

# Hobbesian Wars and Separation of Powers\*

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## Abstract

This paper formalizes the principle that persecution power of government may generate violent contests over it. We show that this principle yields a large set of theoretical insights on different separation-of-powers institutions that can help to preempt such contests under different socio-economic conditions. When socio-economic cohesion is low, the risk of contests can be eliminated only by individual veto against persecution. Moreover, such unanimity rule is resilient to autocratic shocks only when the chief executive does not control the legislative agenda, i.e., the executive and legislative branches are separate. When socio-economic cohesion is high, the risk of violent contests can be eliminated without individual veto, but only by a persecution-reviewing judiciary whose members cannot join the executive branch in the future, i.e., when the executive and judicial branches are separate. Our results shed light on the evolution of separation of powers in European history.

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# 1 Introduction

Securing civil peace is a fundamental goal in all societies (e.g., Widerquist and McCall, 2017; Cox et al., 2019; Dal Bó et al., 2022). Most social scientists follow the Hobbesian–Weberian principle on how to achieve that objective: civil peace is secured by a state that monopolizes institutionalized violence (Hobbes, 1996; Weber, 2004). This principle is preeminent in political science and political sociology (e.g., Mann, 1986; Tilly, 1990; Finer, 1997a); it also underlies in the literature of political economy how a strong state can prevent civil conflicts (e.g., Acemoğlu et al., 2013; Powell, 2013; Sánchez de la Sierra, 2020).

In this paper, we entertain an opposite principle: rather than securing civil peace, the power to persecute others tends to attract violent contests over such power, causing a Hobbesian war “of all against all.” We show that this principle yields a large set of theoretical insights, especially on how the risk of Hobbesian wars can be eliminated by different separation-of-powers institutions under different historical and socio-economic conditions.

We conduct our analysis in a dynamic game of political contest and persecution in a king’s council. The council is composed of the king and important members of the elite, a setting that is archetypal for ancient polities and stylized for how political players in society are generally organized (e.g., Weber, 1978, 2004; Finer, 1997a; Konrad and Skaperdas, 2007; Myerson, 2008; Stasavage, 2020a). In each period, any council member can challenge the king in a violent and destructive contest. The winner of the contest can, as the new king, persecute and expropriate surviving council members, only subject to a vote in the council. The required number of negative votes to block persecution, i.e., the decision rule of the council for executive actions, thus represents the degree of political domination. Since we focus on the minimal institutions that could help to preempt political violence, we set up the game in a way that mimics a socially primitive setting as in Hobbes’s original argument (Hobbes, 1996, p. 82–95) and consider only (pure-strategy) Markov perfect equilibria (MPEs), i.e., the players’ capability of trusting and contracting with each other is limited. In particular, the king cannot commit to spare anyone from persecution.

Our baseline analysis shows that under any non-unanimity rule for persecution, there always exists a range of parameter values such that an MPE exists that features every council member contesting the kingship in every period, producing perpetual Hobbesian wars. To understand this result, notice that under any non-unanimity rule, the king can expropriate the asset of at least one council member, making the kingship potentially highly lucrative. At the same time, since the king cannot commit to spare anyone from persecution, every council member can always be persecuted in the future, regardless of whether he contests the kingship today. Each council member will thus prefer to contest the kingship over not

to contest, whenever the value to the king of the expropriated asset from even a single persecuted council member is sufficiently high. In such a socially primitive setting, the risk of perpetual Hobbesian wars can be eliminated only when each council member has an *individual* veto against persecution, since only then is everyone safe and the lure of the kingship is eliminated.

We are not asserting that under non-unanimity rules Hobbesian wars must unconditionally break out, but they are always a possibility. We thus explore institutions that can robustly prevent such an outcome. A first question is: if the council understands that any non-unanimity rule would bring Hobbesian wars, and if it can periodically choose its decision rule for persecution, under what conditions would it always adopt unanimity rule so that peace would be secured?

To answer this question, we introduce in the baseline model an agenda-setter, either the king or a council member, to propose at the end of each period a change in the decision rule for the next period, i.e., to set the constitutional agenda; the proposal is subject to a vote in the council by the existing decision rule, and if it is struck down, the decision rule remains unchanged. We show that, although unanimity rule is an absorbing state regardless of who sets the constitutional agenda, whether a non-unanimity rule will transition to it depends on where the agenda-setting power lies. If it is always the incumbent king who sets the constitutional agenda, he will not propose unanimity rule but have dictatorship approved by the council. Any non-unanimity rule will thus transition to dictatorship. If it is instead always a council member who sets the agenda, the council will simply implement its preference and switch to unanimity rule. Any non-unanimity rule will thus transition to unanimity rule. Denying the king agenda-setting power on constitutional matters, i.e., separating the *executive and legislative* branches, is thus key to maintaining peace and the institution guarding it, i.e., unanimity rule.

Our next question is: if the council does adopt a non-unanimity rule, such as majority rule, what other types of separation of powers could neutralize the persecution power and thus preempt perpetual Hobbesian wars, and under what conditions?

To answer this question, we introduce to the baseline model a judicial committee whose only task is to review persecution decisions. We allow its institutional and socio-economic conditions to vary along two dimensions. One is the degree of *judicial insulation* from the executive branch, which is measured in our model by how many members of the judiciary will *not* have the opportunity to join the executive council and thus contest the kingship in the future. In other words, this is separation of the *executive and judicial* branches in terms of their members' career paths. The other is the level of *social cohesion* among all members of the elite, which is measured by the negative externality that persecution of a member of

the executive council would inflict upon all other members of the council and the judiciary. We show that, given a non-unanimity rule in the executive council, the judiciary can prevent persecution and preempt Hobbesian wars only when the levels of *both* social cohesion and judicial insulation are sufficiently high.

We discuss a few implications of these results for a wide range of political-economic issues. Our baseline results provide an empirically relevant alternative to the Hobbesian reading of the relationship between political domination and civil conflict. They also provide a novel justification for protecting human rights at the individual level, not only at a collective level.

The results on the endogenous dynamics of the executive decision rule help us explain the bimodality of political regimes between dictatorship and unanimous democracy, the dominance of the former, and the fragility of the latter in premodern times. The results also imply that excluding the chief executive in a non-dictatorial regime from the power to set the constitutional agenda would make legislators feel comfortable extending executive power temporarily to deal with an emergency, since such an exclusion would secure the return of unanimity rule after the emergency. As an example, we compare the institutions and histories of the Florentine Republic versus the Venetian Republic.

The results on the judiciary and its institutional and socio-economic conditions help us explain why early modern England transitioned from frequent civil wars to perpetual peace around the end of the 17th and the beginning of the 18th century. The results also help us understand why such non-unanimity rule was not adopted in other medieval or early modern European states, where social cohesion, judicial insulation, or both were lacking.

When gathering all the results, we derive a hypothesis on the evolution of the separation-of-powers institutions under socio-economic modernization. Starting from the times when social cohesion is low, to preempt Hobbesian wars, society relies on individual veto and unanimity rule for executive actions. The resilience of such rule relies in turn on separating the executive and legislature, with the latter monopolizing the agenda-setting power on constitutional issues. As social cohesion rises during the Durkheimian process of socio-economic modernization (Durkheim, 2014), civil peace can then be secured under a non-unanimity rule for executive actions, but only when the executive and judiciary are sufficiently separated in terms of their members' career paths. Socio-economic modernization may thus facilitate a transition of separation of powers from emphasizing an independent *legislature*, to prioritizing an independent *judiciary*. This hypothesis is relevant to European history.

The paper is organized as follows. The rest of this section clarifies our position in the literature. Section 2 presents the baseline model and results. Sections 3 and 4 present the analysis of the endogenous dynamics of the executive decision rule, and the judiciary and its institutional and socio-economic conditions, respectively. Section 5 discusses the

implications of the three sets of results. Section 6 discusses the evolution of separation of powers. Intuitions of results are discussed in the main text; proofs are gathered in appendices.

**Position in the literature.** The overarching idea of our paper is that the power to persecute others can attract violent contests for such power. We show that this idea has implications for a diverse set of political-economic issues. Our paper thus bridges and contributes to several strands of literature.

To start with, many important studies have focused on the origins of civil conflict (e.g., surveys by Garfinkel and Skaperdas, 2007; Blattman and Miguel, 2010; Hoeffler, 2012).<sup>1</sup> Another significant thread of literature has helped us understand political persecution and expropriation (e.g., Acemoglu et al., 2008; Egorov and Sonin, 2015; Francois et al., 2015; Diermeier et al., 2017; Nunnari, 2021). Linking the two research areas, Herrera et al. (2022) and our paper concurrently explore the interaction between the ability to win a conflict and to oppress others in peacetime, as emphasized by Mann (1986, p. 25–27; 2006, p. 351–353, 357). Whereas conflict can be driven by a mismatch between these two abilities (Herrera et al., 2022), we show that without additional institutional safeguards, conflict is always possible whenever the power to oppress in peacetime is not minimized and everyone has a non-zero chance to win a conflict for such power.

We bring new insights to several important strands of the literature on political institutions and constitutional design. First, a few influential studies have focused on how institutions can facilitate coordination to constrain executive power (e.g., North and Weingast, 1989; Przeworski, 1991, 2006; Weingast, 1997; Fearon, 2011; Svobik, 2012). In particular, Myerson (2008) shows that a king may solve his commitment problem to his potential allies by creating a council to help them coordinate a credible threat if commitments are not fulfilled. We focus instead on the decision rule of such institutions, and we show that unanimity rule with individual veto on executive matters has a unique advantage in preempting political violence in socially primitive settings. This result helps to explain why unanimity rule, despite often being criticized on the ground of efficiency (e.g., Aghion et al., 2004; Persico, 2004; Harstad, 2005; Fukuyama, 2014), has been widely adopted among premodern democracies (e.g., Stasavage, 2020a), and in other political organizations within which political violence is of great concern (e.g., Xie and Xie, 2017; Shirk, 2018; Cai, 2022; Li et al., 2022a on the once consensual leadership of the Chinese Communist Party).

Second, an organizing theme in the literature on endogenous constitutions is that to stabi-

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<sup>1</sup>Important examples in the literature are not limited to Skaperdas (1992), Fearon (1995), Gibbons (2001), Powell (2006), Chassang and Padró i Miquel (2010), Dal Bó and Dal Bó (2011), Besley and Persson (2011a,b), Baliga and Sjöström (2012, 2020), Svobik (2012), Bai and Jia (2016), Harish and Little (2017), Acharya et al. (2020), Amarasinghe et al. (2020), Dippel and Heblich (2021), Henn et al. (2021), and Mueller et al. (2022).

lize a policy-making rule, a more demanding decision rule is often required for constitutional change (e.g., Barbera and Jackson, 2004; Acemoğlu et al., 2012, 2015, 2021). We identify an environment where even unanimity rule for constitutional change may fail to stabilize a policy-making rule: in our model, when the default executive decision rule is non-unanimous and non-dictatorial, if the king proposes dictatorship, the council will unanimously approve it. This is because both dictatorship and any non-unanimity, non-dictatorial rule will induce a Hobbesian war for the kingship, while dictatorship maximizes the persecution power of the emerging king. Therefore, to stabilize a non-dictatorial rule, in addition to a demanding decision rule for constitutional change, other institutional safeguards are needed.

Among the institutional safeguards we highlight is the careful design of agenda-setting power on constitutional issues. In the literature, foundational works have noted the general inequality in agenda-setting power within political organizations (e.g., Dahl, 1956, p. 72, 84; Cox, 2006, p. 142), and many studies have analyzed how agenda-setting power influences policy outcomes (e.g., Romer and Rosenthal, 1978; Cox, 2006; Diermeier and Fong, 2011; Tsebelis, 2003; Anesi and Seidmann, 2014; Gehlbach, 2013; Nunnari, 2021). On endogenous constitutions, the literature often focuses on a specific arrangement of agenda-setting power (e.g., Howell et al., Forthcoming), abstracts away from any specific arrangement (e.g., Barbera and Jackson, 2004), or assumes away the importance of agenda-setting power by postulating that all possible constitutional proposals can eventually be voted on (e.g. Acemoğlu et al., 2012). We analyze instead the role of agenda-setting power in endogenous constitutions, and we show that it is determinant for the constitution in the long run. Both the focus and result of our analysis are, to our knowledge, new to the literature.

The key role of agenda-setting power in constitutional design demonstrates the importance of separation of powers between the executive and legislative branches of government. The literature has understood that separation of powers can better align policy outcomes with voter preferences and thus improve political accountability (e.g., Persson et al., 1997, 2000; Persson and Tabellini, 2002; de Figueiredo et al., 2006; Callander and Krehbiel, 2014). Hayek (1979, p. 125) postulates that a legislature separated from the executive branch may help a democratic regime survive autocratic shocks, but his argument does not involve the agenda-setting power on constitutional issues. To our knowledge, we are the first in the literature to show formally that the legislature needs to strip the chief executive of such power to make unanimous democracy resilient and dictatorship unstable. We thus also bridge the literature on separation of powers with the literature on the foundations of self-enforcing or stable institutions (e.g., Przeworski, 1991, 2006; Weingast, 1997; Acemoğlu and Robinson, 2006, 2008; Fearon, 2011; Bidner and Francois, 2013; Bidner et al., 2015; Rantakari, 2021; surveys by Gehlbach et al., 2016; Svobik, 2019; Egorov and Sonin, 2020).

As agenda-setting power in constitutional design determines the constitution in the long run in our model, it also implies that an independent legislature can be more willing to temporarily extend executive power in emergencies, increasing the emergency capacity of an executive that is heavily constrained in normal times. Therefore, in a socially primitive setting as in our model, only unanimous democracy with an independent legislature can *simultaneously* achieve civil peace and effective crisis management, besides protecting human rights at the individual level. By contrast, a dictatorship may handle crises well, but cannot preempt Hobbesian wars. These insights refute a long tradition in political theory that justifies dictatorship by its supposed advantage in managing crises and maintaining order (e.g., Bodin, 1992; Hobbes, 1996; Schmitt, 1985, 2014), and provide an advantage to democratic institutions in the recent debate on regime types and crisis management (e.g., Agamben, 2005; Stasavage, 2020b; Qin, 2021; Li et al., 2022b; Gratton and Lee, Forthcoming).

Last but not least, on the separation of the executive and judicial powers, a vast literature has highlighted the benefits of judicial independence (e.g., Salzberger and Fenn, 1999; Hanssen, 2004; Maskin and Tirole, 2004; La Porta et al., 2004; Haggard et al., 2008; Melton and Ginsburg, 2014). Contributing to this literature, we formalize the notion of judicial insulation. This notion concerns primarily the career paths of members of the judiciary, and is thus more demanding than the generic notion of judicial independence.

We show that a highly insulated judiciary within a socially cohesive elite circle helps to prevent persecution and preserve civil peace. This result reaffirms the importance of growing socio-economic complexity, interconnectedness, and social cohesion brought by economic development in achieving political stability (e.g., Cox et al., 2019). It also contrasts with a long tradition in political science and history, where an independent judiciary is regarded as an obstacle to civil peace because it fragments political authority (e.g., Plumb, 1967, p. 189; Finer, 1997c, p. 1356). Finally, it suggests that the secure tenure of members of the judiciary may help the judiciary function not only because it protects these members from the executive’s retaliation, which is well recognized by the literature (e.g., Hanssen, 2004), but also because it insulates them from joining the executive in the future.

## 2 The Baseline Model

### 2.1 Setup

The model is an infinite-horizon dynamic game with discrete periods. There is a council consisting of  $N \geq 3$  positions. One of the positions is the kingship, and the others are for ordinary council members. Figure 1 lays out the setup for each period  $t$ . We now introduce

it in more detail.

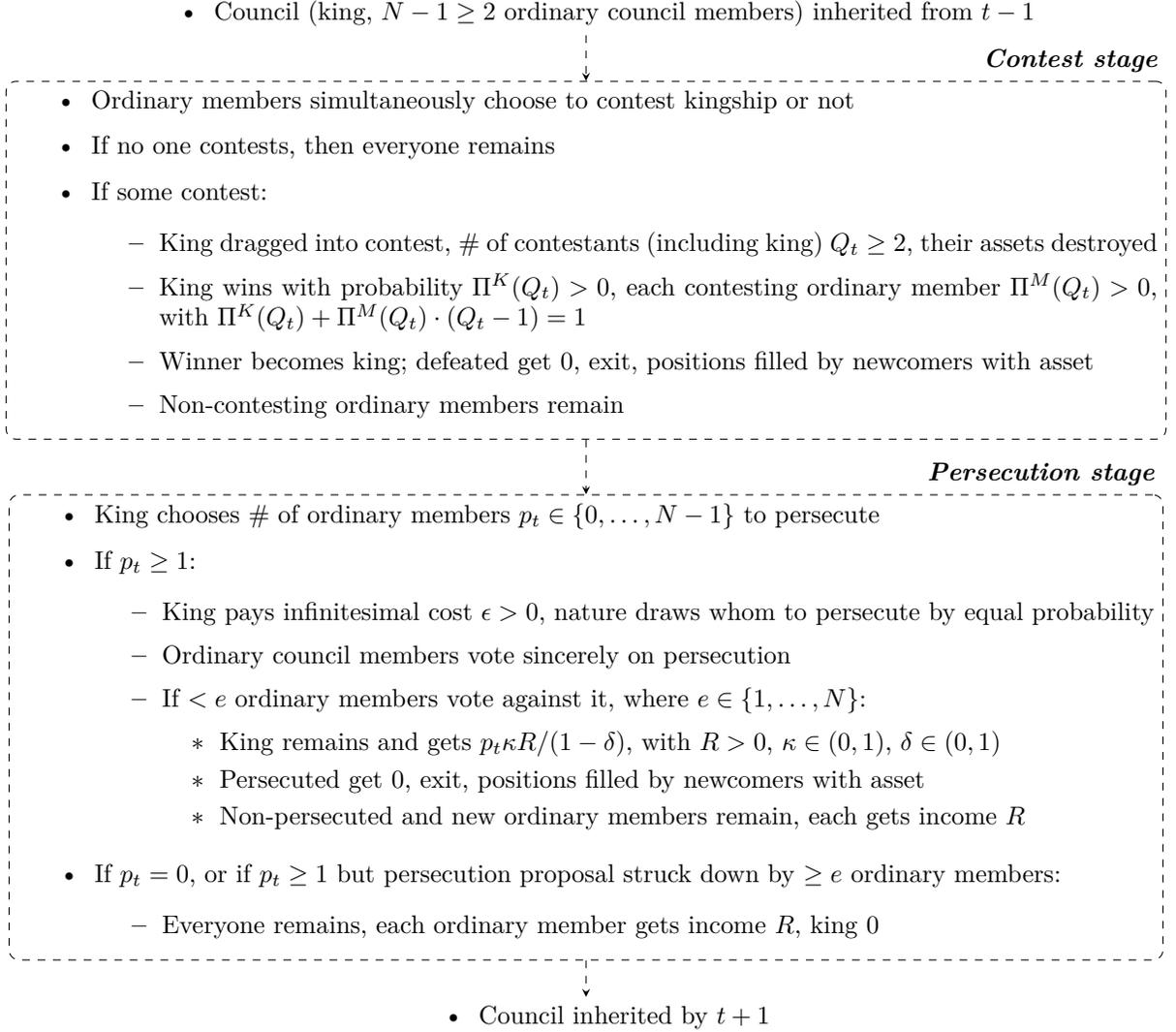


Figure 1: Setup of the baseline model, each period  $t$

Each period  $t$  inherits the king and  $N - 1$  ordinary council members who were in the council at the end of period  $t - 1$ .<sup>2</sup> Consistent with the setup below, each ordinary council member owns an asset, which can bring an exogenous, council-specific payoff  $R > 0$  at the end of each period if she is still in the council at that time. Each period  $t$  has a contest stage, followed by a persecution stage:

**Contest stage.** The  $N - 1$  ordinary council members first simultaneously choose whether or not to contest the kingship during period  $t$ . If no ordinary council member contests,

<sup>2</sup>One can also interpret each player as a lineage, and a player exiting as eradication of a lineage.

the incumbent king and all ordinary council members will remain in their positions and all ordinary council members' assets will remain untouched. The contest stage then ends there.

If at least one ordinary council member contests, first, the incumbent king will automatically respond to the challenge by participating in the contest. Second, we assume that the contest is so destructive that it will destroy assets of participants in the contest. This assumption not only makes the analysis simpler, but also captures the often enormous negative consequences of civil conflict (e.g., Blattman and Miguel, 2010). Third, we assume that the probability for the incumbent king to win the contest is  $\Pi^K(Q_t) > 0$ , whereas the probability for each contesting ordinary council member is  $\Pi^M(Q_t) > 0$ . Here  $Q_t \in \{2, 3, \dots, N\}$  is the number of participants of the contest; the functions  $\Pi^K(\cdot)$  and  $\Pi^M(\cdot)$  are exogenous and satisfy only  $(Q_t - 1)\Pi^M(Q_t) + \Pi^K(Q_t) = 1$ , which is less restrictive than the common specifications in the literature (e.g., Skaperdas, 1996). In particular, our baseline results do not depend on the king's advantage, if any, in a contest.

After the contest, the winner will become the new king, whereas the defeated participants will receive a zero payoff and be expelled from the council, i.e., exit the game. The vacant ordinary positions in the council will be filled by newcomers, whose assets will deliver a council-specific flow payoff  $R$  if they can survive until the end of each period.<sup>3</sup> The ordinary council members who did not contest during this stage are to keep their positions in the council and have their assets untouched. The contest stage ends there.

When the contest stage ends, one enters the persecution stage of period  $t$ , inheriting the king and  $N - 1$  ordinary council members at the time:

**Persecution stage.** In the persecution stage, the current king can choose how many current ordinary council members to persecute and expropriate,  $p_t \in \{0, 1, \dots, N - 1\}$ . If  $p_t \geq 1$ , the king must pay an infinitesimal cost  $\epsilon$  for the proposal, and nature then randomly selects  $p_t$  current ordinary council members by equal probability among all possible combinations. This equal-probability setting is standard in the literature (e.g., Weingast, 1979, p. 251; Bueno de Mesquita et al., 2003, p. 82; Gehlbach, 2013, p. 124, 126, 128, 141), and makes it impossible for the king to credibly commit to spare any specific ordinary council member as long as he persecutes someone, i.e.,  $p_t \geq 1$ .<sup>4</sup>

Knowing the eventual proposal of persecution, which includes  $p_t$  ordinary council members, the council will meet to vote on it. To focus on more intuitive equilibria in our analysis,

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<sup>3</sup>We can microfound these entries by assuming that the flow payoff of the newcomers' asset, if not in the council, is significantly lower than the council-specific payoff  $R$ . This would be reasonable, considering that joining the king's council suggests a great elevation in social status and expected wealth.

<sup>4</sup>This setting simplifies a generic one where the king chooses whom to persecute among identical ordinary council members with only Markov strategies being considered. It is also equivalent to having everyone not knowing the king's preference over whom to persecute but believing that all orderings are equally likely.

we assume that all ordinary council members vote sincerely, i.e., consider themselves to be pivotal when voting.<sup>5</sup> We also assume that all ordinary council members will vote for the proposal if they are indifferent. Both assumptions are standard in the literature (e.g., Acemoglu et al., 2012, p. 1468; Gehlbach, 2013, p. 13–14; Dziuda and Loeper, 2016, p. 1154; Diermeier et al., 2017, p. 856, 867–868).

The vote determines whether the proposal of persecution will go through. It will be rejected if and only if at least  $e$  ordinary council members have voted against it, where the decision rule  $e \in \{1, 2, \dots, N\}$  is exogenous in the baseline model. If the proposal is rejected by the council, or if the current king did not propose to persecute anyone ( $p_t = 0$ ), he and all current council members will remain in their positions. Since all ordinary council members' assets will remain untouched, they will deliver a flow payoff  $R$  to their owners. Since we have assumed that any contest produces a king while destroying all contestants' assets, any king in this scenario does not own any asset, unless he is the very first king and has not experienced any contest. In that case, for simplicity, we just assume that this very first king does not own any asset. The king will thus receive a zero payoff. If we assume instead that the first king owns an asset, it would not change the results of the model.<sup>6</sup> The persecution stage and also period  $t$  end there.

If the proposal is approved by the council, the current king will persecute the ordinary council members who are listed in the proposal, expropriate their assets, and expel them from the council. The latter will thus receive a zero payoff and exit the game. The vacant positions in the council will be filled by newcomers, who will bring their own asset, which has the same potential to generate the council-specific flow payoff  $R$  per period.

After each expropriation of a persecuted council member, the king is assumed to automatically sell the expropriated asset in the market at a value of  $\kappa \cdot R / (1 - \delta)$ , where  $\delta \in (0, 1)$  is the exogenous social discount factor,  $R / (1 - \delta)$  is the cash value of the expropriated asset in the market, and  $\kappa \in (0, 1)$  is exogenous and indicates the efficiency of the expropriation and sale. Since  $p_t$  council members are to be persecuted, the current king will eventually receive a payoff of  $p_t \cdot \kappa \cdot R / (1 - \delta)$ .<sup>7</sup>

Finally, the current ordinary council members who are not persecuted will keep their

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<sup>5</sup>This assumption is equivalent to assuming strategic voters playing weakly undominated voting strategies between the two voting options, or stage-undominated strategies.

<sup>6</sup>To see this point, first, at any persecution stage with the first king, the income from his asset would not appear at the margin of his decision, so it would not affect the decision. Second, at any contest stage with the first king, the income from his asset would not matter for any ordinary member, because any contest would destroy the asset. Therefore, the asset would not affect such contest stages either.

<sup>7</sup>All results of the model will remain if we assume instead that the king keeps some of the expropriated assets and enjoys their return flow thereafter, with a simplifying assumption that the king prioritizes persecuting the most senior ordinary council member, as we introduce in Section 4.1.

positions in the council, have their assets untouched, and thus receive the flow payoff  $R$ . The persecution stage and thus period  $t$  end there, period  $t + 1$  begins inheriting the current king and ordinary council members, and things proceed like in period  $t$ .

Before completing the setup, several remarks can be made about the decision rule  $e$ .

**Interpretation and enforceability of the decision rule  $e$ .** In the model, the key parameter is  $e$ , i.e., the number of votes that the ordinary council members need to block persecution. Since the king is the agenda-setter for executive actions, i.e., persecution in our model, not only does the parameter  $e$  define the council’s decision rule, but it also represents the level of political domination in the regime:

- When  $e = 1$ , the king must obtain unanimous approval for any executive actions. We call this a regime of *unanimous democracy*. We use the word “democracy” because Weber (1978, p. 949) identifies democracy with “‘minimization’ of the dominant powers of functionaries”; Stasavage (2020a, p. 4) and Ahmed and Stasavage (2020, p. 502) also note that “seeking consent [is] a basic ingredient of” and “key to democracy.”<sup>8</sup>
- When  $e = N$ , the  $N - 1$  ordinary council members cannot block the king’s initiative even if all of them vote against it. We call this regime a *dictatorship*.
- When  $e \in \{2, 3, \dots, N - 1\}$ , one ordinary council member cannot block the king, but a coalition of  $e$  ordinary members can. This is a *collective veto regime* or *non-unanimous democracy*. For example, if  $e = \lfloor N/2 \rfloor + 1$ , the regime is a majoritarian democracy.

We have assumed  $e$  to be exogenous in the baseline model; we endogenize it in Section 3. That said, one may still wonder how the decision rule  $e$  and, more generally, any *publicly understood* rules or *publicly performed* institutions, either formal or informal, including the constitutional conventions and judicial review that we analyze in Sections 3 and 4, respectively, can be enforced. On this issue, one can extend the argument from Fearon (2011): since such rules and institutions are publicly understood and performed, some of them can provide clear public signals for coordinating rebellion when they are violated or breached; these rules or institutions can thus be self-enforcing.<sup>9</sup>

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<sup>8</sup>This use is also consistent with the original use of the Greek word *dēmokratía*, which concerns first and foremost the capacity of the ruled to constrain the ruler (Ober, 2008).

<sup>9</sup>In that context, in our model, violence at the persecution stage is rule-governed, whereas violence at the contest stage is ruleless. Following the Weberian notion of legal authority and the Mannian differentiation between political and military power, both of which emphasize the use of rules or not, persecution in our model can be understood as *legitimate* or *political* violence, and contest *illegitimate* or *military* violence (Weber, 1978, p. 215, 217; 2004, p. 33–34; Mann, 1986, p. 25–27; 2006, p. 351–353, 357). Therefore, our model provides a formal framework to analyze the relationship between the two types of violence.

**Completing the setup.** The initial period  $t = 1$  inherits a king, who, as we have assumed, does not own any asset, and  $N - 1$  ordinary council members as given. All players in the game have an infinite horizon and maximize the net present value of their own expected payoff using the social discount factor  $\delta$  as their common personal intertemporal discount factor. Appendix B discusses the robustness of our baseline results if the personal discount factor differs from the social one.

**Solution concept.** We adopt pure-strategy Markov perfect equilibrium (MPE) as the solution concept. This rules out strategies that would require additional social constructs besides the minimal ones of our setup. For example, it rules out the possibility for the king to promise at the contest stage that he will compensate or spare any non-contesting ordinary council members at the following persecution stage. This is because whether an incumbent ordinary council member at the persecution stage is a non-contesting survivor from the preceding contest stage is not payoff-relevant to the incumbent king at the persecution stage.<sup>10</sup> Adopting MPE as the solution concept thus captures the significant commitment problem the king would face in a socially primitive environment (e.g., Acemoglu, 2003; Myerson, 2008, 2015; Egorov and Sonin, 2011; Ma and Rubin, 2019).

**Current pro-persecution/contest setup and solution concept.** One may propose a few alternative settings or solution concepts to what we have introduced. First, the persecution stage may start with the king himself choosing which ordinary members to persecute. Second, when indifferent, the ordinary members may vote against, rather than for, the persecution proposal. Finally, instead of focusing only on Markov strategies, one may consider non-Markov strategies, which may involve some contracts between the king and ordinary members or among the ordinary members themselves. One may also create an additional stage in each period in which the king can spare or punish ordinary members depending on their past behavior. Compared with these alternatives, our current setup and solution concept prevent the king from credibly contracting with ordinary council members with conditional sparing and thus, as we will show below, make him less capable of preventing them from contesting the kingship. Being pro-persecution/contest, our current setup with the focus on MPEs thus serves as a stress test for institutions, helping us understand how *robustly* different institutions may prevent political violence.

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<sup>10</sup>Even if the king can do so, the more members he promises, the fewer he can persecute later, and the smaller his budget is to fulfill these promises; if he promises everyone, he would not have any budget at all.

## 2.2 Analysis and Results

We first analyze the persecution stage for each period  $t$ :

**Lemma 1** (Persecution stage). *Given any decision rule of the council  $e \in \{1, 2, \dots, N\}$ , in any MPE, at each persecution stage, the king will propose to persecute  $p_t = e - 1$  ordinary council members, and each ordinary council member will vote against a persecution proposal if and only if her name is on the proposal.*

We prove Lemma 1 in Appendix A. The intuition is simple. Since whether a persecution proposal gets approved or rejected only matters to those ordinary council members whose names are on the list, any persecution proposal will be supported by and only by ordinary council members whose names are not on the list. Therefore, given the council's decision rule  $e$ , on the one hand, if the king proposes to persecute more than  $e - 1$  ordinary members, at least  $e$  ordinary members will vote against such a proposal and thus reject it. On the other hand, if the king proposes to persecute fewer than  $e - 1$  ordinary members, the king will have it approved but will leave a payoff of at least  $\kappa R / (1 - \delta) > 0$  on the table. The king will thus choose to persecute exactly  $e - 1$  ordinary members, i.e., the greatest number of persecutions that he can get approved by the council.

Given Lemma 1, we can derive our baseline results, first about any non-unanimity rule:

**Proposition 1** (Risk of perpetual Hobbesian wars under any non-unanimity rule). *Given any non-unanimity rule in the council, i.e.,  $e \in \{2, 3, \dots, N\}$ , as  $\delta \rightarrow 1$ , there exists a unique MPE, in which all ordinary council members at each contest stage will contest the kingship; at each persecution stage, all players follow Lemma 1.*

We prove Proposition 1 in Appendix B. Since we emphasize the risk, not inevitability, of perpetual Hobbesian wars, we skip here the “uniqueness” part of the result but focus on the intuition for why the proposed strategy profile constitutes an MPE. On the one hand, staying on the conjectured equilibrium path, contesting in the current period will bring an ordinary council member the expected value of

$$V^M = \frac{\Pi^M(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(e - 1)\kappa R}{1 - \delta}, \quad (1)$$

where  $\Pi^M(N)$  is the probability to become the king given that everyone else is contesting the kingship,  $\Pi^K(N)$  is the probability to survive in each future contest as the king, and  $(e - 1)\kappa R / (1 - \delta)$  is the expropriation profit as the king in each period according to Lemma 1. On the other hand, a single deviation, under which the ordinary member unilaterally does

not contest *for now*, will yield

$$V' = \frac{N - e}{N - 1} \cdot (R + \delta \cdot V^M), \quad (2)$$

where  $(N - e)/(N - 1)$  is the probability to be spared in the following persecution stage,  $R$  is the safe return from the asset if the ordinary member survives the current period, and  $V^M$ , as defined above, is the expected value of returning to the conjectured equilibrium path at the beginning of the next period.

Now compare the two options. Under any non-unanimity rule, i.e.,  $e \geq 2$ , given Lemma 1, someone has to be persecuted in each persecution stage; because of the nature of Markov strategies, no one at the current contest stage can credibly commit to spare anyone in the following persecution stage. Therefore, even under the single deviation, the ordinary council member may still be persecuted, i.e., the probability to survive the current period  $(N - e)/(N - 1)$  is strictly smaller than one. This risks the future return to the conjectured equilibrium path and, thus, the future opportunity to contest the kingship. If this opportunity is sufficiently valuable, for example, if the social discount factor goes to one, the single deviation will make the ordinary member much worse off, i.e.,

$$V^M \rightarrow \infty \text{ and } V^M - V' = \left(1 - \frac{N - e}{N - 1} \cdot \delta\right) \cdot V^M - \frac{N - e}{N - 1} \cdot R \rightarrow \infty \quad \text{as } \delta \rightarrow 1. \quad (3)$$

The ordinary council member would thus prefer to immediately contest the kingship today, rather than not contesting but hoping to survive persecution today and contest the same kingship tomorrow. The proposed strategy profile in Proposition 1 thus constitutes an MPE.

The intuition of Proposition 1 also suggests that only unanimity rule ( $e = 1$ ) can totally preempt perpetual Hobbesian wars over the kingship. This is because, by Lemma 1, it is only under unanimity rule that the king is not capable of persecuting any ordinary council member. All ordinary members are thus safe, and the kingship becomes worthless. Therefore, no ordinary council member would contest the kingship:

**Proposition 2** (Peace under unanimity rule). *Under unanimity rule of the council, i.e.,  $e = 1$ , there exists a unique MPE, in which all ordinary council members at each contest stage will not contest the kingship; at each persecution stage, all players follow Lemma 1.*

We prove Proposition 2 in Appendix C. Gathering Propositions 1 and 2, our baseline results imply that, in socially primitive settings, without additional institutional safeguards that we analyze in Sections 3 and 4, any non-unanimity rule ( $e \geq 2$ ) cannot eliminate the risk of perpetual Hobbesian wars. This prediction applies not only to dictatorship, but also to majority and super-majority rules and any other collective veto regimes. Unanimity rule

with individual veto of each stakeholder thus has an unique advantage in securing civil peace in socially primitive settings. We discuss this implication in Section 5.1.

### 3 Endogenous Dynamics of the Executive Decision Rule

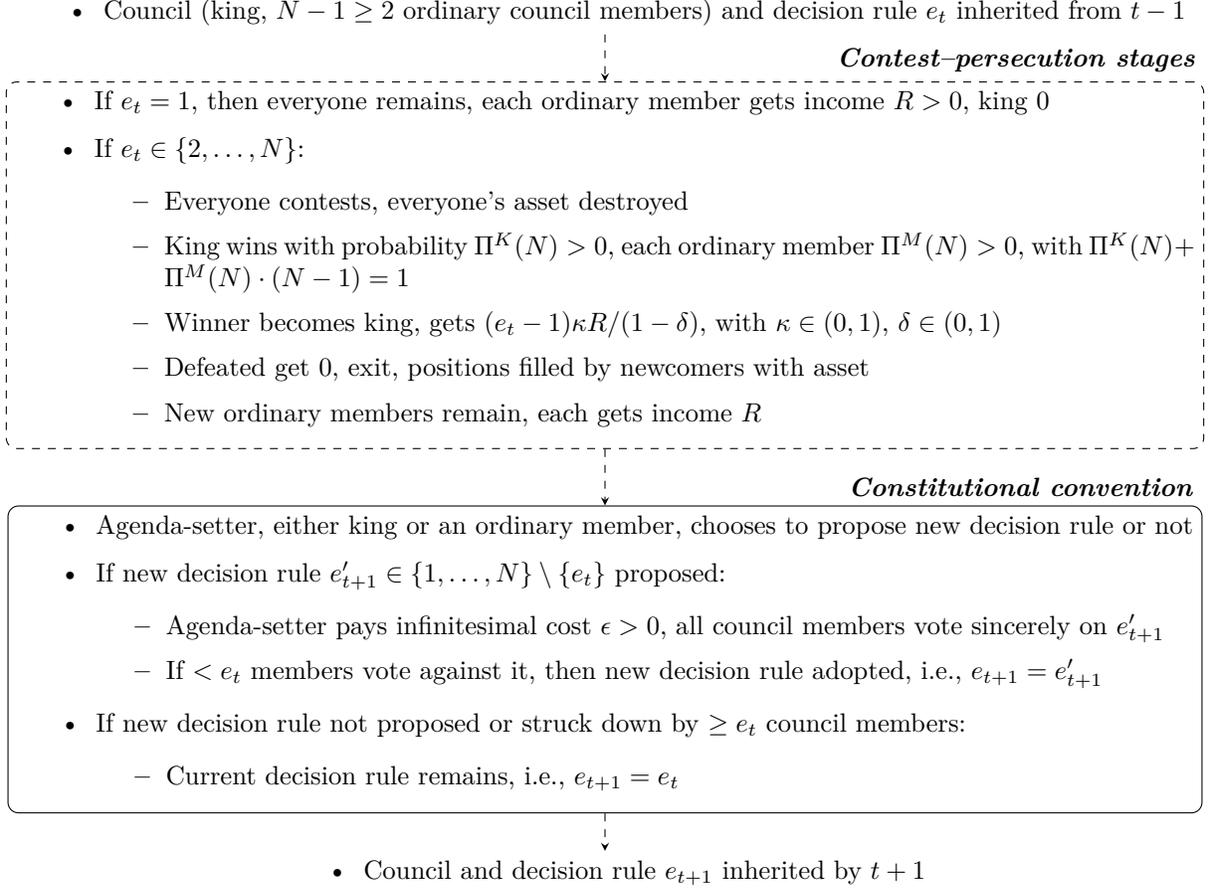
In the analysis above, the council’s decision rule,  $e$ , is exogenous. How will it evolve if the council can choose it periodically and, especially, if the council understands what is at stake?

#### 3.1 Setup

As laid out in Figure 2, we now add a constitutional convention to the end of each period. In each constitutional convention, an agenda-setter can propose, at an infinitesimal cost  $\epsilon > 0$ , to revise the council’s decision rule to  $e'_{t+1} \in \{1, 2, \dots, N\} \setminus \{e_t\}$ . When we say that the agenda-setting power lies in the kingship, we mean that in each constitutional convention, the king at that time sets the agenda; when we say that the agenda-setting power lies in the council, we mean that the agenda-setter is an ordinary council member. After a decision rule is proposed, the council will vote sincerely on it, and the votes are counted according to the current decision rule  $e_t$ . If the proposal is approved, the council adopts it as its decision rule in the next period,  $e_{t+1} = e'_{t+1}$ ; if the agenda-setter does not make a proposal or if the proposal is rejected by the council, then the current decision rule remains, i.e.,  $e_{t+1} = e_t$ .

We focus on the dynamics of the council’s decision rule in equilibrium. We thus simplify the contest and persecution stages by assuming that all players mechanically follow the strategies in the baseline results, i.e., if the current decision rule is unanimous ( $e_t = 1$ ), there will be no contest or persecution; if it is non-unanimous ( $e_t \geq 2$ ), a Hobbesian war will happen and then  $e_t - 1$  ordinary members will be persecuted. This simplification is also consistent with the observation that human society takes the risk of political violence seriously, which we have mentioned in Section 1. We can keep the contest and persecution stages endogenous, but that would complicate proofs without bringing many additional insights.

**Decision rules in constitutional conventions and their enforceability.** We have assumed that each constitutional convention adopts the same decision rule as the council at the persecution stage in the same period,  $e_t$ . This contrasts with the literature, which has shown that, to stabilize a policy-making constitution, a much more demanding decision rule for constitutional change is required, i.e., unanimous or super-majoritarian voting for constitutional change versus majoritarian voting in policy-making (e.g., Barbera and Jackson, 2004; Acemoglu et al., 2021). That said, in our model, since we have assumed sincere



The solid frame indicates new elements to the baseline setup (Figure 1). The contest-persecution stages are simplified following Propositions 1 and 2.

Figure 2: Setup for endogenous decision rule of the council, each period  $t$

voting, all ordinary council members in a constitutional convention will cast the same vote on a constitutional proposal. The voting result about such proposals thus always follows the preference shared by all ordinary council members. Therefore, the results in this section will remain robust if we assume a more demanding decision rule in the constitutional convention.

One may also wonder how, within each constitutional convention, the decision rule is enforced. On this issue, besides the argument following Fearon (2011), note again that the voting result in constitutional conventions always follows the preference shared by all ordinary council members. Since they compose a broad coalition of  $N - 1$  members, even if a different opinion exists, it is supported by at most only the king. The different opinion will thus be too weak to dominate the broad coalition or overthrow the voting result. Following the spirit of Przeworski (1991, 2006), the decision rule is thus self-enforcing.

## 3.2 Analysis and Results

The first step in our analysis is to show that unanimity rule is stable, i.e., an absorbing state:

**Lemma 2** (Stability of unanimity rule). *Regardless of who has the agenda-setting power in constitutional conventions, in any MPE, if the current decision rule is unanimity rule, then the agenda-setter will not propose to change it, and if the agenda-setter did propose to change it, then all ordinary council members would vote against the proposal. Unanimity rule is thus stable, i.e., if  $e_t = 1$ , then  $e_{t+1} = 1$ .*

We prove Lemma 2 in Appendix D. The intuition is as follows. On the one hand, given the strategies in Lemma 2, the agenda-setter has no incentive to unilaterally propose a change, knowing it will be rejected, given that proposing an alternative decision rule is costly. For any proposal, ordinary council members will not approve it either, since, following the strategies in Lemma 2, unanimity rule guarantees safe returns from one's own asset forever, i.e.,  $R/(1 - \delta)$ , while switching to a non-unanimous decision rule brings the opportunity to expropriate others, which will bring an expected payoff of at most  $\frac{\Pi^M(N)}{1 - \Pi^K(N)} \cdot (N - 1) \cdot R/(1 - \delta)$ .<sup>11</sup> Nevertheless, since there is one and only one winner in each contest, i.e.,  $\Pi^M(N) \cdot (N - 1) + \Pi^K(N) = 1$ , when everyone will fight against everyone under any non-unanimity rule, the opportunity to expropriate others would still be too uncertain, i.e.,

$$\frac{\Pi^M(N)}{1 - \Pi^K(N)} = \frac{1}{N - 1}, \quad (4)$$

for even the upper bound of its value to dominate the safe returns under unanimity, i.e.,

$$\frac{\Pi^M(N)}{1 - \Pi^K(N)} \cdot (N - 1) \cdot \frac{R}{1 - \delta} = \frac{R}{1 - \delta}. \quad (5)$$

Therefore, the strategies in Lemma 2 can be part of an MPE.

On the other hand, for any alternative Markov strategies that would lead to unanimity rule being replaced, any single ordinary council member can be better off by unilaterally blocking the proposal and thus bringing peace and a safe return from her asset under unanimity rule for one more period. Therefore, any MPE cannot include any other Markov strategies than the ones in Lemma 2.

Lemma 2 suggests that unanimity rule is an absorbing state in equilibrium. This helps us fully characterize the endogenous dynamics of the decision rule:

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<sup>11</sup>This upper bound comes from assuming that the emerging king would be a dictator who is able to expropriate everyone perfectly efficiently and that he does not discount future payoffs.

**Proposition 3** (Regime dynamics when the kingship controls the constitutional agenda). *If the agenda-setting power in constitutional conventions lies in the kingship, then in any MPE, unanimity rule and dictatorship are stable; any non-unanimity, non-dictatorial rule will transition to dictatorship, i.e., if  $e_t = 1$ , then  $e_{t+1} = 1$ ; if  $e_t \geq 2$ , then  $e_{t+1} = N$ .*

We prove Proposition 3 in Appendix E. In Proposition 3, the stability of unanimity rule follows Lemma 2. The intuition for the rest of the proposition is as follows. First, observe that the king and all ordinary council members in a constitutional convention prefer dictatorship ( $e_{t+1} = N$ ) to any non-unanimity, non-dictatorial rule ( $2 \leq e_{t+1} \leq N - 1$ ). This is because all these non-unanimity rules will lead to a Hobbesian war for the kingship, i.e., *everyone* contesting the kingship; among these rules, it is under dictatorship that the emerging king can persecute and expropriate the greatest number of ordinary council members.

Second, observe that, when the current decision rule is non-unanimous, the king also prefers any non-unanimity rule ( $e_{t+1} \geq 2$ ) to unanimity rule ( $e_{t+1} = 1$ ). This is because, when the current decision rule is non-unanimous, the king at the constitutional convention must have emerged from a Hobbesian war just now and have had his asset destroyed. Therefore, he will not benefit from the peace brought by a unanimity rule in the future, but will welcome the opportunity under a non-unanimity rule, after another Hobbesian war in the future, to persecute and expropriate. That is to say, having engaged in political violence addicts the king to the power that leads to such violence. Appendix E discusses the robustness of this point with respect to alternative settings where the king could still hold some assets.

Given the two points above, we see that when the current rule is non-unanimous, the king's favorite rule is dictatorship. If the current rule is indeed dictatorship, then the king will thus not propose to change it. Dictatorship is thus stable when the kingship holds the agenda-setting power.

Finally, note that the default decision rule in the future is the current rule. Therefore, if the current decision rule is non-unanimous but non-dictatorial, and if dictatorship is proposed, which is indeed the king's favorite, then the council will compare dictatorship with the default non-unanimity, non-dictatorial rule. The council will thus approve the proposal for dictatorship because it maximizes the king's persecution power if one wins a Hobbesian war. Therefore, any non-unanimity, non-dictatorial rule will transition to dictatorship when the kingship holds the agenda-setting power on constitutional issues.

In the intuition above, if the current decision rule is non-unanimous, ordinary council members' preference for unanimity rule is irrelevant, since the king will not propose unanimity rule. This will not be the case if the agenda-setting power on constitutional issues lies instead in the council. Note that all ordinary council members prefer unanimity rule to any non-unanimity rule, since unanimity rule brings them perpetual peace with safe returns

from their assets, whereas the opportunity to persecute and expropriate others under any non-unanimity rule is too uncertain because one has to first win a Hobbesian war. Therefore, if the council holds the agenda-setting power in constitutional conventions, it will just implement its preference, and any non-unanimity rule will transition to unanimity rule. This intuition is established by the following proposition, proven in Appendix F:

**Proposition 4** (Regime dynamics when the council controls the constitutional agenda). *If the agenda-setting power in constitutional conventions lies in the council, then in any MPE, unanimity rule is stable, and any non-unanimity rule will transition to unanimity rule, i.e., for any  $e_t \in \{1, 2, \dots, N\}$ ,  $e_{t+1} = 1$ .*

Table 1: Regime dynamics in equilibrium

Agenda-setting power on constitutional issues	Kingship	Council
Unanimous democracy, $e_t = 1$		
Collective veto regimes or non-unanimous democracies, $e_t \in \{2, 3, \dots, N - 1\}$		
Dictatorship, $e_t = N$		

Summary of Propositions 3 and 4. Self-pointing arrows for stability; straight arrows for directions of transition.

Gathering Propositions 3 and 4, Table 1 summarizes the dynamics of decision rules and political regimes in equilibrium. As shown in the table, any non-unanimity, non-dictatorial rule is unstable. Whether dictatorship can be a stable alternative to unanimity rule and which stable regime a non-unanimity rule will transition to depend on who is the agenda-setter on constitutional issues. We discuss the implications of the results in Section 5.2.

Among the implications are two corollaries that are straightforward yet have important theoretical and historical relevance. The first is about an exogenous shock to the decision rule. For example, a small group of people may have staged a coup and justified their temporary rule; facing a military crisis, a non-dictatorial regime may have to grant more emergency power to the chief executive; under pressure, a dictatorial king may concede more decision rights to other elites. Under these circumstances, how would the regime evolve?

**Corollary 1** (Resilience to institutional shocks). *Faced with exogenous shocks to the decision rule away from dictatorship or unanimity rule, if the kingship holds the agenda-setting power on constitutional issues, the regime will always end up in dictatorship; if the council holds the agenda-setting power instead, unanimity rule will eventually prevail.*

Corollary 1 suggests that although both dictatorship and unanimity rule can be stable, whether they are resilient to institutional shocks depends on where lies the power to set the constitutional agenda.

The second corollary is about an emergency situation that requires temporary dictatorial power. In that situation, for any non-dictatorial regime, if the kingship controls the constitutional agenda, by Proposition 3, the council will be worried that a temporary extension of executive power would eventually become permanent, and thus be reluctant to approve it. This weakens the regime’s emergency capacity. If the constitutional agenda is always controlled by the council instead, by Proposition 4, the council will be confident that a unanimity rule will be restored after the emergency, and thus be more willing to approve the extension of executive power. This makes the regime capable of responding to emergencies:

**Corollary 2** (Emergency capacity). *For any non-dictatorial regime, its emergency capacity depends on where the agenda-setting power on constitutional issues lies: it is strong if the power lies in the council, and weak if the power lies in the kingship.*

Section 5.2 discusses the relevance of Corollaries 1 and 2 to political theory and history.

## 4 Judiciary, Social Cohesion, and Judicial Insulation

We have shown that the persecution power may bring Hobbesian wars over such power, and unanimity rule and the council’s control of constitutional agenda are needed to preempt such wars. If the council does adopt a non-unanimity rule, could judicial review neutralize the persecution power and thus robustly prevent political violence, and under what conditions?

### 4.1 Setup

To answer these questions, we introduce in our baseline model a judiciary with  $\bar{N}$  justices, where  $\bar{N} \geq 1$  is exogenous. Each justice, at each persecution stage, votes sincerely on any persecution proposal that has been approved by the executive council, and she votes for the proposal when indifferent. Persecution will not happen if at least  $\bar{e}$  justices vote against the proposal, where  $\bar{e} \in \{1, 2, \dots, \bar{N}\}$  is exogenous. Figure 3 explains our setup.

- Council (king,  $N - 1 \geq 2$  ordinary members), judiciary ( $\bar{N} \geq 1$  justices, among them  $w \in \{1, \dots, \min\{N, \bar{N}\}\}$  political,  $\bar{N} - w$  non-political), elites' connection status  $\theta_t \in \{0, 1\}$ , and potential returns  $\{R_{i,t-1}\}$  to elites' assets inherited from  $t - 1$

*Contest stage*

- Same as in baseline setup (Figure 1), plus  $\Pi^K(N)/\Pi^M(N) \leq \Pi^K(2)/\Pi^M(2)$
- Positions of defeated filled by new elite members with asset, potential return  $R_{i,t-1} \equiv R > 0$

*Persecution stage with judicial review*

- King chooses # of ordinary members  $p_t \in \{0, 1, \dots, N - 1\}$  to persecute
- If  $p_t \geq 1$ :
  - King pays infinitesimal cost  $\epsilon > 0$ , nature draws  $p_t$  ordinary members (set  $P_t$ ) to persecute<sup>†</sup>
  - King proposes transfer  $T_{it} \geq 0$  to each justice, subject to budget  $\sum_{i \in P_t} \frac{\kappa R_{i,t-1} \ddagger}{1 - \delta}$
  - Ordinary members vote against persecution if and only if they are to be persecuted
  - If  $< e \in \{2, \dots, N\}$  ordinary members vote against it, then justices vote sincerely on it:
    - \* If  $< \bar{e}$  justices vote against it,  $\bar{e} \in \{1, 2, \dots, \bar{N}\}$ :
      - King remains and gets  $\kappa \cdot \sum_{i \in P_t} R_{i,t-1} / (1 - \delta)$ , with  $\kappa \in (0, 1)$ ,  $\delta \in (0, 1)$
      - Non-persecuted and justices remain, each gets  $R_{it} = (1 - cp_t \theta_t) R_{i,t-1}$ ,  $c > 0$
      - Each justice gets  $T_{it}$  from king if having voted for persecution
      - Persecuted get 0, exit, positions filled by new elite members with asset, each of whom gets  $R_{it} \equiv R$
- If  $p_t = 0$ , or if  $p_t \geq 1$  but struck down by  $\geq e$  ordinary members or  $\geq \bar{e}$  justices:
  - Everyone remains, each ordinary member/justice gets  $R_{it} = R_{i,t-1}$ , king 0

*Membership and connection status update*

- With probability  $z \in (0, 1)$ :
  - Nature retires  $w$  ordinary members by equal probability with safe return  $R_{it}$  forever
  - Council positions filled by political justices
  - Judicial positions filled by new elite members with asset, potential return  $R_{it} \equiv R$
- With probability  $1 - z$ , no one retires
- Connection status  $\theta_{t+1} = 1$  if no contest or persecution has ever happened by now, 0 if otherwise

- Council, judiciary, connection status  $\theta_{t+1}$ , and potential returns  $\{R_{it}\}$  inherited by  $t + 1$

Solid frames indicate new structures to the baseline setup (Figure 1). Ordinary members' voting decisions on persecution are simplified following Lemma 1. <sup>†</sup>: if a unique most senior ordinary member exists, first draw her, then  $p_t - 1$  from the other  $N - 2$  ordinary members by equal probability; if otherwise, draw  $p_t$  from  $N - 1$  by equal probability. <sup>‡</sup>: the king prioritizes justices who have been offered a strictly positive amount before.

Figure 3: Setup with judicial review, each period  $t$

**Features of the judiciary.** First, we allow the justices' voting decisions to be relevant to their own welfare, by assuming that persecution will incur a negative externality among the elites, i.e., the members of the executive council and the judiciary. In terms of the model, we assume that the asset of each non-persecuted ordinary member and justice will be damaged by persecution of others in period  $t$  so that at the end of the persecution stage it will generate a flow payoff of only

$$R_{it} = (1 - cp_t\theta_t) \cdot R_{i,t-1}. \quad (6)$$

In this expression,  $i$  denotes each non-persecuted ordinary council member or justice;  $R_{i,t-1} > 0$  is the potential flow payoff of her asset until the current persecution decision, and the whole game starts from  $R_{i,0} = R$  for all ordinary council members and justices. The externality of persecution depends on the number of ordinary council members the king manages to persecute,  $p_t$ , and the exogenous degree of *social cohesion* among the elites,  $c > 0$ . The externality is assumed to kick in only when the elites have been connected with each other in period  $t$ , i.e.,  $\theta_t = 1$ , while  $\theta_t = 0$  when otherwise. We assume that these connections among elites are vulnerable to contests and persecution of elite members, and also that it is difficult to reestablish such connections, i.e.,

$$\theta_{t+1} = \begin{cases} 1, & \text{if no contest or persecution has ever happened by period } t; \\ 0, & \text{if otherwise.} \end{cases} \quad (7)$$

By making  $\theta_t = 0$  an absorbing state, we capture the fragility of social connections when political violence pervades. This assumption also makes our analysis easier.

Second, we allow for a career path from the judiciary to the executive council, i.e., we assume that among the  $\bar{N}$  justices there are  $w$  "political" ones, where  $w \in \{1, 2, \dots, \min\{N, \bar{N}\}\}$  is exogenous; after each persecution stage, with an exogenous probability  $z \in (0, 1)$ , nature will retire  $w$  ordinary council members with equal probability, letting them exit the game with their assets' flow payoffs from then on, and these positions are filled by the  $w$  political justices.<sup>12</sup> The number of "non-political" justices, i.e.,  $\bar{N} - w$ , thus measures *judicial insulation* from the executive council in terms of the justices' career paths.

Third, we allow all justices to be influenced by the king, i.e., we assume that the king can commit to a transfer  $T_{it} \geq 0$  within the persecution stage to each justice  $i$ , in exchange for her vote for the persecution proposal. This is, again, a pro-persecution/conflict assumption, as discussed in Section 2.1. The total amount of transfers must be subject to a budget constraint, which is the persecution profit if the persecution proposal is approved by the

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<sup>12</sup>We can microfound these political justices' entries to the council by assuming that the potential flow return of their assets would be relatively low instead if they stayed in the judiciary.

judiciary, i.e.,  $\sum_{i \in P_t} \kappa R_{i,t-1} / (1 - \delta)$ , where  $i \in P_t$  now denotes each ordinary council member on the persecution list. In addition, we assume that when choosing the justices who receive strictly positive transfers, the king prioritizes the justices who have been offered a strictly positive amount before. This assumption captures the idea that exerting influence relies on relationships that are costly to build; it also makes the model more tractable.

**Key assumption.** We assume that the king’s advantage in a Hobbesian war is not greater than in a duel, i.e.,  $\Pi^K(N) / \Pi^M(N) \leq \Pi^K(2) / \Pi^M(2)$ . This assumption is intuitive, since in a Hobbesian war the king is one among many, whereas in a duel his status as the king is significant. This assumption also holds when the contest success functions follow an additive specification, which is axiomatized and widely used in the literature (e.g., Skaperdas, 1996).<sup>13</sup>

**Further simplifications.** We impose two additional assumptions that simplify the model. First, we assume that all ordinary council members mechanically following Lemma 1 when facing a persecution proposal, i.e., they vote against it if and only if they themselves are to be persecuted. This assumption allows us to focus on the judiciary’s decision.

Second, we assume that the king prioritizes persecuting the most senior ordinary council member: if there exists a unique most senior ordinary member, when drawing the persecution proposal, nature will draw her first for sure, and then  $p_t - 1$  from the other  $N - 2$  ordinary members by equal probability; if otherwise, nature will draw  $p_t$  from  $N - 1$  ordinary members by equal probability. This assumption is reasonable, since the most senior ordinary member often poses the most significant threat to the king’s power, creating a good reason for the king to purge her first (e.g., Francois et al., 2015). This assumption discourages an ordinary council member from pulling out of a Hobbesian war for the kingship, since doing so would make her the unique most senior ordinary member at the following persecution stage and thus assuring persecution. This assumption is thus pro-conflict, too.

**Decision rules and strategies in focus.** Since Proposition 2 has suggested that unanimity rule can shut down any persecution and confer civil peace even without a judiciary, we narrow our attention to non-unanimity rules, i.e.,  $e \in \{2, 3, \dots, N\}$ . Since Proposition 1 has suggested that these rules cannot preempt the risk of perpetual persecution and Hobbesian wars without a judiciary, we focus here on the conditions under which there exist MPEs that feature no persecution but perpetual peace.

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<sup>13</sup>Mathematically, suppose that  $\Pi^K(Q) \equiv K / ((Q - 1)M + K)$  and  $\Pi^M(Q) \equiv M / ((Q - 1)M + K)$ , where  $M > 0$  and  $K > 0$  are exogenous. The king’s advantage is thus  $\Pi^K(Q) / \Pi^M(Q) = K/M$ , constant in  $Q$ .

## 4.2 Analysis and Results

We start with the scenario in which the elites are not connected so that the externality of persecution is absent, i.e.,  $\theta_t = 0$ .

**Lemma 3** (Judiciary in a disconnected elite circle). *Starting from  $\theta_t = 0$ , the following strategy profile constitutes an MPE: in each period, each ordinary council member contests the kingship at the contest stage; at the persecution stage, the king proposes to persecute  $e - 1 \geq 1$  ordinary members and makes no transfer to any justices; all justices always vote for any persecution proposal.*

We prove Lemma 3 in Appendix G. The intuition is simple. Since  $\theta_t = 0$  is an absorbing state, starting from  $\theta_t = 0$ , all current and future persecution will never incur additional externality. All justices are thus indifferent between voting for and against any persecution proposal if without any transfer, or strictly prefer to vote for it if with a positive transfer, so they always vote for any persecution proposal. Understanding this, the king can maximize his expropriation profit by proposing to persecute as many as possible, i.e.,  $e - 1$  ordinary members, and giving no transfer to any justices. For each ordinary member, withdrawing from a Hobbesian war would make her the primary target at the following persecution stage, so she always stays in it instead.

Lemma 3 suggests that the risk of Hobbesian wars in Proposition 1 would still be a concern even if there is judicial review, as long as persecution does not incur any additional externality, i.e., when social connections have been severed by past political violence.

We now explore whether an MPE can feature persecution when the elites are connected with each other so that the externality of persecution is present, i.e.,  $\theta_t = 1$ . We start from when everyone is facing a looming Hobbesian wars as depicted in Lemma 3:

**Lemma 4** (Judiciary on the eve of Hobbesian wars). *Suppose that there has been a contest for the kingship in period  $t$  with  $\theta_t = 1$  and all players understand that they will follow the MPE in Lemma 3 from period  $t + 1$  onwards. The following claims about period  $t$  are true:*

1. *in any MPE, any non-political justice  $i$  will vote for any persecution proposal if and only if the transfer proposed to her satisfies  $T_{it} \geq cp_t \cdot R/(1 - \delta)$ , and*
2. *any political justice  $i$  will do so if and only if  $T_{it} \geq cp_t \cdot R/(1 - \delta(1 - z))$ ;*
3. *as  $\delta \rightarrow 1$ , in any MPE, the king will propose to persecute  $p_t = e - 1$  council members if  $\kappa > (\bar{N} - w - \bar{e} + 1)c$ , and will propose to persecute none if  $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$ .*

We prove Lemma 4 in Appendix H. The intuition is as follows. Since persecution incurs a negative externality to the justices, each justice would need a compensatory transfer from

the king to vote for it, and the greater the externality, the greater the necessary amount of the transfer. Since the political justices will have opportunities to join the executive council and thus to contest the lucrative kingship in the state of social isolation, which features destructive Hobbesian wars, they cherish their current assets less than the non-political justices do. The king would thus find these political justices cheaper to buy off. Therefore, the king can afford to get any persecution proposal approved if and only if the externality,  $c$ , or the number of non-political justices,  $\bar{N} - w$ , is sufficiently small, i.e.,  $\kappa > (\bar{N} - w - \bar{e} + 1)c$ . He will thus propose to persecute either  $e - 1$  council members or none, depending on whether this condition holds.

Lemma 4 suggests that once a contest has broken out, even having a judiciary and an elite circle where everyone is connected with each other may still be insufficient to prevent persecution. The risk will be present as long as at least one of the two conditions hold: first, there are too few non-political justices who are insulated from the opportunity to join the executive council in the future, i.e., there is a lack of *judicial insulation*; second, the elites' connection does not imply a strong externality of persecution, i.e., there is a lack of *social cohesion* among elites. This point leads to the main result of this section:

**Proposition 5** (Judiciary, social cohesion, and judicial insulation). *Suppose that everyone understands that once there has been a contest or persecution in the past, all players will follow the MPE in Lemma 3. As  $\delta \rightarrow 1$ , the following claims are true:*

1. *if  $\kappa > (\bar{N} - w - \bar{e} + 1)c$ , there exists an MPE that features every ordinary council member contesting the kingship and  $e - 1$  persecutions in any period  $t$  with  $\theta_t = 1$ ;*
2. *if  $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$ ,*
  - (a) *there does not exist an MPE that would feature every ordinary council member contesting the kingship in any period  $t$  with  $\theta_t = 1$ ;*
  - (b) *there exists an MPE that features no persecution and no ordinary council member contesting the kingship in any period  $t$  with  $\theta_t = 1$ .*

We prove Proposition 5 in Appendix I. The intuition is as follows. For Claim 1, as the social discount factor is sufficiently high, i.e.,  $\delta \rightarrow 1$ , when judicial insulation or social cohesion is low, i.e.,  $\kappa > (\bar{N} - w - \bar{e} + 1)c$ , following Lemma 4, there is an MPE that features the king persecuting  $e - 1$  ordinary council members for any subgame that starts from a persecution stage with connected elites, i.e.,  $\theta_t = 1$ , and with a contest in the preceding contest stage. This persecution power will prevent each ordinary council member at the preceding contest stage from withdrawing from a Hobbesian war, making it possible

for the war to be Markov perfect. Taking this as given, we can fully construct an MPE that satisfies the claim after finding Markov perfect strategies for other subgames.

Conversely, when judicial insulation and social cohesion are both sufficiently high, i.e.,  $\kappa \leq (\bar{N} - w - \bar{e} + 1) c$ , following Lemma 4, for any subgame that starts from a persecution stage that has still connected elites but has experienced a contest just now, the king will not be able to persecute anyone in any MPE. Understanding this, for Claim 2a, each ordinary council member is thus comparing two options: the first is to participate in the Hobbesian war, have no persecution power in the following persecution stage if she wins the contest, and remain as the king facing another Hobbesian war in the next period as depicted in Lemma 3; the second is to withdraw from the current Hobbesian war, enjoy a safe return of her asset for now, and then participate in the Hobbesian war in the next period. Since the probability to win a Hobbesian war is too low, i.e.,  $\Pi^M(N) = (1 - \Pi^K(N)) / (N - 1)$ , the safe return for now dominates in this ordinary council member's consideration, and she will withdraw from the current Hobbesian war. Therefore, everyone always contesting whenever the elites are still connected cannot be Markov perfect.

For Claim 2b, understanding Lemma 4, each ordinary council member at a contest stage with connected elites is thus comparing two options: the first is to stay in this situation and enjoy the safe return from her asset forever; the second is to challenge the king in a duel, enjoy no persecution power in the following persecution stage if she wins, and only hope to survive the Hobbesian war in the next period as the king as depicted in Lemma 3. Since we have assumed that her disadvantage as an ordinary council member in a duel now would be more significant than her advantage as a king in a Hobbesian war in the future, i.e.,  $\Pi^K(2)/\Pi^M(2) \geq \Pi^K(N)/\Pi^M(N)$ , she will thus not challenge the king, making it possible for perpetual peace without persecution to be Markov perfect. We can thus fully construct an MPE that satisfies Claim 2b after finding Markov perfect strategies for other subgames.

Table 2: War and peace under non-unanimous executive rules and with judicial review

	Insulated judiciary	Uninsulated judiciary
Connected and socially cohesive elites	Perpetual Hobbesian wars not an MPE; perpetual peace an MPE	Perpetual Hobbesian wars an MPE
Disconnected or socially incohesive elites	Perpetual Hobbesian wars an MPE	Perpetual Hobbesian wars an MPE

Summary of Lemmas 3, 4, and Proposition 5.

Table 2 summarizes Lemmas 3, 4, and Proposition 5. When taking the risk of political violence seriously, if the judiciary is not sufficiently insulated, or if the elites are disconnected or not sufficiently socially cohesive, it is still always possible for society under non-unanimous executive rules to fall into an equilibrium of perpetual Hobbesian wars. It is only when the judiciary is sufficiently insulated and the elites are connected and socially cohesive that such society can break away from perpetual Hobbesian wars and persecution, maintaining peace in equilibrium. We discuss the implications of these results in Section 5.3.

## 5 Implications of Results

### 5.1 Civil Conflict, Political Domination, and Individual Rights

Propositions 1 and 2 are our baseline results. They show a link from the power to dominate, measured by the executive decision rule  $e$ , to the risk of political violence for such power. We first discuss two implications.

**Hobbesian wars: origins and solutions.** Hobbes (1996, p. 82, 84, 91, 130) argues that under the “natural condition of mankind,” i.e., a socially primitive setting, every person will engage in “a war of every man against every man,” and the only way to avoid such Hobbesian wars is a sovereign “to keep them all in awe” by “coercive power” (Hobbes, 1996, p. 82, 84, 91, 130). Reflected in the Weberian view of statehood as the monopoly of legitimate violence, Hobbes’s argument is one of the founding ideas of modern political philosophy (Weber, 2004, p. 33). In contrast, Proposition 1 suggests that unlimited political domination, i.e.,  $e = N$  in our model, and any *collective* veto power, i.e.,  $e \in \{2, 3, \dots, N - 1\}$ , are unable to eliminate the risk of perpetual violence in a socially primitive setting. Proposition 2 suggests that the only political regime that can surely confer civil peace in this context is unanimity rule with *individual* veto power, minimizing political domination.

Why does political domination play such different roles in our model and in Hobbes’s argument? First, note that in Hobbes’s view of war, “men ...use violence, to make themselves masters of other men’s persons, wives, children, and cattle,” i.e., “for gain” (Hobbes, 1996, p. 83). In this view, “gain” is foremost the wealth grabbed when one defeats another. In our model, instead, the incentive to contest the kingship can only be the power of the kingship to persecute and expropriate. Political domination thus constitutes a fundamental motive for the Hobbesian wars in our model, and it is only when domination is minimized by unanimity rule that the risk of such wars is eliminated.

Compared with Hobbes’s argument, ours appears more consistent with the anthropo-

logical evidence for stateless societies. Widerquist and McCall (2017) have systematically reviewed the evidence. To start with, in “small-scale nomadic societies, ...enforceable ...contractual promises ...do not exist” (Widerquist and McCall, 2017, p. 163). This is consistent with our notion of socially primitive settings and our focus on MPEs. In this context, “[g]ain provides very little motive for attack” because “[t]he potential victim doesn’t have much to steal,” and “ethnographic and historical records reveal few if any instances in which [hunter-gatherer bands] fight over food, durable goods, or land,” contradicting Hobbes’s argument (Widerquist and McCall, 2017, p. 163, 166). Consistent with our model, “much more relevant ...causes of conflict ...include, ...most importantly, the common human desire to dominate others” (Widerquist and McCall, 2017, p. 166).

To avoid such conflict, hunter-gatherer bands thus “try not to let anyone dominate anyone else,” and they “take strong action to prevent any hierarchical structure from developing”; “[a]lthough bands have no single individual authority figure to arbitrate disputes, anyone and everyone in the group might give their opinion” (Widerquist and McCall, 2017, p. 167–168). Moreover, “most observed bands cultivate an ethos of nonviolence, humility, equality, freedom, and autonomy” (Widerquist and McCall, 2017, p. 168). As a result, “[v]iolence in stateless societies does not degenerate into a war of all-against-all or anything like it” (Widerquist and McCall, 2017, p. 175), in line with Proposition 2.

When political domination is not minimized, on the contrary, Widerquist and McCall (2017, p. 138) conclude that “[e]arly states and empires are perhaps the most violent and warlike contexts in which humans have ever lived,” consistent with Proposition 1. In particular, Hobbes’s solution, i.e., “the absolutist monarchical system,” even with “a built-in strategy to break the link between the dominance motive and conflict by prescribing succession through fixed rules, ...has had limited success as thousands of years of wars of succession attest” (Widerquist and McCall, 2017, p. 166).

### **Justification of individual rights and the relationship with modern democracy.**

Besides interpreting the executive decision rule as the degree of political domination, we can also interpret it as the level at which some fundamental rights, such as the right to be free from arbitrary persecution and expropriation, are secured. Unanimity rule secures the rights at the individual level, collective veto power does so at a group level, and dictatorship does not secure any rights at any level. Domains of inalienable human rights can thus be understood as domains over which unanimity rule applies.

Under this interpretation, Proposition 2 implies that civil peace can be guaranteed in a socially primitive setting only when such rights are secured at the individual level. Proposition 1 implies that any more limited veto power, say for any group of two or more, cannot

preempt violation of each individual’s rights, and the power to engage in such violation could lure everyone into conflict. To our knowledge, we are the first in the literature to demonstrate that individual rights can be justified by their special advantage in securing civil peace in primitive social contexts. By this, we contribute to the consequentialist theories of rights, in which individual rights are justified by their instrumental role in promoting social welfare or economic efficiency (e.g., North, 1990; Quinn, 1993; Hart, 1995).<sup>14</sup>

As we have identified inalienable human rights with unanimity rule, one may ask how modern democracy, often superficially identified with majority rule, could protect such rights and prevent civil conflict. Indeed, Lemma 1 shows that majority rule does not by itself prevent oppression of minorities. Conceptually, this is consistent with the neo-Roman theory of liberty, where liberty can be maintained only when rights are independent of the goodwill of a ruler, a ruling group, or any other agent of the state (e.g., Pettit, 1997; Skinner, 1998, 2022); empirically, it is consistent with what we see recently in regimes of “illiberal democracy” (e.g., Zakaria, 1997; Lührmann et al., 2017; Plattner, 2019).

Proposition 5 further implies that majority rule may see individual rights protected in equilibrium only in an interconnected, modern society with an insulated judiciary. This suggests that a modern majoritarian democracy can preempt political violence only if a strong judiciary can credibly prevent the oppression of minorities and protect inalienable human rights by rule of law, which often requires a long historical process to establish. We elaborate more on this point with European history in Sections 5.3 and 6.

## 5.2 Regime Dynamics and Power to Set Constitutional Agenda

Propositions 3 and 4 provide implications on the dynamics of political regimes and the agenda-setting power on constitutional matters. Table 3 provides examples of stable regimes and indicates regimes that are resilient to institutional shocks and have strong capacity of emergency management, in line with Corollaries 1 and 2.

**Bimodality of political regimes in premodern times.** As shown in Table 3, in socially primitive settings, our model predicts that only the two extreme types of political regimes are stable: 1) unanimous democracy, i.e.,  $e_t = 1$ , in which the chief executive is constrained by unanimous consent; 2) dictatorship, i.e.,  $e_t = N$ , in which the chief executive can absolutely dominate others. Any regime in between would collapse into one of the two over time.

This implication is consistent with stylized facts about pre-modern political regimes. On the one hand, based on a comprehensive data set, Stasavage (2020a, p. 4–5, 29) observes

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<sup>14</sup>For alternative theories of rights, i.e., the deontological and the contractual ones, see Wenar (2021).

Table 3: Stability, resilience, and emergency capacity of political regimes

Agenda-setting power on constitutional issues	Kingship	Council
Unanimous democracy, $e_t = 1$	 Early democracies, e.g., instructed representation with strict mandates, and most ancient city-states	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">                       Venetian Republic                 </div>
Collective veto regimes or non-unanimous democracies, $e_t \in \{2, 3, \dots, N - 1\}$		
Dictatorship, $e_t = N$	<div style="border: 1px dotted black; padding: 5px; width: fit-content; margin: 0 auto;">                       Most ancient                      bureaucratic,                      territorial states                 </div>	

Expanded from Table 1, summary of implications of Propositions 3, 4, Corollaries 1, and 2 with examples. Self-pointing arrows for stability; straight arrows for directions of transition; dotted frame for resilience to regime shocks, strong emergency capacity, and risk of Hobbesian wars; solid frame for regime resilience, strong emergency capacity, and civil peace.

that “[t]hroughout human history many societies on multiple continents have independently developed ...early democracies, [whose] most crucial element ...was [that the ruler] needed to obtain consent for their decisions from a council or assembly ...of individuals who are independent from [him] and who may well be [his] equals.” Most importantly, such “consent ...was not tacit [but] active” because “individual localities could either veto central decisions or opt out of them,” creating “substantial blocking power and therefore a need for consensus” (Stasavage, 2020a, p. 6, 17). Identified by Weber (1978, p. 948–952) as an ideal type, such unanimous democracy with individual veto power and minimized political domination corresponds to  $e_t = 1$  in our model.

Among these unanimous democracies were two prototypes. The first included most ancient city-states. One may call them “democratic” because “in this kind of administration

the scope of power of command is kept at a minimum” by “the elaborate checks and balances,” i.e., veto powers (Weber, 1978, p. 948; Finer, 1997b, p. 968, 1018, 1020–1023). In particular, “[a]ll important decisions are reserved to the common resolution of all” (Weber, 1978, p. 948). All these features were “commonplace in medieval city-republics” (Finer, 1997b, p. 1018). It was true that in these regimes, “power ...tended to be shared ...among the heads of leading families and the wealthiest people,” but “‘equality’ and ‘minimization’ of the dominant powers of [executive] functionaries [were still] found in many aristocratic groups as against the members of their own ruling layer,” out of “the intention to prevent any individual or his family or *consorteria* obtaining absolute power” (Weber, 1978, p. 949–950; Finer, 1997b, p. 968; Trigger, 2003, p. 103). We elaborate more on this prototype in the Florence–Venice comparison below and in Section 5.3.

The second prototype included, but were not limited to, medieval and early-modern continental European assemblies. In these assemblies, “parliaments’ members were delegates” under “instructed representation” with “only limited” and “strict mandates” (Myers, 1975, p. 148; Weber, 1978, p. 293; Finer, 1997b, p. 1035; Stasavage, 2020a, p. 17). That is to say that “[i]nstead of representatives having the liberty to support or oppose policies as they saw fit, they were ...given strict instructions regarding what they could or could not do,” and a representative would be “tried, ...punished, [or even] killed ...by members of his community” if he had “deviat[ed] from the ...mandate” (Stasavage, 2020a, p. 129). Meanwhile, “[o]ne common corollary to this practice was that if an assembly decided something that you as a representative opposed, then your constituents would not feel bound by it [and] could simply opt not to participate,” making the decision irrelevant to them (Stasavage, 2020a, p. 129). Any collective decision thus had to be approved by every relevant constituency. We elaborate more on this prototype in Section 5.3.

On the other hand, “autocracies ...were a clear alternative to early democracy,” where “autocrats created bureaucracies staffed with subordinates they themselves had selected and ...controlled” (Stasavage, 2020a, p. 9). As Stasavage (2020a, p. 9) recognizes, “[t]his was fundamentally different from relying on a council or assembly composed of members of society not subject to the ruler’s whim.” Such autocratic rule not needing consensus corresponds to  $e_t = N$  in our model. Regimes of this type were often found in territorial states, where “a ruler governed ...through a ...hierarchy of ...administrators” (Trigger, 2003, p. 92).

There could have been a third, intermediate type of political regimes, i.e., non-unanimous democracies or collective veto regimes, corresponding to  $e_t \in \{2, 3, \dots, N - 1\}$  in our model. Under these regimes, political participation would exist but be “episodic, ...[r]epresentatives [would not] be bound by mandates, [and] there [would be] a problem of ‘tyranny of the majority’ [to] grapple ...with” (Stasavage, 2020a, p. 17). Nevertheless, Stasavage (2020a,

p. 17) notices that this intermediate type was rarely present among early democracies. In particular, Lord (1930, p. 138) observes that “imperative mandates,” i.e., unanimity rule as interpreted above, “were widely used in almost every parliament” in medieval and early modern Europe, “except in England and Aragon” (Lord, 1930, p. 138). As a result, “[a]utocracy was *the* alternative to early democracy” (Stasavage, 2020a, p. 9). Trigger (2003, p. 92) and Roland (2018, 2020) also observe this bimodality between ancient city-states and territorial states in terms of their political organizations, without real intermediate cases. The bimodality of political regimes in premodern times has thus been well observed.

The literature has explored the origin and dynamics of institutions within the bimodality (e.g., Finer, 1997a,b; Trigger, 2003; Greif and Tabellini, 2017; Mayshar et al., 2017; Roland, 2018, 2020; Stasavage, 2020a; Jia et al., 2021; Greif et al., Forthcoming). Propositions 3 and 4 contribute to the literature by explaining the bimodality itself. In addition, Stasavage (2020a, p. 17) observes that societies that had the tradition of unanimous democracy would eventually evolve into non-unanimous democracy in modern times. We discuss the rise of non-unanimous democracy in Sections 5.3 and 6.

### **Lack of separation of powers and dominance of autocracy in premodern times.**

Propositions 3 and 4 suggest that to consolidate unanimity rule and civil peace, the executive power must be separated from the legislature when it comes to constitutional issues. Such separation is primarily a modern idea (e.g., Locke, 2003, p. 164–165; Weber, 1978, p. 283). In premodern times, on the contrary, the chief executive was usually not separated from the legislature. For example, in ancient Greek city-states, “the [legislative] Assembly ...could discuss nothing that had not already been discussed in the [executive] Council and formulated by it as a *probouleuma* – a ‘resolution’,” whereas both the Council and the Assembly were “presided over” by the Council’s “foreman (*epistates*), [i.e.] the president of the ...Republic” (Finer, 1997a, p. 347). A similar lack of separation applied to the Roman Republic and most medieval European city-states, with Venice being an exception (e.g., Finer, 1997a, p. 402, 405, 436–437; 1997b, p. 967; Greif, 1995, p. 735). Without such separation of powers, the chief executive “had very tight control over the agenda” of the legislature and on constitutional matters (Finer, 1997a, p. 347).

Corollary 1 implies that early democracies must have been vulnerable to autocratic shocks. This was evident in ancient Greek cities and medieval European city-states. In ancient Greek cities, “political forms” suffered “rapid turnover”; “in many places ...power was ...snatched forcibly ...by some individual”; “monarchy” or “tyranny,” characterized by “irregular seizure or exercise of power, personal rule, autocratic rule, [and] armed intimidation,” i.e., “autocracy,” eventually “reached its heyday in the sixth century BC” (Finer,

1997a, p. 331–333). Representative for medieval European city-states, Florence’s “laws and institutions were chopped and changed with dizzying rapidity,” and “nothing was more feared than the dominance of a single family,” but power was still consolidated by “the ‘godfather’ figures, like Maso degli Albizzi and those who succeeded him after 1382” (Finer, 1997b, p. 983–984); in Genoa, “several times during [the 11th–12th centuries] changes in exogenous conditions implied that a faction was ...strong enough to aspire to hold its influence in the consulate” so that “[t]he ability to expropriate ...the rent from Genoa’s possessions ...motivated ...other Genoese ...to militarily challenge [the] political control,” leading to “full-scale civil wars” and consolidating the shift of “Genoa’s political system ...toward an autocracy” (Greif, 1994, p. 275–276; Greif, 1995, p. 736–737). On these, “a takeover of a democratic institution (‘communes’) by rich and powerful families [was] a common form of government in Italy from the 13th through the 16th centuries” (Zingales, 2017, p. 115).

Corollary 1 also implies that dictatorships, not democracies, must have dominated in premodern times. Consistent with this prediction, Finer (1997b, p. 950) observes that “[e]ver since the Roman Republic fell, the ideal and practice of government throughout the entire globe had been, without exception, monarchical.” Although once “widespread in human societies” and “by no means the exclusive preserve of Europe” (Stasavage, 2020a, p. 61; Gerring et al., 2022, p. 38), early democracies “were exceptional, not the rule, and were short-lived” (Finer, 1997b, p. 951). Konrad and Skaperdas (2012, p. 417, 419) also observe “the prevalence of autocracy” versus the “problems of long-term viability” of the “consensually organized, self-governing state.”

**Emergency capacity of unanimous democracy.** Political philosophers and real-world players of power have viewed the ability to respond to emergencies, such as wars, political crises, and natural catastrophes, as a fundamental attribute of state capacity (e.g., Schmitt, 1985, 2014; Agamben, 2005; Sorell, 2013; Lincoln, 1953). Since unanimity rule can paralyze decision-making in emergencies while dictatorship can act quickly, it is tempting to dismiss unanimous democracy and advocate dictatorship on this ground (e.g., Schmitt, 1985, 2014).

Corollary 2 suggests that such dismissal is flawed: if the council has the agenda-setting power on constitutional matters, in a crisis when dictatorial power is needed, the council will not hesitate to grant it, making unanimous democracy as effective as dictatorship in managing emergencies. This is because the council knows that it will be able to restore unanimity rule once the emergency is over.

In this argument, the condition about the agenda-setting power is crucial. If the king sets the constitutional agenda instead, the council will be reluctant to approve any request from the executive to expand its power to manage the emergency. This is because the council

knows that democracy will be gone forever once executive power is only slightly expanded.

This danger of losing democracy by temporarily granting emergency power to the executive has been well noticed since the fall of the Roman Republic (e.g., Hayek, 1979, p. 124–125; Finer, 1997a, p. 432–438; Qin, 2021, p. 81–106). Note that the fall of the Roman Republic happened when separation between the executive and legislature was insufficient, especially on constitutional issues. To start with, “[i]t was the [highest executive] *consuls* ...who convoked the [legislative] *comitia centuriata* and ...*comitia tributa*”; the Tribunes of the Plebs, a key component of the executive Magistracies, had the “unqualified ...right to convoke [and] put resolutions to the [legislative] *concilium*,” which contributed to their extended tenures of authority. In 82–81 BC, Sulla proposed to appoint himself as the “*dictator for making the laws and reconstitution of the Republic*,” and had the proposal approved by the legislative *comitia centuriata*, effectively consolidating the executive’s agenda-setting power on constitutional issues (Finer, 1997a, p. 402, 405, 436–437; Bellen, 1975). It was from then to 27 BC that, as Sulla and his successors set the constitutional agenda, a “reign of terror [was] institute[d]” and “the old constitution [was] abandoned” (Finer, 1997a, p. 435). The Republic was eventually replaced by “the Empire,” as “Octavian ...came to be addressed as [the] ‘First Man in the State’” (Finer, 1997a, p. 528).

By Corollary 2, if instead the legislature’s agenda-setting power on constitutional issues is consolidated, unanimous democracy can allow temporary dictatorial executive power to deal with emergencies. As shown in Table 3, *only* unanimous democracy with the *necessary* help from a truly independent legislature can *simultaneously* secure civil peace and enjoy strong emergency capacity. This insight contrasts with the political theories that approach these two objectives by either advocating a supreme executive authority over the legislature to achieve them (e.g., Bodin, 1992; Hobbes, 1996; Schmitt, 1985, 2014), or emphasizing human rights relative to both of them to curtail such authority (e.g., survey by Philpott, 2020).

**Florence vs. Venice.** To further the point about the agenda-setting power on constitutional issues and the emergency capacity of unanimous democracy, we compare the institution of the Florentine Republic, as the representative of medieval Italian city-states, with that of the Venetian Republic. Table 4 summarizes the comparison.<sup>15</sup>

Both Florence and Venice imposed strong checks and balances on their executive magistrates. According to Finer (1997b, p. 964, 979), “Florence exhibits all the characteristic features of the Italian city-republic.” This system “includes ...the plural executive ...as opposed to one-man rule,” and “the executive is subject to multiplex power” (Finer, 1997b,

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<sup>15</sup>For another comparison but in the modern context, i.e., the American vetocracy versus the consensual leadership of the Chinese Communist Party, see Appendix J.

Table 4: Medieval Italian city-states: Florence vs. Venice

	Florence the representative	Venice an exception
Political regime	Elaborate checks and balances, i.e., unanimous democracy	
Legislative agenda-setter	Chief executive body <i>Signoria</i>	<i>Savii grandi</i> , excluding chief executive <i>doge</i>
Procedure to grant emergency power	Cumbersome	Routine
Regime resilience	Vulnerable to autocratic shocks	500-year republican constitution

Sources: Lane (1973), Greif (1994, 1995), Finer (1997b), and Zingales (2017).

p. 979). Eventually, “elaborate checks and balances in the system” were “to prevent any individual or his family ...obtaining absolute power” (Finer, 1997b, p. 968).

In this respect, Venice was similar. “[T]he [steering cabinet] *Collegio* could initiate legislation and decrees but could not enact them, while the [legislative] Senate could enact them but had no powers of initiative; [t]he [emergency] Council of Ten could not act without the [head of the *Collegio*] doge and his Inner Council, ...collectively known as the *Signoria*; [t]he doge could not act without his Inner Council, but for some purposes the latter could act in default of the doge” (Finer, 1997b, p. 995–996). As a result, “[t]he Venetian political system embodied ...checks and balances ...to an extremity that prevented any one organ,” especially the doge and the Council of Ten, “from acting independently of at least one and usually more than one of the others” (Finer, 1997b, p. 995, 1005, 1007; Greif, 1995, p. 735, 738).

Given the “elaborate checks and balances, the rotation of office, and the like” in both city-republics (Finer, 1997b, p. 1018), we read both the Florentine and Venetian political systems as requiring consensus from all relevant organs or powers for executive decisions, i.e., unanimous democracy in our model. Nevertheless, a crucial difference lies in who had the agenda-setting power on constitutional issues.

In Florence, “[t]he chief executive body, the *Signoria*,” which included the *gonfaloniere della giustizia*, i.e., the head of the executive, “could initiate legislation on any matter whatsoever, ...and it saw its proposed laws through the legislative councils” (Finer, 1997b, p. 966–967). At the same time, these legislative councils “did not have legislative initiative: their task was to discuss and vote ...on the bills presented by the *Signoria*” (Finer, 1997b, p.

966–967). It was thus clear that the chief executive set the constitutional agenda.

In Venice, although the *Collegio* initiated legislation, it was the *savii grandi* who “acted as the *Collegio*’s inner steering committees, ...formulated the agenda, ...and prepared all the business to be laid before it” (Finer, 1997b, p. 1003–1004).<sup>16</sup> In practice, “[e]ach week one of the six *savii* took it in turn to discharge this task and for that period”; notably, “he (*and not the doge*) acted as chief minister,” so that “[t]he doge” merely “presided but it was the *savio* ...of the week ...who took the *Collegio* through the business and suggested what steps should be taken” (Finer, 1997b, p. 1003–1004). The agenda-setting power on constitutional issues was thus in the hands of these *savii grandi*, not of the doge, i.e., the chief executive.

Given this difference in the agenda-setting power on constitutional issues, Corollary 2 implies that the Florentines must have been worried about the substantial risk contained in expanding executive power during an emergency; the Venetians, on the contrary, could be more ready to expand executive power when needed, since their legislature would be more confident to reinstall checks and balances after the emergency.

Indeed, when “immediate action was urgent,” the Florentines “dealt with this extra-constitutionally: [t]hey would call [a] primeval general assembly, [i.e.,] the *Parliamentum*, ...set up ...an extraordinary commission, [i.e., the] *Balia*, ...and entrust it with emergency powers” (Finer, 1997b, p. 970, 996). As Finer (1997b, p. 970) describes, the procedure was extremely cumbersome, and even when these “*ad hoc* extraordinary institutions” were set up, “consultation could take time.” At the same time, the risk of slipping into dictatorship was more than real: “in the last years of the fourteenth century and the first part of the fifteenth, when the Republic was taking its first ...steps towards personal rule, the *Parliamentum* and *Balia* were used more frequently, and to effect dramatic political changes” (Finer, 1997b, p. 970); “after 1382 ...[u]nder Maso degli Albizzi and his chosen successors, ...power moved away from the councils to private meetings, [and the] republic was moving to the *signoria velata* which the Medici would perfect after 1434” (Finer, 1997b, p. 979). Eventually, “[t]he constitution was suborned” (Finer, 1997b, p. 979).

In Venice, on the contrary, “[e]xtraordinary meetings could be called at the command of numerous magistracies which had been granted this right,” and “when the *Collegio* wanted rapid and secret emergency action, it had the option of sending the business to the [Council of] Ten rather than the Senate” (Finer, 1997b, p. 996, 1006). Equipped with strong emergency capacity, as well as the resilience of its system, “[w]hen the other Italian city-republics were almost all extinguished and the kingdoms of Western Europe were on the highroad, it was Venice and not Florence that became emblematic of republicanism” (Finer, 1997b, p. 985). Since the executive’s power was so limited by “overlapping authorities of

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<sup>16</sup>The *savii* were initially created about 1400 to help the burdened executive *Signoria* (Lane, 1973, p. 254).

various councils, ...the gains from capturing the Doge's post [was so] reduced" that Venice was "characterized by internal tranquility," and "[t]here were hardly any violent internal political conflicts" (Greif, 1995, p. 735, 738). This lasted until 1797, only when Venice "succumb[ed] to an invader," but still having "successfully preserved her independence for over 1,300 years and the identical constitution for the last 500" (Finer, 1997b, p. 985). As Finer (1997b, p. 996) comments, "the [Venetian] system successfully combined the principle of checks and balances with that of emergency action." The comparison between the Venetian and Florentine Republics is thus consistent with Propositions 3, 4, Corollaries 1, and 2.

### 5.3 Elite Cohesion, Judicial Insulation, and Peace under Non-unanimity Rules

Lemmas 3, 4, and Proposition 5 imply that only when the judiciary is sufficiently insulated from the executive *and* embedded in an inter-connected, socially cohesive elite circle, can society under a non-unanimity rule be free from perpetual society-wide political violence. This implication is consistent with England's transition from frequent civil wars to perpetual peace around the end of the 17th century and the beginning of the 18th century.

**The English experience.** As Stasavage (2020a, p. 17, 206–207) observes, "[c]ouncil and assembly governance existed throughout Europe during the medieval and early modern periods, ...where deputies were often bound by strict mandates, and local constituencies had the latitude to refuse central decisions." As these mandates implied veto power of each local constituency and greatly constrained the power of the ruler, since the 13th century, European monarchs had tried to summon the deputies with *plena potestas*, i.e., "full powers" without a mandate (Post, 1943, p. 368–370), but "their attempt ...met with limited success [and] often failed to work" (Stasavage, 2020a, p. 17, 130, 223–224). It was only in England where "*plena potestas* really took off" – "[a]s early as the fourteenth century, ...English monarchs ...succeeded in imposing the requirement that deputies be sent without mandates from their constituencies, ...[n]or could their constituents require them to refer back for approval before final decisions were made, and ...majority decisions [were] binding ...with no possibility for individual localities to block decisions or opt out of them" (Stasavage, 2020a, p. 17–18, 130–131, 197, 212, 223–224). The mandate system prevailing in medieval Europe has often been called "instructed representation" with "limited mandates," whereas the English exception "free representation" with the "plenipotentiary mandate" or "full powers" (Myers, 1975, p. 148; Weber, 1978, p. 293–296; Finer, 1997b, p. 1035). We thus read the political regime of

early-modern England as under a non-unanimity rule, i.e., majority rule, in our model.<sup>17</sup>

The House of Lords was the judiciary that was supposed to review persecution of peers (Lovell, 1949, p. 75). Against the backdrop of “local economic isolation” in the late 14th and 15th centuries, the aristocracy was “far from united” and “seriously divided” by “bitter ...private feuds” and “local rivalries,” which were easy to be “multiplied” and “escalat[ed]” (Plumb, 1967, p. 4; Wilkinson, 1969, p. 310–318). Our analysis in Section 4 predicts that a judiciary embedded in such a disconnected or socially incohesive elite circle would not be able to provide sufficient protection for elites against persecution. Indeed, in the late 14th century, the “abuses of cases ...had become so palpable ...in the House of Lords” (Lovell, 1949, p. 70–71); in the 15th century, “the king *de facto* periodically proscribed his enemies ...by act of parliament ...without, or so it seems, any ...judicial process” (Bellamy, 1970, p. 177).

Even when the protection from the House of Lords was at best “reduc[ed] to ...*in rem*,” the lords in the late Middle Ages still “found the crown unwilling to admit ...their claims [of] jurisdiction ...over peer trials” (Lovell, 1949, p. 70–71). For the worse, in 1499, “Henry VII ...took the old Court of Chivalry, made all its members peers, and replaced the constable at its head with a ...palace official, the lord high steward.” Since then, this “prerogative creation” of the crown, the Court of the Lord High Steward, “tried peers ...when Parliament was not in session, a condition not onerous for the Tudors, whose reigns saw all peer trials (ten treason cases) in this court” (Lovell, 1949, p. 75). It was notable that the “selection of ...triers [by] the crown” always put the triers under the king’s patronage with potential appointments to senior executive or ministerial positions in the future (Lovell, 1949, p. 71). We can thus read almost all the triers as the political justices in our model.

Lemma 4 and Proposition 5 predict that such an uninsulated judiciary would not be able to constrain the king’s persecution power. This was indeed the case – “the general result” was that the Court “ensured the crown control of peer trials”: from 1499 to 1686, among the 16 peer trials in the Court, there were “only three acquittal verdicts”; among the 20 in total during the same period, only four in total were acquitted; all the cases were capital cases (Lovell, 1949, p. 75, 79).

We have seen a lack of economic and social cohesion among the elites, frequent failures of the judiciary to assert its jurisdiction over peer trials, and also a lack of judicial insulation in England during the 14th–17th centuries. Our model predicts that England must have faced a significant risk of perpetual civil wars under the non-unanimity rule then. Indeed, England “had scarcely been free from turbulence for more than a decade at a time” and “experienced a civil war roughly every fifty years, ...continu[ing] up until the great Civil War

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<sup>17</sup>In a similar spirit, Boucoyannis (2015, 2021) reads the emergence of the English system as a reflection of the stronger, rather than weaker, power of the ruler, compared over time and across European states.

of the 1640s” (Plumb, 1967, p. 1; Fukuyama, 2018, p. 15). These wars were “often extremely bloody, ...occasionally involved tens of thousands of combatants on both sides, and led to the deaths of equal numbers of people” (Fukuyama, 2018, p. 15, 17). About the nature of these wars, they “pitted a monarch ...against various elite opponents” for “political power and, ultimately, dominance” (Fukuyama, 2018, p. 17, 20). All of these observations are consistent with our model.

It was only in the mid-17th century that the preconditions for the risk of perpetual civil wars started to wane. On the socio-economic front, a Durkheimian rise of connection, interdependence, and social cohesion among the elites was underway. As Plumb (1967, p. 4) summarizes, “[t]he development of inland navigation, ...together with the great drains recently cut to reclaim the Fens, ...had brought some of the most fertile and productive [and] rapidly developing ...regions of England within easy and cheap reach of London and the great outports.” This development “led to ...the steady growth of the home market, ...a greater diversification of economic enterprise, ...and the gradual obliteration of local economic isolation” among the elites (Plumb, 1967, p. 3–5). Besides these, “a dramatic growth in trade to America and the Indies ...required ever-greater conglomerations of capital and more sophisticated financial methods, which involved both the Crown and those very rich men on whom all monarchs had to rely” (Plumb, 1967, p. 3). The increasingly “complex” and “involved” financial structure further strengthened the connection, interdependence, and social cohesion among the elites (Plumb, 1967, p. 3).

On the institutional front, several critical developments helped England achieve judicial insulation around the end of the 17th century and the beginning of the 18th century. First, under the “supremacy of Parliament” after the Glorious Revolution of 1688, “[t]he Treason Act of 1695 provided that so long as a majority [in the House of Lords] was sufficient for treason conviction of peers, in such treason cases all peers must be summoned as triers, thereby destroying the usefulness of the court [of the Lord High Steward] to the crown, which never thereafter constituted it even for simple felony trials” (Lovell, 1949, p. 76). Second, the number of memberships of the House of Lords sharply increased during the 17th century from under 60 to nearly 200 (Russell, 2013, p. 17), admitting many more lords who were politically inactive and often skipped regular sessions but “attached ...importance” only “to the state trials” with “high attendance figures” (Rees, 1987, p. 195, 240, 245–246). Third, although minor offenses or civil cases involving a peer had been processed not in the House of Lords but in a common law or prerogative court, the Triennial Act 1641 “abolish[ed] all the prerogative courts,” and the Act of Settlement 1701 “lay down unambiguously that [all court] ‘Judges’ Commissions be made *quamdiu se bene gesserint* (for as long as they act well)’” (Finer, 1997c, p. 1347). The whole judicial system thus became “entirely free-standing,

bound only by statute, [and] decoupled from the main apparatus of central government” (Finer, 1997c, p. 1347). In the language of our model, all these developments increased the number of non-political justices and, therefore, helped to achieve judicial insulation.

Sufficient connection and social cohesion among elites and total insulation of the judiciary from the executive had thus come to England. Lemma 4 and Proposition 5 predict that the judiciary must have become capable of constraining the king’s persecution power and, therefore, preventing England under the majority rule from falling into perpetual civil wars. Consistent with the prediction, since the late 17th–mid-18th centuries, the “engine of the crown” to control peer trials and political persecution has been “wrecked,” and persecution of peers has become extremely rare (Lovell, 1949, p. 76, 79); from the 18th century on, England has been “completely ...peaceful and internally stable” (Fukuyama, 2018, p. 15).

**Other medieval or early modern European states.** Besides early modern England, how were the levels of judicial insulation and elite cohesion in other medieval or early modern European states? Table 5 provides a classification of them based on our theory. In the top-left quadrant is 18th-century England, the case just discussed. What about the other quadrants?

Table 5: Judicial insulation, elite cohesion, and political regimes of medieval or early modern European states

	Insulated judiciary	Uninsulated judiciary
Connected and socially cohesive elites	Majority rule	Unanimity rule
	18th-century England	Venetian Republic
Disconnected or socially incohesive elites	Unanimity rule	Unanimity rule
	Polish–Lithuanian Commonwealth, most medieval Italian city-republics	French <i>Ancien Régime</i> , Crown of Castile, Dutch Republic

Examples consistent with implications of Lemmas 3, 4, Propositions 1, 2, and 5.

**Polish–Lithuanian Commonwealth and most medieval Italian city-republics.** In the bottom-left quadrant are states that had a quite insulated judiciary but disconnected or socially incohesive elites.

For example, in the Polish–Lithuanian Commonwealth, the judicial power “[a]t the highest level” was held by the “the principal legislative body,” i.e., the *Sejm*, which “reserved its right to act as the supreme court [and] tried important cases of treason” and other state trials “in the name of the Republic” (Davies, 2005, p. 267). On the one hand, the *Sejm*’s membership was entitled not only to the “mighty magnates,” but also to “every one of the ...noblemen” (Finer, 1997b, p. 1047). Such a “wide ...ruling stratum” counted for “8 to 12 per cent [of] the population,” even “much higher than in England,” and included “many [lower noblemen] as poor as some of their peasants,” who were never politically “ambitious” to join the crown’s executive (Finer, 1997b, p. 1047; Frost, 2015, p. 352–353). In the language of our model, the Polish–Lithuanian judiciary was thus highly insulated from the executive.

On the other hand, given that Poland was “a land of vast distances, sparse communications, and comparatively feeble urbanization” in the late Middle Ages, the Polish noble estate had always featured “an intense particularism” that were closely attached to “tribal divisions, ...regional loyalties, [and] local magnates” (Finer, 1997b, p. 1045). In addition, the bitterness between the Polish and Lithuanian elites was not appeased but “soured considerably” by the Union of Lublin (Frost, 2015, p. 494). It is thus reasonable to conclude that elite cohesion in the Commonwealth was low.

A similar characterization can be made for most medieval Italian city-republics. A “common characteristic [of the Italian] city-republics of the fourteenth century,” except for Venice, was “the *podestà* in charge of judicial business” (Finer, 1997b, p. 963–964, 980). “[A]ssigned bodies of armed men [and] considerable staffs, [the] *podestà* and judges” had an “independent status,” to which “the executive [was] subject” (Finer, 1997b, p. 967, 979). One key feature of the *podestarial* judiciary was that “all the ...cities [other than Venice] perforce drew their *podestà* and their judges from other places, [not] call[ing] on its own native population” (Finer, 1997b, p. 1008). These foreign judicial officials were not eligible to join the executive bodies of the city in the future, so they were perfectly insulated from the executive in the language of our model (Finer, 1997b, p. 963, 966, 968–970; Waley and Dean, 2010, p. 40).

In addition to being foreign, the *podestà* should “have no relatives [or] have had offices” recently in the city; the appointment was very short, typically “only ...six months or a year”; “when in office,” he was not “to eat or drink in the company of any citizen [and] could not engage in trade”; “at the end of his term, ...he [was to] undergo ...the routine investigation of his tenure [and] not immediately re-eligible for appointment ...in the same city” (Waley and Dean, 2010, p. 41–42). Given all these restrictions, it is safe to say that the *podestarial* judiciary of a typical Italian city-republic was not much connected with the native elites.

**Venetian Republic.** The top-right quadrant of Table 5 are for states that had interconnected and socially cohesive elites but a judiciary that was not insulated from the executive. One such example is the Venetian Republic.

In the Venetian Republic, the judicial power was held by “the [Council of] *Quarantia* (Forty),” which was “chief[ly] ...the Court of Appeal” in the late 12th century and “[l]ater ...became a judicial bench exclusively” (Finer, 1997b, p. 989–990). Notably, “[t]he high magistracies” of the Republic, including members of the judicial Forty and executive councils, “were drawn ...from [an] inner circle ...consisted of not more than about 150 men” (Finer, 1997b, p. 1004, 1009). These “great families intermarried,” creating an “undoubtedly mitigating effect” on inter-clan tensions, if there were any, and “one clan might assist another on a particular occasion and then be repaid in kind by that other clan many years later,” building “graft ...[b]y way of this association” (Finer, 1997b, p. 1010–1011). In addition, “Venice was [such] a gerontocracy” that “[t]he *vecchi*, [i.e., the old,] shared the experiences of a lifetime of wheeling and dealing and negotiating with one another” (Finer, 1997b, p. 1011–1012). As a result, Venice had closely connected and socially cohesive elites, who “did not act as murderously rival factions” (Finer, 1997b, p. 1011).

At the same time, these elites “constantly revolved from one elected post to another” (Finer, 1997b, p. 1004). In particular, “this rapid rotation [could be] from ...the [judicial] Forty [after a] two-monthly term ...to ...a ducal councillor,” who sat with the doge in the highest-executive *Collegio* (Finer, 1997b, p. 994, 1004). In the language of our model, the judiciary of the Venetian Republic was thus not much insulated from its executive.

**French *Ancien Régime*, Crown of Castile, and Dutch Republic.** In the bottom-right quadrant of Table 5 are states that had neither an insulated judiciary nor connected elites. The very first example is the French *Ancien Régime*. This regime is of special interest because its social background was “typical of the European political situation,” its institutional arrangement was “the ...preeminent ...model in Europe,” and the political development of “[m]ost European states of the late medieval and early modern periods conformed, more or less closely, to the French pattern” (Strayer, 1970, p. 49).

Under the French *Ancien Régime*, “[f]eudal custom provided that a peer could be tried in the *curia regis* by the other peers when his life or his fief were in question” (Cuttler, 1981, p. 94). Note that in this tradition, the *curia regis*, literally the “royal council,” could be read as the executive council that we have modeled. Legally, although “the *Parlement* [of Paris] was the highest court in the kingdom” and “had a general civil and criminal jurisdiction,” still, “a king could ...override” the *Parlement* by “send[ing] it *lettres de jussion*, [i.e.,] orders for immediate registration [of] the edicts of the king, ...hold a *lit de justice*, [i.e., ‘a sitting

of justice,' or even] exile recalcitrant members ...and ...abolish the [*Parlement*] altogether” (Cuttler, 1981, p. 115; Finer, 1997c, p. 1310–1311). In practice, “the custom by which the peers themselves pronounced sentence ...was a privilege and not a right [and] fell into desuetude during the fourteenth century” (Cuttler, 1981, p. 94). From then to the 18th century applied the principle that “*adveniente principe, cessat magistratus*,” literally “arrives the king, ceases the court”: in the *Parlement* “it was the king who pronounced judgement ...with the attendance of ...royal councillors selected by the king,” while “the peers had only an advisory, if not simply a decorative, rôle” (Villers, 1984, p. 264; Cuttler, 1981, p. 114). In addition, “for a long time ...the members [of] the *Parlement* [and the] ‘King’s Council’ ...remained interchangeable” (Langlois, 1922, p. 72). Therefore, traditionally, legally, practically, and personnel-wise, in the language of our model, the judicial power of the French *Ancien Régime* was not only uninsulated from the executive but also ultimately held by senior members, or simply the head, of the executive.

To understand the relationship among the players who held judicial or executive power under the *Ancien Régime*, note that both the *Parlement* and the King’s Council “had taken shape ...at the expense of the former *Curia Regis*,” and “traces of their original unity [from the *Curia*] persisted” (Langlois, 1922, p. 71–72). Within this tradition the “[g]reat seigneurs and prelates,” who “frequently adopted the practice of attending the *curia regis* by proxy,” often tended to “indefinitely ...remain ...in the seclusion of their estate” (Ulph, 1951, p. 226). Over time, as new territories were acquired through annexations, these regional powers and noble houses clearly had their “own ...custom [with] a wide degree of diversity in local practices,” making “France ...a mosaic state, made up of many pieces ...with widely divergent characteristics” and strong “particularism and sense of local identity,” especially “in many of the out-lying provinces” (Strayer, 1970, p. 50, 52–53; Myers, 1975, p. 71). This encouraged the development of “widely differing institutions” that were “peculiar” while “deep-rooted” and “entrenched” in many regions under the respective noble houses, “especially [the ones that] had had a tradition of semi-independence of the Crown, such as Normandy, Languedoc, Dauphiné, Burgundy, Provence, and Brittany” (Strayer, 1970, p. 48, 51; Myers, 1975, p. 71). As a result, French national politics had “conflicting” and “narrow local views and interests” to “reconcile” (Lord, 1930, p. 138; Strayer, 1970, p. 52). In the extreme, regional and family rivalries could lead to assassinations or even civil wars, as in the case of the Armagnac–Burgundian feud (Langlois, 1922, p. 126–127). We thus read the French *Ancien Régime* as having a low level of interconnectedness and social cohesion among the elites.

A similar case was the Crown of Castile. Since Alfonso X, “the royal tribunal [was] the judicial arm” of the Crown and “claimed exclusive jurisdiction ...over ...treason to the king” and other high crimes committed by nobles (O’Callaghan, 1993, p. 42–44). Although

the nobility “repeated the request” for “trial by their peers” and later kings “promised to include noble justices,” the king-appointed justices in the tribunal were seldom the peers but “men who feared ...the king,” sometimes “all laymen” (O’Callaghan, 1989, p. 159–160; 1993, p. 43). Legally, in Castile “appeals would be carried from the ordinary royal judges to the *adelantado mayor* of Castile,” who was “a territorial administrator,” hence “ultimately to the king,” and the king “s[at] in judgement” on a regular schedule (O’Callaghan, 1989, p. 159–160; 1993, p. 43). The Castilian judicial power was thus uninsulated from and eventually held by the executive in the same way as in France. At the same time, the nobility held “suspicion of the judges,” and the general “enmity between the Castilians and Leonese” pervaded (O’Callaghan, 1989, p. 43, 160). All this made the former statement of “narrow local views and interests” about France also apply here (Lord, 1930, p. 138). We thus categorize the Crown of Castile as having insufficient social connectedness and cohesion among the elites in our model.

The final example in this quadrant is the case of the Dutch Republic. In the decentralized state, “there was no central court of justice for the Republic as a whole” (Price, 1994, p. 215). Instead, as seen in “the arrest and trial of [Johan van] Oldenbarnevelt and his associates in 1618–19,” state trials were held in an “*ad hoc* court set up by the States General” (Price, 1994, p. 214–215). “The States General consisted of the delegations from [the] provinces” to decide over “certain important matters” for the Republic (Price, 1994, p. 211–215). In particular, during state trials and “for [this] specific purpose, the States General was able to exercise powers that were unambiguously sovereign” (Price, 1994, p. 215). We can thus read the judiciary as part of the executive, rather than insulated from it.

It is important to note that the United provinces, which sent delegates to the States General, were “not so united” but had a “rather limited sense of common identity” (Price, 1994, p. 221). Indeed, “their traditions were of mutual conflict rather than of co-operation,” and “sharp differences [in] economic and social development and structure” generated “deep jealousies, even ...hostility” among them (Price, 1994, p. 221, 223). These “had inevitable and important effects on the politics of the Union” given “their different interests and ...values” (Price, 1994, p. 225, 233). Therefore, “there was a real question about the viability” of the Republic, and “many [even] feared that once the war [against Spain] was ended, the alliance would also collapse and with it the Union” (Price, 1994, p. 221, 234). “[W]here language and culture were concerned,” the differences did not help either, especially when complicated by the religious “conflict between remonstrants and contraremonstrants,” as they saw each other “as a threat to the survival of the state” (Price, 1994, p. 223; 1998, p. 101, 103). Given all this, we read these delegates to the States General, who held executive and judicial powers of the Dutch Republic, as socially incohesive.

**Political trials and political regimes in medieval and premodern Europe.** Lemmas 3, 4, and Proposition 5 imply that societies that have disconnected or socially incohesive elites *or* an uninsulated judiciary are prone to judicial abuse and political persecution and run the risk of civil conflict. Proposition 2 implies that this consideration could make such societies adopt unanimity rule for executive actions, i.e., political regimes that would grant elaborate checks and balances so that each individual stakeholder has veto power in any executive decisions. These implications are consistent with the history of political trials and political regimes of the examples discussed above. We now briefly discuss them one by one.

In the Polish–Lithuanian case, the famous 1505 principle of “*Nihil Novi*,” i.e., “nothing new ...should be decreed ...without the common agreement” from the *Sejm*, recognized the nobility’s collective, not individual, veto power. The bigger players thus still had “their carefully concocted plans” to override lesser members in the *Sejm* (Finer, 1997b, p. 1049; Frost, 2015, p. 349). As a result, in 1652, “[m]ajority voting was consciously rejected” because of “the prospect of chaos” (Davies, 2005, p. 259). Instead, “to check the absolutist designs of the Polish monarchy,” the famous *liberum veto* was adopted, granting veto power to each individual member of the *Sejm* (Finer, 1997b, p. 1049; Davies, 2005, p. 266).

For most medieval Italian city-republics, the *podestarial* judiciary worked to “promote political order” only when a “delicate balance of power [was] maintained” by “elaborate checks and balances” (Finer, 1997b, p. 1018; Greif, 2006, p. 241). Under autocratic shocks when the unanimity rule was temporarily broken by an individual or family capturing multiple important organs or powers, especially when required by emergency management, the *podestarial* judiciary was not able to maintain the political order (Greif, 2006, p. 245–246). This was also consistent with the institutional features that the *podestà* was “appointed by and responsible to the [executive] *Signoria*” and required “a sufficiently high wage,” which would have made him easy to be captured by the chief executive during a general emergency, i.e., when the chief executive had extensive authority while the republic was under pressure (Finer, 1997b, p. 967; Greif, 2005, p. 751; Greif, 2006, p. 240). As discussed in Section 5.2, the unanimity rule was vulnerable to autocratic shocks and eventually slipped into dictatorship-like regimes.

About the Venetian Republic, it is difficult to speculate whether political persecution would occur under a non-unanimity rule, because the unanimity rule in Venice, as shown in Section 5.2, had been strong and resilient. What we do know is that under this unanimity rule, Venice had “impartial justice” and “a freedom of speech and a toleration for individual views that were a byword throughout ...the whole Europe” (Finer, 1997b, p. 1017). Together with this was the fact that Venice “was never prey to civil war and even its civil disturbances were small beer, absolutely and relatively” (Finer, 1997b, p. 1016).

In both the French *Ancien Régime* and the Crown of Castile, it had been easy for the king to capture the judiciary. In France, the king “could use ...the authority with which [the *Parlement*] was endowed ...masterfully for his own purposes” (Cuttler, 1981, p. 115). In Castile, “the potential for abuse [of judicial power] was ever present,” since the king “fail[ed] to adhere to the legal standards set forth in the royal codes” by “deceitful inquests” and “execution without trial” of noblemen (O’Callaghan, 1993, p. 45).

Under this background, when “the old [executive] *curia regis* [was] enlarged [and] turned into parliaments, ...the system of imperative mandates,” under which “prox[ies] of great seigneurs and prelates [acted in] the *curia regis* ...only as instructed by those who employed [them],” was kept “as a convenient safeguard for the interests of the lay and ecclesiastical lords” and “‘men of the good towns’ or ...the commons” (Lord, 1930, p. 128, 138; Ulph, 1951, p. 226). The mandate system “was ...the norm in the French Estates General when it met,” and the consultation “talk[ing] directly to local notables or deputies [or] assembl[ies]” continued even when the Estates General did not meet regularly (Stasavage, 2020a, p. 129; Myers, 1975, p. 70). On the Iberian Peninsula, “[m]andates were widely applied by towns ...who sent representatives to assemblies,” and “in Castile and Leon [they were] ...almost constantly used, ...explicit and almost unchangeable” (Stasavage, 2020a, p. 129; Holden, 1930, p. 889, 895). As discussed in Section 5.2, the system in practice made a *de facto* unanimity rule by granting each constituency individual veto because of their right to “indefinitely postpone” and “suspend” decisions (Holden, 1930, p. 898; Ulph, 1951, p. 226; Lewis, 1962, p. 14).

In the Dutch Republic, the *ad hoc* judiciary’s “arrests and ...trials ...of Oldenbarnevelt and his associates,” which we have mentioned above, “were totally illegal [a]ccording to any strict interpretation of the principle of provincial sovereignty” (Price, 1994, p. 214). This was accompanied by the “purge [of] pro-Remonstrant nobles” by “Maurits [van Oranje,] now the presiding figure in the state” (Israel, 1995, p. 450). Although Maurits “took ...steps to ...subordinate the States of Holland to himself,” the mandate system and individual veto power of each province in the States General “remained unchanged”: “[i]n principle, the delegations [from the provinces] were strictly bound by their instructions”; “it was clear that in principle unanimity was necessary in all important matters,” and each province “had a veto in the States General” (Israel, 1995, p. 450–451; Price, 1994, p. 212–213, 279).<sup>18</sup> The logic behind the unanimity rule was that, “[i]t is evident that neither ...the subordination of Holland to the will of the majority of the provinces [n]or ...subjection of the weaker provinces to the direction of Holland,” i.e., no non-unanimity rule, “could have ...construct[ed] a stable

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<sup>18</sup>Although “the refusal of any one of them to agree to a given measure could, at a pinch, be ignored,” the consequence of such rare breaches of unanimity had been limited by the design that “[t]he presidency of the assembly changed every week, being held by ...each province in turn” (Price, 1994, p. 212, 279).

and workable system,” and “either was likely to lead to the break-up of the Union, or ...severe domestic unrest” (Price, 1994, p. 278–279).<sup>19</sup> The unanimity rule was thus “the cornerstone of the Union” (Price, 1994, p. 279).

## 6 Evolution of Separation of Powers, and Beyond

The focus of our theory is that the power to dominate and persecute may attract violent contest for such power, making it a cause rather than a solution to the Hobbesian war “of all against all.” We developed a dynamic game of political contest and persecution in a king’s council. Propositions 1 and 2 show that in a socially primitive setting, especially when the king cannot commit to spare anyone from persecution, only unanimity rule in the executive council can eliminate the risk of perpetual Hobbesian wars. When we endogenize the executive decision rule, Propositions 3 and 4 show that, although unanimity rule is stable, its resilience to autocratic shocks depends critically upon having the agenda-setting power in constitutional design separated from the chief executive, so that any non-unanimity rule would not collapse into dictatorship. When judicial review of persecution is present, Proposition 5 shows that the judiciary can help to preempt perpetual Hobbesian wars under a non-unanimity rule for executive actions, such as majority rule, only if the judiciary is embedded in an interconnected, socially cohesive elite circle, *and* if career paths of members of the judiciary are sufficiently insulated from the executive branch. We have discussed a few implications of these results in the realms of institutions, history, and political theory.

We hope that our paper opens new directions for future research. One such direction concerns different separation-of-powers institutions. Durkheim (2014) famously reads modernization as a socio-economic transition of the interpersonal relationship from “mechanical solidarity” to “organic solidarity.” In this reading, mechanical solidarity is based on similarities among individuals, such as their clan, race, and religion, consistent with low interdependence of social life across these identities; on the contrary, organic solidarity is based on an elaborate division of labor and a functional complementarity between dissimilar people, conferring a high degree of interdependence among them.

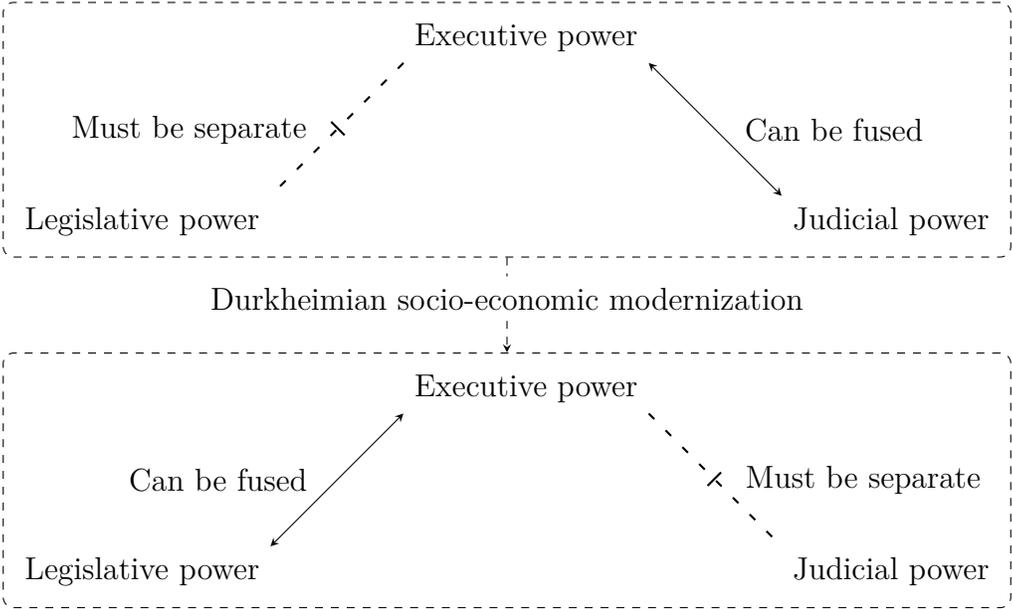
If we take the Durkheimian reading of modernization seriously while gathering all the results in this paper, a hypothesis about the evolution of separation of powers emerges. We summarize it in Figure 4. Proposition 5 implies that before modernization, since social cohesion is low, even an insulated judiciary would not preempt perpetual civil conflict under

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<sup>19</sup>Price (1994, p. 279) elaborates that “[a]ny ...system which allowed Holland to be ...coerced into ...support[ing] policies ...against its ...interests could not have lasted long,” whereas unanimity rule “also afforded the weaker provinces [a] protection from ...being overwhelmed by Holland.”

a non-unanimity rule for executive actions. Propositions 1 and 2 suggest that such society would rely on unanimity rule to secure civil peace, whereas Proposition 3 and 4 imply that for the unanimity rule to be resilient, separating the *executive* power from the *legislative* power would be crucial. Moreover, under a resilient unanimity rule, persecution would be impossible, so a separate judicial branch would not be a necessity.

After modernization, by Proposition 5, since social cohesion becomes high, societies could enjoy civil peace under a non-unanimity rule, such as majority rule, for executive actions, provided that the career paths of members of the *executive* and *judicial* powers are kept separate. Since such society does not have to adopt unanimity rule for executive actions, separating the executive power from the legislative power would not be necessary. Therefore, modernization may have shifted the focus of separation of powers from between the *executive and legislative* powers to between the *executive and judicial* powers.



Summary of implications of Propositions 1–5 and Durkheim (2014).

Figure 4: Evolution of separation of powers under socio-economic modernization

This hypothesis is consistent with the English experience during the 17th–18th centuries. Throughout the 17th century, “the crux of politics [was] greater control of Parliament by the executive or greater independence from it” (Plumb, 1967, p. 32). In particular, the Parliament fought hard to maintain that “no member of this House shall accept of any office, or place of profit from the Crown without leave of this House,” separating the executive from the legislature to prevent “the Crown’s agent[s] corrupting the Commons,” especially on constitutional issues at that time (Plumb, 1967, p. 48). Eventually “in 1689 the Commons

enjoyed [such] a freedom and ...independence that ...Parliament ...was free to ...formulate those constitutional changes that it felt necessary for its protection” (Plumb, 1967, p. 64–65).

This separation between the executive and legislature on constitutional issues, together with “[e]ach member of the trinity of king, lords, and commons [being] equal and ...possess[ing] an independent veto” (Weston, 1965, p. 2), turned out to be a bygone solution to the perpetual conflict under a non-unanimity rule for executive actions when the connection, interdependence, and social cohesion among the elites and society in general were too low. As discussed in Section 5.3, socio-economic modernization had been underway since the second half of the 17th century, so that civil peace under a non-unanimous regime had become possible; this possibility was realized with the decoupling of the judiciary from the executive, largely through the Treason Act of 1695 and the Act of Settlement 1701. Equally remarkable was that “the famous clause that ‘No person who holds an office of profit under the Crown, should be capable of serving in Parliament’ was ...repealed [from] the Act of Settlement [1701] [b]efore it was brought into operation” – “the ‘decoupled’ Crown and Parliament were ‘recoupled’” exactly when the executive–judiciary separation was institutionalized (Plumb, 1967, p. 144–145; Finer, 1997c, p. 1354).

This transition of the focus of separation of powers was reflected in the commentaries on the English experience from the leading thinkers at that time. Tuckness (2020) observes that, shortly after the Glorious Revolution of 1688, “Locke[’s] idea of separation of powers [concerns] [f]irst and foremost ...the legislative power [and] then [t]he executive power,” while “Locke does not mention the judicial power as a separate power [or] distinct function [to] the legislative and executive functions.” It was six decades later, in 1748, that Montesquieu (1989, p. 156–157) eventually elevated “the power of judging” to one of the “three sorts of powers [i]n each state,” and emphasized that “[n]or is there liberty, [i.e., the] security of each one, ...if the power of judging is not separate ...from executive power” because “the judge could have the force of an oppressor.”

The hypothesis about the evolution of separation of powers is also consistent with the process of socio-economic and political modernization in many other European states, such as France, Belgium, Germany, Hungary, Holland, Denmark, Piedmont, and Greece in the 19th century (Finer, 1997c, p. 1591). As Finer (1997c, p. 1589, 1591) observes, there were first “numerous ...constitutional monarchies,” whose “distinguishing principle” was “a free-standing and hereditary chief executive [who] takes all executive decisions through ministers responsible to himself alone, ...working with an elected legislature,” i.e., separating the executive and legislative powers. As time went on, “[b]y the nineteenth century, ...that connotation [of] a frame of political society *organized through and by the law* for the purpose of restraining arbitrary power ...had spread all over Europe” (Finer, 1997c, p. 1571). Under this backdrop,

“within a brief time ...many ...constitutional monarchies ...evolved into parliamentarism,” which was defined by having members of the executive “responsible to the legislature,” i.e., recoupling the executive and legislative powers (Finer, 1997c, p. 1589–1591).

If we take this hypothesis seriously, we may postulate a specific path of political development marked by a co-evolution between separation of powers and the executive decision rule: before socio-economic modernization, once an independent legislature was established, it consolidated the veto powers under unanimity rule for executive actions, conferring civil peace (Propositions 2 and 4). This peace in turn facilitated economic growth and socio-economic modernization, making the elites and society in general more interconnected and socially more cohesive (e.g., Durkheim, 2014). The ensuing socio-economic diversification demanded and accelerated professionalization of the law, helping to insulate the judicial power from the executive (e.g., Weber, 1978; Deflem, 2008). This process would allow society to fuse the legislature and the executive in a parliamentary democracy, which “must grapple ...with [the] problem of ‘tyranny of the majority’” because “political participation is broad but episodic,” and “blocking power” and “a need for consensus” are weaker than under unanimity rule (Proposition 5; Stasavage, 2020a, p. 17; Weber, 1978, p. 295; 2004, p. 47). Although beyond the scope of the current paper, efforts in this direction are warranted.

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# Appendix

## A Proof of Lemma 1

*Proof.* Consider any particular Markov strategy profile. First, for any given proposal of persecution, consider the voting decision of each ordinary member in a given period. For any ordinary member who is not on the persecution list, she is indifferent about the proposal given the continuation strategies in the Markov strategy profile, so she will vote for it. For any ordinary member who is on the persecution list, passing the proposal will generate a zero payoff and exit, whereas blocking it will generate  $R > 0$  at the end of the current period, with the non-negative continuation value of surviving into the next period under the continuation strategies in the Markov strategy profile, so she will vote against it.

Now consider the king's choice of the size of the persecution proposal  $p_t$  in the Markov strategy profile. Suppose the strategy profile is subgame perfect. Then the king must be taking the above-characterized voting decision of each ordinary member as given. For any given  $e \geq 2$ , if the king chooses  $p_t \geq e$ , the proposal will be rejected, and the king will get  $\delta V^K$ , where  $V^K$  is the continuation payoff for the king under the continuation strategies in the Markov strategy profile; if the king chooses  $p_t \leq e-1$ , the king will get  $p_t \kappa R / (1-\delta) + \delta V^K$ . Since the payoff from persecution and expropriation  $p_t \kappa R / (1-\delta)$  is positive and is strictly increasing in  $p_t \in \{0, 1, \dots, N-1\}$ , the king must thus choose  $p_t = e-1$ , the largest size of the persecution proposal that can still be approved by the council.

For  $e = 1$ , the king cannot get any persecution approved. Given the infinitesimal cost for any  $p_t \geq 1$ , he will thus choose  $p_t = 0$ .

Therefore, for the Markov strategy profile to be subgame perfect, i.e., to be an MPE, for any  $e \in \{1, 2, \dots, N\}$  the king must choose  $p_t = e-1$  and the council will eventually approve to persecute  $e-1$  ordinary members.  $\square$

## B Proof of Proposition 1 and Discussion on Robustness

*Proof.* We would like to show that as  $\delta \rightarrow 1$ , first, the strategy profile in consideration is an MPE and, second, it is the unique MPE.

**Claim 1.** As  $\delta \rightarrow 1$ , the strategy profile in consideration is an MPE. To prove Claim 1, as  $\delta \rightarrow 1$ , we need to compare each ordinary member's payoffs 1) under this strategy profile and 2) under a single deviation from the strategy profile only at the contest stage of period  $t$ , where she will unilaterally not contest the kingship. First, consider her payoff

under the strategy profile. It is

$$V^M = \left(1 - \Pi^M(N)\right) \cdot 0 + \Pi^M(N) \cdot V^K = \Pi^M(N) \cdot V^K, \quad (8)$$

where  $\Pi^M(N)$  is her probability to win the contest, and  $V^K$  is the value of being the new king under the strategy profile. Notice that the value of being the new king under the strategy profile is

$$V^K = (e - 1) \frac{\kappa R}{1 - \delta} + \delta \cdot \Pi^K(N) \cdot V^K = \frac{(e - 1) \frac{\kappa R}{1 - \delta}}{1 - \delta \Pi^K(N)}. \quad (9)$$

Therefore, her payoff under the strategy profile is

$$V^M = \Pi^M(N) \cdot \frac{(e - 1) \frac{\kappa R}{1 - \delta}}{1 - \delta \Pi^K(N)}. \quad (10)$$

Second, consider her payoff under the single deviation, i.e., she will unilaterally not contest the kingship only in period  $t$ . The payoff is

$$V' = \frac{N - e}{N - 1} \cdot \left(R + \delta V^M\right) = \frac{N - e}{N - 1} \cdot \left(R + \delta \Pi^M(N) \cdot \frac{(e - 1) \frac{\kappa R}{1 - \delta}}{1 - \delta \Pi^K(N)}\right), \quad (11)$$

where  $(N - e)/(N - 1)$  is the probability for member  $i$  to escape persecution in period  $t$ ;  $R$  is the flow payoff from her asset;  $V^M$  is the value of being an ordinary member who survives period  $t$  under the continuation strategies in the Markov strategy profile.

Now compare the two payoffs,  $V^M$  and  $V'$ , when  $\delta \rightarrow 1$ . Notice that by Equations (10) and (11), the difference between them is

$$V^M - V' = \left(1 - \frac{N - e}{N - 1} \cdot \delta\right) \cdot \Pi^M(N) \cdot \frac{(e - 1) \frac{\kappa R}{1 - \delta}}{1 - \delta \Pi^K(N)} - \frac{N - e}{N - 1} \cdot R \rightarrow \infty \quad \text{as } \delta \rightarrow 1, \quad (12)$$

because the council's decision rule is non-unanimous, i.e.,  $e \geq 2$ . Therefore, the ordinary member is strictly worse under the single deviation than under the strategy profile in consideration, i.e.,  $V^M - V' > 0$  as  $\delta \rightarrow 1$ . The strategy profile in consideration is thus an MPE as  $\delta \rightarrow 1$ .

**Claim 2.** As  $\delta \rightarrow 1$ , this proven MPE is the unique MPE. To prove this claim, suppose that there exists an alternative Markov strategy profile that is an MPE, in which, following Lemma 1, the king and the ordinary council members at each persecution stage must still have  $e - 1$  ordinary members persecuted. We would like to show that this alternative

Markov strategy profile cannot be an MPE.

To do that, first, we need to further characterize this supposed strategy profile. Since it is different from the one we have considered, then there must exist a period, which we denote as  $t$ , in which at least one ordinary member, whom we denote as  $i$ , will not contest the kingship at the contest stage. Since this supposed strategy profile is a Markov strategy profile, then under it, this ordinary member  $i$  must not contest from period  $t$  onwards as long as she survives.

We want to show that this ordinary member  $i$  can be better off under a single deviation from the supposed strategy profile, where she will change to contest only in period  $t$ . To do that, we need to compare, as  $\delta \rightarrow 1$ , her payoffs 1) under this supposed strategy profile and 2) under the single deviation from it. First, consider her payoff under the supposed strategy profile. It is

$$V^M = \frac{N-e}{N-1} \cdot \left( R + \delta V^M \right) = \frac{\frac{N-e}{N-1} \cdot R}{1 - \frac{N-e}{N-1} \cdot \delta}, \quad (13)$$

where  $(N-e)/(N-1)$  is the probability for her to escape persecution in period  $t$ ;  $R$  is the flow payoff from her asset;  $V^M$  is her value if she survives period  $t$  under the continuation strategies of the supposed Markov perfect strategy profile.

Second, consider this ordinary member  $i$ 's payoff under the single deviation, i.e., she will unilaterally change into contesting only in period  $t$ . The payoff is

$$V'' = \left( 1 - \Pi^M(Q') \right) \cdot 0 + \Pi^M(Q') \cdot V^K = \Pi^M(Q') \cdot V^K, \quad (14)$$

where  $Q'$  is the resulting number of participants of the contest under the single deviation, which satisfies  $Q' = \max\{2, Q + 1\}$ ;  $V^K$  is the value of being the new king at the beginning of the persecution stage under the continuation strategies in the strategy profile.

Notice that this value of being the new king is

$$V^K = (e-1) \frac{\kappa R}{1-\delta} + \delta \cdot \Pi^K(Q) \cdot V^K = \frac{(e-1) \frac{\kappa R}{1-\delta}}{1 - \delta \Pi^K(Q)}, \quad (15)$$

where  $Q \neq 1$  is the number of participants of the contest for the kingship in each period given the continuation strategies in the supposed Markov perfect strategy profile. We generalize  $\Pi^K(Q)$  to cover the case of  $Q = 0$  by defining  $\Pi^K(0) \equiv 1$ . Therefore, this ordinary member  $i$ 's payoff under the single deviation is

$$V'' = \Pi^M(Q') \cdot \frac{(e-1) \frac{\kappa R}{1-\delta}}{1 - \delta \Pi^K(Q)}, \quad (16)$$

Now compare the two payoffs,  $V^M$  and  $V''$ , when  $\delta \rightarrow 1$ . Notice that by Equation (13) and  $e \geq 2$ ,  $V^M$  is bounded; by Equation (16) and  $e \geq 2$ ,  $V''$  approaches infinity as  $\delta$  approaches 1. Therefore, we have

$$V'' - V^M = \Pi^M(Q') \cdot \frac{(e-1) \frac{\kappa R}{1-\delta}}{1 - \delta \Pi^K(Q)} - \frac{\frac{N-e}{N-1} \cdot R}{1 - \frac{N-e}{N-1} \cdot \delta} \rightarrow \infty \quad \text{as } \delta \rightarrow 1. \quad (17)$$

Therefore, as  $\delta \rightarrow 1$ ,  $V'' - V^M > 0$ . As  $\delta \rightarrow 1$ , this ordinary member  $i$  can be better off under the single deviation from the supposed strategy profile, which implies that the supposed strategy profile cannot be an MPE. Claim 2 is thus proven by contradiction.

**Gather Claims 1 and 2.** By Claims 1 and 2, when the council's decision rule is non-unanimous, i.e.,  $e \geq 2$ , as  $\delta \rightarrow 1$ , the strategy profile considered in the proposition is the unique MPE of the baseline model.  $\square$

**Social and personal discount factors.** Since we use the same parameter  $\delta$  for both the social discount factor and the players' personal discount factor, we would like to clarify their different roles in Proposition 1. First, as discussed in Section 2.2, the players' personal discount factor has no role to play here, and Proposition 1 will still hold if we denote the players' personal discount factor as a separate parameter, for example,  $\beta \in (0, 1)$ , and take it as given.<sup>20</sup> Second, note that if the players' personal discount factor rises, and if we take the expected value of staying on the conjectured equilibrium path ( $V^M$ ) as given, the expected value of the single deviation ( $V'$ ) will increase, making the deviation more appealing. Therefore, we can read Proposition 1 as a strong result that, given any non-unanimity rule of the council, when the social discount factor rises toward one, even if the players' personal discount factor also rises at a similar pace, perpetual Hobbesian wars can still feature in an MPE.

## C Proof of Proposition 2

*Proof.* We would like to show first that the strategy profile in consideration is an MPE and second that it is the unique MPE.

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<sup>20</sup>When denoting the personal discount factor as  $\beta$  and taking it as given, we can derive a few additional comparative statics results. For example, one can show that the threshold of  $\delta$  above which perpetual Hobbesian wars can feature in equilibrium is decreasing in  $e \in \{2, \dots, N\}$ , i.e., weaker domination of the king makes it more difficult for perpetual Hobbesian wars to feature in equilibrium.

**Claim 1. The strategy profile in consideration is an MPE.** To prove Claim 1, we need to compare each ordinary member's payoffs 1) under this strategy profile and 2) under a single deviation from the strategy profile only at the contest stage of period  $t$ , where she will unilaterally contest the kingship. First, her payoff under the strategy profile is

$$V^M = \frac{R}{1 - \delta} > 0. \quad (18)$$

Second, her payoff under the single deviation is

$$V' = \Pi^M(2) \cdot 0 = 0, \quad (19)$$

because any king will not be able to persecute anyone. Obviously,  $V^M > V'$ . Therefore, the strategy profile in consideration is an MPE.

**Claim 2. This proven MPE is the unique MPE.** To prove this claim, suppose that there exists an alternative Markov strategy profile that is an MPE, in which, following Lemma 1 and by  $e = 1$ , the king and the ordinary council members at each persecution stage will still not have any ordinary members persecuted. We would like to show that this alternative Markov strategy profile cannot be an MPE.

Under this supposed strategy profile, there must exist a period  $t$  in which at least one ordinary member  $i$ , will contest the kingship at the contest stage.

We would like to show that this ordinary member  $i$  can be better off under a single deviation from the supposed strategy profile, where she will change into not contesting only in period  $t$ . To do that, we need to compare her payoffs 1) under this supposed strategy profile and 2) under the single deviation from it. First, her payoff under the supposed strategy profile is

$$V^M = \Pi^M(Q) \cdot 0 = 0, \quad (20)$$

where we denote by  $Q$  the number of participants of the contest under the supposed Markov perfect strategy profile, while any king will not be able to persecute anyone. Second, her payoff under the single deviation is

$$V'' = R + \delta \cdot V^M = R. \quad (21)$$

Obviously  $V'' > V^M$ . Therefore, this ordinary member  $i$  can be better off under the single deviation from the supposed strategy profile, which implies that the supposed strategy profile cannot be an MPE. Claim 2 is thus proven by contradiction.

**Gather Claims 1 and 2.** By Claims 1 and 2, when the council's decision rule is unanimous, i.e.,  $e = 1$ , the strategy profile considered in the proposition is the unique MPE of the baseline model.  $\square$

## D Proof of Lemma 2

*Proof.* We want to show first that an MPE can include the strategies in consideration and second that any MPE cannot include alternative Markov strategies that would lead to unanimity being replaced by a non-unanimous decision rule.

**Claim 1. An MPE can include the strategies in consideration.** To prove this claim, we want to show, first, that if the agenda-setter proposes  $e'_{t+1} \geq 2$ , then no ordinary council member will be better off under a single deviation from the strategies in consideration, where she will unilaterally vote for the proposal in period  $t$ . Second, we want to show that the agenda-setter will not be better off under a single deviation either, where she would propose a change in the decision rule in period  $t$ .

First observe that each ordinary council member's payoff under the strategies in consideration is  $V = \delta \cdot R / (1 - \delta)$ . Second, consider a single deviation and, as required by sincere voting, suppose that the deviating ordinary member is pivotal, i.e., the single deviation can get  $e'_{t+1} \geq 2$  approved. Then the deviating ordinary member will contest in period  $t + 1$ , losing her asset for sure. Therefore, under the single deviation, she will not have any asset to generate any safe flow payoff however other players will behave; as a result, the best she will be able to hope for will be to become an ever-expropriating and thus ever-contested king onwards. This means her expected payoff will be bounded from above by

$$\begin{aligned} \bar{V}' &= \delta \Pi^M(N) \cdot \frac{(N-1)\kappa R}{1-\delta} + \left( \delta \Pi^K(N) \right) \cdot \left( \delta \Pi^M(N) \right) \cdot \frac{(N-1)\kappa R}{1-\delta} \\ &\quad + \left( \delta \Pi^K(N) \right)^2 \cdot \left( \delta \Pi^M(N) \right) \cdot \frac{(N-1)\kappa R}{1-\delta} + \dots = \frac{\delta \Pi^M(N) \frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^K(N)}. \end{aligned} \quad (22)$$

Observe that, by  $\delta \in (0, 1)$ ,  $\kappa \in (0, 1)$ , and  $(N-1) \cdot \Pi^M(N) + \Pi^K(N) = 1$ , we have  $V > \bar{V}'$ . Therefore, even if the single deviation can get  $e'_{t+1} \geq 2$  to be approved, the deviating ordinary member will not be better off.

What about the agenda-setter? Given the ordinary council members' strategies in consideration, no proposal to change the decision rule will be approved and the current decision rule will remain, i.e.,  $e_{t+1} = e_t = 1$ . Second, proposing a change will incur an infinitesimal cost  $\epsilon > 0$ , making not proposing more advantageous. Therefore, the agenda-setter will not

be better off by proposing a change in the decision rule.

No player will thus be better off under a single deviation from the strategies in consideration. The strategies in consideration can thus be included by an MPE. Claim 1 is proven.

**Claim 2. Any MPE cannot include alternative Markov strategies that would lead to unanimity being replaced.** To prove this claim, we suppose that there exist alternative Markov perfect strategies where the agenda-setter will propose an alternative decision rule  $e'_{t+1} \geq 2$  and the ordinary council members will vote for it.

Now consider a single deviation for one ordinary council member, where she will unilaterally vote against the proposal in period  $t$ . Her expected payoff under this single deviation is

$$V'' = \delta R + \delta^2 \cdot \Pi^M(N) \cdot V^K, \quad (23)$$

where  $R$  is the safe flow payoff she will receive in period  $t + 1$ , since given  $e_t = 1$ , she has blocked the change in the decision rule by her single vote and made  $e_{t+1} = e_t = 1$ ;  $\Pi^M(N)$  is her possibility to become a king in period  $t$ ;  $V^K$  is the expected payoff for a king after the contest stage in the supposed MPE. In the supposed MPE, instead, the same ordinary member's expected payoff is

$$V^M = \delta \cdot \Pi^M(N) \cdot V^K \geq 0, \quad (24)$$

because everyone will contest in period  $t + 1$ .

Now consider  $V^K$ :

$$V^K = \frac{(e'_{t+1} - 1)\kappa R}{1 - \delta} + \delta \cdot V_{t+2}^K \leq \frac{(N - 1)\kappa R}{1 - \delta} + \delta \cdot V_{t+2}^K, \quad (25)$$

where  $V_{t+2}^K$  is the expected payoff for a king before the contest stage at  $t + 2$ . Now consider  $V_s^K$  for any  $s \geq t + 2$ :

$$V_s^K \leq \max \left\{ \delta \cdot V_{s+1}^K, \Pi^K(N) \cdot \left( \frac{(N - 1)\kappa R}{1 - \delta} + \delta \cdot V_{s+1}^K \right) \right\}, \quad (26)$$

where  $V_{s+1}^K$  is the expected payoff for a king before the contest stage at  $s + 1$ , because the decision rule will be either unanimity or not at  $s \geq t + 2$ . With these at hand, by careful induction, one can show that  $V^K \leq \left( \frac{(N-1)\kappa R}{1-\delta} \right) / (1 - \delta \Pi^K(N))$ . As the induction is lengthy, we prove it as a separate lemma, Lemma D.1, after this current proof.

With this upper bound of  $V^K$ , now compare  $V''$  and  $V^M$ :

$$\begin{aligned} V'' - V^M &= \delta R + \delta^2 \cdot \Pi^M(N) \cdot V^K - \delta \cdot \Pi^M(N) \cdot V^K = \delta R - \delta \cdot \Pi^M(N) \cdot (1 - \delta) \cdot V^K \\ &\geq \delta R - \delta \cdot \Pi^M(N) \cdot (1 - \delta) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \cdot \Pi^K(N)} = \delta R \left( 1 - \frac{(N-1) \cdot \Pi^M(N) \kappa}{1 - \delta \cdot \Pi^K(N)} \right) > 0, \end{aligned} \tag{27}$$

since  $(N-1) \cdot \Pi^M(N) + \Pi^K(N) = 1$ ,  $\delta \in (0, 1)$ , and  $\kappa \in (0, 1)$ . Therefore, each ordinary council member will be better off under the single deviation. Therefore, the supposed MPE is not an MPE, contradicting what we have supposed. Claim 2 is thus proven by contradiction.

**Gather Claims 1 and 2.** By Claims 1 and 2, unanimity is thus stable in any MPE. The proposition is thus proven.  $\square$

**Lemma D.1.** *In the proof of Lemma 2, when proving Claim 2, the claim*

$$V^K \leq \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^K(N)} \tag{28}$$

*is true.*

*Proof.* Denote the countable set of future periods  $s \geq t + 2$  whenever  $\delta \cdot V_{s+1}^K > \Pi^K(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V_{s+1}^K \right)$  as  $\{s_n\}_{n=1}$ . This implies that

$$V_s^K \leq \begin{cases} \delta \cdot V_{s+1}^K, & \text{if } s \in \{s_n\}_{n=1}; \\ \Pi^K(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V_{s+1}^K \right), & \text{if otherwise.} \end{cases} \tag{29}$$

Note that this set can be empty, have a finite number of elements, or have an infinite number of elements. Without loss of generality, suppose  $s_1 \geq t + 4$  and  $s_2 \geq s_1 + 2$ . Now first iterate

to period  $s_1$ : by Inequations (25), (26), and (29), we have

$$\begin{aligned}
V^K &\leq \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V_{t+2}^K \leq \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot \Pi^K(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V_{t+3}^K \right) \\
&= \frac{(N-1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot \frac{(N-1)\kappa R}{1-\delta} + \Pi^K(N) \delta^2 \cdot V_{t+3}^K \\
&\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^2 \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^2 \delta^3 \cdot V_{t+4}^K \\
&\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-2} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{s_1-t-2} \delta^{s_1-t-1} \cdot V_{s_1}^K \\
&\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-2} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{s_1-t-2} \delta^{s_1-t-1} \cdot \delta \cdot V_{s_1+1}^K. \tag{30}
\end{aligned}$$

Then iterate to period  $s_2$ : by Inequations (26), (29), and (30) and  $\delta \in (0, 1)$ , we have

$$\begin{aligned}
V^K &\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-2} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{s_1-t-2} \delta^{s_1-t-1} \cdot \delta \Pi^K(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V_{s_1+2}^K \right) \\
&= \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-2} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{s_1-t-1} \delta^{s_1-t-1} \cdot \delta \cdot \frac{(N-1)\kappa R}{1-\delta} \\
&\quad + \Pi^K(N)^{s_1-t-1} \delta^{s_1-t} \cdot \delta \cdot V_{s_1+2}^K \\
&< \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-1} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{s_1-t-1} \delta^{s_1-t} \cdot \delta \cdot V_{s_1+2}^K \\
&\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_2-t-3} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{s_2-t-3} \delta^{s_2-t-2} \cdot \delta \cdot V_{s_2}^K \\
&\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_2-t-3} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{s_2-t-3} \delta^{s_2-t-2} \cdot \delta^2 \cdot V_{s_2+1}^K. \tag{31}
\end{aligned}$$

Now denote  $n_\tau \leq \tau - (t + 2)$  as the number of future periods  $s$  that are between  $t + 2$  and  $\tau - 1$  and are in  $\{s_n\}_{n=1}$ . Observing the induction above, when we iterate to period  $\tau$ , we

will have two cases. First, if  $n_\tau \geq 1$ , then, by  $\delta \in (0, 1)$ , we will have

$$\begin{aligned}
V^K &< \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2-n_\tau} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{\tau-t-2-n_\tau} \delta^{\tau-t-1-n_\tau} \cdot \delta^{n_\tau} \cdot V_\tau^K \\
&= \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2-n_\tau} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{\tau-t-2-n_\tau} \delta^{\tau-t-1} \cdot V_\tau^K \\
&< \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{\tau-t-2-n_\tau} \delta^{\tau-t-1} \cdot V_\tau^K;
\end{aligned} \tag{32}$$

second, if  $n_\tau = 0$ , then we will have

$$V^K \leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{\tau-t-2} \delta^{\tau-t-1} \cdot V_\tau^K. \tag{33}$$

Note that these two cases can just collapse into

$$V^K \leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2} \left( \delta \Pi^K(N) \right)^s + \Pi^K(N)^{\tau-t-2-n_\tau} \delta^{\tau-t-1} \cdot V_\tau^K. \tag{34}$$

Therefore, by iterating the induction to the infinite future, i.e., letting  $\tau$  approach infinity, we have

$$V^K \leq \frac{\frac{(N-1)\kappa R}{1-\delta}}{1-\delta \Pi^K(N)} + \lim_{\tau \rightarrow \infty} \left( \Pi^K(N)^{\tau-t-2-n_\tau} \delta^{\tau-t-1} \cdot V_\tau^K \right). \tag{35}$$

Note that  $V_\tau^K$  is always bounded by  $\left( \frac{(N-1)\kappa R}{1-\delta} \right) / (1-\delta)$  because the king will not be able to do better than surviving and expropriating  $N-1$  ordinary council members for sure in each period, and this upper bound is finite; also, note that  $n_\tau \leq \tau - (t+2)$  and  $\Pi^K(N) \in (0, 1)$ , so  $\Pi^K(N)^{\tau-t-2-n_\tau} \in (0, 1)$ , i.e., it is finite, too. Therefore, by  $\delta \in (0, 1)$ , we have

$$\lim_{\tau \rightarrow \infty} \left( \Pi^K(N)^{\tau-t-2-n_\tau} \delta^{\tau-t-1} \cdot V_\tau^K \right) = 0 \tag{36}$$

and thus

$$V^K \leq \frac{\frac{(N-1)\kappa R}{1-\delta}}{1-\delta \Pi^K(N)}. \tag{37}$$

□

## E Proof of Proposition 3 and Discussion on Robustness

*Proof.* By Lemma 2, we know that unanimity is stable. To prove the rest of the proposition, we want to show that, in any MPE, first, if  $e_t = N$ , the king will not propose to change the decision rule; second, if  $2 \leq e_t \leq N - 1$ , then the king proposing  $e'_{t+1} = N$  and all ordinary council members voting for it can be part of an MPE; third, if  $2 \leq e_t \leq N - 1$ , no alternative Markov strategies that would lead to  $e_{t+1} \neq N$  can be part of an MPE.

**Claim 1. In any MPE, if  $e_t = N$ , the king will not propose to change the decision rule.** First, note that if  $e_t = N$ , the king's proposal  $e'_{t+1}$  will become  $e_{t+1}$  automatically. Thus, we do not need to specify the voting decisions of the ordinary council members.

Now we check whether a single deviation, where the king will propose  $e'_{t+1} \in \{1, 2, \dots, N\}$ , will make the king better off or not. First, note that without any deviation, the king's expected payoff is

$$V^K = \delta \Pi^K(N) \cdot \frac{(N-1)\kappa R}{1-\delta} + \left(\delta \Pi^K(N)\right)^2 \cdot \frac{(N-1)\kappa R}{1-\delta} + \dots = \frac{\delta \Pi^K(N) \cdot \frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^K(N)}. \quad (38)$$

Second, if the king deviates to propose  $e'_{t+1} = 1$ , then by Lemma 2, perpetual civil peace will bring him a payoff of  $V' = 0$  since the king does not have any asset. Obviously,  $V^K > V'$ , since unanimity brings perpetual peace without expropriation, while dictatorship brings the opportunity to expropriate. Third, if the king deviates to propose  $e'_{t+1} \in \{2, 3, \dots, N-1\}$ , then his expected payoff is at most

$$\begin{aligned} \bar{V}'' &= \delta \Pi^K(N) \cdot \frac{(N-2)\kappa R}{1-\delta} + \left(\delta \Pi^K(N)\right)^2 \cdot \frac{(N-1)\kappa R}{1-\delta} \\ &\quad + \left(\delta \Pi^K(N)\right)^3 \cdot \frac{(N-1)\kappa R}{1-\delta} + \dots = V^K - \delta \Pi^K(N) \cdot \frac{\kappa R}{1-\delta}, \end{aligned} \quad (39)$$

i.e., a situation where he could win the contest and expropriate at most  $N - 2$  ordinary council members in period  $t + 1$  and keep winning and expropriate at most  $N - 1$  ordinary members from period  $t + 2$  onwards. Observe that  $V^K > \bar{V}''$ , since she will expropriate at least one fewer ordinary council members at the persecution stage of period  $t + 1$  if he proposes  $e'_{t+1} \in \{2, 3, \dots, N - 1\}$ . Finally, if the king deviates to propose  $e'_{t+1} = N$ , he will just pay the additional cost of proposal for no change. Therefore, any single deviation will not make the king better off, i.e., not proposing any change from  $e_t = N$  can be part of an MPE.

Now we check whether an MPE can include an alternative strategy for the king. We examine the alternatives one by one. First, consider the strategy where the king will propose

$e'_{t+1} = 1$ . By Lemma 2, this strategy in an MPE will lead to perpetual peace and no expropriation, generating a payoff of  $-\epsilon$ . A single deviation from it, where the king will propose  $e'_{t+1} \geq 2$ , would at least generate an expected payoff of  $\delta\Pi^K(N)\kappa R/(1-\delta) > 0$  because of the possible winning and expropriation in period  $t+1$ , making the king better off. Therefore, this considered strategy cannot be part of an MPE. Second, consider the strategy where the king will propose  $e'_{t+1} = N$ . A single deviation from it whereby the king will not propose any change in the decision rule only in period  $t$ , will save the king the infinitesimal cost of proposing. Therefore, this considered strategy cannot be part of an MPE, either. Finally, consider any strategy that the king will propose  $e'_{t+1} = e' \in \{2, 3, \dots, N-1\}$ . The king's expected payoff is

$$\tilde{V} = \delta\Pi^K(N) \cdot V^K(e_{t+1} = e'), \quad (40)$$

where  $V^K(e_{t+1} = e')$  is the value of being a king after the contest stage in period  $t+1$ . Under a single deviation from the supposed MPE, where the king will propose  $e'_{t+1} = N$  instead only in period  $t$ , will generate the expected payoff

$$V''' = \delta\Pi^K(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} + \delta\Pi^K(N) \cdot V^K(e_{t+1} = e') \right). \quad (41)$$

Note that

$$V^K(e_{t+1} = e') < \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta\Pi^K(N)}, \quad (42)$$

since the king can only expropriate  $e' - 1 < N - 1$  ordinary members in period  $t + 1$ . Therefore,

$$\begin{aligned} V''' - \tilde{V} &= \delta\Pi^K(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} - \left(1 - \delta\Pi^K(N)\right) \cdot V^K(e_{t+1} = e') \right) \\ &> \delta\Pi^K(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} - \frac{(N-1)\kappa R}{1-\delta} \right) = 0, \end{aligned} \quad (43)$$

i.e., the king will be better off under the single deviation. Therefore, this considered strategy cannot be part of an MPE either. Therefore, any MPE cannot include any alternative strategy for the king.

We have now established that not proposing any change from  $e_t = N$  can be part of an MPE and any MPE cannot include any alternative strategy for the king. Claim 1 is thus proven.

**Claim 2.** If  $2 \leq e_t \leq N - 1$ , then the king proposing  $e'_{t+1} = N$  and all ordinary council members voting for it can be part of an MPE. To prove the claim, we need

to check whether the king or an ordinary council member can be better off under a single deviation from the strategies in consideration, supposing that the continuation strategies constitute an MPE.

Now examine whether an ordinary council member can be better off under a single deviation, where she will vote against the proposal only in period  $t$ , supposing that the continuation strategies constitute an MPE. Note that the strategies in consideration will give her an expected payoff of

$$V^M = \delta \Pi^M(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} + V^K(e_{t+2} = N) \right) \quad (44)$$

where

$$V^K(e_{t+2} = N) = \delta \Pi^K(N) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^K(N)}, \quad (45)$$

is, by Claim 1, the value of being the king after the contest and persecution stages in period  $t+1$  in any MPE. The single deviation, if it can get the proposal rejected, will give the deviating ordinary member an expected payoff of

$$V' = \delta \Pi^M(N) \cdot \left( \frac{(e_t - 1)\kappa R}{1-\delta} + V^K(e_{t+2} = N) \right). \quad (46)$$

Since  $e_t \leq N$ , we have  $V^M > V'$ . Therefore, the single deviation cannot make the deviating ordinary member better off, even if the single deviation can get the proposal rejected, supposing that the continuation strategies constitute an MPE.

Now examine whether the king can be better off under a single deviation, where the king instead does not propose a change in the decision rule or proposes  $e'_{t+1} = e' \in \{2, 3, \dots, N-1\} \setminus \{e_t\}$  or  $e'_{t+1} = 1$  only in period  $t$ . First, note that, supposing that the continuation strategies constitute an MPE, the strategies in consideration will give the king an expected payoff of

$$V^K(e_{t+1} = N) = \delta \Pi^K(N) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^K(N)}, \quad (47)$$

by Claim 1. Second, if the king does not propose a change in the decision rule only in period  $t$ , he will get

$$V'' = \delta \Pi^K(N) \cdot \left( \frac{(e_t - 1)\kappa R}{1-\delta} + V^K(e_{t+2} = N) \right). \quad (48)$$

Supposing the continuation strategies constitute an MPE, by Claim 1,  $V^K(e_{t+1} = N) = V^K(e_{t+2} = N)$ . Therefore, by  $e_t \leq N-1$ , we have  $V^K(e_{t+1} = N) > V''$ , i.e., the king will not be better off under this single deviation. Third, if the king proposes  $e'_{t+1} = e' \leq N-1$

instead only in period  $t$ , then, no matter whether it will be approved, the king will get at most

$$\bar{V}''' = \delta \Pi^K(N) \cdot \left( \frac{(N-2)\kappa R}{1-\delta} + V^K(e_{t+2} = N) \right). \quad (49)$$

Again, we have  $V^K(e_{t+1} = N) > \bar{V}'''$ , i.e., the king will not be better off under this single deviation. Finally, if the king proposes  $e'_{t+1} = 1$  only in period  $t$ , then, if it is approved by the council, by Lemma 2 he will not have any opportunity to expropriate in perpetual civil peace, supposing that the continuation strategies constitute an MPE; if it is rejected by the council, by a logic similar to just above, he will still expropriate fewer than  $N - 1$  ordinary members in period  $t + 1$ . In both cases, he will not be better off. Therefore, we conclude that the king cannot be better off under a single deviation, supposing that the continuation strategies constitute an MPE.

We have now established that neither the king nor an ordinary council member can be better off under a single deviation from the strategies in consideration, supposing the continuation strategies constitute an MPE. The strategies in consideration can thus be part of an MPE. Claim 2 is thus proven.

**Claim 3. If  $2 \leq e_t \leq N - 1$ , any MPE cannot include alternative Markov strategies for the king or the ordinary council members that would lead to  $e_{t+1} \neq N$ .** There are several possibilities for the alternative strategies: first, the king does not propose any change in the decision rule; second, the king proposes  $e'_{t+1} = 1$  and the ordinary members vote for it; third, the king proposes  $e'_{t+1} = e_t$  and the ordinary members may or may not vote for it; finally, the king proposes  $e'_{t+1} \in \{2, 3, \dots, N - 1\} \setminus \{e_t\}$  and the ordinary members vote for it. We examine these alternatives one by one.

First, suppose that not proposing any change in the decision rule is part of an MPE. The king's expected payoff in the supposed MPE is thus

$$V^K(e_{t+1} = e_t) = \delta \Pi^K(N) \cdot \left( \frac{(e_t - 1)\kappa R}{1 - \delta} + V^K(e_{t+2} = e_t) \right), \quad (50)$$

where  $V^K(e_{t+2} = e_t)$  is the value of being the king after persecution in period  $t + 1$ , knowing that the decision rule  $e_{t+2} = e_{t+1} = e_t$  in period  $t + 2$ . Now consider a single deviation where the king will instead propose  $e'_{t+1} = N$  only in period  $t$ . By the proof of Claim 2, in any MPE the ordinary members will approve  $e'_{t+1} = N$ , and by Claim 1, in any MPE,  $e_{t+1} = N$  is an absorbing state. Therefore, the king's expected payoff under the single deviation is thus

$$V'''' = \delta \Pi^K(N) \cdot \left( \frac{(N-1)\kappa R}{1-\delta} + V^K(e_{t+2} = N) \right). \quad (51)$$

Since  $e_t < N$  and  $V^K(e_{t+2} = e_t) \leq V^K(e_{t+2} = N)$  as non-dictatorship, non-unanimous regimes could have persecuted at least one more ordinary members, we have  $V^K(e_{t+1} = e_t) < V''''$ . Therefore, a single deviation can make the king better off, suggesting that the supposed MPE is not an MPE. Therefore, not proposing any change in the decision rule cannot be part of an MPE.

Second, suppose that the king proposing  $e'_{t+1} = 1$  and the ordinary members voting for it can be part of an MPE. The king's expected payoff in the supposed MPE is thus zero, since by Lemma 2, unanimity is an absorbing state in any MPE and will bring civil peace and no persecution. Now consider a single deviation where the king will not propose a change in the decision rule only in period  $t$ . The single deviation will bring at least  $\delta \Pi^K(N) \cdot \frac{(e_t - 1)\kappa R}{1 - \delta} > 0$  to the king in expectation. Therefore, the king can be better off under the single deviation, suggesting that the supposed MPE is not an MPE. Therefore, the king proposing  $e'_{t+1} = 1$  and the ordinary members voting for it cannot be part of an MPE.

Third, suppose that the king proposing  $e'_{t+1} = e_t$  and the ordinary members voting for or against it can be part of an MPE. A single deviation where the king does not propose anything will thus save him the infinitesimal cost. Therefore, the king can be better off under the single deviation, suggesting that the supposed MPE is not an MPE. Therefore, the king proposing  $e'_{t+1} = e_t$  and the ordinary members voting for or against it cannot be part of an MPE.

Finally, suppose that the king proposing  $e'_{t+1} = e' \in \{2, 3, \dots, N - 1\} \setminus \{e_t\}$  and the ordinary members voting for it can be part of an MPE. By Claim 1, in any MPE,  $e_{t+1} = N$  is an absorbing state, so the king's expected payoff in this supposed MPE is at most

$$\bar{V} = \delta \Pi^K(N) \cdot \left( \frac{(e' - 1)\kappa R}{1 - \delta} + V^K(e_{t+2} = N) \right). \quad (52)$$

Now consider a single deviation where the king proposes  $e'_{t+1} = N$  instead only in period  $t$ . By the proof of Claim 2, in any MPE the ordinary members will approve  $e'_{t+1} = N$ , and by Claim 1, in any MPE,  $e_{t+1} = N$  is an absorbing state, again. Therefore, the king's expected payoff under the single deviation is thus, again,

$$V'''' = \delta \Pi^K(N) \cdot \left( \frac{(N - 1)\kappa R}{1 - \delta} + V^K(e_{t+2} = N) \right). \quad (53)$$

Since  $e' < N$ , we have  $\bar{V} < V''''$ . Therefore, a single deviation can make the king better off, suggesting that the supposed MPE is not an MPE. Therefore, the king proposing  $e'_{t+1} = e' \in \{2, 3, \dots, N - 1\} \setminus \{e_t\}$  and the ordinary members voting for it cannot be part of an MPE.

We have now established that an MPE cannot include any alternative Markov strategies

for the king or the ordinary council members that would lead to  $e_{t+1} \neq N$ . Claim 2 is proven.

**Gather Lemma 2 and Claims 1, 2, and 3.** The proposition is thus proven.  $\square$

**Robustness of Proposition 3.** A driving force behind the intuition and proof of Proposition 3 is the fact that the king at the constitutional convention after some contest–persecution stages under a non-unanimity rule has no asset. There are two ways to perturb the setting so that this would not hold. The first is to assume that the contest will damage the winner’s asset only partially, or not at all. The pattern of regime transition in Proposition 3 can then still be supported by an MPE, as long as the incumbent advantage in a Hobbesian war, i.e.,  $\Pi^K(N)/\Pi^M(N)$ , is not too small. In that case, it will be sufficiently likely for the king to win in future contests under dictatorship, so that he will prefer dictatorship in the future to unanimity rule. The second is to assume that, after persecution, instead of automatically selling all the expropriated assets, the king will add some of them to his holdings, which will keep generating cash flows for him to consume until he is dethroned. Under this perturbation, the pattern of regime transition in Proposition 3 can still be supported by an MPE when the incumbent advantage in a Hobbesian war is sufficiently big, as long as there exists a finite upper bound over the king’s holdings, for example, because of a natural limit of one’s span of control, making persecution power still attractive under Hobbesian wars compared to peace under unanimity rule.

## F Proof of Proposition 4

*Proof.* By Lemma 2, we have known that unanimity is stable. To prove the rest of the proposition, we want to show that, if  $e_t \geq 2$ , first, the agenda-setting ordinary council member proposing  $e'_{t+1} = 1$  and all ordinary council members voting for it can be part of an MPE; second, no MPE can include any alternative Markov strategies that would lead to  $e_{t+1} \neq 1$ . Also note that we do not need to specify the king’s strategy, since when  $e_t \geq 2$ , he cannot on his own block any proposal of constitutional revision.

**Claim 1. The agenda-setting ordinary council member proposing  $e'_{t+1} = 1$  and all ordinary council members voting for it can be part of an MPE.** To prove this claim, we need to examine whether a single deviation can make the players better off. First, notice that, supposing the continuation strategies constitute an MPE, then by Lemma 2, the decision rule will stay at unanimity under the strategy in consideration, and the expected

payoff of each ordinary council member in the constitutional convention will be

$$V^M(e_{t+1} = 1) = \delta \cdot \frac{R}{1 - \delta}. \quad (54)$$

Second, consider a single deviation by an voting ordinary council member, where she will unilaterally vote against  $e'_{t+1} = 1$  only in period  $t$ . If the deviation can cause the proposal to be rejected, then the deviating ordinary member's expected payoff will be

$$V' = \delta \Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1 - \delta}, \quad (55)$$

i.e., she hopes to become the king in period  $t + 1$  so that she can persecute and expropriate, but that would give her no additional payoffs in the future civil peace from period  $t + 2$  onwards brought by unanimity, as she will not have any asset then. Note that by  $e_t \leq N$ ,  $(N - 1)\Pi^M(N) < 1$ , and  $\kappa \in (0, 1)$ , we have

$$V' = \delta \Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1 - \delta} \leq \delta \cdot \frac{(N - 1)\Pi^M(N)\kappa R}{1 - \delta} < \delta \cdot \frac{R}{1 - \delta} = V^M(e_{t+1} = 1). \quad (56)$$

Therefore, even if the single deviation could get  $e'_{t+1} = 1$  rejected, it cannot make the deviating ordinary member better off.

Third, consider another single deviation by the agenda-setting ordinary council member, where she will propose  $e'_{t+1} \geq 2$  or not propose any change in the decision rule instead only in period  $t$ . Under the single deviation, her expected payoff is, by  $e_t \leq N$ , at most

$$\bar{V}'' = \delta \Pi^M(N) \cdot \frac{(N - 1)\kappa R}{1 - \delta}, \quad (57)$$

i.e., again, she hopes to become the king in period  $t + 1$  so that she can persecute and expropriate, but that would give her no additional payoffs in the future civil peace from period  $t + 2$  onwards brought by unanimity, as she will not have any asset then. Again, by  $(N - 1)\Pi^M(N) < 1$  and  $\kappa \in (0, 1)$ , we have  $\bar{V}'' < V^M(e_{t+1} = 1)$ . Therefore, the single deviation cannot make the agenda-setting ordinary council member better off.

We have thus established that no single deviation from the strategies in consideration can make any ordinary council members better off. Therefore, the strategies in consideration can be part of an MPE. Claim 1 is thus proven.

**Claim 2. Any MPE cannot include any alternative Markov strategies that would lead to  $e_{t+1} \neq 1$ .** There are two possibilities for the alternative Markov strategies: first, the agenda-setting ordinary council member does not propose a change in the decision rule;

second, she proposes  $e'_{t+1} \in \{2, 3, \dots, N\} \setminus \{e_t\}$  and all ordinary council members vote for the proposal. We now examine whether a single deviation from these alternatives can make the deviating player better off.

First, note that, under both of the possibilities of the alternative strategies, period  $t + 1$  will have a non-unanimity rule. The period- $t$  agenda-setting ordinary council member will thus have her asset destroyed in the Hobbesian war in period  $t$ . Therefore, her expected payoff in the constitutional convention in period  $t$  is, by  $e_{t+1} \leq N$ , at most

$$\bar{V} = \delta \Pi^M(N) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^K(N)}. \quad (58)$$

Second, consider a single deviation from either of the alternative strategies, where the agenda-setting council member will propose  $e'_{t+1} = 1$  instead only in period  $t$ . Note that by the proof of Claim 1, in any MPE, if  $e'_{t+1} = 1$  is proposed, then all ordinary council members will vote for it; also, by Lemma 2, in any MPE, unanimity is an absorbing state. Therefore, under the single deviation and given the continuation strategies in the supposed MPE, the period- $t$  agenda-setting ordinary council member's expected payoff is

$$V''' = \delta \cdot \frac{R}{1 - \delta}, \quad (59)$$

i.e., the safe returns from the asset in perpetual peace brought by unanimity. Further note that, by  $(N - 1)\Pi^M(N) + \Pi^K(N) = 1$ ,  $\kappa \in (0, 1)$ , and  $\delta \in (0, 1)$ , we have

$$\bar{V} = \delta \Pi^M(N) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^K(N)} < \delta \cdot \frac{\frac{(1-\Pi^K(N)) \cdot R}{1-\delta}}{1 - \delta \Pi^K(N)} < \delta \cdot \frac{\frac{(1-\delta \Pi^K(N)) \cdot R}{1-\delta}}{1 - \delta \Pi^K(N)} = \delta \cdot \frac{R}{1 - \delta} = V'''. \quad (60)$$

Therefore, the single deviation can make the agenda-setting ordinary council member better off, suggesting that the supposed MPE is not an MPE. Therefore, both of the possible alternative strategies cannot be part of an MPE. Claim 2 is thus proven.

**Gather Claims 1 and 2.** The proposition is thus proven. □

## G Proof of Lemma 3

*Proof.* We need to examine whether each player would be better off by switching to a single deviation from the considered strategy profile. First, consider any non-political justice  $i$ . Facing any persecution proposal and any transfer  $T_{it} \geq 0$ , her expected payoff under the

considered strategy profile is

$$V^N = T_{it} + \frac{R_{i,t-1}}{1-\delta}; \quad (61)$$

her expected payoff under a single deviation, i.e., voting against only the current persecution proposal, is

$$V' = \frac{R_{i,t-1}}{1-\delta} \leq V^N, \quad (62)$$

regardless of whether she is pivotal. She is thus not better off under the single deviation.

Second, consider any political justice  $i$ . Facing any persecution proposal and any transfer  $T_{it} \geq 0$ , her expected payoff under the considered strategy profile is

$$V^P = T_{it} + R_{i,t-1} + \delta \left( z \cdot V^M + (1-z)V^P \right), \quad (63)$$

where  $V^M$  is the expected value of being an ordinary council member at the start of period  $t+1$ ; her expected payoff under a single deviation, i.e., voting against only the current persecution proposal, is

$$V'' = R_{i,t-1} + \delta \left( z \cdot V^M + (1-z)V^P \right) \leq V^P, \quad (64)$$

regardless of whether she is pivotal. She is thus not better off under the single deviation.

Third, consider the king at the persecution stage. Given the continuation strategies in the considered strategy profile, no transfer is needed to influence the justices into voting for the persecution proposal; when he is choosing the number of ordinary council members to persecute, his choice does not affect his continuation value after period  $t$ , but choosing  $p_t = e-1$  maximizes his expected expropriation profit in period  $t$ . Therefore, no single deviation from the considered strategy profile can better him off.

Fourth, consider any ordinary council member at the contest stage. Her expected payoff under the considered strategy profile is

$$V^M = \Pi^M(N) \cdot \left( \frac{(e-1)\kappa R}{1-\delta} + \delta V^K \right) \geq 0, \quad (65)$$

where  $V^K$  is the expected value of being the king at the start of period  $t+1$  and  $e \geq 2$ . Her expected payoff under a single deviation, i.e., not contesting only in period  $t$ , is

$$\bar{V} = 0 \leq V^M, \quad (66)$$

because, given others' strategies in the considered strategy profile, she will become the unique most senior ordinary member at the following persecution stage and thus be persecuted for

sure. Therefore, the single deviation cannot be profitable.

No player could be better off by switching to a single deviation from the considered strategy profile. The lemma is thus proven.  $\square$

## H Proof of Lemma 4

*Proof.* We prove the three claims one by one.

**Claim 1.** First, examine any non-political justice  $i$ 's strategy given any persecution proposal with  $p_t$  ordinary members to be persecuted. Suppose that she is pivotal. Her expected payoff from voting for the proposal is

$$V^N = (1 - cp_t)R + T_{it} + \delta \cdot \frac{(1 - cp_t)R}{1 - \delta} = T_{it} + \frac{(1 - cp_t)R}{1 - \delta}, \quad (67)$$

where  $R$  is her potential return to asset because  $\theta_t = 1$ , while  $(1 - cp_t)R$  is the current and future flow payoff from her asset given the persecution externality in the current period and everyone following the MPE in Lemma 3 in all future periods. Her expected payoff under a single deviation, i.e., voting against and thus blocking the proposal, is

$$V' = R + \delta \cdot \frac{R}{1 - \delta} = \frac{R}{1 - \delta}, \quad (68)$$

where  $R$  is her current and future flow payoff because no persecution would happen in the current persecution stage and everyone will still follow the MPE in Lemma 3 in all future periods, while she receives no transfer because she votes against the current persecution proposal. Given that we have assumed that she will vote for the proposal even if indifferent, she will thus vote for the proposal if and only if  $V^N \geq V'$ , i.e.,

$$T_{it} \geq cp_t \cdot \frac{R}{1 - \delta}. \quad (69)$$

The claim is thus proven.

**Claim 2.** Second, examine any political justice  $i$ 's strategy given any persecution proposal of  $p_t$  ordinary members. Suppose that she is pivotal. Her expected payoff from voting for

the proposal is

$$\begin{aligned}
V^P &= (1 - cp_t)R + T_{it} + \delta \left( z \cdot V^M + (1 - z) \right. \\
&\quad \left. \cdot \left( (1 - cp_t)R + \delta \left( z \cdot V^M + (1 - z) \cdot \dots \right) \right) \right) \\
&= T_{it} + \frac{(1 - cp_t)R}{1 - \delta(1 - z)} + \frac{\delta z V^M}{1 - \delta(1 - z)},
\end{aligned} \tag{70}$$

where

$$V^M = \frac{\pi^M(N)}{1 - \delta\Pi^K(N)} \cdot \frac{(e - 1)\kappa R}{1 - \delta} \tag{71}$$

is the value of being an ordinary council member at the beginning of period  $t + 1$  following the MPE in Lemma 3 in all future periods. Her expected payoff under a single deviation, i.e., voting against and thus blocking the proposal, is

$$\begin{aligned}
V'' &= R + \delta \left( z \cdot V^M + (1 - z) \cdot \left( R + \delta \left( z \cdot V^M + (1 - z) \cdot \dots \right) \right) \right) \\
&= \frac{R}{1 - \delta(1 - z)} + \frac{\delta z V^M}{1 - \delta(1 - z)}.
\end{aligned} \tag{72}$$

Given that we have assumed that she will vote for the proposal even if indifferent, she will thus vote for the proposal if and only if  $V^P \geq V''$ , i.e.,

$$T_{it} \geq cp_t \cdot \frac{R}{1 - \delta(1 - z)}. \tag{73}$$

The claim is thus proven.

**Claim 3.** Finally, examine the king's decision at the persecution stage. Suppose that he proposes to persecute  $p_t$  ordinary council members. For the proposal to be approved, he needs to commit sufficient transfers to  $\bar{N} - \bar{e} + 1$  justices. By Claims 1 and 2 and  $z \in (0, 1)$ , it is cheaper to influence a political justice than a non-political one. Therefore, the total amount of transfers needed is

$$\begin{aligned}
T &= \min\{\bar{N} - \bar{e} + 1, w\} \cdot cp_t \cdot \frac{R}{1 - \delta(1 - z)} + \max\{\bar{N} - \bar{e} + 1 - w, 0\} \cdot cp_t \cdot \frac{R}{1 - \delta} \\
&= \begin{cases} (\bar{N} - \bar{e} + 1) \cdot cp_t \cdot \frac{R}{1 - \delta(1 - z)}, & \text{if } w \geq \bar{N} - \bar{e} + 1; \\ w \cdot cp_t \cdot \frac{R}{1 - \delta(1 - z)} + (\bar{N} - \bar{e} + 1 - w) \cdot cp_t \cdot \frac{R}{1 - \delta}, & \text{if } w < \bar{N} - \bar{e} + 1. \end{cases}
\end{aligned} \tag{74}$$

subject to the budget

$$B = p_t \cdot \frac{\kappa R}{1 - \delta}. \quad (75)$$

Note as  $\delta \rightarrow 1$ , if  $w \geq \bar{N} - \bar{e} + 1$ , then  $T \leq B$  will always hold; when  $w < \bar{N} - \bar{e} + 1$ ,  $T \leq B$  will hold if and only if

$$(\bar{N} - \bar{e} + 1 - w) c < \kappa. \quad (76)$$

Note that if  $w \geq \bar{N} - \bar{e} + 1$ , then  $(\bar{N} - \bar{e} + 1 - w) c \leq 0 < \kappa$ . Therefore, as  $\delta \rightarrow 1$ , the king can get any persecution proposal approved if  $(\bar{N} - \bar{e} + 1 - w) c < \kappa$ , and cannot get any persecution proposal approved if otherwise. Given the infinitesimal cost of a persecution proposal, he will thus not propose to persecute any ordinary council members if he cannot get the proposal approved.

Now consider how many ordinary council members the king would like to persecute, given that he can get the proposal approved as  $\delta \rightarrow 1$ . The king's expected payoff from proposing to persecute  $p_t$  ordinary members is

$$V^K(p_t) = p_t \cdot \frac{\kappa R}{1 - \delta} - T + \delta V_{t+1}^K, \quad (77)$$

subject to

$$p_t \in \{0, 1, \dots, e - 1\}, \quad (\bar{N} - \bar{e} + 1 - w) c < \kappa. \quad (78)$$

where  $T$  is the total transfers, which depends on  $p_t$ , and where  $V_{t+1}^K$  is the value of being the king at the beginning of period  $t + 1$  following the MPE in Lemma 3 in all future periods, which is not dependent on the current  $p_t$ . The king will thus choose  $p_t = e - 1$  to maximize his expected payoff.

The claim and the lemma are thus proven.  $\square$

## I Proof of Proposition 5

*Proof.* We prove the three claims one by one.

**Claim 1.** Consider the following strategy profile for any period  $t$ :

- at  $\theta_t = 0$ , all players follow the MPE in Lemma 3;
- at  $\theta_t = 1$ ,
  - at the contest stage, all ordinary council members contest;
  - at the persecution stage,

- \* if there has been a contest in the contest stage,
  - the king proposes to persecute  $e - 1$  ordinary members and commits to transfer  $T_{it} = c(e - 1) \cdot \frac{R}{1 - \delta(1 - z)}$  to each of  $\min\{\bar{N} - \bar{e} + 1, w\}$  political justices and  $T_{it} = c(e - 1) \cdot \frac{R}{1 - \delta}$  to each of  $\max\{\bar{N} - \bar{e} + 1 - w, 0\}$  non-political justices;
  - any non-political justice  $i$  will vote for any persecution proposal that would persecutes  $p_t$  ordinary council members at the current persecution stage if and only if the transfer proposed to her satisfies  $T_{it} \geq cp_t \cdot R / (1 - \delta)$ ;
  - any political justice  $i$  will vote for any persecution proposal at the current persecution stage if and only if the transfer proposed to her satisfies  $T_{it} \geq cp_t \cdot R / (1 - \delta(1 - z))$ ;
- \* if there has not been a contest in the preceding contest stage,
  - the king proposes to persecute  $e - 1$  ordinary members and commits to transfer  $T_{it} = c(e - 1) \cdot \frac{R}{1 - \delta(1 - z)} - \delta z \Pi^M(N) \cdot T^*$  to each of  $\min\{\bar{N} - \bar{e} + 1, w\}$  political justices and  $T_{it} = c(e - 1) \cdot \frac{R}{1 - \delta}$  to each of  $\max\{\bar{N} - \bar{e} + 1 - w, 0\}$  non-political justices;
  - any non-political justice  $i$  will vote for any persecution proposal that would persecutes  $p_t$  ordinary council members at the current persecution stage if and only if the transfer proposed to her satisfies  $T_{it} \geq cp_t \cdot R / (1 - \delta)$ ;
  - any political justice  $i$  will vote for any persecution proposal at the current persecution stage if and only if the transfer proposed to her satisfies  $T_{it} \geq cp_t \cdot \frac{R}{1 - \delta(1 - z)} - \delta z \Pi^M(N) \cdot T^*$ ,

where

$$T^* = \begin{cases} (\bar{N} - \bar{e} + 1) \cdot c(e - 1) \cdot \frac{R}{1 - \delta(1 - z)}, & \text{if } w \geq \bar{N} - \bar{e} + 1; \\ w \cdot c(e - 1) \cdot \frac{R}{1 - \delta(1 - z)} + (\bar{N} - \bar{e} + 1 - w) \cdot c(e - 1) \cdot \frac{R}{1 - \delta}, & \text{if } w < \bar{N} - \bar{e} + 1. \end{cases} \quad (79)$$

We want to show that this strategy profile is an MPE. Note that, by Lemma 3, the strategies at  $\theta_t = 0$  are Markov perfect; by  $\kappa > (\bar{N} - w - \bar{e} + 1)c$ ,  $\delta \rightarrow 1$ , and Lemma 4, the strategy of the king at the persecution stage at  $\theta_t = 1$  when there has been a contest in the preceding contest stage is feasible and Markov perfect; by Lemma 4, the strategies of the justices at  $\theta_t = 1$  when there has been a contest in the preceding contest stage are Markov perfect, too. We thus only need to examine, first, whether the strategy of each ordinary

council member at the contest stage with  $\theta_t = 1$  is Markov perfect and, second, whether the strategies of the king and justices at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the contest stage are Markov perfect.

First, consider the strategy of each ordinary council member at the contest stage with  $\theta_t = 1$ . Under the strategy profile in consideration, if  $\kappa > (\bar{N} - w - \bar{e} + 1)c$  and  $\delta \rightarrow 1$ , each ordinary council member's expected payoff is  $V^M = \Pi^M(N) \cdot V^K$ , where  $V^K > 0$  is the value of being the king at the beginning of the persecution stage, since the king will afford to persecute  $e - 1 \geq 1$  ordinary members and gain a strictly positive profit in the current period. Under a single deviation, i.e., not contesting only in the current contest stage, her expected payoff is  $V' = 0 < V^K$ , since she will become the most senior ordinary member in the persecution stage and thus will be persecuted for sure. Therefore, the strategy of each ordinary council member at the contest stage with  $\theta_t = 1$  is Markov perfect.

Second, consider the strategies of the king and justices at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the contest stage. First, consider any non-political justice  $i$ . Suppose she is pivotal. Under the strategy profile in consideration, as in the proof of Lemma 4, her expected payoff is

$$V^N = (1 - cp_t)R + T_{it} + \delta \cdot \frac{(1 - cp_t)R}{1 - \delta} = T_{it} + \frac{(1 - cp_t)R}{1 - \delta}, \quad (80)$$

where  $R$  is her potential return to asset because  $\theta_t = 1$ , while  $(1 - cp_t)R$  is the current and future flow payoff from her asset given the persecution externality in the current period and everyone following the MPE in Lemma 3 in all future periods. Her expected payoff under a single deviation, i.e., voting against and thus blocking the proposal, is

$$\begin{aligned} V' &= R + \delta \cdot \left( (1 - c(e - 1))R + T_{i,t+1}^* \right. \\ &\quad \left. + \delta \left( (1 - c(e - 1))R + \delta \cdot \left( (1 - c(e - 1))R + \dots \right) \right) \right) \\ &= R + \delta \left( T_{i,t+1}^* + \frac{(1 - c(e - 1))R}{1 - \delta} \right) = R + \delta \left( \frac{c(e - 1)R}{1 - \delta} + \frac{(1 - c(e - 1))R}{1 - \delta} \right) \\ &= \frac{R}{1 - \delta}, \end{aligned} \quad (81)$$

where no persecution would happen in the current persecution stage, everyone will still follow the continuation strategies in the strategy profile in consideration in all future periods, and

the focal non-political justice will be prioritized to receive a transfer in period  $t + 1$ , i.e.,

$$T_{i,t+1}^* = \frac{c(e-1)R}{1-\delta}. \quad (82)$$

Given that we have assumed that she will vote for the proposal even if indifferent, she will thus vote for the proposal if and only if  $V^N \geq V'$ , i.e.,

$$T_{it} \geq cp_t \cdot \frac{R}{1-\delta}. \quad (83)$$

Therefore, the strategy of each non-political justice at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the preceding contest stage is Markov perfect.

Second, consider any political justice  $i$  at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the preceding contest stage. Suppose she is pivotal. Under the strategy profile in consideration, as in the proof of Lemma 4, her expected payoff is

$$\begin{aligned} V^P &= (1 - cp_t)R + T_{it} + \delta \left( z \cdot V^M + (1 - z) \right. \\ &\quad \left. \cdot \left( (1 - cp_t)R + \delta \left( z \cdot V^M + (1 - z) \cdot \dots \right) \right) \right) \\ &= T_{it} + \frac{(1 - cp_t)R}{1 - \delta(1 - z)} + \frac{\delta z V^M}{1 - \delta(1 - z)}, \end{aligned} \quad (84)$$

where

$$V^M = \frac{\Pi^M(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1 - \delta} \quad (85)$$

is the value of being an ordinary council member at the beginning of period  $t + 1$  following the MPE in Lemma 3 in all future periods. Her expected payoff under a single deviation,

i.e., voting against and thus blocking the proposal, is

$$\begin{aligned}
V'' &= R + \delta \cdot \left( z \cdot \tilde{V}^M + (1-z) \cdot \left( (1-c(e-1))R + T_{i,t+1}^* \right. \right. \\
&\quad \left. \left. + \delta \left( z \cdot V^M + (1-z) \cdot \left( (1-c(e-1))R + \delta \left( z \cdot V^M + (1-z) \cdot \dots \right) \right) \right) \right) \right) \\
&= R + \delta \left( z \tilde{V}^M + (1-z) T_{i,t+1}^* + \frac{(1-z)(1-c(e-1))R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)} \right) \\
&= R + \delta \left( z \tilde{V}^M + \frac{(1-z)c(e-1)R}{1-\delta(1-z)} + \frac{(1-z)(1-c(e-1))R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)} \right) \\
&= \frac{R}{1-\delta(1-z)} + \delta z \left( \tilde{V}^M + \frac{\delta V^M}{1-\delta(1-z)} \right) \\
&= \frac{R}{1-\delta(1-z)} + \delta z \left( V^M - \Pi^M(N) \cdot T^* + \frac{\delta V^M}{1-\delta(1-z)} \right) \\
&= \frac{R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)} - \delta z \Pi^M(N) \cdot T^*, \tag{86}
\end{aligned}$$

where no persecution would happen in the current persecution stage;

$$\tilde{V}^M = \Pi^M(N) \left( \frac{(e-1)\kappa R}{1-\delta} - T^* + \delta \cdot \frac{\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \right) = V^M - \Pi^M(N) \cdot T^* \tag{87}$$

is the value of being an ordinary council member at the beginning of period  $t+1$  with  $\theta_{t+1} = 1$  under the continuation strategies in the strategy profile in consideration from then onwards;

$$T^* = \begin{cases} (\bar{N} - \bar{e} + 1) \cdot c(e-1) \cdot \frac{R}{1-\delta(1-z)}, & \text{if } w \geq \bar{N} - \bar{e} + 1; \\ w \cdot c(e-1) \cdot \frac{R}{1-\delta(1-z)} + (\bar{N} - \bar{e} + 1 - w) \cdot c(e-1) \cdot \frac{R}{1-\delta}, & \text{if } w < \bar{N} - \bar{e} + 1 \end{cases} \tag{88}$$

is the total amount of transfer the king at the persecution stage in period  $t+1$  would need to pay under the strategy profile in consideration, as adapted from the proof of Claim 3 in Lemma 4; everyone will follow the continuation strategies in the strategy profile in consideration in all future periods; the focal political justice, if remains as a justice during period  $t+1$ , will be prioritized to receive a transfer in period  $t+1$ , i.e.,

$$T_{i,t+1}^* = \frac{c(e-1)R}{1-\delta(1-z)}. \tag{89}$$

Given that we have assumed that she will vote for the proposal even if indifferent, she will thus vote for the proposal if and only if  $V^P \geq V''$ , i.e.,

$$T_{it} \geq cp_t \cdot \frac{R}{1 - \delta(1 - z)} - \delta z \Pi^M(N) \cdot T^*. \quad (90)$$

Therefore, the strategy of each political justice at the persecution stage when there has not been a contest in the preceding contest stage is Markov perfect.

Finally, consider the king at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the contest stage. Suppose that he proposes to persecute  $p_t$  ordinary council members. For the proposal to be approved, he needs to commit sufficient transfers to  $\bar{N} - \bar{e} + 1$  justices. By  $z \in (0, 1)$ , it is cheaper to influence a political justice than a non-political one. Therefore, the total amount of transfers needed is

$$\begin{aligned} \tilde{T} &= \min\{\bar{N} - \bar{e} + 1, w\} \cdot \left( cp_t \cdot \frac{R}{1 - \delta(1 - z)} - \delta z \Pi^M(N) \cdot T^* \right) \\ &\quad + \max\{\bar{N} - \bar{e} + 1 - w, 0\} \cdot cp_t \cdot \frac{R}{1 - \delta} \\ &= \begin{cases} (\bar{N} - \bar{e} + 1) \cdot \left( cp_t \cdot \frac{R}{1 - \delta(1 - z)} - \delta z \Pi^M(N) \cdot T^* \right), & \text{if } w \geq \bar{N} - \bar{e} + 1; \\ w \cdot \left( cp_t \cdot \frac{R}{1 - \delta(1 - z)} - \delta z \Pi^M(N) \cdot T^* \right) + (\bar{N} - \bar{e} + 1 - w) \cdot cp_t \cdot \frac{R}{1 - \delta}, & \text{if } w < \bar{N} - \bar{e} + 1, \end{cases} \end{aligned} \quad (91)$$

subject to the budget

$$B = p_t \cdot \frac{\kappa R}{1 - \delta}. \quad (92)$$

Note as  $\delta \rightarrow 1$ , if  $w \geq \bar{N} - \bar{e} + 1$ , then  $\tilde{T} \leq B$  will always hold; when  $w < \bar{N} - \bar{e} + 1$ , given  $\kappa > (\bar{N} - \bar{e} + 1 - w) c$ ,  $\tilde{T} \leq B$  will hold, too. Therefore, given  $\delta \rightarrow 1$  and  $\kappa > (\bar{N} - \bar{e} + 1 - w) c$ , the king can get any persecution proposal approved.

Now consider how many ordinary council members the king would like to persecute. The king's expected payoff from proposing to persecute  $p_t \in \{1, \dots, e - 1\}$  ordinary members is

$$V^K(p_t) = p_t \cdot \frac{\kappa R}{1 - \delta} - \tilde{T} + \delta V_{t+1}^K, \quad (93)$$

where  $\tilde{T}$  is the total transfers to give out, which is depending on  $p_t$ , and  $V_{t+1}^K$  is the value of being the king at the beginning of period  $t + 1$  following the MPE in Lemma 3 in all future periods, which is not depending on the current  $p_t$ . The king will thus choose  $p_t = e - 1$  to

maximize his expected payoff, getting

$$V^K(e-1) = \frac{(e-1)\kappa R}{1-\delta} - \tilde{T}|_{p_t=e-1} + \delta V_{t+1}^K. \quad (94)$$

If the king decides not to persecute any ordinary member instead, then his expected payoff will be

$$V^K(0) = \delta \tilde{V}_{t+1}^K = \delta \Pi^K(N) \cdot \left( \frac{(e-1)\kappa R}{1-\delta} - T^* + \delta V_{t+1}^K \right), \quad (95)$$

where  $\tilde{V}_{t+1}^K$  is the value of being the king at the beginning of period  $t+1$  under the continuation strategies in the strategy profile in consideration with  $\theta_{t+1} = 1$ . Notice that  $\tilde{T}|_{p_t=e-1} < T^*$ . Therefore, by  $\delta \in (0, 1)$ ,  $\Pi^K(N) \in (0, 1)$ , and  $\tilde{T}|_{p_t=e-1} < T^*$ , we have  $V^K(0) < V^K(e-1)$ . Therefore, the king will choose to persecute  $p_t = e-1$  ordinary council members. The king persecuting  $e-1$  ordinary members is thus Markov perfect.

To summarize, we have proven that, first, the strategy of each ordinary council member at the contest stage with  $\theta_t = 1$  is Markov perfect and, second, the strategies of the king and justices at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the preceding contest stage are Markov perfect, too. The strategy profile in consideration is thus an MPE. The claim is thus proven.

**Claim 2a.** First, by  $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$ ,  $\delta \rightarrow 1$ , and Lemma 4, in any MPE, if there has been a contest in the preceding contest stage with  $\theta_t = 1$ , the king at the following persecution stage will not be able to persecute any ordinary council members. Given that, we now examine whether each ordinary member contesting at the contest stage of any period  $t$  with  $\theta_t = 1$  can be part of an MPE.

Under the strategies in consideration, her expected payoff is

$$V^M = \Pi^M(N) \cdot \delta V^K, \quad (96)$$

where

$$\begin{aligned} V^K &= \Pi^K(N) \cdot \left( \frac{(e-1)\kappa R}{1-\delta} + \delta \cdot \Pi^K(N) \cdot \left( \frac{(e-1)\kappa R}{1-\delta} + \delta \cdot \Pi^K(N) \cdot \dots \right) \right) \\ &= \frac{\Pi^K(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \end{aligned} \quad (97)$$

is the value of being the king at the beginning of period  $t+1$ , since if she becomes the king after the current contest stage, by Lemma 4, she will not be able to persecute anyone as  $\delta \rightarrow 1$ , and everyone will follow the MPE in Lemma 3 from period  $t+1$  onwards.

Under a single deviation, i.e., not contesting unilaterally only in the current contest stage, her expected payoff is

$$V'' = R + \delta \left( z \cdot \frac{R}{1-\delta} + (1-z)V^M \right) = R + \delta \left( z \cdot \frac{R}{1-\delta} + (1-z)\Pi^M(N) \cdot \delta V^K \right), \quad (98)$$

where the king at the persecution stage will still not be able to persecute anyone given there has still been a contest in the contest stage, so the ordinary member will survive for sure the current period, get  $R$  given  $\theta_t = 1$  and no persecution in period  $t$ , retire with probability  $z$ , and remain as an ordinary council member in period  $t+1$  and follow the MPE in Lemma 3 onwards with probability  $1-z$ .

Now compare  $V^M$  and  $V''$ : we have

$$\begin{aligned} V'' - V^M &= R + \delta \left( z \cdot \frac{R}{1-\delta} + (1-z)\Pi^M(N) \cdot \delta V^K \right) - \Pi^M(N) \cdot \delta V^K \\ &= \frac{(1-\delta(1-z))R}{1-\delta} - (1-\delta(1-z))\Pi^M(N)\delta V^K \\ &= (1-\delta(1-z)) \left( \frac{R}{1-\delta} - \Pi^M(N)\delta V^K \right) > 0 \end{aligned} \quad (99)$$

if and only if

$$\frac{R}{1-\delta} - \Pi^M(N)\delta V^K > 0. \quad (100)$$

Observe that, by  $e \leq N$ ,  $\delta \in (0, 1)$ ,  $\kappa \in (0, 1)$ ,  $\Pi^K(N) \in (0, 1)$ , and  $(N-1)\Pi^M(N) + \Pi^K(N) = 1$ , we have

$$\begin{aligned} \frac{R}{1-\delta} - \Pi^M(N)\delta V^K &= \frac{R}{1-\delta} - \Pi^M(N)\delta \cdot \frac{\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \\ &> \frac{R}{1-\delta} \cdot \left( 1 - \frac{(N-1)\Pi^M(N)}{1-\Pi^K(N)} \right) = \frac{R}{1-\delta} \cdot (1-1) = 0. \end{aligned} \quad (101)$$

Therefore,  $V'' - V^M > 0$ , i.e., the ordinary member can benefit from the single deviation. Contesting at  $\theta_t = 1$  given that everyone else is contesting cannot thus be part of an MPE. The claim is thus proven.

**Claim 2b.** Consider the following strategy profile for any period  $t$ :

- at  $\theta_t = 0$ , all players follow the MPE in Lemma 3;
- at  $\theta_t = 1$ ,

- at the contest stage, no ordinary council members contest;
- at the persecution stage,
  - \* if there has been a contest in the preceding contest stage, the king and justices follow the strategies in Lemma 4;
  - \* if there has not been a contest in the preceding contest stage,
    - the king proposes not to persecute any ordinary council members;
    - any non-political justice  $i$  will vote for any persecution proposal that would persecute  $p_t$  ordinary council members at the current persecution stage if and only if the transfer proposed to her satisfies  $T_{it} \geq cp_t \cdot R / (1 - \delta)$ ;
    - any political justice  $i$  will vote for any persecution proposal at the current persecution stage if and only if the transfer proposed to her satisfies  $T_{it} \geq \frac{R}{1-\delta} - \frac{(1-cp_t)R}{1-\delta(1-z)} - \frac{\delta z V^M}{1-\delta(1-z)}$ ,

where

$$V^M = \frac{\pi^M(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1 - \delta}. \quad (102)$$

We want to show that this strategy profile is an MPE. Note that, by Lemma 3, the strategies at  $\theta_t = 0$  are Markov perfect; by  $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$ ,  $\delta \rightarrow 1$ , and Lemma 4, the strategies at  $\theta_t = 1$  when there has been a contest in the preceding contest stage are Markov perfect. We thus only need to examine, first, whether the strategy of each ordinary council member at the contest stage with  $\theta_t = 1$  is Markov perfect and, second, whether the strategies of the king and justices at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the preceding contest stage are Markov perfect.

First, consider the strategy of each ordinary council member at the contest stage with  $\theta_t = 1$ . Under the strategy profile in consideration, each ordinary council member's expected payoff is  $V^M = R / (1 - \delta)$ , since she will enjoy the flow payoff of her asset forever given perpetual peace and absence of persecution, regardless of when she will retire. Under a single deviation, i.e., contesting the kingship unilaterally only in period  $t$ , her expected payoff will be

$$V''' = \Pi^M(2) \cdot \left(0 + \delta \cdot V_{t+1}^K\right), \quad (103)$$

where  $\Pi^M(2)$  is her probability to win the contest, she will not persecute anyone in the following persecution stage given  $\delta \rightarrow 1$  and  $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$ , and

$$V_{t+1}^K = \frac{\Pi^K(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1 - \delta} \quad (104)$$

is the value of being the king at the beginning of period  $t+1$  with  $\theta_{t+1} = 0$ . Now compare  $V^M$  and  $V'''$ : by  $\Pi^K(2) \in (0, 1)$ ,  $\delta \in (0, 1)$ ,  $e \leq N$ ,  $\kappa \in (0, 1)$ , and  $(N-1)\Pi^M(N) + \Pi^K(N) = 1$ , we have

$$\begin{aligned}
V^M - V''' &= \frac{R}{1-\delta} - \Pi^M(2) \cdot \delta \cdot V_{t+1}^K = \frac{R}{1-\delta} - \Pi^M(2) \cdot \delta \cdot \frac{\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \\
&= \frac{R}{1-\delta} \cdot \left( 1 - \Pi^M(2) \cdot \delta \cdot \frac{\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot (e-1)\kappa \right) \\
&> \frac{R}{1-\delta} \cdot \left( 1 - \frac{\Pi^M(2)}{\Pi^K(2)} \cdot \frac{(N-1)\Pi^K(N)}{1-\Pi^K(N)} \right) = \frac{R}{1-\delta} \cdot \left( 1 - \frac{\Pi^M(2)}{\Pi^K(2)} \cdot \frac{\Pi^K(N)}{\Pi^M(N)} \right) \geq 0 \quad (105)
\end{aligned}$$

if and only if

$$\frac{\Pi^K(N)}{\Pi^M(N)} \leq \frac{\Pi^K(2)}{\Pi^M(2)}, \quad (106)$$

which we have assumed. Therefore, we have  $V^M > V'''$ . Every ordinary council member not contesting at  $\theta_t = 1$  is thus Markov perfect.

Second, consider the strategies of the king and justices at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the contest stage. First, consider any non-political justice  $i$ . Suppose she is pivotal. Under the strategy profile in consideration, as in the proof of Lemma 4 and the proof of Claim 1 in the current lemma, her expected payoff is

$$V^N = T_{it} + \frac{(1 - cp_t)R}{1 - \delta}. \quad (107)$$

Her expected payoff under a single deviation, i.e., voting against and thus blocking the proposal, is

$$V'''' = \frac{R}{1 - \delta}. \quad (108)$$

Given that we have assumed that she will vote for the proposal even if indifferent, she will thus vote for the proposal if and only if  $V^N \geq V''''$ , i.e.,

$$T_{it} \geq cp_t \cdot \frac{R}{1 - \delta}. \quad (109)$$

Therefore, the strategy of each non-political justice at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the preceding contest stage is Markov perfect.

Second, consider any political justice  $i$  at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the preceding contest stage. Suppose she is pivotal. Under the

strategy profile in consideration, as in the proof of Lemma 4 and the proof of Claim 1 in the current lemma, her expected payoff is

$$V^P = T_{it} + \frac{(1 - cp_t)R}{1 - \delta(1 - z)} + \frac{\delta z V^M}{1 - \delta(1 - z)}, \quad (110)$$

where

$$V^M = \frac{\Pi^M(N)}{1 - \delta\Pi^K(N)} \cdot \frac{(e - 1)\kappa R}{1 - \delta} \quad (111)$$

is the value of being an ordinary council member at the beginning of period  $t + 1$  following the MPE in Lemma 3 in all future periods. Her expected payoff under a single deviation, i.e., voting against and thus blocking the proposal, is

$$V'''' = \frac{R}{1 - \delta}, \quad (112)$$

since she will enjoy the flow payoff of her asset forever given perpetual peace and absence of persecution, regardless of when she will become an ordinary council member and when she will retire. Given that we have assumed that she will vote for the proposal even if indifferent, she will thus vote for the proposal if and only if  $V^P \geq V''''$ , i.e.,

$$T_{it} \geq \frac{R}{1 - \delta} - \frac{(1 - cp_t)R}{1 - \delta(1 - z)} - \frac{\delta z V^M}{1 - \delta(1 - z)}. \quad (113)$$

Therefore, the strategy of each political justice at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the preceding contest stage is Markov perfect.

Finally, consider the king at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the contest stage. Suppose that he proposes to persecute  $p_t$  ordinary council members. For the proposal to be approved, he needs to commit sufficient transfers to  $\bar{N} - \bar{e} + 1$  justices. Now consider whether the king can afford such transfers. First, suppose the king prioritizes non-political justices. Note that, by  $w > 0$  and  $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$ , for any  $p_t \in \{1, 2, \dots, e - 1\}$ , the transfers for  $\bar{N} - \bar{e} + 1$  non-political justices, if there are, will cost

$$(\bar{N} - \bar{e} + 1) \cdot cp_t \cdot \frac{R}{1 - \delta} > (\bar{N} - w - \bar{e} + 1) \cdot cp_t \cdot \frac{R}{1 - \delta} \geq p_t \cdot \frac{\kappa R}{1 - \delta}, \quad (114)$$

so the king will not be able to afford such transfers. Second, suppose that the king prioritizes political justices. Note that, by  $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$  and  $\kappa > 0$ , we have  $\bar{N} - w - \bar{e} + 1 > 0$ , i.e., there are fewer than  $\bar{N} - \bar{e} + 1$  political justices. Also note that, as  $\delta \rightarrow 1$ , we have, by

$e \leq N$  and  $(N - 1)\Pi^M(N) + \Pi^K(N) = 1$ ,

$$\begin{aligned}
& \frac{R}{1 - \delta} - \frac{(1 - cp_t)R}{1 - \delta(1 - z)} - \frac{\delta z V^M}{1 - \delta(1 - z)} \\
&= \frac{R}{1 - \delta} - \frac{(1 - cp_t)R}{1 - \delta(1 - z)} - \frac{\delta z}{1 - \delta(1 - z)} \cdot \frac{\Pi^M(N)}{1 - \delta\Pi^K(N)} \cdot \frac{(e - 1)\kappa R}{1 - \delta} \\
&\rightarrow \frac{R}{1 - \delta} - \frac{\Pi^M(N)}{1 - \Pi^K(N)} \cdot \frac{(e - 1)\kappa R}{1 - \delta} \geq \frac{R}{1 - \delta} - \frac{(N - 1)\Pi^M(N)}{1 - \Pi^K(N)} \cdot \frac{\kappa R}{1 - \delta} \\
&= \frac{R}{1 - \delta} - \frac{\kappa R}{1 - \delta} = \frac{(1 - \kappa)R}{1 - \delta} > 0,
\end{aligned} \tag{115}$$

so, as  $\delta \rightarrow 1$ , for any  $p_t \in \{1, 2, \dots, e - 1\}$ , the total transfers needed will cost, by  $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$ ,

$$\begin{aligned}
& w \cdot \left( \frac{R}{1 - \delta} - \frac{(1 - cp_t)R}{1 - \delta(1 - z)} - \frac{\delta z V^M}{1 - \delta(1 - z)} \right) + (\bar{N} - w - \bar{e} + 1) \cdot cp_t \cdot \frac{R}{1 - \delta} \\
&> (\bar{N} - w - \bar{e} + 1) \cdot cp_t \cdot \frac{R}{1 - \delta} \geq p_t \cdot \frac{\kappa R}{1 - \delta}.
\end{aligned} \tag{116}$$

The king will thus not be able to afford such transfers. Gathering the two possible cases of prioritization, we know that as  $\delta \rightarrow 1$ , the king will not be able to get any persecution approved in the current persecution stage. Given the infinitesimal cost of proposing persecution, the king not proposing to persecute anyone is thus Markov perfect.

To summarize, we have proven that, first, the strategy of each ordinary council member at the contest stage with  $\theta_t = 1$  is Markov perfect and, second, the strategies of the king and justices at the persecution stage with  $\theta_t = 1$  when there has not been a contest in the contest stage are Markov perfect, too. The strategy profile in consideration is thus an MPE. The claim and the proposition are thus proven.  $\square$

## J American Vetocracy vs. Consensual Leadership of the Chinese Communist Party

To further illustrate the relevance of Propositions 3 and 4, we compare American “vetocracy” with the consensus requirement in decision-making within the Politburo Standing Committee of the Chinese Communist Party that was largely effective from the late 1970s to 2012. Table 6 summarizes the comparison.

Both regimes can be interpreted as functioning by unanimity rule. As Fukuyama (2014, p. 488) comments, the American political system is “a complex system of checks and bal-

Table 6: American vetocracy vs. consensual leadership of the Chinese Communist Party

	American vetocracy	CCP leadership, late 1970s–2012
Political regime	“Excessive” checks and balances/consensus requirement, i.e., unanimity rule	
Legeslative agenda-setter	Congress, not President	General Secretary, i.e., chief executive
Emergency power	Quick to grant, confident of renewing constraints later	Once granted difficult to withdraw

Sources: Shirk (1993, 2018), Huang (2000), Tsebelis (2003), Agamben (2005), Vogel (2005), Fukuyama (2014), CPC (2017), Xie and Xie (2017), Chafetz and Pozen (2018), NPC of China (2018), CCCPC (2021), Cai (2022), and Li et al. (2022a).

ances that was deliberately designed ...to constrain the power of the state.” Following Tsebelis (2003), Fukuyama (2014, p. 493, 499) reads these “excessive ...checks and balances” as “too many ...veto players,” labeling the American system a “vetocracy.” In Chinese communist politics, a united image of the Party has always been fundamental for the single-party authority; the disastrous outcomes of Mao’s last years are still fresh in memories (e.g., Xie and Xie, 2017; Shirk, 2018). Since the late 1970s until Xi Jinping’s ascent to power in 2012, important decisions required consensus within the highest leadership of the Party so that even the weakest Politburo Standing Committee member could constrain the General Secretary (e.g., Shirk, 1993, 2018; Huang, 2000; Vogel, 2005; Xie and Xie, 2017; Cai, 2022; Li et al., 2022a).

One big difference between these two examples is who has the power to set the legislative agenda. In the United States, this power is vested with Congress, which, notably, excludes the President: “in American political culture, ...Congress jealously guards its right to legislate” from the Presidents’ effort to shape legislation (Fukuyama, 2014, p. 496). Corollary 1 suggests that this separation of powers allows American vetocracy to be resilient when faced with regime shocks. Consistent with Corollary 2, temporary expansion of presidential powers to deal with emergencies, for example, during wars, has usually been followed by renewed constraints on the executive, once the emergency has been dealt with, and is thus less threatening to the veto regime. A prominent example can be found in Congress’s passing of Amendment XXII to the United States Constitution after the presidency of Franklin D. Roosevelt (e.g., Chafetz and Pozen, 2018).

As a result, although being criticized for “sometimes making it impossible altogether” to

reach collective decision on normal policy issues, Congress can still “delegate huge powers to the executive branch” during economic and security crises, “allowing it to operate rapidly and sometimes with a very low degree of accountability” (e.g., Agamben, 2005; Fukuyama, 2014, p. 493, 497–498). At the same time, Proposition 2 suggests that the American vetocracy is necessary for civil peace, especially given the political polarization within American society (e.g., Fukuyama, 2014, p. 489–490). In this sense, Congress as the legislative agenda-setter helps affirm simultaneously strong emergency capacity, checks and balances on the executive, and civil peace within the American vetocracy.

The picture is different when it comes to the highest leadership of the Chinese Communist Party. The agenda-setting power on all issues, including the constitutional issues of the Party and the state, rests in the hands of the General Secretary: Article 23 of the Party’s Constitution specifies that “the General Secretary ...is responsible for convening meetings of the Political Bureau and its Standing Committee,” i.e., the highest governing bodies of the Party and the state, “and shall preside over the work of the Secretariat,” i.e., the operational agency of the Party’s leadership (CPC, 2017). It is thus impossible for the Party and its leadership to separate the agenda-setting power on the Party’s constitutional issues from the General Secretary.

Corollary 1 suggests that the consensus requirement within the Party leadership must have been vulnerable to shocks of personalistic rule. This is consistent with the reading by Shirk (2018) and Li et al. (2022a) about Xi Jinping’s power consolidation since 2012: problems of corruption, inaction, and political rifts within the Party mounted under Xi’s predecessor; as a result, when Xi became the General Secretary in 2012, he had a rare window to consolidate his power via an urgently needed anti-corruption campaign.<sup>21</sup> Nevertheless, after the campaign, there was no return to consensual leadership, and Xi’s rule became increasingly personalistic (e.g., Shirk, 2018; Cai, 2022). The Party has even led the legislative National People’s Congress to approve the 2018 Amendment to the Constitution of China, abolishing the term limit for the Presidency of the state (NPC of China, 2018). All recent developments suggest that Xi is likely to break the post-1989 norm that one should not serve as the paramount leader for more than ten years (e.g., CCCPC, 2021; Cai, 2022).

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<sup>21</sup>For more studies on understanding the anti-corruption campaign, see, for example, Lu and Lorentzen (2018), Xi et al. (2018), and Li et al. (2022a).