

Religious Violence and Coalition Politics in History

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ABSTRACT

We employ selectorate theory to model how coalition-based politics determines the intensity with which a state persecutes members of minority religions. A coalition of elites provides political support to the ruler and, in exchange, the ruler shares rents and sets religious policy. We find that full religious freedom is only attainable if the costs of enforcing religious policy unambiguously decrease with the extent of toleration; otherwise, e.g. when tolerant policy induces local pogroms, some persecution is undertaken by the state. In this case, we find that persecution is more intense the larger the size of the ruler's coalition. We discuss the predictions of the model using several episodes of religious violence drawn from history.

Keywords: Religious violence; toleration; selectorate theory; state capacity; conflict

Introduction

Religiously motivated violence remains a serious problem in the modern world. The causes and consequences of religious violence are the subject of an extensive debate and controversy across the social sciences (see, *inter alla* Cavanaugh, 2009; Clarke, 2014; Juergensmeyer, 2000) and history (see Kaplan, 2007; Nirenberg, 1996).

Drawing on the growing literature that studies political legitimacy, and focuses on the role played by religious legitimation (e.g., Bentzen and Gokmen, 2023; Coşgel and Miceli, 2009; Greif and Rubin, 2023; Rubin, 2017), Johnson

and Koyama (2019) provide an analytical framework for thinking about the relationship between religion and the state.¹ They argue that when there is a single dominant religion, a bargain naturally suggests itself, in which that religion provides legitimacy to the ruler. In exchange, that religion may demand that the ruler suppresses its rival religions.

We add to this insight by focusing on another kind of political constraint faced by the ruler. Even if the ruler is legitimate, she still needs to maintain the support of a coalition of elites in order to stay in power. This is a natural perspective for studying premodern states. Indeed, in a recent paper, Kulkarni and Pfaff (2022a) argue that understanding the religious politics of early modern England requires a framework that allows for coalition-based politics.²

We investigate how the internal structure of a polity influences the observed variation in religion persecution and violence over time and space. Drawing on the selectorate theory of de Mesquita *et al.* (2003), we construct a model of religious persecution in which a coalition of elites provides political support to the ruler in exchange for rents and public policy — specifically, the extent of toleration or persecution of the non-dominant religion. Each member is pivotal in that the ruler is deposed if any one member withdraws support. This induces the ruler to share rents and provide policy that would be optimal to any member of the coalition.

We obtain two important results. First, full religious toleration can only be achieved if the costs of enforcing religious policy unambiguously decrease with the extent of toleration. In this case, the costs can be completely avoided if there is no religious persecution. In practice, however, the costs may instead rise with toleration. One important instance is when toleration would induce local pogroms against adherents of the non-dominant religion, whom the state would now have to protect. To prevent localized violence, the state thus engages in ‘official’ violence by undertaking some amount of religious persecution.

The second result is that in cases of less than full toleration, the larger the size of the ruling coalition, the less tolerant religious policy is in equilibrium. That is, there is greater religious persecution by the state. This is because each member of the ruling coalition shares in total (net) rents, and therefore

¹Political legitimacy is a key concept in political science dating back to Weber (1922, 1968). It was formalized by Rogowski (1974). Patty and Penn (2004) also formalize legitimacy in the context of social choice theory. But Rogowski (1974) and Patty and Penn (2004) do not discuss religious sources of legitimation, perhaps the most important source of political legitimacy for many societies prior to the modern period.

²Arguing for a “parsimonious political selectorate theory” (de Mesquita *et al.*, 2003)” theory of political change in England during the Glorious Revolution whereby the “consequences of the revolution depended largely on which side of the Jacobite-Williamite conflict a group stood on during the events of 1688–91. Whereas groups that were part of the winning Williamite coalition reaped the rewards of victory, those that were on the losing Jacobite side could count on little protection” (Kulkarni and Pfaff, 2022a, p. 3).

bears the costs of persecution. A larger coalition simply decreases this cost burden, and increases (net) rents, to any single coalition member and makes her more willing to accede to persecutions by the state.

Note, then, that our results do not rely on the religion of the ruler or the coalition members, nor their own preferences over religious practices. They only care about religious policy to the extent that it incurs costs and therefore decreases their rents. Thus, even if ruling elites were inherently tolerant, they would be willing to persecute in order to avoid having to spend resources on quelling pogroms, and would undertake more persecutions if the costs of undertaking these can be shared by a larger coalition.

While many papers on religious violence consider pogroms and localized violence, our framework reveals how popular prejudices against a minority group can interact with the political economy incentives of rulers to persecute or tolerate. To our best knowledge, our paper is the first to explicitly tie systematic and organized episodes of religious persecution by the state, with the problem of local religious violence.

Several different conceptual frameworks have been proposed for understanding patterns of religious violence and persecution. The traditional historical scholarship tended to be ideational (important older accounts in this tradition include Jordan (1932, 1936) and Lecler (1960), whereas more recent accounts include Laursen and Nederman (1998), Sutherland (1984), and Zagorin (2003)).

Johnson and Koyama (2019) examine the relationship between state development and religious persecution over the long *durée*. Distinguishing between conditional toleration and genuine religious freedom, they note that many societies have offered conditional toleration, but only modern liberal states have aspired to full religious freedom. They argue that the reason for this is that most preindustrial societies relied upon identity rules — rules that depended on social or religious distinctions between people — and that reliance on such rules is incompatible with religious freedom. For Johnson and Koyama (2019), it was the particular combination of growing state power and increased religious diversity following the Reformation that accounts for both the dramatic rise in the intensity of religious violence in the 16th century and the eventual rise of states able to quell it and to protect minority groups.

Becker *et al.* (2022) provide a related conceptual framework for thinking about ethnic and/or religious persecution. This framework can be summarized as a 2-by-2 quadrant with persecution intensity on the horizontal axis and the possibility of exit on the vertical axis. They argue that genocide occurs when there is no possibility of exit and there is high intensity persecution. Where there is lower intensity persecution but exit is not available, they argue that internal segregation is more likely to result. They place the 17th century persecutions of French Protestants in the upper-left quadrant: high intensity persecution with the option to exit.

Numerous studies have examined other conditions that generate ethnic and/or religious violence. Mitra and Ray (2014), for instance, study Hindu–Muslim violence in India. Blouin and Mukand (2019), Rogall (2021), and Yanagizawa-Drott (2014) study the various causes of the Rwandan genocide. Among recent work exploring religious violence in a historical context, Ticku *et al.* (2018) study the relationship between economic shocks and temple desecrations in medieval India. Scholars have examined the persecution of Jews in medieval and early modern Europe (Anderson *et al.*, 2017; Becker and Pascali, 2019; Doten-Snitker, 2021; Finley and Koyama, 2018; Jedwab *et al.*, 2019) and Russia (Grosfeld *et al.*, 2020). Other papers have studied the persecution of witches in Europe generally (Leeson and Russ, 2017); in France (Johnson and Koyama, 2014); and in Scotland (Christian, 2019; Kulkarni and Pfaff, 2022b). Turning to the Reformation era, Johnson and Koyama (2013) consider the persecution of Protestants in 16th century France and the reasons for the Edict of Nantes (which granted them a form of conditional toleration that lasted until the end of the 17th century).

Recent scholarship has also tackled the conditions under which peaceful coexistence is possible among members of different religions. For example, Jha (2013) argues that cities which had a history of inter-religious trade experienced less Hindu–Muslim violence following Indian independence.³ Economic interlinkages also help to explain whether Jews faced persecution (Becker and Pascali, 2019). Minority religious groups often had specialized skills and could be important contributors to local economies (see Hornung, 2014; Johnson and Koyama, 2017).

The structure of the remainder of this paper is as follows. Section “A Model of Selectorate Theory and Religious Persecution” provides a formal model couched in the selectorate framework to show how the costs of enforcing religious policy and the size of the ruler’s coalition affect the decision of the ruler to persecute a religious group. We then present the section “Results”, while the section “Model Robustness” discusses the robustness of these results to different modeling assumptions. In the section “Discussion Informed by History”, we demonstrate how the insights of the model can contribute to our understanding of some large-scale religious persecutions in history. We provide a conclusion in the final section.

A Model of Selectorate Theory and Religious Persecution

We are interested in modeling the optimal choice of a ruler of how much to persecute non-dominant religions, when that ruler is constrained to satisfy a core group of supporters in order to remain in power. The focus is on how the

³Jha (2018) develops a formal model of this insight.

political constraints facing the ruler affect this policy of religious persecution. For our historical application, the constraints do not come from some broad base of electors but, rather, from a small coalition of elites. We thus use the selectorate framework of de Mesquita *et al.* (2003) in which the ruler has to maintain the support of a coalition of ‘selectors’, by giving them rents and providing public goods or policy that is optimal to them.

While we are interested in explaining state persecution rather than local religious violence, whether or not the state persecutes may depend on whether there is localized violence. This is because localized violence can affect the costs of enforcing religious policy by the state. We show that if such enforcement costs decrease with toleration, then full toleration, or religious freedom, can be achieved — i.e. the state does not persecute; otherwise, if costs actually increase with toleration, the state persecutes to some extent. One instance in which the latter can apply is when local religious violence acts as a substitute for state persecution. When some members of the population prefer less toleration, they could undertake their own persecution via local pogroms. The costs of enforcing toleration in the population would then rise, discouraging the state from implementing full toleration. In effect, the state would prefer to undertake ‘official’ persecution to prevent members of the population conducting their own unsanctioned pogroms.

Whenever the state persecutes, we show that such persecution is more intense when the ruler has to maintain the support of a larger coalition. The ruler gives coalition members rents after the costs of enforcing policy are met. When the coalition is large, the marginal cost of enforcing religious policy to a single member of the coalition is small — the burden is shared by many other members. Every member is then more willing to undertake persecution and, in equilibrium, persecution is more intense.

Coalition-Based Politics

A realm has a set of elites E from which its ruler draws political support. In particular, the ruler needs to maintain a coalition $W \subseteq E$ of elites of size W to stay in power — if any one of them defects to some political challenger, the ruler is deposed by the challenger.⁴

To keep her coalition loyal, the ruler gives each member some rents out of the ruler’s discretionary revenues — the total revenues that the ruler extracts from the realm minus the costs of providing public goods or policy. Because the latter decreases discretionary revenues and, therefore, potential rents that the coalition members obtain, these members also care about the kinds of

⁴Since every member of W is thus pivotal, W captures, as it were, a minimum winning coalition à la Riker (1962) who proves that any politician would always try to form a coalition whose size is no more than necessary to secure his position.

public goods and policies that the ruler provides. We focus on policy regarding religious toleration or persecution.

An elite $i \in E$ derives utility from engaging in ordinary activities x_i and religious practices r_i . In particular, let her utility be some concave function $u_i = f(x_i, r_i)$, with $u'(x_i), u'(r_i) > 0$ and $u''(x_i), u''(r_i) < 0$. The cost of engaging in r_i is denoted by c , while x_i is the numeraire.

There are two religions $j = \{1, 2\}$, with 1 indexing the religion of the ruler — the dominant religion, and 2 the non-dominant one. Practicing the non-dominant religion is regulated by a maximum level \bar{r}_2 , such that if one is caught practicing it above \bar{r}_2 , the ruler extracts penalty v . Let $\theta \in (0, 1)$ be the probability of getting caught. Thus, \bar{r}_2 captures the intensity of persecution or toleration: lower \bar{r}_2 captures more intense persecution, equivalently higher \bar{r}_2 captures greater toleration.

The elite i allocates her disposable income toward x_i and r_i . This disposable income is composed of some productive income y_i net of taxes, with the tax rate set at τ , and the rents t_i given by the ruler if the elite belongs to her coalition. Her budget constraint is thus

$$(1 - \tau)y_i + \mathbb{1}_W t_i = x_i + cr_i + \mathbb{1}_2 \mathbb{1}_v v \theta (r_i - \bar{r}_2),$$

where $\mathbb{1}_W$ indicates membership in the ruling coalition, $\mathbb{1}_2$ indicates that i practices the non-dominant religion, and $\mathbb{1}_v$ is equal to one if $r_i > \bar{r}_2$ and zero otherwise.

With this budget constraint, one can set the largest value that \bar{r}_2 can take. (The smallest value is 0, i.e. when no amount of religious practice from the non-dominant religion is tolerated.) The ruler is most tolerant if an elite that practices the non-dominant religion can allocate all of her income to r_2 without incurring any penalty. We can thus set $x_i = 0$, $\mathbb{1}_W = 1$ and $\mathbb{1}_v = 0$ in i 's budget constraint and solve for r_i to obtain the highest amount of religious practice that an elite of religion 2 can undertake i.e. $r_2 = \frac{(1-\tau)y_i + t_i}{c}$. The most tolerant ruler then sets $\bar{r}_{2\max} = \frac{(1-\tau)y_i + t_i}{c}$. This implies that the ruler can choose \bar{r}_2 from within the whole range $\bar{r}_2 \in [0, \bar{r}_{2\max}]$, with $\bar{r}_2 = 0$ capturing zero toleration, $\bar{r}_2 = \bar{r}_{2\max}$ full toleration, and interior values $\bar{r}_2 \in (0, \bar{r}_{2\max})$ less than full toleration.

The ruler not only chooses \bar{r}_2 , but also the amount of rents t_i given to each member of her coalition. She has at her disposal tax revenues extracted from elites, i.e. $\tau \sum_i y_i$, and other revenues R .⁵ To enforce religious policy \bar{r}_2 , the ruler incurs total cost $\kappa(\bar{r}_2)$, where $\kappa'(\bar{r}_2) \neq 0$ and $\kappa''(\bar{r}_2) < 0$. That this cost function is determined by \bar{r}_2 is straightforward, as varying degrees of persecution would require varying degrees of enforcement effort. We are open, however, as to the manner by which the policy affects the costs of enforcement.

⁵ R can include any tax revenues extracted from the rest of the population, i.e. the non-elites, as well as non-tax revenues.

In particular, the model can capture the case in which costs fall with toleration, $\kappa'(\bar{r}_2) < 0$, and the case when they increase with toleration, $\kappa'(\bar{r}_2) > 0$. The latter is more likely when the preferences of the entire population are not aligned with the toleration policy that would be optimal for elites. In choosing policy the ruler only needs to satisfy the set of people from which the ruling coalition can be drawn — the elites E , in order to stay in power. Thus, the optimal policy for E need not coincide with what the rest of the population would want. When other parts of the population prefer less toleration, then the ruler would find it harder to enforce a more tolerant policy since it would likely encounter resistance, possibly violent, e.g. local pogroms. In this case, greater toleration would induce larger enforcement costs, $\kappa'(\bar{r}_2) > 0$.

The ruler's budget constraint is thus

$$\tau \sum_i y_i + R \geq \kappa(\bar{r}_2) + Wt_i,$$

and the ruler herself earns positive rents $\tau \sum_i y_i + R - \kappa(\bar{r}_2) - Wt_i > 0$ when the constraint is non-binding.

Consider, then, an infinitely-repeated game in which the following events occur at each time $t = 1, 2, \dots \infty$:

1. The incumbent ruler I forms a coalition of size W from the set of elites E with whom she has the highest affinity.⁶ A political challenger C nominates her own coalition from E , also of size W , and which includes at least one member of I 's coalition. I proposes to give to each member of her coalition rents t_i^I , while C offers rents t_i^C to each member of her own coalition. I and C also propose their respective policy on religious toleration or persecution, by offering to set the maximum allowable religious practice of the non-dominant religion at, respectively, \bar{r}_2^I and \bar{r}_2^C .
2. Each member $i \in E$ chooses to support either I or C . I is deposed and replaced by C if at least one member of I 's coalition defects to C .
3. Incomes are taxed, rents are given, and religious policy is implemented. Each i allocates her disposable income toward ordinary activities x_i and religious practice r_i .

Equilibrium

We construct a stationary equilibrium in which the incumbent remains in power. We proceed by backward induction.

⁶It does not matter what the basis of affinity is. The ruler can have the highest affinity for elites who share her own religion, ancestry, or ethnicity, or it could be totally idiosyncratic. As shown in the section "Model Robustness", none of the results on religious policy depend on the specific basis of affinity.

Given rents t_i and policy \bar{r}_2 , a member of the elite allocates her disposable income toward x_i and r_i in an optimal manner. That is, i solves

$$\begin{aligned} \max_{x_i, r_i} u_i &= f(x_i, r_i) \\ \text{s.t. } (1 - \tau)y_i + \mathbb{1}_W t_i &= x_i + cr_i + \mathbb{1}_2 \mathbb{1}_v v\theta(r_i - \bar{r}_2). \end{aligned}$$

In equilibrium, i chooses to practice her religion at level r_i^* and engage in ordinary activities at level $x_i^* = (1 - \tau)y_i + \mathbb{1}_W t_i - cr_i^* - \mathbb{1}_2 \mathbb{1}_v v\theta(r_i^* - \bar{r}_2)$. Thus, her per-period utility is

$$u_i^* = f((1 - \tau)y_i + \mathbb{1}_W t_i - cr_i^* - \mathbb{1}_2 \mathbb{1}_v v\theta(r_i^* - \bar{r}_2), r_i^*).$$

Now the best that challenger C can offer to any elite is to use the entirety of the ruler's revenues to meet u_i^* once C becomes the ruler — that is, to keep no rents for herself. The model considers only one political challenger, precisely because even when there are several challengers, only the one that can offer the best mix of policy and rents can overcome others and challenge the incumbent. This 'best' challenger would necessarily be offering to use all revenues and keep no rents for herself. This offer, however, is not necessarily credible. Its credibility actually depends on the likelihood that an elite that defects to the challenger is not subsequently dropped by the challenger once the latter becomes the ruler. Step 1 of the repeated game implies that whoever is the incumbent can choose any coalition at the beginning of each time period — there is thus no guarantee that a coalition member remains therein. This means that the challenger's offer is only valuable to an elite to the extent that she expects to remain in the coalition once the challenger is in power.

Thus, as we shall demonstrate, the actual policy and rents that an elite obtains in equilibrium from the incumbent ruler depends on the credibility of the challenger's offer. For now, the *offer* itself implies that the ruler's budget constraint binds — all revenues are used, and, therefore, C 's rent offer to a single member is $t_i = \frac{\tau \sum y_i + R - \kappa(\bar{r}_2)}{W}$. Plugging this into u_i^* obtains $U_i = f\left((1 - \tau)y_i + \mathbb{1}_W \left(\frac{\tau \sum y_i + R - \kappa(\bar{r}_2)}{W}\right) - cr_i^* - \mathbb{1}_2 \mathbb{1}_v v\theta(r_i - \bar{r}_2), r_i^*\right)$, which C maximizes in choosing her policy offer \bar{r}_2 . That is, C solves

$$\begin{aligned} \max_{\bar{r}_2} U_i &= f\left((1 - \tau)y_i + \mathbb{1}_W \left(\frac{\tau \sum y_i + R - \kappa(\bar{r}_2)}{W}\right) \right. \\ &\quad \left. - cr_i^* - \mathbb{1}_2 \mathbb{1}_v v\theta(r_i - \bar{r}_2), r_i^*\right), \end{aligned}$$

whose first-order condition (FOC) for optimal \bar{r}_2 is

$$\mathbb{1}_2 \mathbb{1}_v \theta = \mathbb{1}_W \left(\frac{\kappa'(\bar{r}_2)}{W} \right). \quad (1)$$

Denoting as \bar{r}_i^C the optimal level of policy offer \bar{r}_2 , the amount of transfers that C proposes to give to each member of her nominated coalition is thus $t_i^C = \frac{\tau \sum y_i + R - \kappa(\bar{r}_2^C)}{W}$. The proposal of \bar{r}_i^C and t_i^C is thus tantamount to offering per-period utility $U(t_i^C, \bar{r}_2^C)$ to each member of this coalition but, as we have mentioned, the offer is not credible. The coalition member only obtains $U(t_i^C, \bar{r}_2^C)$ in periods in which she remains in the coalition. Any member of C 's nominated coalition can be dropped by C once she becomes the incumbent, and replaced by someone with whom C has greater affinity.

Thus, the present value V^C of the infinite stream of payoffs from choosing C as leader does not consist of earning $U(t_i^C, \bar{r}_2^C)$ per period. Rather, V^C is given by

$$V^C = U(t_i^C, \bar{r}_2^C) + \delta[\omega V^I + (1 - \omega)V^O],$$

where V^I is the value of being inside the ruler's coalition, V^O the value of being outside of it, δ is the discount rate, and ω the probability that the elite in C 's nominated coalition remains in it once C becomes the incumbent ruler. Now, an elite obtains rents only while she is in the incumbent ruler's coalition, but she 'gets' the policy whether or not she is in it. Because \bar{r}_2 is public policy, no one is excluded from it, and therefore, $V^I = \frac{U(t_i^I, \bar{r}_2^I)}{1 - \delta}$ and $V^O = \frac{U(0, \bar{r}_2^I)}{1 - \delta}$.

In an equilibrium in which the incumbent ruler is never deposed by a challenger but stays in power, it must be that the value of the incumbent's offer matches that of the challenger.⁷ Since V^C is the value of the challenger's offer, it must be that $V^I = V^C$, which implies $V^I = U(t_i^C, \bar{r}_2^C) + \delta[\omega V^I + (1 - \omega)V^O]$ or, simplifying:

$$V^I = \frac{1}{1 - \delta\omega} [U(t_i^C, \bar{r}_2^C) + \delta(1 - \omega)V^O]. \quad (2)$$

What values of t_i^I and \bar{r}_2^I satisfy Equation (2)? Since no elite can be excluded from policy \bar{r}_2 , the ruler cannot use policy \bar{r}_2 to prevent defection to the challenger. There is thus no gain to the incumbent from choosing to provide a different policy than C 's. Thus, in equilibrium, $\bar{r}_2^I = \bar{r}_2^C$ which we denote as \bar{r}_2^* . Thus, we can re-write $V^I = \frac{U(t_i^I, \bar{r}_2^*)}{1 - \delta}$ and $V^O = \frac{U(0, \bar{r}_2^*)}{1 - \delta}$. Substituting these into Equation (2) gives $\frac{U(t_i^I, \bar{r}_2^*)}{1 - \delta} = \frac{1}{1 - \delta\omega} \left[U(t_i^C, \bar{r}_2^*) + \delta(1 - \omega) \frac{U(0, \bar{r}_2^*)}{1 - \delta} \right]$ or, rearranging:

$$U(t_i^I, \bar{r}_2^*) = \frac{1 - \delta}{1 - \delta\omega} [U(t_i^C, \bar{r}_2^*) + \delta(1 - \omega)U(0, \bar{r}_2^*)], \quad (3)$$

which is implicit in t_i^I .

⁷Since the incumbent obtains positive rents whenever the budget is not fully exhausted, the ruler need not offer a value above what the challenger would offer.

Results

We obtain the following results. (All proofs are in the Appendix.)

Theorem 1. *In equilibrium, the incumbent leader chooses the same policy as any challenger would, $\bar{r}_2^I = \bar{r}_2^C = \bar{r}_2^*$, and gives to each of her coalition member rents that are less than any challenger leader can offer, $t_i^I < t_i^C$.*

Recall that the Challenger's offer entails the use of all revenues, i.e. zero rents for the Challenger. Since the incumbent offers the same policy as the Challenger, i.e. $\bar{r}_2^* = \bar{r}_2^I = \bar{r}_2^C$, but gives smaller rents to her coalition members, then it readily follows that:

Corollary 1. *The incumbent ruler earns positive rents $\tau \sum_i y_i + R - \kappa(\bar{r}_2^*) - Wt_i^I > 0$.*

Theorem 1 and Corollary 1 are a standard result in selectorate models. Because any challenger cannot credibly promise that she will keep her nominated elites in her coalition once she is in power, the rent offer of the challenger is not credible. Thus, members of the incumbent ruler's coalition discount the challenger's offer and do not readily defect to the challenger. The incumbent then takes advantage of this 'loyalty norm' and is able to provide less rents to her coalition than the challenger would offer. This, then, allows her to keep some of the revenues for herself.

Theorem 2 below shows results under two cases — when the costs of enforcing religious policy decrease, and when they increase, with the extent of toleration.

Theorem 2. *In equilibrium, the incumbent ruler chooses full toleration, $\bar{r}_2^* = \bar{r}_{2\max}$, whenever the costs of enforcing religious policy decrease with toleration, $\kappa'(\bar{r}_2) < 0$.*

Otherwise, if the costs increase with toleration, $\kappa'(\bar{r}_2) > 0$, then the incumbent chooses religious policy $\bar{r}_2^ = \bar{r}_2 : \mathbb{1}_v v\theta = \mathbb{1}_W(\frac{\kappa'(\bar{r}_2)}{W})$, i.e. where the marginal expected penalty to a violator of religious policy is equal to the marginal cost, to a single coalition member, of enforcing the policy.*

Whenever there is persecution (less than full toleration), the ruler persecutes the non-dominant religion up to the point at which the marginal expected penalty it can extract is equal to the marginal enforcement cost of a coalition member.

While Theorem 2 is specific to our policy of interest, it has the following generalizable insight absent in other selectorate models. The relevant marginal enforcement cost (of any policy) is not that of the entire coalition, but of a single coalition member. This is due to the nature of coalition-based politics. Since

each member is pivotal, the ruler has to ensure that the marginal enforcement cost to that member is acceptable to that member. Otherwise, if any one of them is dissatisfied, then the ruler cannot stay in power.

We further characterize the intensity of religious persecution by conducting comparative statics on \bar{r}_2^* . Of particular interest is the effect of the size of the coalition W .

Theorem 3. *Consider the case of less than full toleration. Then, the larger the size of the ruler's coalition, the more intensely it persecutes the non-dominant religion, $\frac{\partial \bar{r}_2^*}{\partial W} < 0$.*

The intuition is that when total enforcement costs can be spread out to more coalition members, as when W is large, the marginal enforcement cost to any one member is small. This, then, makes any one member willing to persecute with more intensity and the ruler, to satisfy any and all members, makes this happen. It is as though each member becomes less accountable for the persecution when there are many other members with whom 'blame' can be shared, inducing everyone to persecute a lot more than if each one had greater accountability.

This result may appear to contradict the standard result in other selectorate models that a larger coalition — a more inclusive polity, induces the ruler to provide more public goods or better public policy. However, this is not the case. In our context, the public policy that elites care about is that of persecuting the non-dominant religion. With a larger coalition, the ruler provides more of it. Larger coalition size is thus a double-edged sword — it generates more intense policy, whether that policy is good or bad.

Model Robustness

We now discuss the robustness of our predictions with respect to different modeling assumptions.

In the model, elites derive utility only from their own activities. In particular, an elite who practices one religion does not suffer disutility from the practice of another religion by other elites. They care about religious policy only to the extent that it incurs enforcement costs and therefore decreases her rents once she is in the coalition. This is why full toleration is achieved when greater toleration decreases the costs of enforcing religious policy (Theorem 2, $\kappa'(\bar{r}_2) < 0$). In this case, full toleration maximizes the rents of a coalition member, whatever religion she practices. Only when greater toleration increases the costs of enforcing religious policy, $\kappa'(\bar{r}_2) > 0$, would a coalition member want religious persecution, up to the point when the marginal effect (on the

persecuted) is equal to the marginal cost to the member. When religious persecution generates a small marginal cost to the member, which is more likely when the size W of the coalition is large, the more willing that member is to persecute the non-dominant religion, and persecution is more intense in equilibrium (Theorem 3).

While we do not provide a formal exposition here, we can surmise how the results would change if elites of the dominant religion directly incurred disutility from the practice of the non-dominant religion by other elites.⁸ Even when greater toleration policy decreases the costs of enforcement and therefore increases rents, it would also allow greater practice of the non-dominant religion, which would decrease the utility of the elites practicing the dominant religion. This could then prevent full toleration or religious freedom from being an optimal policy for the elites, especially when there are many elites in the coalition with the dominant religion.

When greater toleration instead increases enforcement costs, more intense persecution can be expected, since toleration decreases any coalition member's rents while also decreasing the utility of a member with the dominant religion. The extent of persecution could then very well depend on the number of elites of the dominant, versus that of the non-dominant, religion. What is striking is that in either case — whether toleration decreases or increases the costs of enforcement, full toleration is unlikely to occur in equilibrium.

Since our model assumes that elites only care about their own religious practice, our results on religious policy hold irrespective of the religious composition of any coalition formed by the incumbent leader or by the challenger. They are thus also robust to any particular basis of affinity-relationships between the ruler and the elites, even affinities based on religion. Theorems 2 and 3 hold even if the ruler's coalition is composed entirely of the dominant, or the non-dominant, religion. We have already shown above that this is because elites only care about their own religious practice. An additional reason, however, is that the elite's affinity with the ruler only affects the probability that an elite, once in the coalition, remains in the coalition. The incumbent ruler's coalition is composed of elites with whom she has the highest affinity. Thus, a political challenger, once she becomes the incumbent, can always replace any member from her initial coalition by another with whom she has a higher affinity. In the model, the probability of remaining in the ruler's coalition is captured by ω , which is irrelevant in Theorems 2 and 3.

While this probability ω does not determine religious policy, it affects, however, the amount of rents that a coalition member obtains and, therefore,

⁸For this kind of model, see Desierto and Koyama (2024) in which the consumption of goods that convey status by non-elites negatively affects the status of elites. The utility that one group of people derives from the consumption of status goods is therefore relative to the consumption of the other group.

the amount of rents that the ruler can extract (after providing policy and rents to the coalition). It can be shown that as $\omega \rightarrow 1$, the rents to the coalition members increase while those for the ruler decrease.⁹ The intuition is when elites are likely to be retained in the challenger's coalition once she becomes the incumbent, then this greatly induces a member of the incumbent's coalition to defect to the challenger. To prevent this, the incumbent has to give larger rents, at the expense of retaining smaller rents for herself.

What determines ω ? One can think of the incumbent ruler ordering all elites according to their affinity with the ruler, then the ruler picks the top W in the list. In the canonical selectorate model by de Mesquita *et al.* (2003), all such affinity-orderings are assumed to be equally likely, and so the probability of remaining in the coalition is simply $\omega = \frac{W}{E}$. In generalizing the probability to some parameter $\omega \in (0, 1)$, we allow many other, more interesting possibilities. For instance, suppose the ruler can only have affinity for co-religionists. Then it could be that if the ruler has religion 1 (the dominant religion), $\omega = \frac{W}{E_1}$. This would still not affect religious policy \bar{r}_2 , but it means that coalition members have smaller rents, while the ruler has larger, when there are many elites that practice the dominant religion, i.e. E_1 is larger.

One can specify ω based on other things besides religion — for instance, family or kinship ties, or ethnicity. Generally, the larger the base from which the affinity with the ruler is drawn, and the smaller the size of the coalition, the smaller the probability that an elite from that affinity base remains in the ruling coalition. The consequence is that rents to coalition members are smaller, while rents to the ruler are larger. Since no one inside or outside the ruler's coalition can be excluded from public policy, the probability of remaining in the ruler's coalition is irrelevant in setting this policy.¹⁰

Discussion Informed by History

In this section we draw on several historical episodes of religious violence and use them to illustrate the relevance of our model. Specifically, we use these examples to provide evidence for the plausibility of our framework as well as for discussing its predictions. While numerous approaches to studying religious violence and persecution are possible, we seek to show that the assumptions made in the above analysis describe a lot of relevant historical settings and that the predictions we obtain from the model shed new light on the patterns of religious violence that we observe.

⁹See Appendix for proof.

¹⁰For more discussion, see Desierto (2018) where it is shown that the particulars of the bases of affinity do not affect the provision of public goods.

Toleration is a Continuum

A key feature of our framework is that religious toleration is a continuum. The ruler sets the optimal value of $\bar{r}_2 \in [0, \bar{r}_{2\max}]$ which is the permissible amount of religious activity the non-dominant religion can practice. Interior values of \bar{r}_2 , i.e. between 0 and $\bar{r}_{2\max}$, capture what Johnson and Koyama (2019) call *conditional toleration*, which the authors show to have been practiced by all premodern societies.

This is important for understanding how premodern polities treated religious diversity. In the Roman Empire, a wide variety of religious beliefs and practices were permitted so long as they did not involve human sacrifice, impiety, or were incompatible with making sacrifices to the emperor. The ancient druidic worship of the Gauls and Britons was suppressed on the former grounds; Christianity on the latter. Religious freedom was alien to the Romans. There were permissible and impermissible religious activities. Christians were a threat because they were atheists: they denied the gods of Rome (Wilken, 1984).

Similarly, Judaism and Christianity were permitted in the Islamic Middle East. But there were hard limits to this toleration: among other things, non-Muslims were not allowed to proselytize (see Cohen, 1994). As Timur Kuran notes, “the religious toleration enunciated in the Quran is limited” (Kuran, 2023, p. 272). In particular, religious exit was prohibited for Muslims, as is still the case in many Islamic countries. Muslim heresies were suppressed with force. As we discuss below, Catholicism was permitted in Elizabethan England as a private faith, but Catholics were subject to an increasingly restrictive set of recusancy laws and Catholic priests were outlawed and harboring them could be a capital offense.

The Costs of Enforcing Religious Policy are a Key Determinant

Our model draws attention to the costs of enforcing religious policy, captured by κ , which can be either increasing or decreasing in the extent of toleration. Theorem 2 implies that periods of conditional toleration are those in which κ is increasing in toleration, while full toleration is achieved only when κ unambiguously decreases with toleration.

In practice, the costs of enforcing religious policy are incurred not only from persecuting the violators, but also from preventing unsanctioned persecutions. When the latter is non-trivial, the ruler might not want to allow full toleration — even if this could avoid the cost of persecution, it might generate large costs from local pogroms.

One can think of κ as capturing both costs of persecution and costs of protection, and the extent to which they fall or rise with toleration. Conditional toleration might arise when the costs of persecution are high but do not

necessarily fall with greater toleration. This would be the case if there are large fixed costs to persecution but greater toleration also requires increased state protection of the religious minority from local persecutions. When costs of persecution do not fall with toleration, but costs of protection rise with it, the total costs κ of enforcing religious policy can, on net, increase with toleration, thereby preventing the ruler from choosing full toleration.

The Costs of Persecution The costs of persecution come primarily from the direct costs of enforcement such as inquisitorial courts and the military/policing capacity to carry out arrests and prosecutions, but can also include any indirect costs of maintaining order whenever such persecutions destabilize and delegitimize the polity.¹¹

These costs are non-trivial and necessitate large fixed investments in state capacity. Johnson and Koyama (2013), in discussing the investigation of heresy in 16th century France, document the creation of what historians call an official ‘engine of repression’ (Roelker, 1996, p. 211). This involved increased royal control over church courts and the staffing of these courts with individuals trained in theology and capable of detecting heresy. It also required courts to standardize the definition of heresy and to send out special commissions to “discover it” (see Roelker, 1996, p. 182). In contrast, 16th century Poland became known for harboring heretics because rulers were unable to enforce religious conformity, even if they had wanted to (see Tazbir, 1973). Polish rulers were elected monarchs and they could not infringe the liberties of their nobility. This ruled out any attempts to seriously investigate heresy.

Maltsev and Yudanov (2022) argue that the repression of Old Believers in 17th century Russia was so costly that authorities may have colluded with these communities escaping to unpopulated areas (under the guise of “self-immolating” themselves). Regardless of whether one accepts this argument, their descriptions of the large fixed costs required by the policy of religious persecution are credible: “the Russian army” they note “could not devote too many resources to capture the rebels. Due to its large territory and poor infrastructure in the aftermath of the Time of Troubles, the costs of deployment, capture and subsequent delivery of captive Old Believers for public executions were extremely high” (Maltsev and Yudanov, 2022, p. 196).

Historical accounts of Louis XIV’s (r. 1643–1715) policy toward the French Huguenots frequently note that he and his ministers underestimated the costs of these policies. In the late 17th century, Louis XIV’s government gradually increased pressure on the Huguenots through a series of edicts restricting their rights, culminating in his policies of billeting soldiers in the homes

¹¹ Johnson and Koyama (2013, 2019) show, for instance, that the persecution of Protestants in the reign of Mary I (r. 1553–1558) was highly destabilizing to the state. Similarly, the intense persecution of Protestants in France during the 1540s–1560s resulted in civil war.

of Protestants. His initial policies were successful at inducing large-scale conversions to Catholicism and this success appears to have convinced him and his ministers to expel the remaining Huguenots from the country by revoking the Edict of Nantes in 1685 (Bernard, 1956).

This policy however was disastrous. Far more Protestants were willing to go into exile than had been anticipated. Many converts reverted to Protestantism once the persecution ebbed. Within a few decades it was evident that the “goal of confessional unity remained unrealized, making the Revocation a failure” (Wilson, 2011, p. 7). And beyond the costs of persecution itself, France lost a productive and highly skilled workforce. As Scoville (1960, pp. 434–435) notes “[a]s a penalized minority . . . they had come to realize that they could expect to find a haven from persecution only in business . . . Many were entrepreneurs, capitalists, and skilled workers in some of France’s most important industries; others were merchants, shippers, and seamen; still others were important financiers or members of various professions”.

The Costs of Protection Protecting a religious minority from local violence is also costly to the state. Many examples of this come from the history of Jewish persecution in medieval Europe. The nominal policy of Church and state for much of the Middle Ages (at least prior to the period of expulsions) was to permit Jewish communities to practice their faith while imposing a series of economic and legal restrictions on their activities (Chazan, 1997). Nonetheless, both secular and legal authorities frequently failed to protect Jewish communities from antisemitic violence.

Antisemitic sentiment was widespread (Langmuir, 1990; Nirenberg, 2013; Poliakov, 1955). It had Christian (and perhaps pre-Christian) roots. Jews were seen as Christ-killers who stubbornly rejected his message (Cohen, 1982; Lehmann, 1995). This religious antisemitism was overlaid with other factors, especially anti-market sentiments. Merchants, traders, and particularly financiers have long been the object of suspicion in premodern societies (see Carvalho and Koyama, 2010). After 1100, the European economy expanded through the Commercial Revolution and with the concurrent rise in demand for credit, Jews became associated with moneylending, as they were permitted to lend at interest. This made them a source of credit and tax revenues for rulers, and as they became immeshed in the unpopular fiscal extractions of rulers (Baron, 1967; Chazan, 1997; Koyama, 2010), Jews were frequently the target of popular violence, with the intensity of this violence rising after 1200.

The threat of popular violence was heightened during periods of economic strain (as demonstrated by Anderson *et al.*, 2017), and in particular during the Black Death when Jews were initially scapegoated (Jedwab *et al.*, 2019). Moreover, as documented by Finley and Koyama (2018), the weak and fragmented character of the Holy Roman Empire facilitated intense violence against Jews.

Many local authorities, unable to protect Jewish communities, either colluded in their destruction or attempted to levy fines as *ex post* punishments.¹²

As this example illustrates, the costs of protection also depended on the violence capacity of the state. Medieval states lacked monopolies of violence and were frequently too weak to protect religious minorities. This began to change in the Early Modern period. Thus, across Europe, Anderson *et al.* (2017) find that the relationship between negative economic shocks and pogroms weakened after 1600. Greater state capacity, however, did not completely prevent pogroms. Local religious violence continued even as states moved to greater toleration. Jews were targeted in the Hep-Hep Riots in Germany as late as 1819. If we consider religious violence more generally, in England, for example, during and after the Glorious Revolution, there was localized mob violence directed at non-conforming Protestants and particularly at Quakers.¹³ Official acts of toleration in 18th century Europe often faced popular backlash (Kaplan, 2007, p. 356). Catholics suffered during the Gordon Riots of 1780 and antisemitic sentiment was common. Even when the British state became powerful enough to limit outbreaks of religious violence, greater toleration by the state always had the potential of aggravating local violence.

Rulers who do not want to pay for the costs of protection may choose to limit religious toleration. Indeed this was part of the logic of confining Jews to ghettos from the late Middle Ages onwards. By separating them from the Christian rulers and restricting their economic and social activities, rulers claimed they were better able to protect them from mob violence. Kaplan (2007) acknowledges the argument that ghettos allowed Jewish communities to survive amid widespread hostility and antisemitism (Kaplan, 2007). This protection, of course, came at a high cost.¹⁴

These insights remain relevant for more recent episodes. An important 20th century example is the pogrom of August 1929 in British Mandate Palestine. These occurred in the context of widespread riots and unrest among the Arab population. The pogrom was incited by the Grand Mufti of Jerusalem, Haq Armin al Hussein, but was popular and uncontrolled in nature. Violence was targeted against the Jewish minority. A total of 28 Jewish communities

¹²For example, Archbishop William of Cologne pardoned the sack and slaughter in Bonn 'on condition that all debts accruing to the dead became payments to himself' (Lowenthal, 1964, pp. 127–28).

¹³The Glorious Revolution also saw mob violence directed at Catholics. "On 30 September 1688, the Jesuit Charles Petre was dragged from the pulpit at the Catholic chapel in Lime Street, London, by a crowd. On the following Sunday, they pulled down the pulpit and broke the altar, and he fled. Other crowds attacked Catholic chapels throughout England on many occasions in late 1688. In Norwich, a 'mob' of over a thousand 'ill-used' the priest and had to be dispersed by soldiers; a mass-house in Newcastle was 'sacked' and a chapel in York was destroyed. In Oxford, there was an anti-Catholic riot, while in Bristol there were attacks on the houses of Catholics" (Marshall, 2006, p. 134).

¹⁴ Johnson and Koyama (2017) discuss some of the economic costs of ghettoization.

were targeted and 133 Jews were killed with several hundreds more injured. The worst violence took place in Hebron where women and children were massacred.

The pogrom reflected the British police forces' failure to enforce religious toleration and protect the Jewish minority from the violence of the Arab majority. The Shaw Commission, which was created in 1930 and ruled on the causes of the violence, concluded as much. It argued that the root cause of the violence and unrest was anti-Jewish sentiment among the Arab population and Arab fear about the future claims Jewish immigrants might have about a Jewish state. Among the important proximate causes was the failure to protect the Jews. Specifically, it noted that "forces were reduced, in our opinion, below the margin of safety" (Shaw *et al.*, 1930, p. 145).¹⁵ The British state, stretched thin by colonial commitments and undertaking austerity at home, could not afford to adequately protect the minority Jewish population.

To take a still more recent example across the Middle East, Alawites, Druze, Christian Copts, Yazidis, Samaritans, and Zoroastrians have all faced intensified religious persecution since 2000 as the authority of centralized states has collapsed in the region (see Russell, 2014).¹⁶

Preferences of the Ruling Coalition are Irrelevant, but Its Size Is

A second feature of our model is that neither the ruler's preferences over religious practices, nor those of elites', determine the extent of religious persecution by the state. The ruling coalition only cares about suppressing the practices of a religious minority when religious heterogeneity generates costs to the state and therefore decreases their rents.

The model instead focuses on coalition politics. Even in highly autocratic regimes, rulers depend on other elites. As Syme put it, writing of the Roman Empire, the most common form of government was "monarchy ruling through an oligarchy" (Syme, 1939, p. 8).

Theorem 3 implies that whenever there is only conditional toleration, a broader coalition will result in more religious persecution. When the ruling coalition has many members, any one member only shoulders a small marginal cost of enforcing policy, which makes the member more willing to incur that cost. In equilibrium, there is more, not less, religious persecution. This theoretical prediction has some empirical support. To illustrate, we first consider the wide repression of Catholics in Elizabethan England, a period

¹⁵The report notes with characteristic understatement that "Viewed in the light of the events of August last, the decision taken in 1925 to abolish the British Section of the Gendarmerie ... was unfortunate" (Shaw *et al.*, 1930, p. 145).

¹⁶Another contemporary example is Tunisia. In May 2023, the El Ghriba synagogue was attacked with five killed. In response, the government denied that this attack was antisemitic (see Cordall, 2023). In October 2023, following the outbreak of renewed violence in the Middle East, the synagogue was again attacked by a mob and destroyed.

in which the monarch ruled with Parliament — a broad coalition. Then, in contrast, we consider periods of more despotic rule across Europe in which there was much less repression of the religious minority.

Ruling with parliament When Elizabeth I (r. 1558–1603) became queen, her religious policy was uncertain. The Church of England, established by the Act of Uniformity in 1559, was meant to attract both Protestant radicals and traditionalists. Initially, while the Act of Uniformity made Church attendance on Sunday compulsory and non-attendance punishable by a sizable fine, Catholics had considerable latitude. The Act of Uniformity did not inquire deeply into an individual's actual beliefs, and so-called Church Papists—those who conformed to Anglican worship but considered themselves Catholic—were tolerated (Walsham, 1993). Indeed during the early 1560s the majority of the population probably remained sympathetic to the traditional religion (see Duffy, 1992).

This changed in the late 1560s, when increasing threats to the stability of Elizabeth's reign meant that the monarch had to rely more heavily on the support of Parliament. Mary Stuart, Queen of Scots fled to England and became the focus of religious plots against the Crown. In 1569, northern lords, many of whom were sympathetic to the old religion, rose against the crown with the intention of freeing Mary Stuart. This rebellion was popular in spirit and a serious threat to the regime. More than 600 individuals were executed in response to the Northern Rebellion in “a retaliation more brutal than following any previous 16th-century rebellion” (Marshall, 2016, 491). The old feudal nobility, small in number, were disarmed and weakened, and political authority now rested on the hands of the monarch *in conjunction with Parliament* (Greif and Rubin, 2023; Rubin, 2017) — a broader coalition of elites.

Of still greater importance was the papal bull excommunicating Elizabeth in 1570. In 1571 it became treason to bring papal bulls into the country or to call the Queen a heretic. Non-attendance at church was punished with increasingly harsh fines. The extent of toleration permitted to religious traditionalists declined.

Importantly the impetus for these laws came from Parliament rather than from the Queen (see McGrath, 1967, pp. 102–103). “Although Elizabeth herself was not unduly worried about the papal excommunication, the parliament of 1571 regarded the Catholic threat in a much more serious light” (McGrath, 1967, p. 102). A parliamentary motion requiring everyone to take communion at least once a year was passed. This would have effectively outlawed non-Anglican belief. While the Queen vetoed it, other repressive legislation was nonetheless passed (Marshall, 2012, p. 199). The first priest to be executed as a traitor was Cuthbert Mayne in 1577. In 1585 all priests ordained outside the country became automatically guilty of treason on arrival in England. In total, by the end of Elizabeth I's reign, 138 Catholic priests died as traitors and 60 laymen were executed for harboring them.

Though the number of priests executed declined after Elizabeth's reign, the laws limiting Catholic worship and prohibiting Catholic priests from entering the country remained enforced even as the succeeding Stuart dynasty exhibited greater sympathy toward Catholicism. Charles I (r. 1625–1649) was married to the Catholic Henrietta Maria of France. (Under Archbishop Laud, Puritans — as non-conforming Protestants were called — came under increasing pressure.) Nonetheless, Catholic priests who entered the country were still executed.

A similar situation faced his son, Charles II (r. 1660–1685) who personally favored greater toleration for Catholics and non-conforming Protestants. The “Cavalier” Parliament of 1661, however, opposed religious toleration and passed a series of harsh laws that targeted non-conforming Protestants including fines on attending non-conforming meetings. Repeated offenses could result in jail and then transportation to the colonies (Marshall, 2006). Charles' attempts to ease the persecution were unsuccessful. His Declaration of Indulgence which would have suspended all laws against both Catholics and non-conforming Protestants was withdrawn when the Lord Keeper of the Privy Seal refused to approve it and in its place the Test Acts of 1673 were passed. These imposed further restrictions on Catholics and particularly barred those who did not conform to the Church of England from holding public office. During the intense anti-Catholic ferment that followed Titus Oate's false revelations of a “Popish Plot”, numerous Catholics were put to death. The most Charles II could do was delay a few executions and this incurred “the great annoyance of the House of Commons” (Slater, 2022, p. 150).

Autocratic regimes As our example of Louis XIV illustrates, autocratic or absolutist regimes were of course capable of intensive religious persecution. However, there are also examples, particularly from the 18th century, of absolutist rulers increasing religious toleration, often for pragmatic reasons. Canonical examples include Frederick II of Prussia, Catherine II of Russia, Pombal in Portugal, and Joseph II in the Habsburg Empire.

Here we focus on the example of Joseph II. The Habsburg Empire in the 18th century was a majority Catholic polity but it had substantial minority populations. There were Lutheran and Calvinist Protestants in Bohemia, Hungary and Transylvania; Greek Orthodox in the areas reconquered from the Ottoman Empire, and large numbers of Jews, especially in Silesia and Galicia. Each group had a measure of local toleration but were subject to severe restrictions on their religious freedom. Prior to becoming Emperor, Joseph had “witnessed the growing tensions within and between the various systems of toleration” (Klingenstein, 1990, p. 166). On becoming Emperor in 1780 he sought to remedy these tensions by moving toward a more general system of religious toleration.

Importantly, these policies offer a test of our framework. Joseph II was both Habsburg Emperor and Holy Roman Emperor. As Habsburg Emperor

Joseph II exercised absolute power over dynastic Habsburg possessions. But as Holy Roman Empire, his power within the rest of Germany was highly constrained (Beales, 1990, p. 44). In terms of our model, in the hereditary lands he ruled with a very small coalition but in the Holy Roman Empire he had to rule through a much broader coalition.

According to Theorem 3, when there is less than full toleration, there will be more toleration if the ruler's coalition is smaller. This corresponds to what we observe in Joseph II's reign. He was able to achieve greater religious toleration for minorities in the Habsburg lands but not in the Holy Roman Empire. In 1781 he issued the Toleration Patent for Lutherans and Greek Orthodox and in 1782 he issued the Toleration Edict for the Empire's Jewish population.¹⁷ These measures fell short of full toleration or religious freedom, but historians concur that "Joseph's toleration edicts clearly went far beyond what public opinion in his lands would have demanded" (Beales, 1990, p. 46).¹⁸ Moreover, according to Weiss (1986, p. 195), without absolutism these reforms would have been "impossible". In the rest of the Holy Roman Empire, greater rights for religious minorities had to await the Napoleonic invasions and Jewish emancipation was only fully achieved across Germany in 1871.

The Preferences of Non-elites Matter

Finally, we can draw on the insights of our model to discuss the general decline in religious violence that occurred in Europe after 1600 and eventually the move toward full toleration.

Traditional accounts focus on changing attitudes among intellectual elites. Baruch Spinoza, John Locke, Pierre Boyle, and Voltaire certainly played a crucial role in convincing political elites of the undesirability of persecution (e.g. Jordan, 1932, 1936; Zagorin, 2003). Historians, however, have expressed skepticism of this traditional narrative. It has, for Kaplan (2007, p. 344) "many flaws ... it suggests that ideas have autonomous power separate from the human beings who generate, transmit, accept, or reject them. It also accepts at face value the claims of eighteenth century contemporaries that their ideas were superior to those of pre-Enlightenment generations. As a result, it portrays the spread of Enlightenment ideas an ineluctable process".

Johnson and Koyama (2019) and Koyama (2020) offer an alternative account that emphasize political economy factors. They focus on the increasing costs

¹⁷For further discussion of Joseph II and Jewish emancipation see Carvalho and Koyama (2016, pp. 564–564) and Johnson and Koyama (2019, pp. 192–196).

¹⁸Moreover, they argue that his motivations were largely pragmatic. Joseph did not pass these laws "because he was indifferent to religion; he was, on the contrary, a sincere and devout Catholic. But he recognized the impracticality and the inadvisability of discrimination against the large non-Catholic minorities, particularly when such discrimination would weaken the state economically" (Beales, 1990, p. 168).

of persecution and the declining benefits (in terms of religious legitimation) of enforcing religious conformity.

In this account, the greater religious diversity created by the Reformation plays an important part. Attempts to attain religious unity in the 16th and 17th centuries proved too costly in blood and treasure. Modernizing states eventually switched to other sources of political legitimacy, at the same time as they dismantled identity rules and the old systems of conditional toleration that they upheld, and replaced them with more general rules. But this analysis does not consider the interaction between the beliefs and preferences held by ordinary individuals and the political economy incentives to restrict religious practices.

There is some evidence that the intensity of religious antagonism did decline over time. Of course, it is difficult to measure changes in popular attitudes, and hostility to minorities such as Catholics in Protestant England and Jews almost everywhere continued.¹⁹ Kaplan (2007) reports numerous small-scale episodes of religious violence occurring throughout the 18th century. Swiss towns after 1700 experienced “calendar fights” as Protestants often adhered to the old Julian calendar rather than the updated Gregorian calendar, to take just one little-known example. But overall it seems plausible that the intensity of these hostilities did decline over time.

We can integrate changing preferences into our framework. Declining popular animosity for the religious minority in our model will mean that the costs of enforcing religious policy may decline in the extent of toleration. As Theorem 2 suggests this can produce full religious toleration, i.e. religious freedom.

Our framework thus provides a complementary account of the gradual and piecemeal move toward great toleration that took place in Europe after 1700. Specifically, receding religious animosity helps to change the cost calculus facing rulers. This could have been one factor responsible for the general move toward greater religious freedom that we observe (particularly after 1750).

Similarly, there is nothing inevitable about this decline in hostility. Sentiments and cultural change can go in the other direction. Indeed, to take one example, recent years have seen rising antisemitism in both Europe and the United States. If antisemitic preferences are widespread in the population, then it will be costly for a state to enforce a religious policy of toleration as this will require greater resources to be invested in protecting Jews.

Our theoretical results thus have an important implication: to the extent that the costs of enforcing religious policy depend on the costs of protecting

¹⁹In England and North America, for example, the practice of burning the pope in effigy on November 5 was practiced until the 19th century. Antisemitic beliefs also persisted as shown by Voigtländer and Voth (2012).

the religious minority, they may thus depend on the preferences of non-ruling members of the population.

In a society where the majority of the population are intolerant, that is, they have a preference for repressing the non-dominant religious minority, extending religious toleration will be costly for elites. In contrast, if the majority of the population come to have more tolerant preferences, this reduces the costs of enforcing toleration.

Conclusion

This paper proposes a model of coalition formation to examine the conditions under which a non-dominant religious minority will be subject to religious violence.

In premodern states, coalitions of elites provide political support to the ruler and, in exchange, shares in the ruler's rents and the determination of religious policy. This policy choice amounts to setting a limit on the permissible religious activities of the non-dominant religion.

In equilibrium, full religious toleration is only possible if the costs of enforcing the religious policy are decreasing in the extent of toleration. If this is not the case, as when a more tolerant state emboldens members of the population to conduct pogroms, there will be at best a form of conditional toleration. To prevent mob violence against the religious minority, the state undertakes its own 'official' persecution. In this case, religious persecution by the state is more intense the larger the size of the ruler's coalition. When more elites share in the total cost of persecution, any one elite bears much less of this burden, which makes her more likely to support the persecution. In equilibrium, religious policy involves greater persecution.

We illustrate the insights of the model by drawing on examples taken from many different historical episodes from the ancient world to today.

Appendix

Proof of Theorem 1

From the foregoing discussion, we noted that since no one can be excluded from (public) policy, any elite gets \bar{r}_2 whether she is inside or outside the ruling coalition. In equilibrium, the same \bar{r}_2 is implemented, whether by the incumbent or a challenger.

Now $t_i^I < t_i^C$ is true if $U(t_i^I, \bar{r}_2^*) - U(t_i^C, \bar{r}_2^*) < 0$. To show that the latter inequality is true, subtract $U(t_i^C, \bar{r}_2^*)$ from the RHS of Equation (4) to get

$$\frac{\delta w - \delta}{1 - \delta\omega} U(t_i^C, \bar{r}_2^*) + \frac{(1 - \delta)\delta(1 - \omega)}{1 - \delta\omega} U(0, \bar{r}_2^*).$$

This expression is negative and, therefore, $U(t_i^I, \bar{r}_2^*) - U(t_i^C, \bar{r}_2^*) < 0$, since $\frac{\delta\omega - \delta}{1 - \delta\omega} < 0$, $U(t_i^C, \bar{r}_2^*) > U(0, \bar{r}_2^*)$, and $\frac{(1-\delta)\delta(1-\omega)}{1-\delta\omega} < 1$.

Proof of Corollary 1

For the Challenger, the ruler's budget constraint fully binds, and so $\tau \sum_i y_i + R - \kappa(\bar{r}_2^C) - W t_i^C = 0$. Since $\bar{r}_2^I = \bar{r}_2^C = \bar{r}_2^*$ and $t_i^I < t_i^C$, then $\tau \sum_i y_i + R - \kappa(\bar{r}_2^*) - W t_i^I > \tau \sum_i y_i + R - \kappa(\bar{r}_2^C) - W t_i^C = 0$.

Proof of Theorem 2

When $\kappa'(\bar{r}_2) < 0$, there is no value of \bar{r}_2 that can satisfy Equation (1) since its LHS is greater than zero. Rather, since $\kappa'(\bar{r}_2) < 0$, then $\mathbb{1}_2 \mathbb{1}_v \theta - \mathbb{1}_W \left(\frac{\kappa'(\bar{r}_2)}{W} \right) > 0$. Since greater toleration always generates net positive benefit, toleration is provided at its maximum value, i.e. $\bar{r}_2^* = \bar{r}_{2\max}$.

When $\kappa'(\bar{r}_2) > 0$, then Equation (1) can be satisfied. Thus, precisely, the optimal level of \bar{r}_2 is one in which $\mathbb{1}_2 \mathbb{1}_v \theta = \mathbb{1}_W \left(\frac{\kappa'(\bar{r}_2)}{W} \right)$.

Proof of Theorem 3

Whenever Equation (1) holds, that is, when $\kappa'(\bar{r}_2) > 0$ (by Theorem 2), one can re-write it as

$$F \equiv \mathbb{1}_2 \mathbb{1}_v \theta - \mathbb{1}_W \left(\frac{\kappa'(\bar{r}_2^*)}{W} \right) = 0.$$

Then $\frac{\partial \bar{r}_2^*}{\partial W} = -\frac{\partial F}{\partial W} / \frac{\partial F}{\partial \bar{r}_2^*}$, whenever $\frac{\partial F}{\partial \bar{r}_2^*} \neq 0$. One can obtain

$$-\frac{\partial F}{\partial W} = -\mathbb{1}_W \left(\frac{\kappa'(\bar{r}_2^*)}{W^2} \right),$$

which is less than zero since $\kappa'(\bar{r}_2^*) > 0$, and

$$\frac{\partial F}{\partial \bar{r}_2^*} = -\mathbb{1}_W \left(\frac{\kappa''(\bar{r}_2^*)}{W} \right),$$

which is greater than zero since $\kappa''(\bar{r}_2^*) < 0$. Thus, $\frac{\partial \bar{r}_2^*}{\partial W} = -\frac{\partial F}{\partial W} / \frac{\partial F}{\partial \bar{r}_2^*} < 0$.

Relationship between ω and rents

It can be shown that as $\omega \rightarrow 1$, the rents to the coalition members increase while those for the ruler decrease. From the proof of Theorem 1, $U(t_i^I, \bar{R}_2^*) - U(t_i^C, \bar{r}_2^*) = \frac{\delta\omega - \delta}{1 - \delta\omega} U(t_i^C, \bar{r}_2^*) + \frac{(1-\delta)\delta(1-\omega)}{1 - \delta\omega} U(0, \bar{r}_2^*)$. It can be shown that this difference is larger the closer ω is to zero. In particular, note that $\frac{\delta\omega - \delta}{1 - \delta\omega} U(t_i^C, \bar{r}_2^*)$

is a large negative amount if ω is large, while $\frac{(1-\delta)\delta(1-\omega)}{1-\delta\omega}$ is a small positive amount when ω is large. (To see the latter, differentiate $\frac{(1-\delta)\delta(1-\omega)}{1-\delta\omega}$ with respect to ω and note that the derivative is less than zero.) Thus, the absolute difference $U(t_i^I, \bar{R}_2^*) - U(t_i^C, \bar{r}_2^*)$ is small when ω is large. This implies that the absolute difference between t_i^I and t_i^C is small, and therefore the rent t_i^I that the incumbent gives to a member of her coalition is small. By Corollary 1, the incumbent ruler earns larger rents.

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