and 5.7 more witch trials [columns (2)-(4)-(6). The OLS coefficient (the dependent variable is in log) imply that having a saintly cult is associated with 64% more Jewish persecutions and a doubling of witch trials.

4.7 Heterogeneity: Martyrdom, Religiosity and Ecclesiastical power

We have argued that the presence of a saintly cult can be considered a proxy of both religiosity and local ecclesiastical power. In this section we exploit heterogeneity in saint types to disentangle

Table 7: Count models

	Poisson		PPML		Neg. Binomial		OLS	
Dep. var	Jewish persecutions	Witch trials	Jewish persecutions	Witch trials	Jewish persecutions	Witch trials	Jewish persecutions	Witch trials
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Saints	0.500***	0.834***	0.500***	0.834*	0.568***	1.922***	0.658***	1.141***
presence	(0.075)	(0.021)	(0.156)	(0.475)	(0.205)	(0.657)	(0.194)	(0.396)
	[0.006]	[0.032]	[0.018]	[0.075]	[0.007]	[0.173]	[0.015]	[0.044]
Baseline Controls	Y	Y	Y	Y	Y	Y	Y	Y
Saints Types	Y	Y	Y	Y	Y	Y	Y	Y
N	1,997	1,914	1,998	1,914	2,116	2,116	2,116	2,116

Notes: Robust standard errors, clustered by country, are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). The baseline controls include: country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude; Jewish presence when the dependent variable is Jewish persecutions). Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishops.

these two dimensions embodied in our saint proxy. We start by focusing on martyrs, which are a particular subcategory of saints for two key reasons: first, being the first saints, they symbolise the initial spread of Christianity; since martyrdom gave direct access to sainthood, they are unlikely to be associated with entrenched ecclesiastical power. Second, martyrs are also a proxy for the intensity of persecution against Christians, before the establishment of Christianity as the dominant creed. These two features of martyr saints allow us do test whether: 1) our results are driven by this specific category of saints, and 2) whether there was a location-specific persistence effect of persecution, embodied by the transition from being persecuted to persecuting.

We adopt three strategies to test these hypotheses and present the results in Table 8: in columns (1)-(2) we remove martyr saints from our regressions to show that our results are not driven by martyrs. In columns (3)-(4) we add a binary control for whether the city had a martyr saint: we find that martyrs are associated with increased persecution, but the relationship is statistically significant only for Jewish persecutions, which can be a manifestation of point (2) above - persistence in persecution of religious minorities. In columns (5)-(6) we use martyr presence as key regressor instead of the saint dummy and find a strong positive relationship with both types of persecution. Taken together columns (3)-(6) provide evidence that religiosity, as proxied by martyrdom, is a predictor of persecution. Our results thus show that the spread of Christianity contributed to episodes of violence against the Jews, and that there was persistence in persecution: locations where early Christians were targets of persecution were more likely to persecute Jewish minorities

a thousand years later.

Table 8: Martyr saints and persecution

	Jewish persecution	Witch trials	Jewish persecution	Witch trials	Jewish persecution	Witch trials
	(1)	(2)	(3)	(4)	(5)	(6)
Saints presence	0.221***	0.126**	0.207***	0.135***		
	(0.068)	(0.045)	(0.064)	(0.040)		
	[0.026]	[0.024]	[0.013]	[0.019]		
Martyr × saints			0.032**	0.016		
			(0.015)	(0.012)		
			[0.102]	[0.154]		
Martyr saints presence					0.167***	0.127***
					(0.040)	(0.035)
					[0.030]	[0.057]
Baseline controls	Y	Y	Y	Y	Y	Y
N	2,004	2,004	2,116	2,116	2,116	2,116

Notes: Fixed effects OLS regressions. Robust standard errors, clustered by country, are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). The baseline controls include: country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude. Cols. (1)-(2) remove from the sample cities with only martyr saints.

Next, we decompose our saint dummy into four binary variables embodying saint types. We create the following categories: ecclesiastical saints, including bishops and popes; local saints, including monks, priests, hermits, abbots; martyr saints, as defined above, and other saints, encompassing all remaining categories and saints whose type is not specified in the data. We consider ecclesiastical saints as a proxy of religious power, while local saints as a proxy for religiosity. The results, reported in columns (1)-(2) of Table 9, reveal that both proxies for religiosity and ecclesiastical power are associated with the persecution of minorities. It is worth noting that when Jewish persecutions is the outcome variable, local saints presence is not significant, but the martyr saints dummy is and vice-versa when witch trials is the outcome variable. This result is in line with our findings in Table 8 and provides further suggestive evidence that the persistence of repression in locations with initial anti-Christian persecution perpetuated more strongly in the form of anti-Jewish persecution.[47]

Finally, to provide further evidence that a saintly cult represented a combination of both religiosity and ecclesiastical power, we add to our baseline regressions two proxies of ecclesiastical

[47] This is not surprising since witches were mostly tried as heretical elements within the Christian tradition itself as their power of maleficium emanated from a pact with Satan. This motivation for persecution is distinct from the persecution of other religious groups like the Jews.

Table 9: Heterogeneity by saint type, religiosity and ecclesiastical power

	Saints types		Ecclesiastical power			
Dep. var	Jewish persecution	Witch trials	Jewish persecution	Witch trials	Jewish persecution	Witch trials
	(1)	(2)	(3)	(4)	(5)	(6)
Saints presence			0.128***	0.190***	0.141**	0.236**
			(0.043)	(0.053)	(0.047)	(0.065)
			[0.023]	[0.015]	[0.034]	[0.025]
Ecclesiastical saints presence	0.144**	0.158*				
	(0.054)	(0.077)				
	[0.007]	[0.013]				
Local saints presence	0.050	0.179***				
	(0.056)	(0.053)				
	[0.535]	[0.100]				
Martyr saints presence	0.037*	0.030				
	(0.021)	(0.046)				
	[0.097]	[0.747]				
Other saints presence	0.012	0.218**				
	(0.084)	(0.100)				
	[0.849]	[0.136]				
(Arch)bishophric city			0.037	0.072**	0.031	0.081*
			(0.029)	(0.027)	(0.031)	(0.034)
			[0.287]	[0.045]	[0.515]	[0.093]
Large church					0.213***	0.191***
					(0.026)	(0.029)
					[0.684]	[0.552]
N	2,116	2,116	2,116	2,116	1,312	1,312

Notes: Fixed effects OLS regressions. Robust standard errors, clustered by country, are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). All regressions include the following controls: country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude.

power, a dummy for (arch)bishophric cities and one for large churches. Both variables, as explained in section 4.2 are correlated with the presence of a saintly cult at the city level. Thus in these specifications, we interpret the coefficient on saints presence being primarily driven by local religiosity, since it represents the effect of saints above and beyond that of religious power structures. The results, shown in columns (3)-(6) of table 9, indicate that both dimensions of religion mattered. The coefficient estimates of saints' presence in columns (3) and (4) can be compared with those shown in our baseline regressions (columns (1) (4) of Table 2): they highlight that accounting for (arch)bishopric cities reduces the relationship between saints' veneration and minority persecutions by 10% (Jews) and 12% (witch trials).[48]

[48]While not directly comparable to the baseline results given the smaller sample size, the estimates in columns (5) and (6) of Table 9 suggest that the association between ecclesiastical power (proxied by large churches) and persecutions

5 Instrumental Variable Estimation

The identification assumption of equation 1 is that variation in pre-1100 saint cults is exogenous to post-1100 minority persecutions. In order to mitigate the concerns that this assumption may be violated because of omitted variables bias, we adopt an instrumental variable approach that isolates plausibly exogenous variation in pre-1100 saint veneration. Our IV is based on pre-Christianity pagan temples location, namely locations with consolidated non-Monotheistic beliefs, where the spread of Christianity was more difficult given the existence of long-established pagan practices. The transition from paganism to Christianity was indeed a violent one: in the face of a continued and vibrant paganism, Christianity's struggle to become the prevailing religion of the Roman Empire manifested itself in the violent eradication of polytheistic idolatry, the destruction of pagan temples and the defacing of sacred images (iconoclastic violence) in the late fourth century (Sauer, 2003). Hence, we expect to find a negative relationship between pagan temples and the presence of a pre-1100 saintly cult.[49]

To construct our IV we use data from *Pleiades* and the from *Digital Atlas of Roman and Medieval Civilizations* on temples built between 2000 BCE and 300 CE, for all countries in our dataset with the exception of Sweden, Czechoslovakia, Denmark, Latvia and Lithuania, for which data are unavailable.[50] We geolocated all temples, and calculated how many of them were located within a 50km radius of each city in our dataset, corresponding to around 2 days travel (Reyerson, 1999, p.56).[51] Specifically, we estimate the following first-stage regression:

$$saint_{ic}^{pre-1100} = \alpha\, temples_{ic}^{pre-300} + \mathbf{X_{ic}'}\gamma + \theta_c + \varepsilon_{ic} \tag{2}$$

where $temples_{ic}^{pre-300}$ is the number of pagan temples before 300 C.E. within a 50 km radius of city i. All other variables have the same definition as equation (1). The results are reported in Table 10: the first stage identifies a negative relationship between temples and saint veneration: one extra pagan temple in a 50 km radius around a city reduces the likelihood of a future cult of saint

is stronger than that of saints' presence.

[49] While some temples were converted into churches, either as an effort to demolish the pagan past, or for a gradual metamorphosis into a new, Christian world, most churches were located in new places, often on the sites of the earlier burial places of martyrs (representing a break from pagan tradition which considered burials as unclean) or in place of secular types of building, which were the most suitable for constructing basilicas. For instance in Rome, the city that witnessed more temple conversions than any other, there were only eleven known sites of temple conversions (Schuddeboom, 2017).

[50] *Pleiades* data can be accessed at https://pleiades.stoa.org/home. The *Digital Atlas of Roman and Medieval Civilizations* can be accessed at https://darmc.harvard.edu/.

[51] Using 30 km or 40 km radius generates similar results.

by 0.5 to 0.7 percentage points. The second stage delivers statistically significant point estimates in the same direction providing corroborating evidence for the above analysis. However, the IV point estimates for Jewish persecutions are much high compared to the OLS results while for witch trials the results are comparable.[52]

Table 10: IV results

Dep. var	Jewish persecutions		Witch trials	
	OLS	IV	OLS	IV
	(1)	(2)	(3)	(4)
Saints presence	0.127***	0.510**	0.226***	0.373*
	(0.022)	(0.228)	(0.017)	(0.199)
	[0.000]	[0.085]	[0.046]	[0.090]
		First stage		
Pagan temples within 50 km		-0.007***		-0.005***
		(0.002)		(0.002)
		[0.050]		[0.019]
Effective F-stat		9.40		15.07
Baseline Controls	Y	Y	Y	Y
N	1,981	1,981	1,981	1,981

Notes: Robust standard errors, clustered by country are in round brackets and wild cluster bootstrap p values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). All regressions include country fixed effects, population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude, distance from Rome. Sweden, Czechoslovakia, Denmark, Latvia and Lithuania are excluded from the sample since pagan temples data were not available. The effective F-stat reported above is based on Olea and Pflueger (2013).

6 Potential Mechanisms

So far we have established the existence of a strong association between saints' presence and minority persecution episodes. We now explore two plausible channels behind this relationship.

We start by exploring whether cities with longer exposure to Christian institutions have stronger estimated effect sizes. For each city in our sample, we construct a measure of exposure to the Church in two ways: (i) number of centuries since the establishment of a saintly cult as reported in the

[52] One issue that can invalidate our IV is a potential direct effect of pagan temples on future minority persecutions. This, for instance, could operate through pitting ancient pagan centres against the growing influence of Christianity, which can manifest itself in incidence of violence. To explore this in more detail, in Appendix A.1.2 we implement the bounding exercise developed by Conley, Hansen, and Rossi (2012) which explicitly allows for the direct effect of the IV on the outcome of interest.

Table 11: Church exposure and persecutions

	Jewish Persecutions	Witch Trials	Jewish Persecutions	Witch Trials
Saint exposure (0-1100)	0.015***	0.013***		
	(0.005)	(0.005)		
	[0.043]	[0.054]		
Church exposure (550-1500)			0.010***	0.004**
			(0.003)	(0.002)
			[0.053]	[0.050]
Baseline controls	Y	Y	Y	Y
Saints Types	Y	Y	Y	Y
N	2,022	2,022	2,116	2,116

Notes: Robust standard errors, clustered by country are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). All regressions include country fixed effects, population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude. Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishops.

Martyrologium; (ii) number of centuries during which a city was bishopric between 500 and 1500 CE Schulz, Bahrami-Rad, Beauchamp, and Henrich (2019). Recent work by Henrich (2020) documents that a series of new policies implemented by the Church from the 4th century gradually corroded pre-Christian kinship-based practices and led to a radical shift in psychology of Western populations that persists today. Specifically, longer historical exposure to the Western Church is associated with more individualistic, less conforming, more altruistic and more impersonally prosocial individuals today.[53]

Table 11 shows that one additional century of exposure to a saintly cult leads to a 1.5 and 1.3 percentage point increase in Jewish persecutions and witch trials, respectively. The bishopric exposure measure also finds positive but diminished effects. Schulz, Bahrami-Rad, Beauchamp, and Henrich (2019) and Henrich (2020) empirically establish that longer exposure to Christian norms led to a long-lasting change in psychology of the European population. However, potential implications for non-Christian out-groups were largely left unexplored.[54] We interpret the above findings as suggestive evidence that such psychological changes also manifested in higher likelihood of minority

[53] This shift in culture has been shaped by a combination of religious prohibitions and prescriptions, predominantly involving rules around marriage patterns and family structure, such as the promotion of neolocal residence after marriage, and prohibitions on cousin marriage and polygamy (Schulz, Bahrami-Rad, Beauchamp, and Henrich, 2019).

[54] Henrich (2020, p.337) points out that Christianity's new universalising moral value may have "caused troubles to the Jews, since morality was not all that universal".

persecutions.[55]

A second potential mechanism linking locations with a saintly cult to persecutions stems from the role that saints' veneration may have played in spreading religious fervour among local populations. This is because participation in saints' festivals, which involved communal prayers and worshiping, was likely to cement communal identities around shared religious values (Wilson, 1985), sharpening divides with out-groups from different communities. Local religious festivals organised on saints' feast days and patron saints' days to commemorate the saints and ask for their intercession often involved ritual processions where the relics of the saint were paraded across the city, accompanied with singing and the carrying of candles. Such rituals generated a religiously charged atmosphere which could easily lead to violence, especially towards a demonised out-groups. Indeed, extant empirical evidence suggests that religious riots are exacerbated by festivals due to their associated visible public displays of faith, and contestation over public spaces.[56]

To empirically explore evidence for the above mechanism we conduct the following exercise: first we find for every saint city the days in which it celebrated a saint festival. Each saint city in our sample celebrated a two types of saint-related festivities: Patron Saint day, namely the day during which a city celebrated its patron or protector; and Saint Feast day, namely a day dedicated to the commemoration of a particular saint, usually coinciding with the date of their death. These feast days followed the Gregorian calendar and hence were fixed from year to year. Next, we find the days in which Jewish main religious festivals took place every year between 1100 and 1800. Given that Jewish religious festivals follow the lunar calendar, their occurrence exhibits year-to-year variation.[57]

We hypothesise that locations in which festivals for both communities would fall on the same day or within a small window of time (up to 5 days) were more likely to witness episodes of Jewish persecutions since Christian worshipers would have more opportunities to interact en-masse with Jewish devotees increasing the risk of potential clashes.[58] For instance, there is evidence of Europe wide myths regarding purported Jewish ritual murders of adolescent Christian boys for

[55] Participation to the Crusades, by uniting Christians from all over Europe against a common non-Christian enemy likely had psychological effects, via the consolidation of people's understanding of "Europe" and "Christendom" as a cultural entity (Blaydes and Paik, 2016; Henrich, 2020).

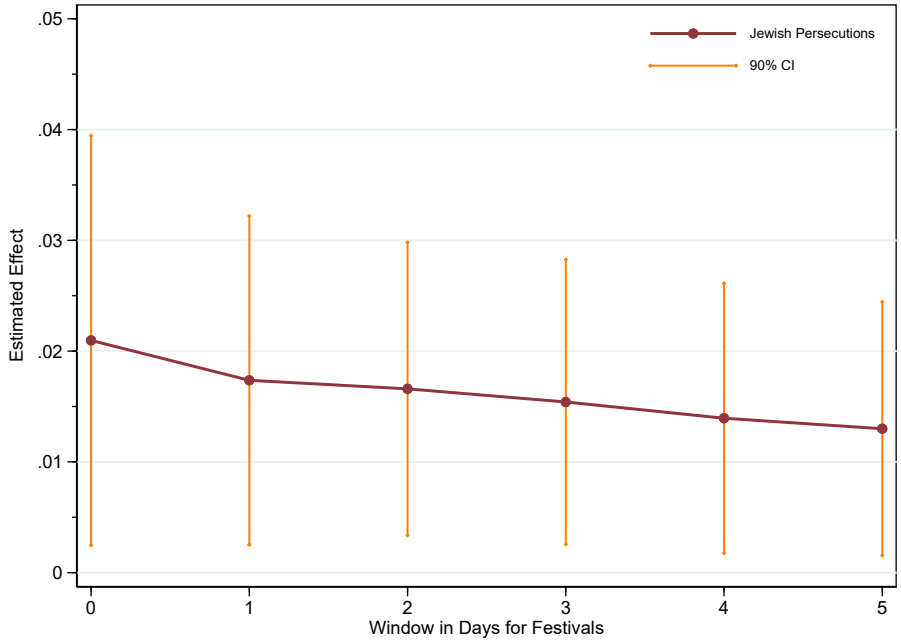
[56] See, for example Iyer and Shrivastava (2018) on Hindu-Muslim riots in modern day India on days when Hindu-Muslim religious festivals align.

[57] We extract the Gregorian dates for saint feast and veneration days from the Martyrologium while dates for Jewish festivals (Rosh Hashanah, Yom Kippur, and Passover) across our 800 sample period are constructed following the methodology of Dershowitz and Reingold (2008) obtained from http://sagarin.com/sports/holydays.htm.

[58] Iyer and Shrivastava (2018) employ this strategy for studying Hindu-Muslim riots. In their case Muslim Friday prayers are the fixed religious event while Hindu festivals change year to year also due to adhering to the lunar calendar

Passover festivities.[59] Such concerns would create a direct link between festival alignment and Jewish persecutions.

Figure 3: Probability of Jewish Persecutions and Jewish-Christian Festival Alignment



Notes: The figure illustrates point estimates and 90% confidence intervals from separate regressions. The dependent variable is probability of Jewish persecution and the main variable of interest is log of the number of times Jewish and Saint festivals that fell within the relevant window on the x-axis. All regressions include country fixed effects, population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude. The sample is restricted to only saint cities.

We restrict our sample to only saint cities and then construct measures for log number of times a Jewish religious festival fell within a fixed window of days of a feast day. We vary this window between 0 (i.e. same day) and 5 days. Figure 3 presents our findings: a 1% increase in the number of times religious festivals fall on the same day leads to around a 2 percentage point increase in persecution episodes. This point estimates dissipates slightly as we increase the alignment window. Overall, these results indicate that saint festivities were likely to have facilitated coordination among believers, and to have channeled religious fervour against out-groups, thus increasing persecution episodes.

[59] This myth engendered from the murder of William of Norwich in 1144 whose body bore signs of torture. It was asserted that Jews performed the ritual murder as an imitation of the Crucifixion, mocking the central belief of Christianity. As Rose (2015) details, this quickly gained currency among Christian communities across Europe.

7 Conclusion

The connection between religion and persecution, past and present, has long been debated. In this paper we document the role of Christianity in perpetrating violence against minorities through eight centuries of European history (1100-1850). We focus on two major waves of violence: the Jewish persecutions and witch trials. Given the key role played by Christianity in shaping Western societies' cultural norms and values, it is important to get a better understanding of the contribution of religion and religious beliefs to the dynamics of minority persecutions.

We have illustrated the pervasiveness of the spread of the Church using a novel proxy, the veneration of saints, which allowed us to systematically measure local religious institutions and the religiosity of the population in a sample of over 2,100 European cities. We then provide comprehensive empirical evidence of the existence of a strong positive relationship between focal points of religious power/religiosity and the perpetration of episodes of violence against minorities. *Loca sanctorum* were 13 and 21 percentage points more likely to engage in Jewish persecutions and witchcraft trials, respectively. The latter effect diminished for cities with more progressive gender norms.

We explore two potential channels behind the association between saints' veneration and violence against minorities and heretics. We argue that "exposure" to sainthood, and more broadly to ecclesiastical power, contributed to changing people's attitudes towards out-groups, a process that deeply altered Western psychological traits (Henrich, 2020). Furthermore, we find that when saint-related celebrations coincided with Jewish religious festivals, persecution episodes we more likely to occur due to a combination of improved coordination among the faithful and heightened religious fervour against out-groups.

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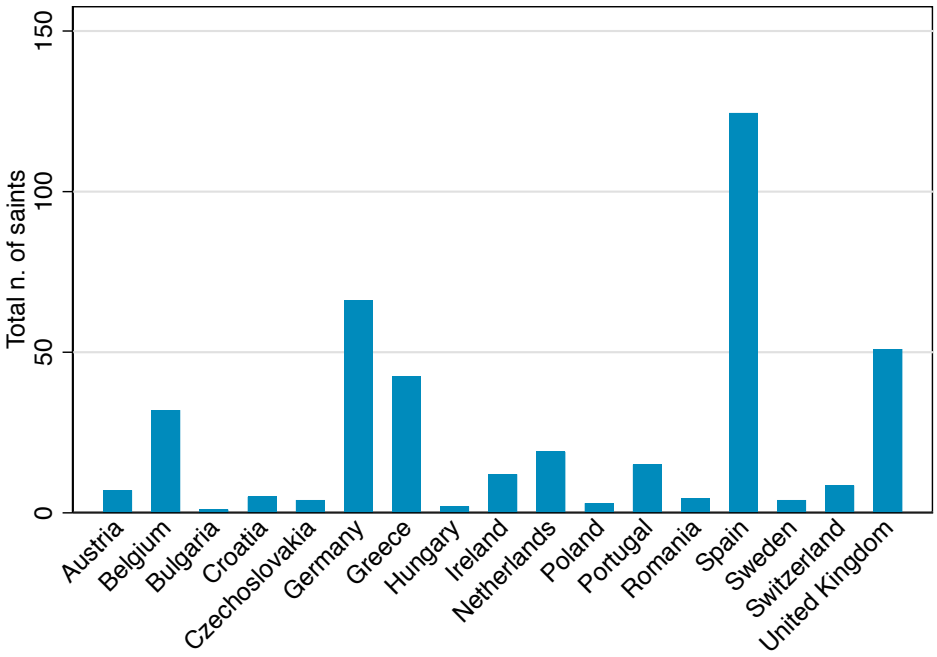
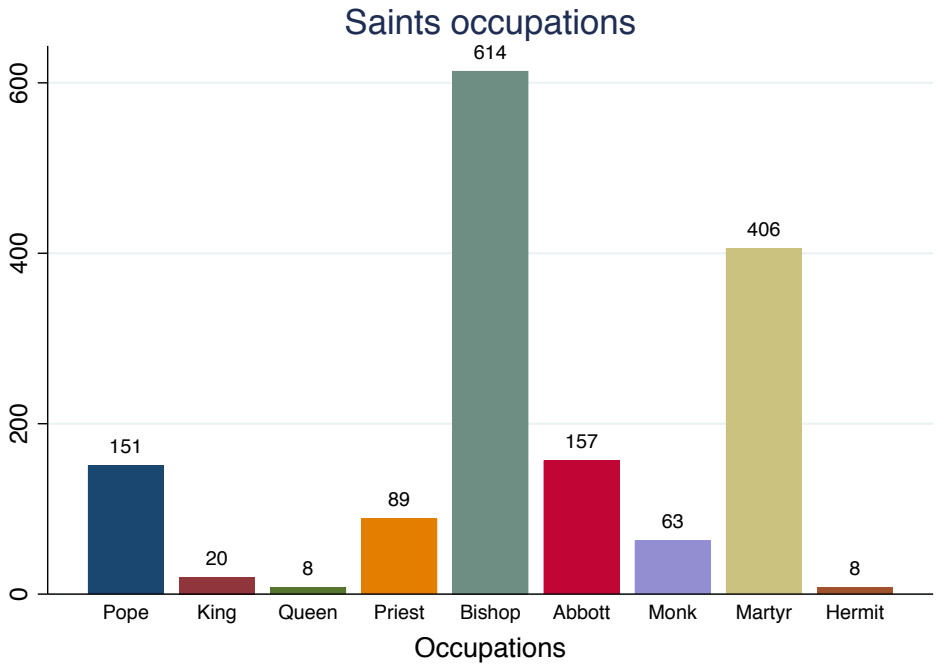
8 Appendix

Figure A1: Number of Saints and Their Types by Country

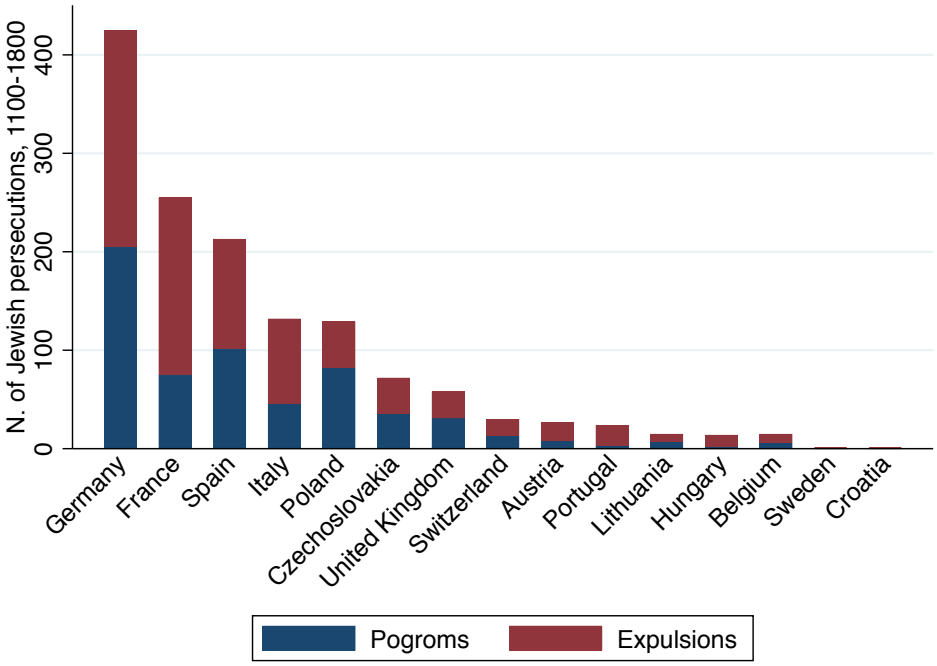


(a) Number of pre-1100 saints, by country

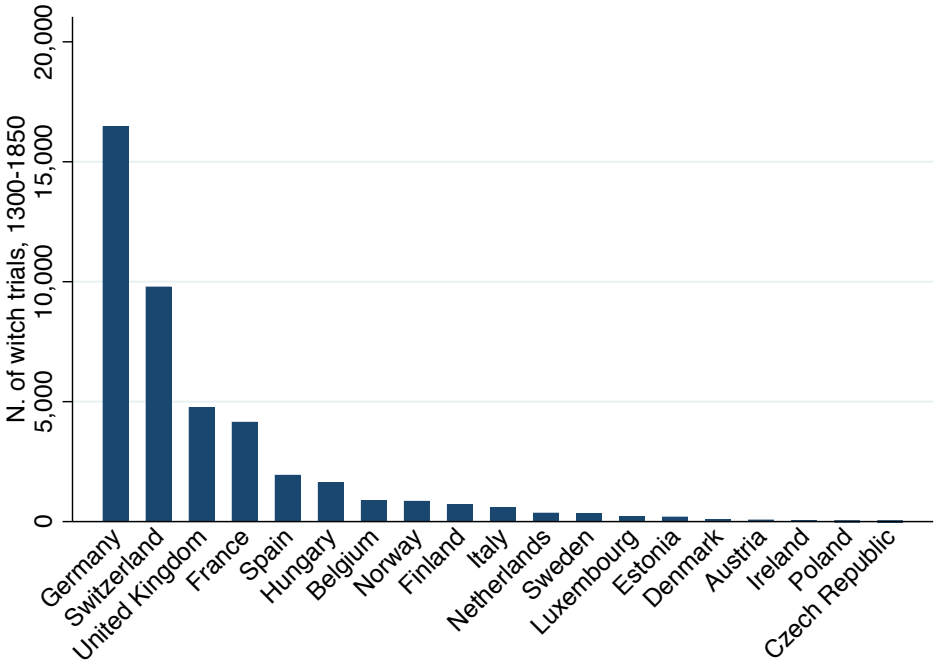


(b) Pre-1100 saints' types

Figure A2: Number of Persecutions by Country



(a) Jewish persecutions, 1100-1800



(b) Witch trials, 1300-1850

Table A1: Summary Statistics

	Full sample					Cities with a saint	
	Mean	s.d.	Min	Max	N	Mean	s.d
Saint presence	0.127	0.334	0	1	2116		
Female saint presence	0.047	0.212	0	1	2116	0.370	0.484
Jewish persecution prob.	0.297	0.457	0	1	2116	0.656	0.476
Jewish persecutions	0.610	1.183	0	10	2116	1.548	1.640
Witch trials prob.	0.077	0.267	0	1	2116	0.304	0.461
Witch trials	7.911	103.410	0	3844	2116	16.465	67.554
Urban pop. density (1100-1800)	6.884	9.336	0.400	227.500	2116	14.163	22.748
Jewish pop. present	0.170	0.254	0	1	2116	0.343	0.284
Latitude	46.655	5.368	28.470	65.828	2116	45.731	4.432
Longitude	7.696	8.965	-82.765	28.700	2116	5.979	7.158

Table A2: Saints and Jewish expulsions and pogroms

	Expulsions			Pogroms		
	(1)	(2)	(3)	(4)	(5)	(6)
Saints	0.181***	0.159***	0.142***	0.039	0.043	0.047
presence	(0.053)	(0.051)	(0.049)	(0.033)	(0.036)	(0.028)
	[0.025]	[0.010]	[0.018]	[0.243]	[0.274]	[0.124]
Female			0.059*			-0.014
saints presence			(0.033)			(0.031)
			[0.088]			[0.779]
Baseline						
controls	Y	Y	Y	Y	Y	Y
Saints						
Types	N	Y	Y	N	Y	Y
N	2,116	2,116	2,116	2,116	2,116	2,116

Notes: Fixed effects OLS regressions. Robust standard errors, clustered by country, are in round brackets and wild cluster bootstrap p values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). The baseline controls include: country fixed effects; population density, 1100-1800; latitude and longitude; Jewish presence. Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishop.

Table A3: Saints, Witch Trials and Jewish Persecutions: Controlling for State and County FE

	Witch trials			Jewish Persecutions		
	(1)	(2)	(3)	(4)	(5)	(6)
Saints	0.236***	0.188***	0.231***	0.133**	0.114**	0.111*
presence	(0.049)	(0.054)	(0.065)	(0.055)	(0.057)	(0.061)
Female			-0.159*			0.012
saints presence			(0.094)			(0.081)
Baseline						
controls	Y	Y	Y	Y	Y	Y
Region FE	Y	Y	Y	Y	Y	Y
County FE	Y	Y	Y	Y	Y	Y
Saints						
Types	N	Y	Y	N	Y	Y
N	1,568	1,568	1,568	1,568	1,568	1,568

Notes: Fixed effects OLS regressions. Robust standard errors, clustered by county (641 clusters). Stars indicate level of significance: ***(1%); **(5%); and *(10%). The baseline controls include: population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude. Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishop.

Table A4: Robustness tests

	Without top persecuting cities		Without cities with most saints		Post-1100 saints	
Dep. var	Persecution	Witch trials	Persecution	Witch trials	Persecution	Witch trials
	(1)	(2)	(3)	(4)	(5)	(6)
Saints	0.124***	0.184***	0.110***	0.147**	0.100***	0.163***
presence	(0.039)	(0.050)	(0.038)	(0.062)	(0.032)	(0.049)
	[0.020]	[0.013]	[0.009]	[0.076]	[0.017]	[0.032]
Post-1100					0.078*	0.066
saint presence					(0.041)	(0.073)
					[0.084]	[0.520]
Baseline						
Controls	Y	Y	Y	Y	Y	Y
Saints						
Types	Y	Y	Y	Y	Y	Y
N	2,098	2,098	2,091	2,091	2,116	2,116

Notes: Fixed effects OLS regressions. Robust standard errors, clustered by country, are in round brackets and wild cluster bootstrap p-values are in square brackets, computed using STATA's boottest command using 1,000 reps. Stars indicate level of significance for clustered standard errors: ***(1%); **(5%); and *(10%). The baseline controls include: country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude; Jewish presence when the dependent variable is Jewish persecutions). Saints types refer to the number of saints in the following high rank occupations: pope, king, queen, abbott/abbess, bishops. The top 1% persecuting cities [cols. (1)-(2)] and cities with the top 1% saints [cols. (3)-(4)] are removed.

Table A5: Saints, Jewish Persecutions and Witch Trials: Conditional Logit

Dep. var:	Persecutions		Witch trials	
	(1)	(2)	(3)	(4)
Saints presence	3.419***		11.701***	
	(1.409)		(3.318)	
Saints number (log)		1.259***		1.598***
		(0.096)		(0.084)
Baseline controls	Y	Y	Y	Y
N	1,998	1,998	1,915	1,915

Notes: Fixed effects logit regressions (odds ratios reported). Robust standard errors, clustered by country. Stars indicate level of significance: ***(1%); **(5%); and *(10%). The baseline controls include: country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; Jewish presence when the dependent variable is Jewish persecutions).

A.1 Further Robustness Checks

A.1.1 Grid Level Analysis

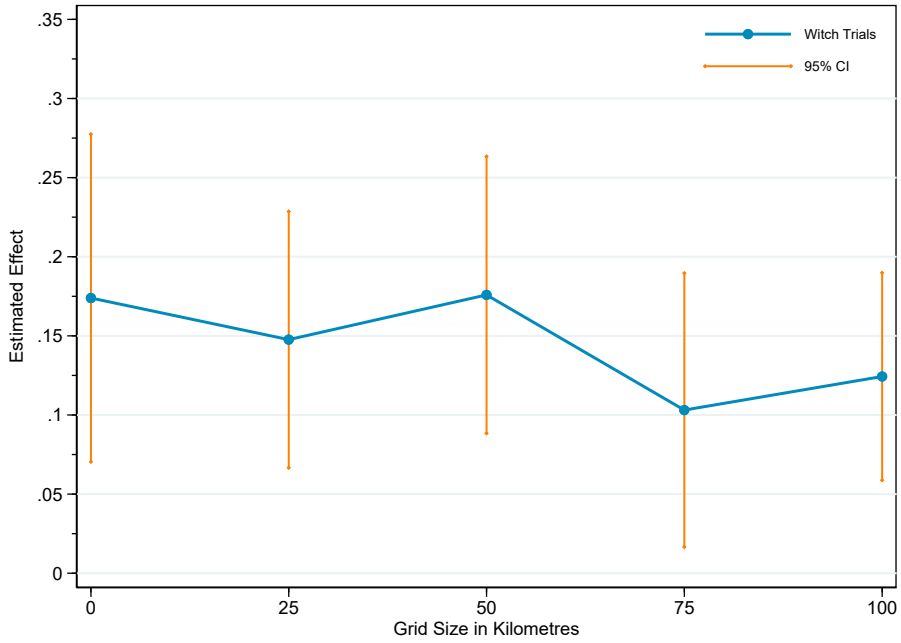
In this section we explore the robustness of our findings to different levels of spatial aggregation. In the main analysis we use the modern geographic outlay of Europe and assign cities in our sample to modern day country boundaries. First, this has a direct bearing on the country fixed effects that we include to pick up city-invariant unobservables within the same country. Ideally one would prefer to include historical polity level fixed effects to capture these unobservable. However, this is not straightforward to implement given the flux in political boundaries in Europe during the Middle Ages and the Early Modern era. Second, we define our spatial unit at the city level but cults of saints in a given city may have had an influence to broader regions around the city, which implies that the appropriate treated area is larger than the city itself.

To check for the above concerns, we construct $G \times G$ grids for the European continent, where $G \in \{25, 50, 75, 100\}$ kilometres and assign each city in our sample to these grids. We then exploit this setup in two ways. First, we aggregate our data to the grid level and repeat our baseline analysis for the effect of a binary indicator for spatial units with saints on witch trials and Jewish persecutions. Figure A3 shows that our baseline findings, which we reproduce on the plot at 0 km, hold forth for both outcome variables as we increase the aggregation level. We lose statistical significance at the 95% level only for Jewish persecutions under the 100×100 grid, given this reduces our sample size substantially, although the point estimates are similar.

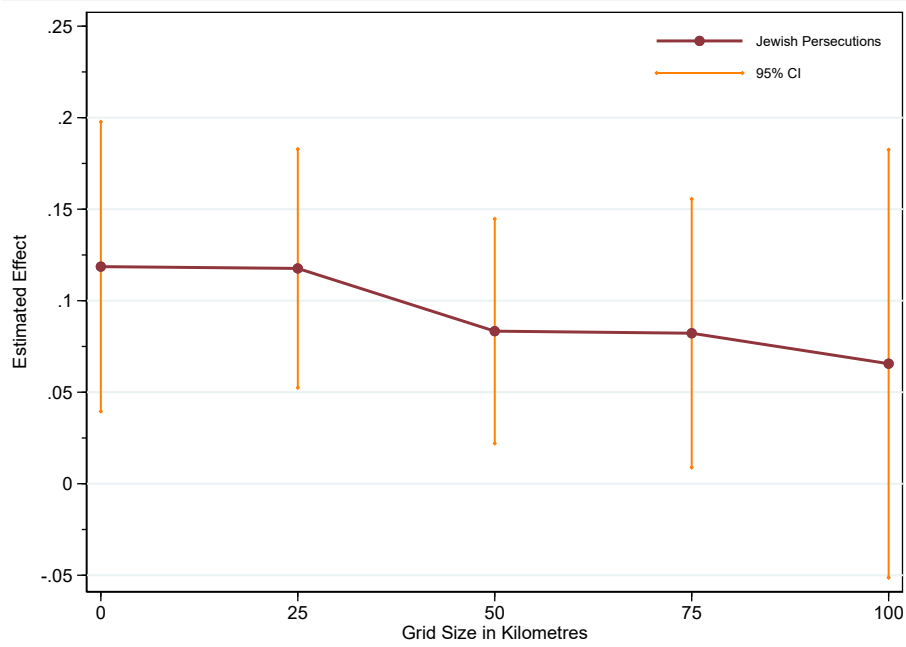
This aggregation exercise also helps allay concerns about spurious spatial correlation in the outcome and main variable of interest on the right-hand side (Kelly, 2019). Such correlations are unlikely to persist at larger aggregation level (Bakker, Maurer, Pischke, and Rauch, 2020) and the robustness of our findings as we increase the grid size is reassuring.

Second, we keep our data at the city level but instead of country fixed effects we employ grid fixed effects to capture city-invariant unobservables within broader regions. This is likely to pick up variation in historical political boundaries through a data-driven way of aggregation. For this analysis, we define $G \in \{50, 100, 150, 250\}$ using larger grids to have enough cities to compare within grid cells. Figure A4 presents results from this analysis with the point estimate at 0 km again representing our baseline analysis. Results are completely robust to this alternative set of fixed effects as well.

Figure A3: Grid Level Analysis



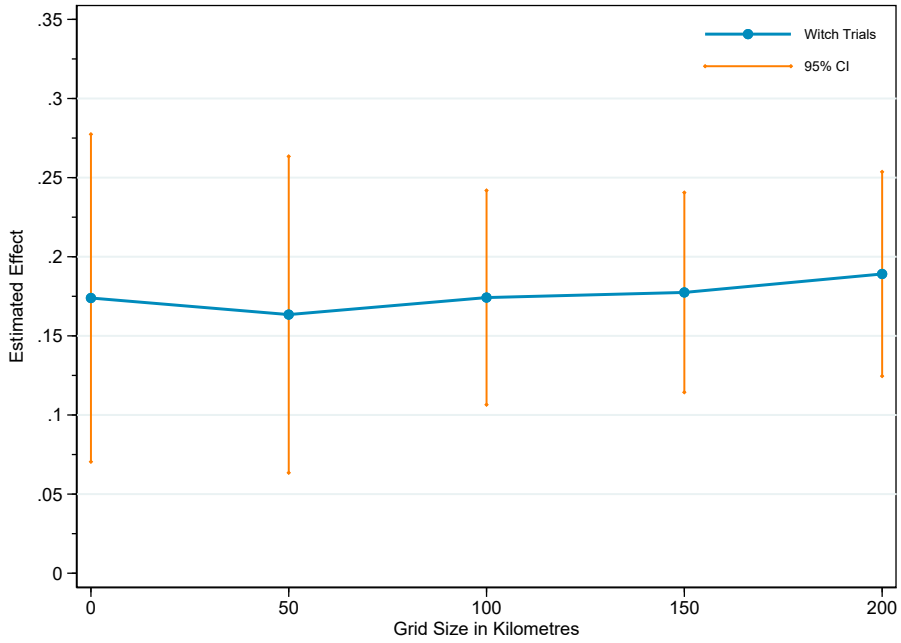
(a) Witch Trials



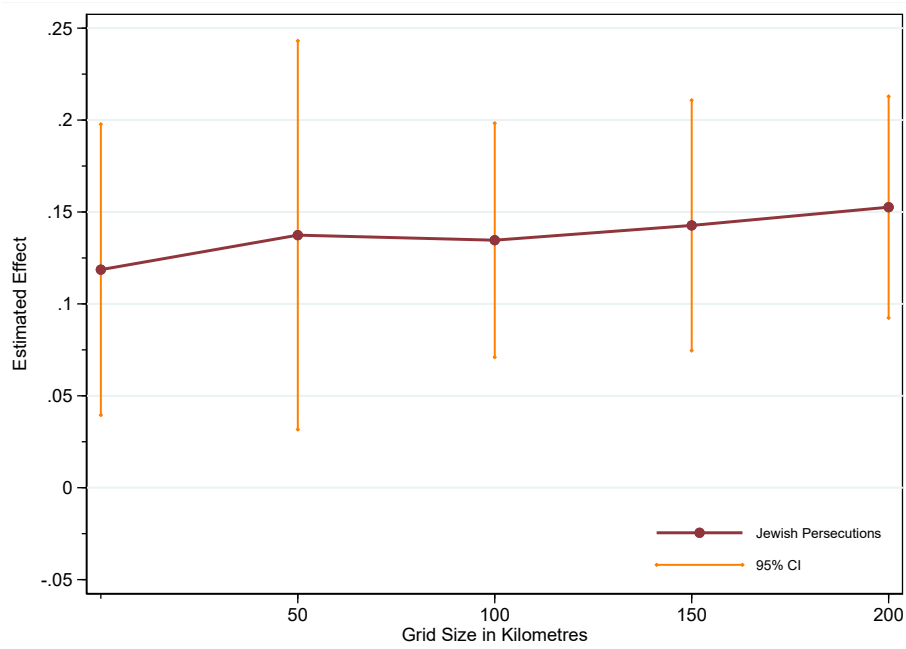
(b) Jewish Persecutions

Note: This figure illustrates the coefficients and confidence intervals of saints' presence when aggregating to GxG km grids. All regressions control for country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude; Jewish presence when the dependent variable is Jewish persecutions, and saints types.

Figure A4: City Level Analysis with Grid Fixed Effects



(a) Witch Trials



(b) Jewish Persecutions

Note: This figure illustrates the coefficients and confidence intervals of saints' presence when aggregating to GxG km grids. All regressions control for country fixed effects; population density, 1100-1800 for Jewish persecutions and 1300-1800 for witch trials; latitude and longitude; Jewish presence when the dependent variable is Jewish persecutions, and saints types.

A.1.2 IV Analysis: Plausibly Exogenous Bounds

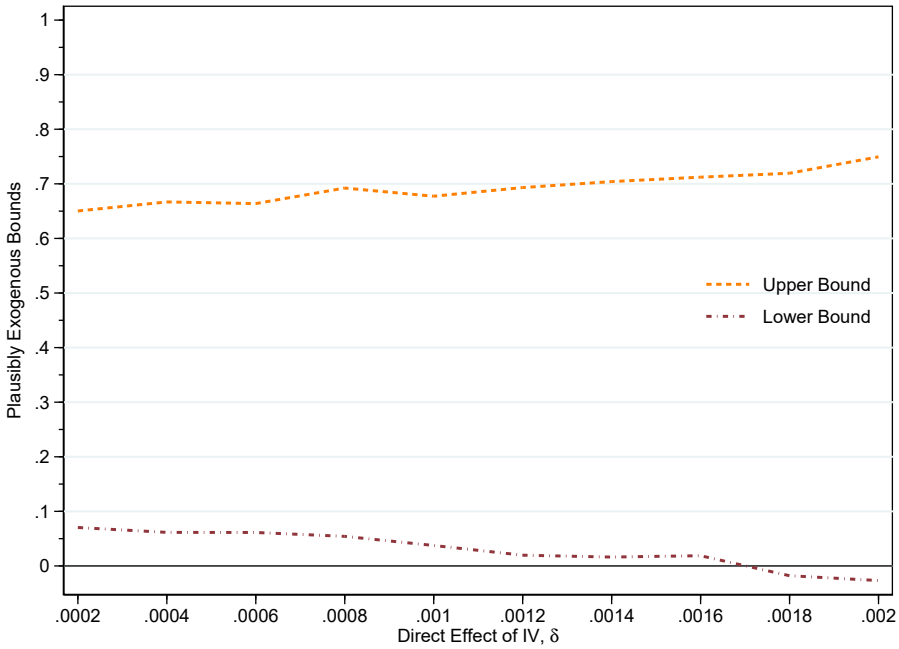
In this section we provide a bounding exercise on the instrumental variable estimates that we presented in Section 5 of the main text. As mentioned there, a concern with the validity of our IV can arise if the existence of pagan temples pre-300 C.E. around a city had a direct effect on persecutions post-1100 C.E. Although this seems in an unlikely scenario, one could posit several potential channels through which such a link might operate. First, pagan temples represent pagan institutions, hence cities located closer to previous pagan centres might have had more frictions with the new influence of Christianity. This may then have directly lead to a higher likelihood of persecution episodes perpetrated by the new Christian elite. Similarly, pagan temples might also represent economic prowess of nearby cities, not all of which can be expected to be adequately controlled by population density controls, hence may also represent a direct effect on persecutions during our period of interest.

To investigate these concerns we implement the methods developed by Conley, Hansen, and Rossi (2012) which allow for a sensitivity analysis under the assumption of a direct effect of the IV on the outcome variable. In our setting this is represented by the following,

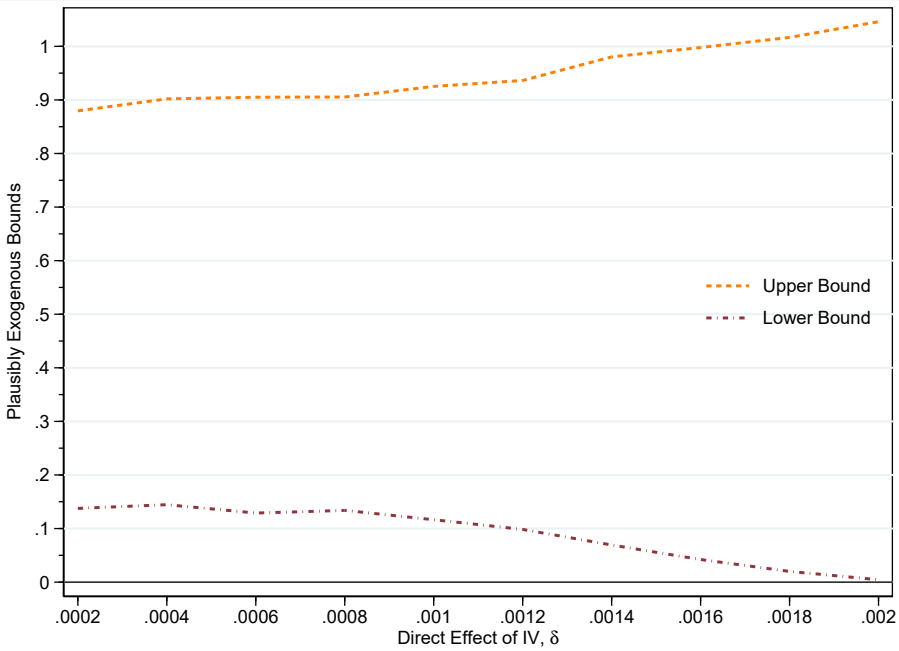
$$Persecution_{ic}^{post-1100} = \beta\, saint_{ic}^{pre-1100} + \lambda\, temples_{ic}^{pre-300} + \mathbf{X'_{ic}}\gamma + \theta_c + \varepsilon_{ic} \tag{3}$$

Since λ is an unknown population parameter, this method calls for priors on the distribution of λ, which we specify as a uniform distribution with values between $[-\delta, \delta]$. We inform these values by the reduced form effect of $temples_{ic}^{pre-300}$ on the outcome variable, which is around -0.003. The x-axis in Figure A5 presents the value of δ, while the dashed lines plot the 90% upper and lower bounds on the IV estimate of $saint_{ic}^{pre-1100}$ after accounting for the direct effect of $temples_{ic}^{pre-300}$ on $Persecution_{ic}^{post-1100}$. For witch trials, we find that as long as the direct effect of the IV is less than 60% of the reduced form effect then the bounds still do not contain zero. Similarly, for Jewish persecutions if the direct effect is less than 74% our estimated bounds do not contain zero. Therefore, this exercise allays the concern of a potential direct effect of the IV invalidating the findings presented in Section 5.

Figure A5: Plausibly Exogenous Bounds with Priors on Direct Effect of IV $\sim U[-\delta, \delta]$



(a) Witch Trials



(b) Jewish Persecutions

Note: The above plots present the approach of Conley, Hansen, and Rossi (2012). The horizontal axis presents the bounds of the priors on the direct effect of the IV, drawn from a uniform distribution. The vertical axis present 'plausibly exogenous' bounds at 90% level of confidence for the estimated effect of the relevant variable of interest.

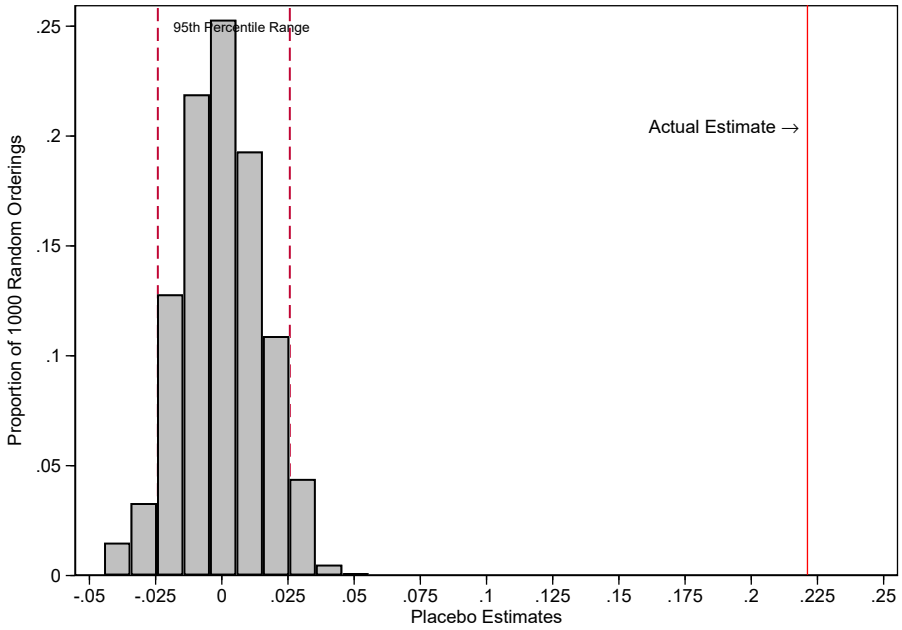
A.1.3 Placebo Estimates from Random Orderings

Another concern that can plague the analysis in the main text is that we observe only one dimension/proxy of ecclesiastical power and/or religiosity. In a deeply religious society, like that of Medieval Europe, there would a wide variety of manifestations of religion and these could substantially vary spatially across cities. For instance, trade in relics of the saints had reached enormous proportions in medieval times (Brown, 1981) and cities could host a relic without having the actual saint's shrine. Due to the lack of data on relics' trade, in our analysis these cities are not considered treated.

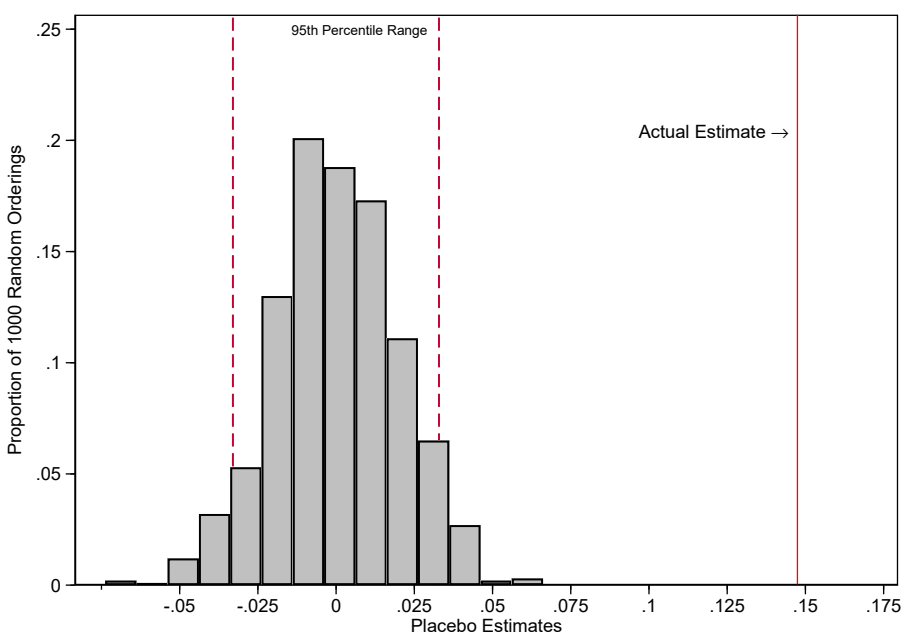
To probe this concern empirically, we perform a placebo analysis by randomly changing treatment assignment of sainthood across cities in our sample. In each iteration we fix the number of treated cities to match our baseline sample of around 270. The motivation behind this is that if some control variables or non-saint cities had other similar features of religiosity which could also impact persecution then we would estimate a strong positive point estimate in some of these experiments as well.

Figure A6 presents the results from this exercise. Our actual point estimates for both witch trials (a) and Jewish persecutions (b) are well to the right of the entire distribution of 1000 placebo point estimates from the random orderings. This provides further evidence that sainthood indeed captures important elements of ecclesiastical power and/or religiosity associated with the perpetration of violent persecution of minorities during the Middle Ages and thereafter.

Figure A6: Placebo Estimates from 1000 Random Orderings



(a) Witch Trials



(b) Jewish Persecutions

Note: The above histograms present results from a placebo exercise. We randomly assign saint status to cities in our sample and estimate the coefficient on this placebo saint indicator. We repeat this process 1000 times and plot the proportion of results in bins of size 0.01.

A.2 Saints' Hagiographies

In this section we provide some examples of saints' lives, based on information predominantly extracted from the *Martyrologium Romanum*.

St. Ambrose

Bishop of Milan, Doctor of the Church

Birth: 339-340 (Trier, Germany)

Feast day: December 7

Death: 397 (Milan, Italy)

Place of veneration: Milan

Ambrogio di Milano. *Il Vescovo A.* Milano, Basilica di S. Ambrogio, Cappella di S. Vittore (sec. VI). (foto Soprint. Gall. Milano)

Source: Bibliotheca Sanctorum

Descendent of a Roman aristocratic family, probably of Greek origin. He was born in Trier around 339-340 and after his father's death he moved to Rome with his mother and siblings. After studying law, he became the bishop of Milan in 374. Ambrose was the protector and defender of the weak and the oppressed. One of his priorities in his pastoral activities was promoting female virginity and the cult of martyrs, as documented by his own writings: "By the death of martyrs religion has been defended, faith increased, the Church strengthened; the dead have conquered, the persecutors have been overcome. And so we celebrate the death of those of whose lives we are ignorant." (Letter XXII).

He was a strong adversary of the early church heresies of Arianism and Donatism; his fight with Arianism intensified in 381 and would last nearly his entire life.

When he participated to the synod of Aquileia, organised by emperor Graziano, to judge two Arian bishops, Palladio of Raziaria and Secondino of Singidunum, and the presbyter Attalo, he led all the discussions, and subjected the three accused to stringent interrogations. The heretics, persevering in the error they were deposed and excommunicated.

His doctrinal position against pagan gods was uncompromising, a constant theme in his writings and sermons:

"There is no security for those who do not sincerely worship the true God, that is, the God of Christians, by whom the universe is governed. The pagan gods are but demons. Whoever militates for the true God must dedicate all his zeal and devotions to him."

Bibliotheca Sanctorum, Vol. I, p.981

Its criticism to Judaism was similarly fierce. In 388, in Callinicum (the current al-Raqqa), a crowd of Christians stormed the local synagogue and burned it.

The Roman governor condemned the incident and, to maintain public order, arranged for the synagogue to be rebuilt, a decision endorsed by Emperor Theodosius I. Ambrose opposed the emperor's decision and wrote him a letter (*Epistulae variae, 40*) to persuade him not to rebuild the synagogue. In such *epistola* Ambrose declared himself responsible for the fire:

"I declare that I have set the synagogue on fire, yes, it was I who gave the task, so that there is no longer any place where Christ is denied."

Ambrose further affirmed that that fire was not a crime and that if he had not yet given the order to burn the synagogue in Milan it was only out of laziness and that burning the synagogues was also a glorious act.[60]

St. Agatha

Martyr, vergin; patron saint of Catania

Birth: First half of the 3rd century (Catania, Italy)

Feast day: February 5 and August 17

Death: 5 February 251 (Catania)

Place of veneration: Catania

[60]For further details on the Callinicum incident, see Todini (1990) and Craughwell (2003).

AGATA, s.m. Maestro del Carmine, tavola processionale. Firenze, Museo dell'Opera del Duomo (sec. XIII). (foto Alinari)

Most of the extant knowledge about Saint Agatha comes from *Passio s. Agathae*, the acts of the martyr's life, compiled in the second half of the fifth century. Born in Catania from a rich and noble family, Saint Agatha was martyred during Emperor Decio's persecution on 5 February 251. As a young girl she made the vow of perpetual virginity.

She was arrested for being Christian and she was tortured for not renouncing her faith. After being scourged, her skin was lacerated with iron points, the sores were set on fire and her breasts were amputated. According to legend, during the night she had a vision of St. Peter, who miraculously healed her. She was further tortured, and thrown on shards of pots and burning coals. During the torture, a wing of the prison collapsed and killed her executioners. Agatha died while praying to God. The faithful honoured her body and started venerating her as a martyr.

Source: Bibliotheca Sanctorum, vol.1

Agatha performed many miracles after death, including shielding pagans from Etna's eruptions, after which they converted to Christianity, and various miraculous rescues via a sacred veil, which covered her tomb. She was invoked as a protector against volcanic eruptions, fires and bell makers (since bells were used as a warning during a natural calamity). She was also the protector of weavers and of breastfeeding mothers. An angel has engraved on her sepulchral stone: *Mentem sanctam, spontaneam, honorem Deo et patriae liberationem.*[61]

During her feast days, the bust of the saint covered by a large amount of precious jewels, and the casket containing her relics are paraded across the city of Catania. Her devotees carry giant candles

[61] Holy mind, spontaneous, the honour of God and the country's liberation.

(the so called "candelore"), fireworks are part of the celebrations, and poetry competitions, in which songs in honour of the saint are improvised, are performed.

St. Florian

Martyr, holy man, patron saint of Linz, Austria

Birth: 250 (Sankt Pölten, Austria)

Feast day: May 4

Death: 304 (Enns river)

Place of veneration: Linz

Florian was an officer of the Roman army, who occupied a high administrative post in Noricum, and who suffered death for being Christian during Emperor Diocletian's rule. His legendary "Acts" state that he gave himself up at Lorch to the soldiers of Aquilinus, the governor, when they were rounding up the Christians. After confessing his faith, he was twice scourged, half-flayed alive, set on fire, and finally thrown into the river Enns with a stone around his neck. His body, recovered and buried by a pious woman, was eventually moved to an abbey near Linz.

Many miracles of healing are attributed to his intercession and he is invoked as a powerful protector in danger from fire or water. St. Florian is the patron of firefighters, chimney sweeps, and brewers. He is invoked against fires, floods, lightning, and the pains of purgatory. In the southern Catholic parts of present Bavaria and Austria peasants regularly have used the name Florian, as one of the given names for at least one of their male children to secure the saint's patronage against fire. In Austria and Germany, fire services use Florian in radio communications as universal call sign for fire stations and fire trucks.

St. Didier (Desiderius)

Archbishop of Vienne, France

Birth: date unknown (Autumn, France)

Feast day: May 26

Death: 607 (Vienne, France)

Place of veneration: Vienne

Didier's life was characterised by the enforcement of strict clerical discipline and his attacks on simony. He was denounced for paganism by Queen Brunhildis (whose immorality he denounced)

to Pope Gregory the Great who exonerated him, but was later banished by a synod controlled by Brunhildis. Desiderius was stoned to death under the order of King Theodoric, whom he had publicly censured. A hagiographical work was written about him by the Visigothic king Sisebuto, during the 7^{th} century.

St. John of Beverly

Bishop of Hexham and of York, England

Birth: (Harpham, England)

Feast day: May 26

Death: 7 May 721 Beverley (England)

Place of veneration: Beverley

Born from noble parents at Harpham, John studied under Adrian at St. Theodore's School in Kent, after which he became a monk at Whitby. He was named bishop of Hexham in 687 and then transferred to York in 705. John was diligent in visitation, considerate towards the poor, and attentive to the training of students whom he maintained under his personal charge. He was known for his holiness and his preference for the contemplative life.

In ill health, John resigned the bishopric of York in 717 and retired to Beverly Abbey, which he had founded, and remained there until his death on May 7. His shrine was for centuries one of the most popular pilgrim centres in England. Many miracles of healing are ascribed to John, and the popularity of his cult was a major factor in the prosperity of Beverley during the Middle Ages. He was canonised by Pope Benedict IX in 1037.

Henry V gave the credit for his victory at the Battle of Agincourt to the miraculous intervention of John. On the day of the battle, blood and oil were seen running from the tomb. Henry made John one of the patrons of the royal household and ordered that his feast was to be celebrated throughout England. Henry and his queen went to Beverley in 1420 to make offerings at the saint's shrine. In 1541, the shrine was destroyed on the orders of Henry VIII as part of the English Reformation.