Hobbesian War and Democracy*

Weijia Li† Gérard Roland‡ Yang Xie§

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Abstract

We investigate the relationship between decision rules and civil conflict in a dynamic game of political contest and persecution in a king's council. In each period, each council member first decides whether to contest the kingship and thus start a civil conflict; the resulting king then chooses how many council members to be persecuted and expropriated, subject to the council's approval by a given decision rule. We show that in a weakly institutionalized environment as considered in any (pure-strategy) Markov perfect equilibrium, only unanimity rule can confer civil peace, whereas any other decision rule leads to a perpetual Hobbesian war, in which in each period every council member contests the kingship. After allowing the decision rule to be chosen in a constitutional convention at the end of each period, we show that who – the king or the council – sets the constitutional agenda is critical to the dynamics of the decision rule. In an extension of the model, we further show that non-unanimity rule, such as majoritarian rule, can confer civil peace, only if there is a persecution-overseeing judiciary that is sufficiently insulated from the executive council *and* if social cohesion among the judges and council members is sufficiently high. We discuss the implications of our results for a wide range of political-economic issues with historical and contemporary examples.

Still Preliminary, Please Do Not Circulate

Thank You for Your Understanding

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†Department of Economics, Monash University; weijia.li@monash.edu.

‡Department of Economics, UC Berkeley, NBER, and CEPR; groland@econ.berkeley.edu.

§Department of Economics, UC Riverside; yang.xie@ucr.edu.

1 Introduction

Modern democracy is usually associated with majority voting, and unanimity rule is seen as a rigid rule paralyzing decision-making. Still, Stasavage (2020a) has noted that most ancient democracies used unanimity rule. Moreover, unanimity rule is also present in many modern polities. For example, international organizations, such as the United Nations Security Council and the European Union, often use it when making their most important decisions (e.g., Posner and Sykes, 2014); consensus was required in the highest leadership of the Chinese Communist Party on major policy issues in the post-Mao era until recently (e.g., Shirk, 2018); Fukuyama (2014) has commented extensively on the American political system where having sufficiently many veto players makes it resemble a unanimity regime. While unanimity is usually negatively compared with majority rule, the counterfactual is seldom explored: what would happen to those regimes if unanimity rule were not adopted?

In this paper, we propose a general framework to analyze the interaction between decision rules and civil conflict. Under quite general conditions, we show that, in a weakly institutionalized environment without safeguards we examine later in the paper, only unanimity rule in decision-making yields civil peace; any other decision rule, be it majority rule or various super-majority rules, will lead to perpetual Hobbesian wars, i.e., civil conflicts of all against all.

The general setup we use is one where decisions are made by a group like the Privy Council in premodern England, which is typical for ancient polities, composed of the king and important members of the elite. In the game, in each period, any member of the council can contest the kingship; after the contest, the resulting king can propose to persecute and expropriate some council members, only if fewer than a certain number of council members vote against the motion. This required number of members to block persecutions defines the decision rule, and this setting allows us to analyze the implications of a whole range of decisions rules and authority: at one end, when a single council member can veto the motion, the king lacks real authority and the council functions by unanimity rule; at the other end, when the persecution can go through even if all other council members vote against it, the king is a dictator who has unlimited authority.

We show that, as long as society does not discount too much intertemporally, there will be a unique Markov perfect equilibrium in which all council members contest the kingship in every period, engaging in perpetual Hobbesian wars. The key mechanism is that, when the social intertemporal discount factor is approaching one, the value of the expropriated asset from even a single persecuted member becomes high enough, and so does the lure for each council member to fight for the throne, hoping to benefit from the expected value

of persecuting others over time. Meanwhile, in this weakly institutionalized setup, any council member who would decide not to contest the kingship would still be vulnerable to persecution. Therefore, the decision not to participate in a contest for the kingship is dominated by the decision to participate. Perpetual Hobbesian wars can thus be avoided only when the council makes persecutory decisions by unanimity, as only unanimity grants every member the right to veto any persecution, shutting down simultaneously the lure of the kingship and everyone's possibility of being persecuted.

On the basis of these baseline results on decision rules and civil peace and conflict, we examine the issue of self-stability and transition of decision rules. When doing so, we allow an agenda-setter, either the king or a council member, to propose, after the contest and persecution stages in each period, a change in the decision rule for the next period, and this proposal must be subject to approval of the council by the current decision rule. Here also, we derive some stark results. First, unanimity is self-stable, regardless of who sets the constitutional agenda. Second, when the kingship sets the agenda, any non-unanimity rule will transition to dictatorship, leading to perpetual civil conflict. Third, when the council sets the agenda, any non-unanimity rule will transition to unanimity, leading to perpetual peace. Separation of powers between the king and the council on constitutional issues is thus key to the resilience of civil peace and the institution guarding it, i.e., unanimity rule.

Since majoritarian democracy has risen from premodern to modern times with civil peace being maintained (e.g., Stasavage, 2020a), we further analyze under what additional institutional arrangements non-unanimity rule can confer civil peace. Guided by the British experience in the transition from early to modern democracy, we modify our model by introducing two features. The first feature is *social cohesion* (Durkheim, 2014): as the economy and social fabric becomes denser and more interdependent, persecution of some elite members, i.e., council members in our model, will incur negative externalities to other elite members, i.e., other council members in our model. The second feature is a *judiciary* that can choose to veto persecutions, and its degree of *insulation* is determined by how many judges will not later be part of the council and thus do not have the opportunity to contest the kingship. We show that, under non-unanimity rule in the council, each of high social cohesion and high judicial insulation is by itself not sufficient to insure judicial veto against persecution, but both together are and thus able to confer civil peace.

We discuss in the paper a few implications from these results. Our baseline results provide an empirically relevant alternative to the Hobbesian reading of the relationship between political authority and civil conflict, and a novel justification for protecting human rights at the individual, not any collective level. The same results can also help us understand the merit of the veto power in the United Nations Security Council, without denying the

problems it brings.

The results about self-stability and transition of decision rules help us explain the bifurcation of dictatorship and unanimous democracy and the dominance of the former in premodern times. The results also imply that separating the executive from the agenda-setting power on constitutional issues makes it possible for unanimous democracy to grant temporary emergency power to the executive, because of the credible return of unanimity rule afterwards. This implication helps understand the different performances in emergency capacity and resilience of political regimes throughout history and to modern times. On this point, we compare the Florentine with the Venetian Republic, and the American vetocracy with the consensual leadership of the Chinese Communist Party, as two primary examples.

The results about social cohesion, judicial insulation, and the rise of non-unanimous democracy help explain why it was early modern England that first curtailed individual mandates and veto power and became modern democracy, instead of other societies, such as the Athenian democracy and Venetian Republic, which were short of an insulated judiciary, or most other Italian city-republics and the Polish–Lithuanian Commonwealth, where social cohesion between the judiciary and other elite members were low, or the French Old Regime, Crown of Castile, and Dutch Republic, where both social cohesion and judiciary insulation were not satisfied.

Taking all the results together, we can also shed light on the historical evolution of separation of powers from between the executive and the legislature to between the executive and the judiciary during the Durkheimian process of socioeconomic modernization (Durkheim, 2014).

The paper is unfolded as follows. The rest of this section clarifies in detail our position in the literature. Sections 2, 3, and 4 present the setups and results of the baseline model, the extension with endogenous decision rule, and the modification incorporating social cohesion and judicial insulation, respectively. Section 5 discusses the implications of all the theoretical results in sequence. Section 6 concludes with a remark on separation of powers and beyond. Proofs of results are gathered in Appendix.

Position in the literature. Our paper bridges several strands of literature, including the ones on civil conflict, political persecution, decision rules, endogenous constitutions, agenda-setting power, separation of powers, and emergency capacity of political institutions. Our model entertains the idea that persecutory power attracts violent contests over itself, an overarching principle that underlies a diverse set of seemingly unrelated political phenomena. Specifically, this principle sharply characterizes equilibrium constitutions under different separations of powers. Below we discuss in detail our contribution to each of these strands

of literature.

To start with, on the one hand, within the literature on the origins of civil conflict (e.g., Fearon, 1995; Gibbons, 2001; Powell, 2006; Blattman and Miguel, 2010; Dal Bó and Dal Bó, 2011; Besley and Persson, 2011a,b; Svolik, 2012; Bai and Jia, 2016; Harish and Little, 2017), on how political power influences civil conflict, the dominant paradigm of Hobbes (1996) and Weber (1946) asserts that the sovereign must legitimately monopolize violence to prevent the civil conflict of "all against all." The paradigm continues its influence over a few recent important contributions (e.g., Acemoğlu et al., 2013; Powell, 2013; Sánchez de la Sierra, 2020). On the other hand, in the literature on political persecution and expropriation, existing studies often do not incorporate endogenous political contests over political power into the same model (e.g, Acemoğlu et al., 2008; Egorov and Sonin, 2015; Diermeier et al., 2017). By doing so in our paper, we are able to link the two threads of literature together, and show that the persecutory power of the kingship can aspire everyone into a perpetual civil conflict of "all against all." This turns the argument of the Hobbesian paradigm on its head: the power of the sovereign, which is the Hobbesian solution to civil conflict, can be the very cause of it.

With few exceptions, unanimity is the dominant decision rule in premodern democracies (e.g., Stasavage, 2020a). The pervasiveness of unanimity is puzzling because its cumbersome procedure causes too much inaction and paralyzes decision-making (e.g., Aghion et al., 2004; Harstad, 2005; Fukuyama, 2014; Shirk, 2018). Our model resolves this puzzle. We show that in a weakly institutionalized environment, unanimity is the only decision rule that can prevent a perpetual civil violence of "all against all." All other decision rules would ignite perpetual violence.

There is a burgeoning economics literature on endogenous constitutions (e.g., Barbera and Jackson, 2004; Acemoğlu et al., 2012, 2015, 2021). One of the organizing themes is that a more demanding rule that determines institutional change is needed to stabilize the rule that determines policy (Acemoğlu et al., 2021). In particular, unanimity voting for the constitution renders any constitution self-enforcing (Barbera and Jackson, 2004; Acemoğlu et al., 2021). Our model identifies a general environment where this key conclusion may not hold. In our model, given a current non-unanimity rule for executive actions, the king's proposal to establish a fully dictatorial constitution can be unanimously approved by the council. Therefore, it is possible for a decision rule not to be fully stabilized by a (more demanding) decision rule, so the constitution must provide other institutional safeguards.

One of the institutional safeguards that we highlight is the careful design of agenda-setting power in the constitutional convention. A large strand of literature exists on how the 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), whereas the aforementioned ground-breaking works on endogenous constitutions assume away the importance of agenda-setting power by postulating that the constitutional convention has a chance to vote on all constitutional proposals, which allows them to establish the most general results (e.g. Acemoğlu et al., 2012). To our knowledge, our model is the first one that focuses on the situation where the agenda-setting power has a real bite in constitutional design. Thus, compared to existing literature, our paper obtains substantively new insights. As long as civil violence is a first order concern, the agenda-setting power in constitutional design is the single most important determinant of the equilibrium constitution. Since foundational works demonstrate that "while legislators are everywhere equal in voting power, they are everywhere unequal in agenda-setting power" (e.g., Cox, 2006), to better understand the endogenous dynamics of constitutions, we should take the inequality in agenda-setting power seriously.[1]

Existing literature demonstrates that separations of powers improve political accountability, aligning policy outcomes with voter preference (e.g., Persson et al., 1997, 2000; Persson and Tabellini, 2002; de Figueiredo et al., 2006; Callander and Krehbiel, 2014). On the separation between the executive and the legislature, to the best of our knowledge, our model offers the first formal framework to understand how an independent legislature facilitates the preservation of civil peace, how separation of powers facilitates different regimes to be self-stable, and whether these regimes can survive regime shocks. By that, we also contribute to the literature on the foundations of self-enforcing/stable institutions (e.g., Przeworski, 1991; Acemoğlu and Robinson, 2006, 2008; Fearon, 2011; Bidner and Francois, 2013; surveys by Gehlbach et al., 2016; Svolik, 2019; Egorov and Sonin, 2020).

Our model also uncovers that an independent legislature can strengthen the capacity of the executive branch to manage crises. The result contrasts with a long tradition in political thoughts, where the two imperatives to preserve civil peace and manage crises are often used to justify an absolute dictatorship (Hobbes, 1996; Schmitt, 1985). Instead, we show that under very general conditions, only unanimous democracy with fully independent legislature can achieve both civil peace and effective crisis management, and such a regime also protects human rights at the individual level; by contrast, it is impossible for a dictatorship to achieve both of the two objectives. Thus, we make a novel contribution to recent conceptual debates on regime types and crisis management (e.g., Agamben, 2005; Stasavage, 2020b; Qin, 2021;

[1]Dahl (1956) makes a similar point in his fourth condition of an ideal democracy: "[a]ny member who perceives a set of alternatives, at least one of which he regards as preferable to any of the alternatives presently scheduled, can insert his preferred alternative(s) among those scheduled for voting." Thus, the fourth condition is equality in agenda-setting power. Dahl (1956) then asserts that "[in] no organization of which I have any knowledge does the fourth condition exist."

Li et al., Forthcoming).

On the separation between the executive and the judiciary, a vast literature has uncovered numerous 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). Our paper contributes to the literature by showing that an independent judiciary in a highly cohesive society preserves civil peace, the first such formal model in the literature. Our result contrasts with a long tradition in political thoughts that independent judiciary hurdles the preservation of civil peace because independent judiciary fragments political authority (e.g., Plumb, 1967; Finer, 1997b,c). Our model makes another contribution by formalizing judicial insulation, a notion that is far more demanding than the generic notion of judicial independence. Our formalized notion of judicial insulation provides an alternative micro-founded justification for the absolute protection of life tenure for judges, to the one proposed for the purpose to prevent repercussion on judges. The imperative to insulate the judiciary also explains why many independent judiciaries do not work well when the judges may join the executive branch in the future.[2] Above all, we uncover a key insight that has not been articulated before: an insulated judiciary facilitates a cohesive democracy to transition from unanimous voting to non-unanimous voting, for example, majoritarian voting. The transition is well documented but under-theorized with formal models (e.g., Finer, 1997c; Stasavage, 2020a).

Taken together, our model shows that to confer civil peace and prevent political repression, when social cohesion is low, unanimous democracy is the only solution, and to make it self-stable and resilient, an independent legislature on constitutional issues is necessary; when social cohesion is high, non-unanimous democracy can be a solution, but that depends on an insulated judiciary. Given that social cohesion is fundamentally consolidated by socioeconomic modernization (Durkheim, 2014), our model offers a novel theory on the historical evolution of separation of powers: premodern democracies emphasizes an independent legislature, while modern democracies emphasize an insulated judiciary.

[2]Specifically, the model sheds lights on why powerful judiciaries in city-states cannot serve as the guardian of civil peace. For city-democracies, the constitutive principle is that of direct participatory democracy (e.g., Finer, 1997a,c). This principle renders it very difficult to build a judiciary that satisfy both of our two criteria.

2 The Baseline Model

2.1 Setup

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

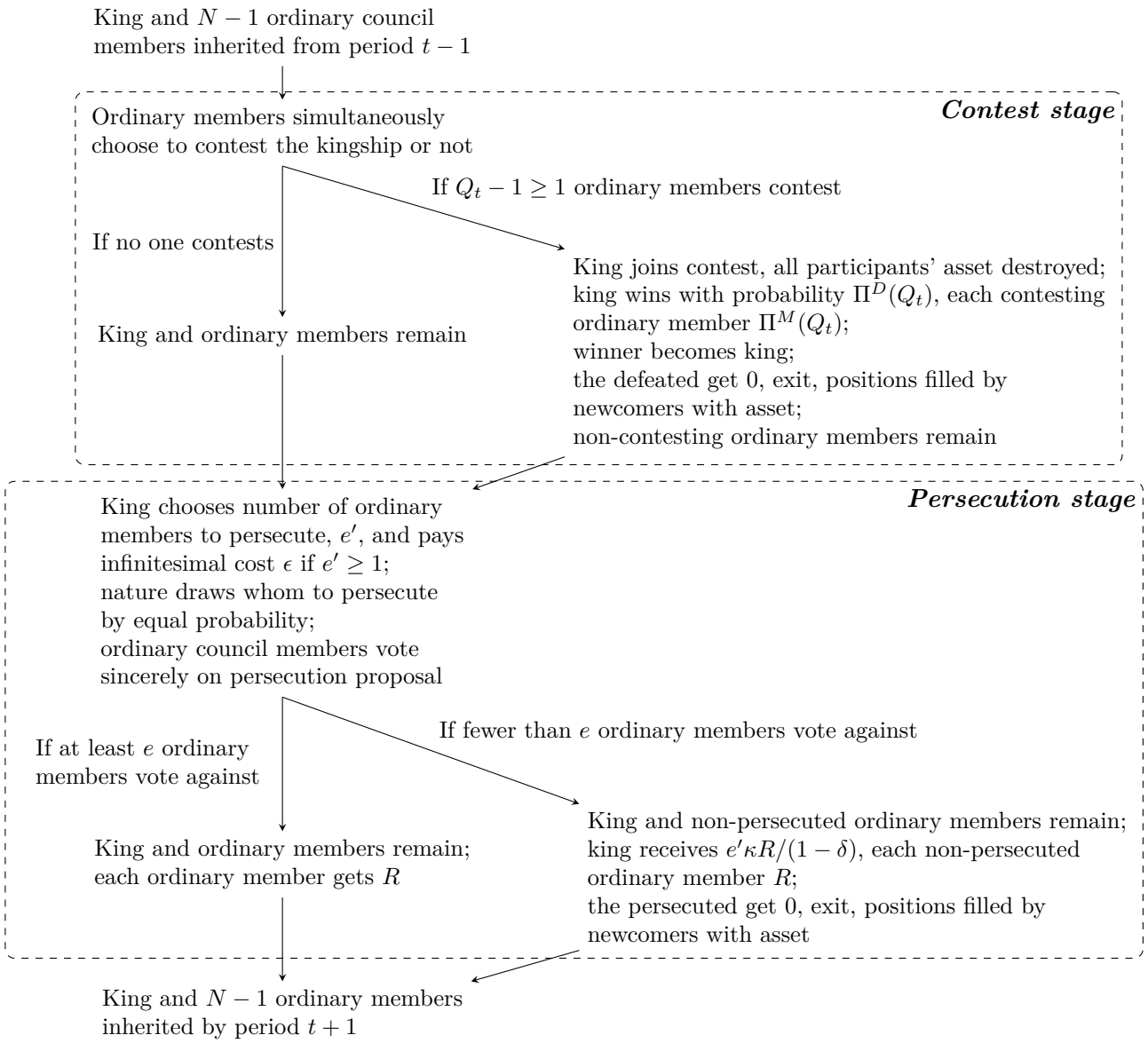


Figure 1: Setup of the baseline model, each period t

In the model, each period t inherits the king and $N-1$ ordinary council members who were in the council at the end of period $t-1$. Consistent with the setup below, each of

the ordinary council members 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. We assume the the king does not own any asset, since, as we will introduce below, except for the very first king who was born as the king, any king must have won a contest when becoming the king and such a contest is assumed to be so destructive that it has destroyed all the participants' assets; we assume that the very first king has no asset, and assuming instead that he has an asset would not change the results of the model.

Each period t has a contest stage, followed by a persecution stage:

Contest stage. The $N-1$ ordinary council members first simultaneously choose whether to contest the kingship during period t.

Depending on these contest decisions, there are two possible scenarios. The first scenario is if no ordinary council member contests. In this case, we assume that 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.

The second scenario is if at least one ordinary council member contests. In this case, we first assume that 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 any assets of participants of the contest. This assumption captures the cost and negative effect of civil conflict and also makes the analysis simpler. Also, comparing to assuming that the contest damages participants' assets only partially, this assumption makes the contest especially unappealing to the ordinary council members. In this sense, the assumption will make any results that would feature contests in equilibrium stronger.

Third, we assume that the incumbent king will win the contest with probability $\Pi^D(Q_t) > 0$, and each contesting ordinary council member $\Pi^M(Q_t) > 0$, where $Q_t \in \{2, 3, \ldots, N\}$ denotes the number of participants of the contest and the functions $\Pi^D(\cdot)$ and $\Pi^M(\cdot)$ are exogenous and satisfy $(Q_t - 1)\Pi^M(Q_t) + \Pi^D(Q_t) = 1$, i.e., we assume that each participant has a strictly positive chance to win and one and only one will eventually win. These assumptions are minimalistic, non-controversial, and less demanding than the standard modeling approach in the contest literature (e.g., Skaperdas, 1996; Clark and Riis, 1998).

Finally, we assume that after the contest, the winner will become the new king, whereas the defeated participants of the contest will receive a zero payoff and be expelled from the council, i.e., exit the game, and the vacant ordinary positions in the council will be filled by newcomers, who will bring their own asset with them, which has the same potential to generate the exogenous, council-specific flow payoff R if they can survive until the end of each

period.[3] The ordinary council members who did not contest during this stage are assumed to keep their positions in the council and have their assets untouched. The contest stage ends there.

In either scenario, when the contest stage ends, one enters the persecution stage of period t, inheriting the current king and $N-1$ ordinary council members:

Persecution stage. In the persecution stage, we assume that the current king can choose the number of current ordinary council members who he would like to condemn and persecute, which we denote as $e' \in \{0, 1, \ldots, N-1\}$. If $e' \geq 1$, the king will pay an infinitesimal cost ϵ. Nature then randomly selects e' current ordinary council members by equal probability for all possible combinations. This setting captures the significant commitment problem that the king would face in a weakly institutionalized environment, i.e., it is often extremely difficult for the king to make a credible promise to some ordinary council members that if they do not contest for the kingship, he will spare them from future persecution.

Knowing the eventual proposal of persecution that includes e' ordinary council members, the council will meet to vote on it. To focus on more intuitive equilibria in our analysis, we assume that all ordinary council members vote sincerely, i.e., consider themselves to be pivotal when voting. This assumption can be microfounded by assuming potentially strategic voters playing weakly undominated voting strategies between the two voting options (Gehlbach, 2013, p. 13–14) or stage-undominated strategies (Dziuda and Loeper, 2016, p. 1154). We also assume that all ordinary council members will vote for the proposal if they are indifferent, which is standard in the literature (e.g., Acemoğlu et al., 2012, p. 1468; Diermeier et al., 2017, p. 856, 867–868).

We assume that after the votes are counted, the proposal of persecution will be rejected if and only if at least e ordinary council members have voted against it, where the decision rule $e \in \{1, 2, \ldots, N\}$ is exogenous in the baseline model.

Depending on whether the proposal is rejected by the council, there are again two scenarios. In the first scenario, if the proposal is rejected by the council, we assume that the current king and all current council members remain in their positions, and all ordinary council members' assets remain untouched and deliver flow payoff R to their owners. The persecution stage and also period t end there.

The second scenario is if the proposal is approved by the council. In this case, we first assume that the current king will persecute the current ordinary council members who are

[3]We can microfound these automatic entries by assuming that, if not in the council, the potential newcomers' assets will bring a flow payoff that is significantly lower than the council-specific flow payoff R. This assumption would be reasonable, considering that joining the king's council, even if it means to face political struggles and persecutions, is still a great elevation in social status and expected wealth.

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, and the vacant ordinary positions in the council will be filled by additional newcomers, who will bring their own asset with them, which has the same potential to generate the council-specific flow payoff R if they can survive until the end of each future period.[4]

Second, we assume that after each expropriation of a persecuted council member, the king can 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 effectiveness of the expropriation and sale. Since e' council members will be persecuted, the current king will eventually receive a payoff of $e' \cdot \kappa \cdot R/(1-\delta)$.

Finally, we assume that the current ordinary council members who are not persecuted will keep their positions in the council, have their assets untouched, and thus receive the flow payoff R. The persecution stage and thus period t will end there.

In either scenario, when the persecution stage and thus period t end, just like period t, period $t+1$ will now start as it inherits the current king and ordinary council members.

Initial state. We assume that the initial period $t = 1$ inherits a king and $N-1$ ordinary council members as given.

Players' objective. We assume that players in the game have an infinite horizon and maximize the net present value of their own expected payoffs using the social discount factor δ as their common personal intertemporal discount factor. In Section 2.2, we discuss the robustness of our baseline results if we allow the personal discount factor to differ from the social one.

Solution concept. When analyzing the model, we adopt pure-strategy Markov perfect equilibrium (MPE) as the solution concept. This rules out strategies that would encounter serious commitment problems in a weakly institutionalized environment. For example, it rules out the possibility for the king to promise at the contest stage that he will compensate or spare non-contesting ordinary council members at the following persecution stage, because whether an incumbent ordinary council member at the persecution stage has contested or not is not payoff-relevant to the incumbent king at the moment.[5] This approach thus helps

[4]Again, as discussed in Footnote 3, we can microfound these automatic entries by assuming that these assets yield a significant lower flow payoff than the council-specific flow R if the potential newcomers are not in the council.

[5]Even if we allowed the king to do so, he would not be able to implement such contracts with many ordinary council members, because the more ordinary members he promises, the fewer ordinary members

us focus on strategies that do not require additional institutional constraints besides the minimal ones of our setup.

Interpretation of e. In the model, the parameter of paramount interest is e, i.e., the number of votes that the ordinary council members need to block the 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 formal political authority and democracy in the political regime:

- At one end, when $e = 1$, the king must obtain unanimous approval of the council before implementing any executive actions. The political regime is thus a unanimous democracy.
- At the other end, when $e = N$, the $N - 1$ ordinary council members cannot block the king's initiative even if all of them vote against it. The political regime is thus a dictatorship of the kingship.
- In between, when $e \in \{2, 3, \ldots, N-1\}$, a single ordinary council member cannot block the king, but a coalition of e ordinary council members can. The political regime is thus a collective veto regime or non-unanimous democracy, for example, a majoritarian democracy if $e = \lfloor N/2 \rfloor + 1$, or a two-thirds democracy if $e = \lfloor N/3 \rfloor + 1$.

In the baseline model, we assume e to be exogenous and analyze its impact on the equilibrium of the model. We endogenize it in Section 3 to analyze the transition and stability of political regimes.

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 $e \in \{1, 2, \ldots, N\}$, in any MPE, at each persecution stage, the king will propose to persecute $e' = e - 1$ ordinary council members, and the council will eventually approve to persecute $e - 1$ ordinary council members.*

he will be able to persecute later, and the smaller his budget that he can use to fulfill the promises. In the extreme case, if he promises to all ordinary members, then he will not be able to keep his promise at all, since the contracts would not allow him to persecute anyone and he will have no expropriated resources to pay the ordinary members back.

We prove Lemma 1 in Appendix A. The intuition of Lemma 1 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 included in the proposal. Therefore, given the council's decision rule e, on the one hand, the king cannot persecute more than $e-1$ ordinary members, because at least e ordinary members will vote against such a proposal and thus reject it; on the other hand, persecuting fewer than $e-1$ ordinary members will have the king leave at least a benefit of $\kappa R/(1-\delta) > 0$ on the table, which he could have received if he had pursued to persecute and expropriate an additional ordinary member, which would have been approved by the council. 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 this intuitive result about the prosecution stage, we can derive our baseline results about how the council's decision rule e determines the equilibrium of the model:

Proposition 1 (Hobbesian wars under non-unanimous regimes)**.** *Given any non-unanimous decision rule of the council $e \in \{2, 3, \ldots, N\}$, as $\delta \to 1$, there exists a unique MPE, in which all ordinary council members at each contest stage will contest the kingship; at each persecution stage, the king will propose to persecute $e-1$ ordinary members, and the council will eventually approve to persecute $e-1$ ordinary members.*

We prove Proposition 1 in Appendix B. The intuition is as follows. On the one hand, first examine whether the proposed strategies constitute an MPE. Given that everyone contests in each period, contesting in the current period will bring an ordinary council member the expected value of

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

where $\Pi^M(N)$ is the probability for her to become the king when everyone is contesting the kingship, $\Pi^D(N)$ is her probability to survive in each future contest as the king, and $(e-1)\kappa R/(1-\delta)$ is her expropriation profit as the king in each period, given that Lemma 1 suggests that she will expropriate $e-1$ ordinary council members. At the same time, a single deviation in which she unilaterally does not contest for now will bring her

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

where $(N-e)/(N-1)$ is her probability to be spared in the following persecution stage and thus have an opportunity to contest later, R is the safe return from her asset if she is spared, and V^M has been defined above.

Now compare the two options. Any non-unanimous political regime ($e \geq 2$) will make the king capable of persecuting and expropriating at least one ordinary council member, i.e., $e - 1 > 0$; therefore, as the social discount factor goes to one, i.e., $\delta \to 1$, the expropriation profit will become extremely high, i.e., $(e-1)\kappa R/(1-\delta) \to \infty$, creating a great incentive for the ordinary council member to contest the kingship, i.e., $V^M \to \infty$. At the same time, because of the non-unanimous political regime, someone has to be persecuted in each persecution stage; because of the nature of Markov strategies, ordinary council members cannot write a contract at the contest stage with the potential king in the following persecution stage that depends on payoff-irrelevant variables. Therefore, even if the ordinary council member unilaterally does not contest for now, she may still be persecuted, i.e., $(N-e)/(N-1) < 1$. The temptation for her to contest at once, instead of not contesting for now, is thus irresistible, i.e.,

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

The strategies in Proposition 1 thus constitute an MPE.

On the other hand, consider any alternative Markov strategies. By Lemma 1, again, given any non-unanimous political regime, no Markov strategies could spare an ordinary council member from persecution by not contesting the kingship. This ordinary council member's expected payoff under any alternative Markov strategies would thus be bounded. At the same time, since contesting will give her a chance to grab the persecutory power of the kingship, which will become extremely lucrative as the social discount factor goes to one, she will be better off if she just contests now. Therefore, any alternative Markov strategies cannot constitute an MPE.

Two remarks are in order on the role of the social discount factor in Proposition 1:

Social discount factor rising toward one. One may wonder why we have focused on the scenario where the social discount factor tends toward one. This is because we would like to explore how robust each decision rule of the council is in avoiding the all-contest equilibrium, when a lucrative political authority is present, which is very common in reality. This will also strengthen the robustness of our analysis in Sections 3 and 4, where we will explore, on the basis of our baseline analysis, how society can reform political regimes so that the all-contest equilibrium can be avoided.

Social and personal discount factors. Since we use the same parameter δ 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 shown in the proof of Proposition 1 and discussed above, the proposition is driven primarily by the fact that the value of expropriated assets in the market will become extremely high when the social discount factor rises toward one. 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. That being said, note that if the players' personal discount factor rises, given the value of becoming the king, the value of not contesting but surviving the contest stage will increase, making the contest option less appealing. Therefore, our setup is skewed against the contest option, rather than the other way round. In this sense, Proposition 1 establishes a strong result that, given any non-unanimous decision 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, all ordinary council members will contest the kingship at each contest stage.

The intuition of Proposition 1 also suggests that only a unanimous political regime ($e = 1$) can escape the perpetual contests for the kingship. This is because, by Lemma 1, only under a unanimous regime is the king not capable of persecuting or expropriating any ordinary council members. The kingship thus becomes worthless, and no ordinary council member will contest it. This sharp discontinuity between $e = 1$ and $e \geq 2$ is established by the following proposition and proven in Appendix C:

Proposition 2 (Civil peace under unanimous regimes)**.** *Under a unanimous decision rule of the council $e = 1$, there exists a unique MPE, in which all ordinary council members at each contest stage will not contest the kingship; at each persecution stage, the king will not propose to persecute any ordinary members, and the council would reject persecuting any ordinary members.*

Putting Propositions 1 and 2 together, our baseline results imply that, in a weakly institutionalized environment as the one we have modeled, as the expropriated asset becomes extremely valuable, any non-unanimous political regimes, i.e., $e \geq 2$, will eventually fall into perpetual Hobbesian wars "of all against all" for the executive power, i.e., all ordinary council members at each contest stage contesting the kingship. This grim prediction applies not only to dictatorship ($e = N$), but also to majoritarian ($e = \lfloor N/2 \rfloor + 1$) and super-majoritarian democracies ($2 \leq e < \lfloor N/2 \rfloor + 1$), and any other collective veto regimes or non-unanimous democracies ($\lfloor N/2 \rfloor + 1 < e < N$). Compared with them, unanimous democracy with veto power of any single council member is the only political regime that guarantees civil peace, i.e., at each contest stage no ordinary council members contest the kingship. We will discuss these implications in more details in Section 5.1.

3 Endogenous Dynamics of the Decision Rule

Although unanimous democracy has the advantage over other political regimes of guaranteeing civil peace, it is unclear whether any of the political regimes examined can be stable over time, since we have kept the council's decision rule e exogenous in the baseline model. If the council can choose its own decision rule at given periods, which decision rule can be stable, and under what institutional conditions? We address these questions in this section.

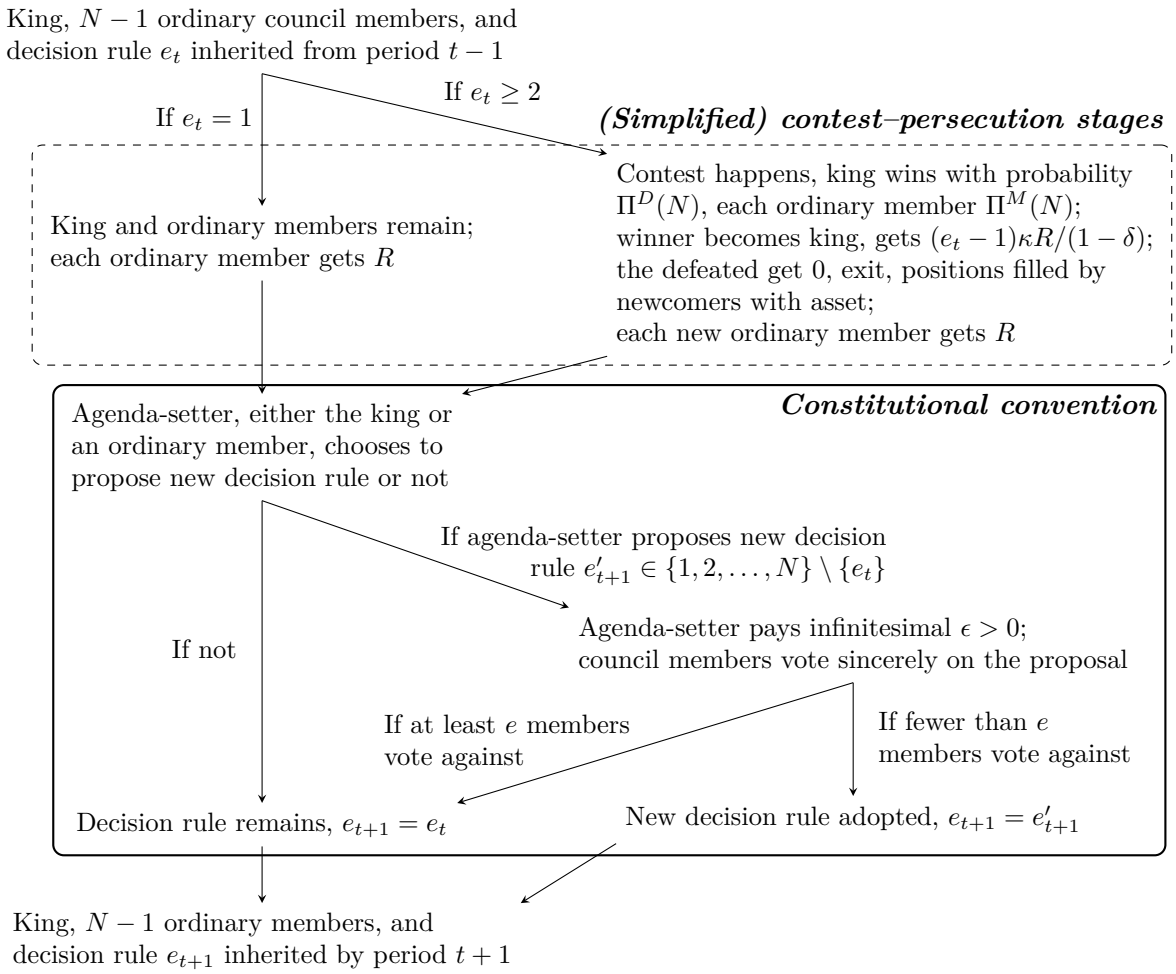
3.1 Setup

As laid out in Figure 2, we introduce a constitutional convention after each contest and persecution stages. In each constitutional convention, an agenda-setter, who is either the king or an ordinary council member, can propose, at an infinitesimal cost $\epsilon > 0$, to revise the council's decision rule into $e'_{t+1} \in \{1, 2, \ldots, N\} \setminus \{e_t\}$. If the proposal is passed by the council voting sincerely following the current decision rule e_t, the council adopts it as its decision rule in the next period, $e_{t+1} = e'_{t+1}$; if the agenda-setter does not propose or if the proposal is rejected by the council, then the current decision rule remains, i.e., $e_{t+1} = e_t$.

We will focus on the dynamics, i.e., transition and stability, of the decision rule in equilibrium, and how the dynamics will depend on whether the king or an ordinary council member sets the constitutional agenda. Given our focus, we simplify the contest and persecution stages by assuming that all players at these stages mechanically follow the decision rules given by the baseline results, Propositions 1 and 2, i.e., if the current decision rule is unanimous ($e_t = 1$), then no contest or persecution would happen; if it is non-unanimous ($e_t \geq 2$), then all ordinary council members contest at the contest stage and $e_t - 1$ members are persecuted in the persecution stage. We can microfound this simplification by keeping the contest and persecution stages fully endogenous, but that would make the proofs much longer without bringing many additional insights.

We first make a remark on the decision rule in the constitutional convention:

Decision rule in the constitutional convention. We have assumed that the constitutional convention adopts the same decision rule as the council at the persecution stage, e_t. This contrasts with the insight from the literature that, for the constitution to be self-stable, a much more demanding decision rule for constitutional changes than for policy changes is required, for example, unanimous or super-majoritarian voting versus majoritarian voting (e.g., Barbera and Jackson, 2004; Acemoğlu et al., 2021). That said, as we focus on pure, Markov strategies, all ordinary council members in a constitutional convention will cast the same vote on the same constitutional proposal. The voting result under the decision rule e_t



The solid, round-cornered frame indicates elements newly introduced to the baseline setup (Figure 1).

Figure 2: Setup that allows the council's decision rule to evolve endogenously, each period t

thus always follows the preference shared by all ordinary council members in the constitutional convention. Therefore, the results of the current extension remain robust if we assume a more demanding decision rule in the constitutional convention, for example, if we require full unanimity when the king is the agenda-setter of the convention, or near unanimity except the king when an ordinary council member is the agenda-setter.[6]

[6]One may also wonder how the decision rule e_t, or the unanimous or almost unanimity rule just mentioned above, is enforced within each constitutional convention. On this issue, note again that the voting result under the decision rule always follows the preference shared by all ordinary council members in the constitutional convention. Since they compose a broad coalition of $N-1$ members, while if a different opinion exists, it is supported by at most one council member, i.e., the king, the different opinion will be too weak to dominate the broad coalition or overthrow the voting result. Following the spirit of Przeworski (1991, 2008), the decision rule is thus self-enforced.

3.2 Analysis and Results

The first step in our analysis is to establish that the unanimous decision rule is self-stable:

Lemma 2 (Self-stability of unanimity)**.** *Regardless of where the agenda-setting power in constitutional conventions lies, in any MPE, if the current decision rule is unanimity, then the agenda-setter will not propose to change the decision rule, and if the agenda-setter did propose, then all ordinary council members would vote against the proposal. Unanimity is thus self-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, since proposing an alternative decision rule will incur a cost, the agenda-setter has no incentive to do so unilaterally, knowing it will be rejected. For any proposal, the ordinary council members will not switch to approve it, either, since unanimity guarantees safe returns from one's own asset forever, which will bring $R/(1-\delta)$, while switching to a non-unanimous decision rule brings the opportunity to expropriate others, which will bring an expected payoff of at most $\frac{\Pi^M(N)}{1-\Pi^D(N)} \cdot (N-1) \cdot R/(1-\delta)$, supposing that the resulted king would be a dictator and able to expropriate everyone else, would not discount future payoffs, and that the expropriation would be perfectly efficient. When everyone will fight against everyone under a non-unanimity rule, however, this opportunity is still too uncertain, i.e., $\frac{\Pi^M(N)}{1-\Pi^D(N)} = 1/(N-1)$, to dominate the safe returns under unanimity, since the random nature of the contest success makes $\Pi^M(N) \cdot (N-1) + \Pi^D(N) = 1$. 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 being replaced, any single ordinary council member can be better off by unilaterally blocking the proposal and thus bringing civil peace and a safe return from her own asset for one additional period. Therefore, any MPE cannot include any alternative Markov strategies to the ones in Lemma 2.

Lemma 2 suggests that unanimity is an absorbing state in equilibrium. This helps us fully identify the dynamics when the kingship has the agenda-setting power in constitutional conventions, the case we examine first:

Proposition 3 (Regime dynamics when the kingship controls the constitutional agenda)**.** *If the kingship has the agenda-setting power in constitutional conventions, then in any MPE, unanimity is self-stable; dictatorship is self-stable, too; any other non-unanimous decision rule will transition instantly 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 self-stability of unanimity follows Lemma 2. The intuition for the self-stability of dictatorship and the transition of

any other non-unanimous decision rules to dictatorship 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 other non-unanimous decision rules ($2 \leq e_{t+1} \leq N-1$). This is because all these decision rules will induce an all-out contest for the kingship, but in dictatorship the resulting king can persecute and expropriate the greatest number of ordinary council members, $N-1$.

Second, observe that, when the current decision rule is non-unanimous, the king also prefers any non-unanimous decision rule ($e \geq 2$) to unanimity ($e = 1$). This is because, without any asset, he will not benefit from the civil peace brought by a unanimity rule, but will welcome the opportunity under a non-unanimity rule to persecute and expropriate. The king's favorite rule is thus dictatorship. Given the king's preference, he will thus keep the decision rule as it is if the current rule is already dictatorship, i.e., dictatorship is self-stable.

Finally, observe that the default decision rule in the future is always the same as the current one. Therefore, if the current decision rule is non-unanimous but not dictatorship yet, and if dictatorship is now proposed, then given the default rule and the preference of the ordinary council members, the council will approve the proposal for dictatorship. Knowing this and given the king's preference, the king will thus propose dictatorship. Therefore, any non-unanimous, non-dictatorship decision rule will transition instantly to dictatorship.

In the intuition of Proposition 3, it is notable that, if the current decision rule is non-unanimous, ordinary council members' preference about unanimity does not matter. This is because the default option is a non-unanimity rule and, given the kingship's agenda-setting power in constitutional conventions, unanimity will not be proposed.

One can imagine that this will not be the case if the agenda-setting power lies instead among the ordinary council members. In that scenario, the future decision rule will be determined by the ordinary council members' preference about the decision rules, and they do prefer unanimity to all non-unanimity rules: as mentioned in the intuition of Lemma 2, unanimity brings them perpetual peace with safe returns from their assets, whereas the opportunity to persecute and expropriate others under any non-unanimous decision rule is too uncertain when everyone will be against everyone under an non-unanimity rule, even if the power to persecute and expropriate is as great as in dictatorship. Therefore, if the council has the agenda-setting power in constitutional conventions, any unanimous decision rule will transition into unanimity instantly. This intuition is established by the following proposition and proven in Appendix F:

Proposition 4. *If an ordinary council member has the agenda-setting power in constitutional conventions, then in any MPE, unanimity is self-stable, and any non-unanimous decision rule will transition instantly to unanimity, i.e., for any* $e_t \in \{1, 2, \ldots, N\}$*, then* $e_{t+1} = 1$.

Table 1: Dynamics of decision rules and political regimes in equilibrium

Who sets the agenda in constitutional conventions?	King	Ordinary council members
Unanimous democracy, $e_t = 1$	↻	↻
Collective veto regimes or non-unanimous democracies, $e_t \in \{2, 3, \ldots, N-1\}$	↓	↑
Dictatorship, $e_t = N$	↻	

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

Putting Propositions 3 and 4 together, Table 1 summarizes the self-stability and transition of decision rules and political regimes in equilibrium. As shown in the table, whether dictatorship can be a self-stable alternative to unanimity, and which self-stable regime any non-unanimity rule will transition into, depend on where the power to set the constitutional agenda lies. We discuss the implications of the results in Section 5.2.

4 Social Cohesion and Judicial Insulation

In Section 2, we have analyzed executive actions, i.e., persecution in our model, and the contest for the agenda-setting power in such actions, i.e., the kingship in our model; in Section 3, we have analyzed legislation, i.e., the constitutional conventions in our model. A natural question to follow is thus: what role would a judiciary play? In particular, how would a judiciary that oversees executive actions influence the relationship between the decision rule of executive actions and civil conflict?

4.1 Setup

We investigate this question in this section by modifying our baseline model. As laid out in Figure 3, we now introduce a judiciary of $\bar{N}$ judges, where $\bar{N} \geq 1$ is exogenous. The judges' job is, at each persecution stage, to evaluate and vote sincerely on any persecution

proposal that has been approved by the executive council, and the proposal will still not be implemented if at least $\bar{e}$ judges vote against it, where $\bar{e} \in \{1, 2, \ldots, \bar{N}\}$ is exogenous, too. Similar to the ordinary council members in the baseline model, we assume that the judges will vote for the proposal if indifferent.

Features of the judiciary. To explore how robustly the judiciary can prevent persecution and thus avoid contests for the kingship, we allow for several features in the functioning of the judiciary. First, we allow the judges' judicial decisions to be relevant to their own welfare, by assuming that persecution will incur negative externality among the elites, i.e., the members of the executive council and the judiciary. Specifically, we assume that the asset of each non-persecuted ordinary member and judge will be damaged by persecution of others in period t so that it will generate a flow payoff of only

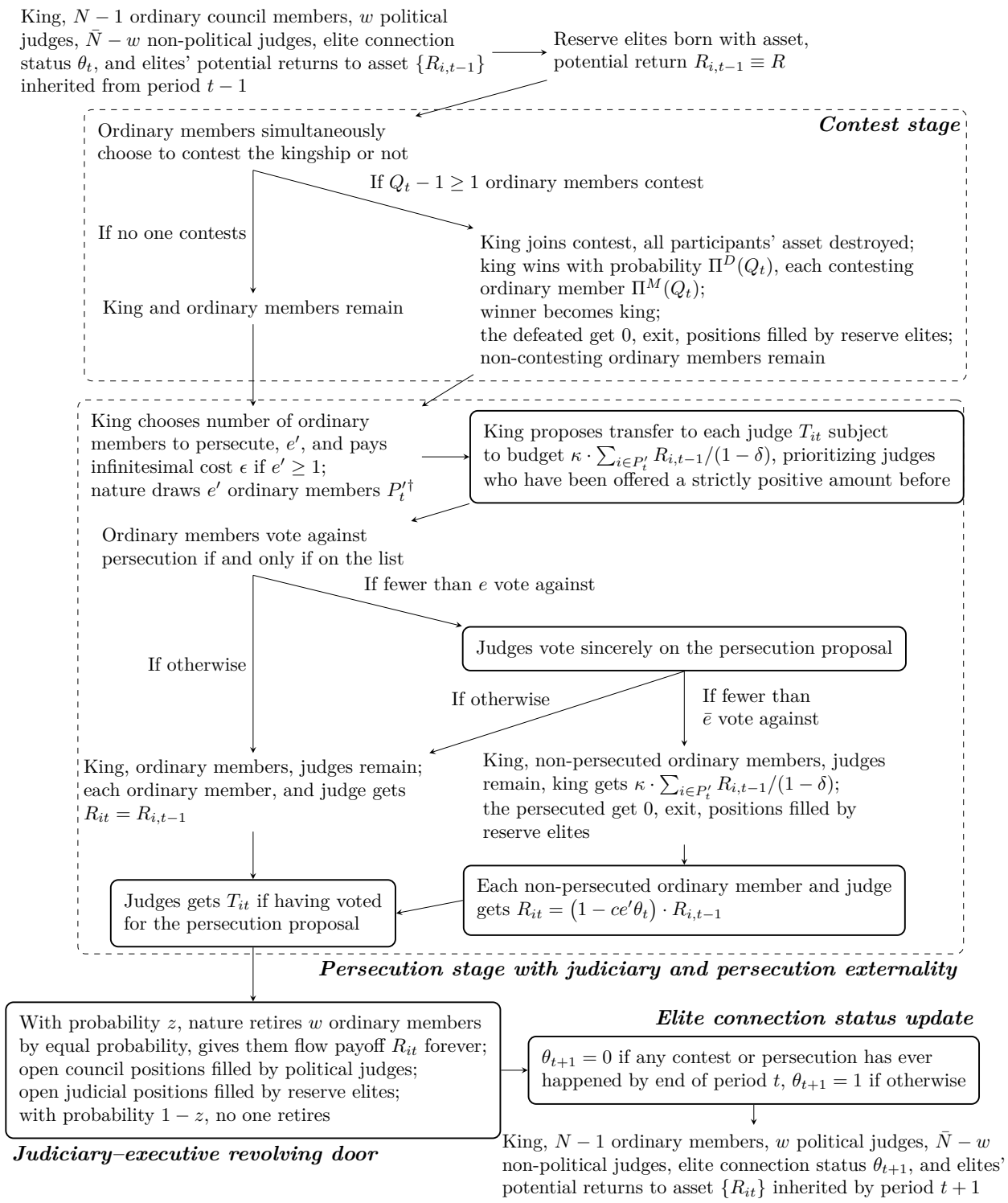
$$R_{it} = (1 - ce'\theta_t) \cdot R_{i,t-1} \tag{4}$$

at the end the persecution stage. In this expression, i denotes each individual non-persecuted ordinary council member or judge; $R_{i,t-1} > 0$ is the potential flow payoff of the focal elite's asset until the current persecution, and the whole game starts from $R_{i,0} = R$ for all ordinary members and judges. The externality of persecution, if exists, depends on the number of ordinary council members proposed by the king to persecute, e', and the exogenous degree of potential *social cohesion* among the elites, $c > 0$. That said, the externality will only occur when the elites have been connected with each other in period t, with $\theta_t = 1$ indicating so while $\theta_t = 0$ not. On these connections among elites, we assume that they are vulnerable to contests among elites and persecution of elite members, and such connections are also difficult to reestablish, i.e.,

$$\theta_{t+1} = \begin{cases} 0, & \text{if there has been a contest or persecution by period } t; \\ 1, & \text{if otherwise.} \end{cases} \tag{5}$$

Making $\theta_t = 0$ an absorbing state, this assumption captures the fragility of social connection when civil conflict and political violence pervade, while making our analysis easier.

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



Solid, round-cornered frames indicate elements newly introduced to the baseline setup (Figure 1). †: if there exists a unique most senior ordinary member, nature will draw her first for sure, and then $e'-1$ from the other $N-2$ ordinary members by equal probability; if otherwise, nature will draw e' from $N-1$ ordinary members by equal probability.

Figure 3: Setup that incorporates social cohesion and judicial insulation, each period t

the executive council.

Third, we allow all judges to be influenced by the king, i.e., we assume that the king can commit a transfer $T_{it} \geq 0$ within the persecution stage to each judge i for her vote for the persecution proposal. We assume that the total amount of the transfers is subject to a budget constraint, which is the persecution profit if the persecution proposal is eventually approved by the 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. Moreover, we assume that, when choosing the judges to receive strictly positive transfers, the king prioritizes the judges who have been offered strictly positive transfers before. This assumption captures the idea that exerting influences relies on relationships that are costly to build, and it makes the model more tractable in analysis.

Key assumption. As the key assumption in this section, we assume that in a contest for the kingship, relative to a contesting ordinary council member, the king is not more advantageous when the contest features more participants; in particular, the king's advantage in an all-out contest is not greater than in a duel, i.e., $\Pi^D(N)/\Pi^M(N) \leq \Pi^D(2)/\Pi^M(2)$. This assumption suggests that an ordinary council member's disadvantage as an ordinary council member in a duel now would be significant, while her advantage as a king in an all-out contest in the future would be insignificant. Therefore, under this assumption, a single ordinary council member's incentive to break the peace would be limited, making perpetual peace possible.

We find this assumption intuitive, since in an all-out contest the king is essentially one among so many, whereas in a duel his relative status as the king is much more prominent. Moreover, this assumption holds naturally when the contest success functions follow the additive specification, which is the most widely used in the contest literature and axiomatized by Skaperdas (1996), provided with exogenous contest efforts of all participants and symmetric efforts among all contesting ordinary council members, in which case the king's advantage relative to a contesting ordinary council member, $\Pi^D(Q)/\Pi^M(Q)$, would be an exogenous constant, independent of the number of participants, Q.[7]

Further simplifications. We impose two additional assumptions that would simplify the model without sacrificing much in insights. First, since in this section we focus on the ordinary council members's contest decisions, instead of their voting decisions during the persecution, we assume that all ordinary council members mechanically following Lemma 1

[7]Mathematically, suppose that $\Pi^D(Q) = D/\big((Q-1)M + D\big)$ and $\Pi^M(Q) = M/\big((Q-1)M + D\big)$, where $M > 0$ and $D > 0$ are exogenous. The king's advantage is thus $\Pi^D(Q)/\Pi^M(Q) = D/M$.

when facing a persecution proposal, i.e., they will vote against it if and only if they themselves are to be persecuted. This assumption brings simplicity; we can keep these voting decisions of the executive council endogenous, but that would not bring many additional insights.

Second, since in this section we focus on how robustly the judiciary can prevent contests for the kingship, we assume a particular way to draw the persecution proposal, i.e., 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 $e' - 1$ from the other $N - 2$ ordinary members by equal probability; if otherwise, nature will draw e' from $N - 1$ ordinary members by equal probability. This assumption is not too unreasonable 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. Importantly, this assumption discourages an ordinary council member from pulling out of an all-out contest for the kingship, because doing so will make her the unique most senior ordinary member at the following persecution stage and thus be persecuted for sure. In this sense, the assumption is skewed for, not against, the contest option, which makes our results below on how robustly the judiciary can prevent contests stronger.

Decision rules and strategies in focus. Since Proposition 2 has suggested that unanimity rule can prevent persecution and confer civil peace even without a judiciary, we narrow our attention to non-unanimity rules, i.e., $e \in \{2, 3, \ldots, N\}$, when analyzing the current model. Since Proposition 1 has suggested that these rules can induce perpetual persecution and all-out contests without a judiciary, in the current analysis, we focus on whether and under what conditions there would exist MPEs that feature perpetual persecution and all-out contests, or feature no persecution but perpetual peace.

4.2 Analysis and Results

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

Lemma 3. *Starting from when $\theta_t = 0$, the following strategy profile constitutes an MPE: in each period, every ordinary council member at the contest stage contests the kingship; the king at the persecution stage proposes to persecute $e - 1 \geq 1$ ordinary members and no transfer to any judges; all judges vote for any persecution proposal.*

We prove Lemma 3 in Appendix G. The intuition is simple: since $\theta_t = 0$ is an absorbing state, persecution does not and will not incur externality; all judges are thus indifferent about persecutions even without any transfers; 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 judges; for each ordinary member, withdrawing from an all-out contest will make her the primary target at the following persecution stage, so she always stays in the all-out contest instead.

Lemma 3 suggests that the risk of perpetual persecution and all-out contests in Proposition 1 would still be a concern even if a judiciary oversees persecution, as long as the elites are not connected with each other so that persecution does not incur externality. Note that human society has often taken the risk of civil conflict and political violence seriously (e.g., Hobbes, 1996; Weber, 1946; Widerquist and McCall, 2017). Therefore, we now explore whether an MPE can feature persecution when the elites are still connected with each other so that the externality of persecution is switched on, i.e., $\theta_t = 1$, under the understanding of everyone that they will transit into the absorbing state of $\theta_{t+1} = 0$ after the current persecution stage and follow the MPE in Lemma 3 from then onwards.

Lemma 4. *Suppose that there has been a contest for the kingship in period t and all players understand that they will follow the MPE in Lemma 3 from period $t+1$ onwards. About the persecution stage of period t, the following claims are true:*

1. *in any MPE, any non-political judge i will vote for any persecution proposal at the current persecution stage if and only if the transfer proposed to her satisfies $T_{it} \geq ce' \cdot R/(1-\delta)$;*

2. *in any MPE, any political judge i will vote for any persecution proposal at the current persecution stage if and only if the transfer proposed to her satisfies $T_{it} \geq ce' \cdot R/\left(1-\delta(1-z)\right)$;*

3. *as $\delta \to 1$ as in Proposition 1, in any MPE, the king will propose $e' = e-1$ at the current persecution stage if $\kappa > \left(\bar{N} - w - \bar{e} + 1\right) c$, and will not propose to persecute any ordinary council members if $\kappa \leq \left(\bar{N} - w - \bar{e} + 1\right) c$.*

We prove Lemma 4 in Appendix H. The intuition is as follows. Since persecution will incur negative externality to the judges and thus affect their future welfare in the looming absorbing state of social disconnectedness, each judge must require a transfer from the king to vote for any persecution proposal. Since the political judges will have opportunities to join the executive council and thus to contest the lucrative kingship in the state of social disconnectedness, which features perpetual all-out contests and persecution, it is cheaper for the king to influence her than the non-political judges, i.e., $ce' \cdot R/\left(1-\delta(1-z)\right) < ce' \cdot R/(1-\delta)$. Therefore, the king can afford to get any persecution proposal approved if and only if the negative externality of persecution, i.e., c, and the number of non-political

judges, $\bar{N} - w$, are sufficiently small, or the expropriation efficiency, i.e., κ, and thus the king's budget is sufficiently high, i.e., $\kappa > \left(\bar{N} - w - \bar{e} + 1\right) c$.

One step further from Lemma 3, Lemma 4 suggests that, once a significant contest has broken out, even having a judiciary and an elite circle where everyone is connected with each other will still be insufficient to prevent persecution, if there are too few non-political judges who are insulated from the opportunity to join the executive council in the future, i.e., there is a lack of *judicial insulation,* or if the elites' connection does not impose a strong potential negative externality of persecution, i.e., there is a lack of *social cohesion* among elites. This implication leads to the main result of this section:

Proposition 5. *Suppose that everyone understands that, once a contest or persecution has happened in a past period, all players will follow the MPE in Lemma 3. As $\delta \to 1$, the following claims are true:*

1. *if $\kappa > \left(\bar{N} - w - \bar{e} + 1\right) c$, there exists an MPE that features an all-out contest and $e - 1$ persecutions in any period t with $\theta_t = 1$;*
2. *if $\kappa \leq \left(\bar{N} - w - \bar{e} + 1\right) c$,*
   (a) *there does not exist an MPE that would feature an all-out contest in any period t with $\theta_t = 1$;*
   (b) *there exists an MPE that features no persecution but perpetual peace 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., $\delta \to 1$, when judicial insulation or social cohesion is low, i.e., $\kappa > \left(\bar{N} - w - \bar{e} + 1\right) c$, Lemma 4 has suggested 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 persecutory power will prevent each ordinary council member at the preceding contest stage from withdrawing from an all-out contest for the kingship, making it possible for the all-out contest to be Markov perfect. Taking this as given, we can eventually fully construct an MPE that satisfies the claim after finding Markov perfect strategies for other subgames.

As the social discount factor is sufficiently high, when judicial insulation and social cohesion are both sufficiently high, i.e., $\kappa \leq \left(\bar{N} - w - \bar{e} + 1\right) c$, instead, Lemma 4 has suggested that, for any subgame that starts from a persecution stage with connected elites and with a contest in the preceding contest stage, the king will not be able to persecute anyone in

the current persecution stage in any MPE. For Claim 2a, understanding this, each ordinary council member potentially in an all-out contest at the preceding contest stage is thus comparing two options: the first is to participate in the all-out contest, have no persecutory power in the following persecution stage if wins, and remain as the king facing another all-out contest in the next period as in Lemma 3; the second is to withdraw from the current all-out contest, enjoy a safe return of her asset for now, and then participate in the all-out contest in the next period as in Lemma 3. Since the probability to win the kingship in an all-out contest is too low, i.e., $\Pi^M(N) = \left(1 - \Pi^D(N)\right)/(N-1)$, the ordinary council member will withdraw from the current all-out contest, thus making it not Markov perfect if everyone always contests whenever the elites are still connected.

For Claim 2b, understanding that the king at the persecution stage with connected elites and with a contest in the preceding contest stage will not have any persecutory power, each ordinary council member at the preceding contest stage potentially in perpetual peace without persecution is thus comparing two options: the first is to stay in this situation and enjoy 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 wins, and only hope to survive the all-out contest in the next period as the king as in Lemma 3. Since we have assumed that her disadvantage as an ordinary council member in a duel now would be significant while her advantage as a king in an all-out contest in the future would be insignificant, i.e., $\Pi^D(N)/\Pi^M(N) \leq \Pi^D(2)/\Pi^M(2)$, she will thus not challenge the king, making it possible for perpetual peace without persecution to be Markov perfect. Taking this as given, as for Claim 1, we can eventually fully construct an MPE that satisfies Claim 2b after finding Markov perfect strategies for other subgames.

Table 2: Conflict or peace under non-unanimity rule with a judiciary when risk of conflict and persecution taken seriously

	Insulated judiciary	Uninsulated judiciary
Connected and socially cohesive elites	Perpetual all-out conflict not an MPE; perpetual peace an MPE	Perpetual all-out conflict an MPE
Disconnected or socially incohesive elites	Perpetual all-out conflict an MPE	Perpetual all-out conflict an MPE

Summary of Lemmas 3, 4, and Proposition 5.

Putting Lemmas 3, 4, and Proposition 5 together, Table 2 summarizes the results from this section: when taking the risk of civil conflict and 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-unanimity rule to fall into an equilibrium of perpetual all-out civil conflict; only when the judiciary is sufficiently insulated and the elites are connected and socially cohesive, society under non-unanimity rule can break perpetual all-out conflict as an equilibrium, maintaining perpetual peace without persecution. We discuss the implications of these results in Section 5.3.

5 Implications of Results

5.1 Perpetual Conflict, Civil Peace, and Decision Rules

Propositions 1 and 2 are our baseline results. They present a link from the decision rule e to the possible occurrence of perpetual contest for political authority. We first discuss three implications that flow naturally from it.

The Hobbesian war: Its origins and solutions. Hobbes (1996) argues that human nature would lead to a war "of all against all" – the Hobbesian war, and the only solution to it is a sovereign that has unlimited authority. This is one of the founding ideas of modern political philosophy, for example, reflected in the Weberian view of statehood as the monopoly on violence (Weber, 1946, p. 78). In contrast, our Proposition 1 suggests that unlimited authority, i.e., $e = N$ in our model, can cause Hobbesian wars, and any *collective* veto power, i.e., $e \in \{2, 3, \ldots, N-1\}$, cannot preempt the risk of perpetual violence in a weakly institutionalized environment as in our baseline model. In such environments, our Proposition 2 suggests that the only political regime that can confer civil peace is unanimity with *individual* veto power, which is diametrically opposite to unlimited authority.

Why does political authority play such different roles in our model and in Hobbes's argument? First, note that, in Hobbes's argument, the Hobbesian war is primarily a war where "men …use violence, to make themselves masters of other men's persons, wives, children, and cattle," i.e., "for gain" (Hobbes, 1996, p. 83). Here the "gain" is foremost the wealth to grab when one defeats another, not any political authority that the winner of a contest could impose upon those who did not contest. Indeed, in the Hobbesian state of nature, any "common power to keep [everyone] in awe" did not, does not, and will not exist (Hobbes, 1996, p. 84), so it is impossible for political authority to cause Hobbesian wars.

In our model, on the contrary, we have assumed that a contest will destroy all participants'

assets and all those defeated will be expelled from the council. It is thus clear that the incentive to contest the kingship can only be the power of the kingship to persecute and expropriate. Therefore, the Hobbesian war in our model is a contest for such power of persecution and expropriation. Political authority thus constitutes a fundamental reason for such wars, especially when they destroy wealth. Only when political authority is so constrained by unanimity that the kingship will not have any power of persecution, will ordinary council members have no incentive to contest, and will civil peace be obtained.

Comparing Hobbes's argument and our baseline results, ours appear more consistent with anthropological evidence on violence. Systematically reviewing such evidence, Widerquist and McCall (2017, p. 163, 166) first observe that "[g]ain provides very little motive for attack" in the social-economic context of small-scale, stateless societies 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. Consistent with our model, the "much more relevant …causes of conflict …include, …most importantly, the common human desire to dominate others," i.e., authority over others (Widerquist and McCall, 2017, p. 166).

To avoid such conflicts, as summarized by Widerquist and McCall (2017, p. 167), hunter-gatherer bands thus "try not to let anyone dominate anyone else" and "take strong action to prevent any hierarchical structure from developing." Moreover, to prevent one-on-one bullying, "[a]lthough bands have no single individual authority figure to arbitrate disputes, anyone and everyone in the group might give their opinion," so that "[a]ll or most observed bands cultivate an ethos of nonviolence, humility, equality, freedom, and autonomy" (Widerquist and McCall, 2017, p. 167–168). 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. 138), consistent with our Proposition 2. Also importantly, given the extremely limited durability of goods in small-scale, stateless societies, peace is achieved without many enforceable "contractual promises" (Widerquist and McCall, 2017, p. 163). This is consistent with our notion of weakly institutionalized environments and our focus on Markov strategies.

When political authority is present, 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 our 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).

To summarize, our model presents a different concept of the Hobbesian war from the one

in Hobbes (1996); its origin and solution are both opposite to those in Hobbes's argument; our understanding of the relationship between political authority and conflict is more relevant than Hobbes's to weakly institutionalized environments, or the so-called "natural condition of mankind" (Hobbes, 1996, p. 82).

Justification of individual rights. As we primarily interpret the decision rule e as the political regime, we can also interpret it as the level at which certain rights, for example, the rights to be free from arbitrary persecution and expropriation, are secured. Specifically, unanimity ($e = 1$) secures the rights at the individual level, collective veto power ($e \in \{2, \ldots, N-1\}$) does so at a group level, and dictatorship ($e = N$) does not secure the rights at the individual or group level. In this sense, domains of inalienable human rights, which cannot be altered by majority vote and are usually enforced by courts, can be understood as domains over which unanimity rule applies.

Under this interpretation, Proposition 2 implies that civil peace can be conferred in a weakly institutionalized environment when such rights are secured at the individual level, whereas Proposition 1 implies that any more limited veto power, say for any group of two or more, would run the risk of bringing perpetual conflicts. This is because security of such rights at any group level cannot prevent violation of each individual's rights, and the power to engage in such violation could lure everyone into conflict.

These implications offer a justification of individual rights. In the economics literature, property rights are often justified by their instrumental role in bringing more efficient economic outcomes (e.g., Grossman and Hart, 1986; Hart and Moore, 1990; Hart, 1995; North, 1987, 1990). This approach can be seen as part of the consequentialist, utilitarian, and instrumental theories of rights, which justify individual rights by showing that "such an arrangement best promotes overall human welfare" (Quinn, 1993, p. 170). This approach contrasts with the deontological, status-based theories of rights, which justify individual rights by recognizing the intrinsic value of these rights (e.g., survey by Wenar, 2021). To our knowledge, we are the first to demonstrate that individual rights can be justified by their indispensability in preserving civil peace and avoiding perpetual conflict.

In addition, a third, contractual approach to justifying individual rights in the literature is to recognize them as "principles that would be chosen by properly situated and motivated agents agreeing to the basic terms of their relations," and "[t]he fact that these principles would be agreed to under the specified conditions is their justification" (Wenar, 2021). Following this approach, our Lemma 2 and Proposition 4 suggest that individual rights will be justified in a weakly institutionalized environment if unanimity is the status quo, or if the agenda-setting power in constitutional conventions lies in the council. Here, individual

rights are justified because unanimity is agreed upon in constitutional conventions. The reason behind the agreement is that unanimity confers civil peace under these institutional conditions, following Proposition 2.

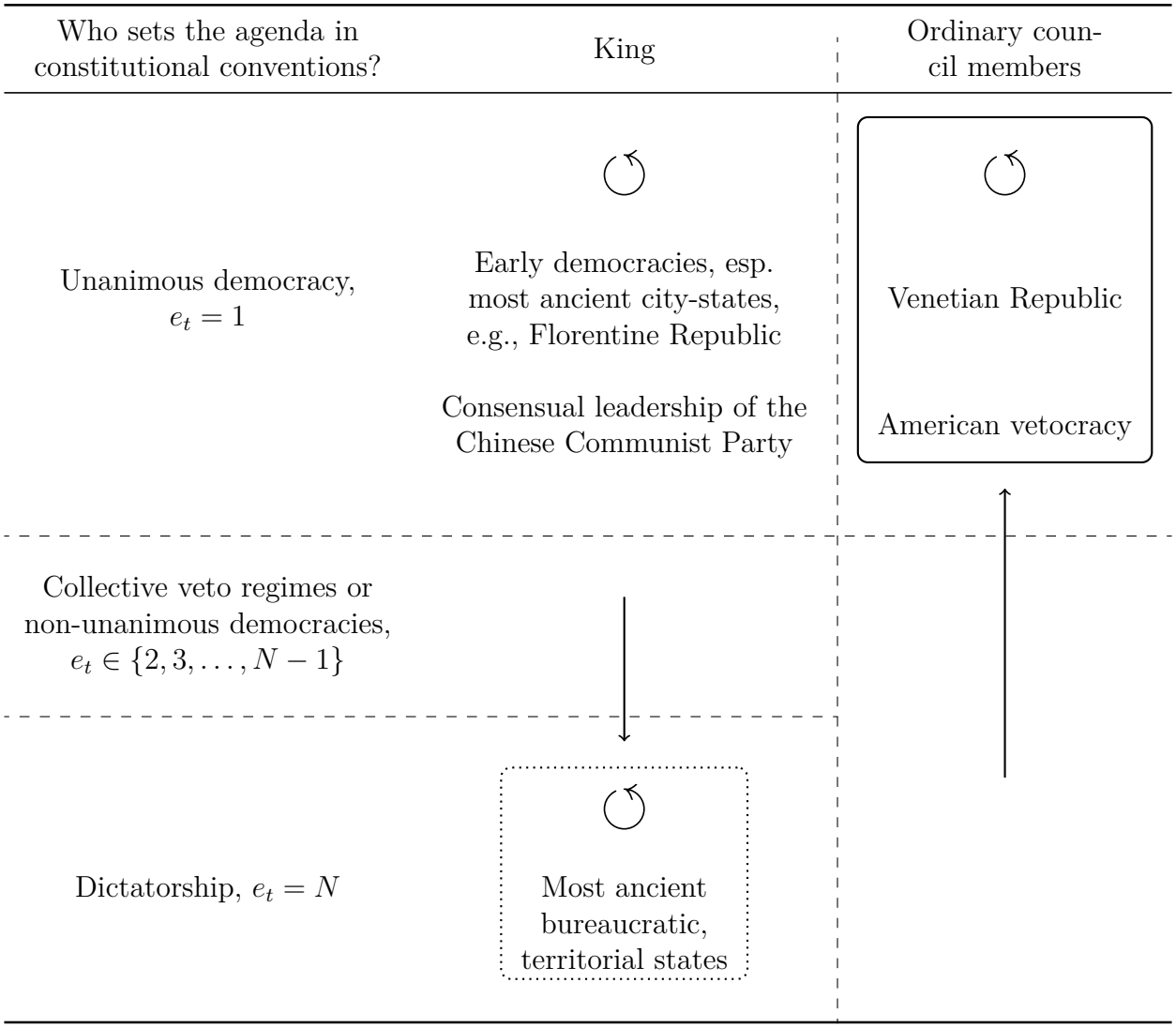
Veto power in the United Nations Security Council. Many international organizations grant veto power to each individual member state when making decisions on their most important issues (e.g., Posner and Sykes, 2014). One major example is the fact that each of the five permanent members of the United Nations Security Council can prevent on its own any non-procedural draft resolution from being adopted. This veto power has been under severe criticism for decades, as many states consider it as conferring disproportionate, unjust power to the Permanent Five and paralyzing the Security Council from responding adequately to crises (e.g., Bourantonis, 2004; Wouters and Ruys, 2005). In particular, the Permanent Five can never be sanctioned even when one of them invades another country, and they can also veto a draft resolution proposing to sanction their client states. Issues relative to the veto power in the Security Council have thus always been discussed (e.g., United Nations, 2018, 2020).

Despite the problems brought by the individual veto power of the Permanent Five, our Proposition 2 suggests that the veto power could be a fundamental stabilizing force behind the post-World War II global order. Since the veto power prevents any one of the Permanent Five to be legally sanctioned within the United Nations framework, it reduces the value of hegemony within the framework and, therefore, the incentive of the great powers to contest such hegemony. Consistent with Proposition 2, the United Nations framework has so far held itself together and prevented a third world war among major international players. This is fulfilling the very first purpose of the United Nations when it was founded, i.e., "to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind" (United Nations, 1945).

5.2 Institutional Dynamics and Agenda-setting Power on Constitutional Issues

Our Propositions 3 and 4 provide a few implications on institutional dynamics and the agenda-setting power in constitutional conventions, i.e., legislation. Accordingly, we expand Table 1 into Table 3 by providing examples of self-stable political regimes and indicating regimes that are resilient to regime shocks and have strong capacity of emergency management. We discuss the implications in more details below.

Table 3: Self-stability, resilience, and emergency capacity of political regimes



Expanded from Table 1, summary of implications of Propositions 3 and 4 and corresponding examples. Self-pointing arrows indicate self-stability; examples of self-stable regimes are listed; straight arrows indicate directions of transition; the dotted, round-cornered frame indicates resilience to regime shocks and strong capacity of emergency management but without conferring of civil peace; the solid, round-cornered frame indicates regime resilience, strong emergency capacity, and conferring of civil peace.

Bifurcation of political regimes in premodern times. As shown in Table 3, Propositions 3 and 4 first imply that in weakly institutionalized environments, for example, in premodern times, only the two extreme types of political regimes are self-stable and can thus exist for a significant time: one is unanimous democracy, i.e., $e_t = 1$, in which society is governed by a council and the head of the council rules by unanimous consent; the other is dictatorship, i.e., $e_t = N$, in which the king has absolute authority and does not need consent from the ruled to rule. Any regimes in between, which endow the council with some collec-

tive veto power against the king, i.e., $e_t \in \{2, 3, \ldots, N-1\}$, if ever exist, would collapse into either unanimous democracy or dictatorship shortly. This is because these regimes cannot prevent perpetual contests for the kingship as unanimous democracy can, nor maximizing the persecutory power of the kingship as dictatorship can.

This implication is consistent with stylized facts about political regimes in premodern times. On the one hand, based on a comprehensive data set, Stasavage (2020a, p. 4–5, 29) observes that "[t]hroughout human history many societies on multiple continents have independently developed …early democracies, [whose] most crucial element …was [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 "those who chose representatives could bind them with mandates, and individual localities could either veto central decisions or opt out of them," thus creating "substantial blocking power and therefore a need for consensus" (Stasavage, 2020a, p. 6, 17). Such unanimous democracy with individual veto power corresponds to $e_t = 1$ in our model. This type of political regimes often applied to ancient city-states, where "power …tended to be shared …among the heads of leading families and the wealthiest people, who were often the same individuals," and "[p]olicies were decided and issues resolved in councils" (Trigger, 2003, p. 103).

On the other hand, "autocracies …were a clear alternative to early democracy," where "autocrats created bureaucracies staffed with subordinates they themselves had selected and they themselves controlled" (Stasavage, 2020a, p. 9). As Stasavage (2020a, p. 9) comments, "[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 without any need for consensus corresponds to $e_t = N$ in our model. This type of political regimes often applied to territorial states, where "a ruler governed a larger region through a multilevelled hierarchy of provincial and local 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 $e_t \in \{2, 3, \ldots, N-1\}$ 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) notice that this intermediate type was not present among early democracies; Lord (1930, p. 138) observes that "in general it may be said that more or less imperative mandates were widely used in almost every parliament of the period, 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 the bifurcation,

which generally followed the "distinction," "bimodality," or "oppositeness" between ancient city-states and territorial states in terms of their political organization, without much mixture or many intermediates between them.

From the discussion above we have seen that the bifurcation of political regimes in premodern times have been well observed. The literature has also explored the origin and dynamics of institutions within the bifurcation, for example, why certain civilizations adopted one instead of the other type of regimes, and how the bifurcation in various institutional dimensions has persisted over time, while taking the bifurcation itself as given (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). Different from the literature, our Propositions 3 and 4 thus explain the bifurcation itself: in premodern times, only unanimous democracy and dictatorship could exist for a significant time, whereas non-unanimous democracies or collective veto regimes could not.

In addition, on the persistence of the bifurcation, Stasavage (2020a, p. 17) observes that societies that had the tradition of early, unanimous democracy would eventually evolve into the third, intermediate type, i.e., non-unanimous democracy, in modern times. We will discuss the socioeconomic and institutional conditions for the rise of non-unanimous democracy in Section 5.3.

Resilience of political regimes, separation of the executive and legislature, and dominance of autocracy in premodern times. Even if a political regime is self-stable in the absence of external shocks, what about when it is facing drastic changes in the environment? For example, a small group of people may have staged a coup and justified their temporary rule within the regime; facing a military crisis, a non-dictatorial regime may grant more emergency power to the chief executive; under certain pressure, a dictatorial king may have had to concede more decision rights to other elites. Under these circumstances, how would a regime respond and evolve over time?

Propositions 3 and 4 can shed light on this question. Consider a regime with $e_t \in \{1, 2, \ldots, N\}$. Suppose there is a shock that pushes the regime slightly away from the status quo. As shown in Table 3, Propositions 3 and 4 suggest that how the regime will respond to the shock depends on where the constitutional or, more generally, legislative agenda-setting power lies. If the king sets the agenda, then he will push for greater persecution powers whenever possible, and the council will go along with it; therefore, dictatorship will recover quickly, while any unanimous or non-unanimous democracy will be broken and replaced by dictatorship, i.e., $e_{t+1} = N$. On the contrary, if it is the council who sets the agenda, then they can push for checks on the kingship whenever possible; therefore, unanimous

democracy will be re-affirmed, while formerly non-unanimous regimes will transition into unanimous democracy, i.e., $e_{t+1} = 1$.

In premodern times, the head of the regime was usually not separated from the legislature, if there was any separation at all; separating the executive and legislative powers is primarily a modern idea (e.g., Locke, 2003, p. 164–165). For example, representative for ancient Greek city-states, "the [executive Council] *boulé* [of the Athenian Republic] had very tight control over the agenda of the [legislative] Assembly, [which] could discuss nothing that had not already been discussed in the Council and formulated by it as a *probouleuma* – a 'resolution'," whereas "[t]he 'presiding committees' [of the *boulé*] regulate[d] the proceedings and act[ed] in the name of the entire body," and the *boulé*'s "foreman (*epistates*) …was the president of the Athenian Republic [and] presided over the *boulé* and …the Assembly …also" (Finer, 1997a, p. 347); a similar lack of separation applied to the Roman Republic and most of medieval European city-states, (e.g., Finer, 1997b, p. 402, 405, 436–437; Finer, 1997b, p. 967; Greif, 1995, p. 735). It was extremely rare that the legislature could exclude the head of the executive when initiating a discussion on the constitution, the Venetian Republic being a notable exception (Finer, 1997b, p. 990–1007). As a result, it would be almost impossible for the legislature to consolidate its agenda-setting power on constitutional issues.

Based on this, Proposition 3 implies that early democracies should have been vulnerable to autocratic shocks, and it should have been dictatorships, not democracies, that dominated the world map in premodern times. This was also the case. For example, within 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 politics was still finally 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 who ran the city-states with their own commercial interests as a main objective [was] a common form of government in Italy from

the 13th through the 16th centuries" (Zingales, 2017, p. 115). Eventually, as Finer (1997b, p. 950) observes, "[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" (Stasavage, 2020a, p. 61), early democracies "were exceptional, not the rule, and were short-lived at that" (Finer, 1997b, p. 951). Our Proposition 3 thus explains the well-observed dominance of autocracy in premodern times by the lack of separation of the executive from the legislature on constitutional issues.

Emergency capacity of unanimous democracy. As Propositions 3 and 4 show that the resilience of unanimous democracy relies critically on the council's agenda-setting power on constitutional issues, we can provide another implication on the capacity of unanimous democracy to manage emergencies. We focus on emergency capacity because political philosophers and real-world practitioners of power have viewed it as a fundamental attribute of state capacity (e.g., Schmitt, 1985, 2014; Agamben, 2005; Sorell, 2013; Lincoln, 1953). Given the emphasis on emergency capacity, since unanimity can paralyze decision-making in emergencies while dictatorship can make decisions quickly, it is natural to dismiss unanimous democracy and even advocate dictatorship on these grounds (e.g., Schmitt, 1985, 2014).

On the one hand, Proposition 4 suggests that such a dismissal is flawed. Suppose that an emergency arrives at an unanimous democracy ($e_t = 1$) where the council sets the agenda on constitutional issues, and a temporary expansion of the executive power, i.e., $e_t \geq 2$, is needed for emergency management. Knowing that the council will be able to re-impose unanimity rule shortly after the emergency is dealt with, even if dictatorial power is needed right now, the council will not hesitate to grant it, making unanimous democracy as effective as dictatorship in managing emergencies.

On the other hand, Proposition 3 suggests that this refutation critically depends on the condition that the council sets the agenda on constitutional issues. If otherwise, i.e., if the king sets the agenda, although unanimous democracy is self-stable, the council will be reluctant to approve any request from the executive to expand its power to manage the emergency, knowing that democracy will not be able to recover once the executive power is even only slightly expanded.

This danger of losing democracy by temporarily granting emergency power to the executive has been well noticed since the collapse of the Roman Republic (e.g., Finer, 1997a, p. 432–438; Qin, 2021, p. 81–106). Nevertheless, this collapse happened when there was an insufficient separation of the executive and the legislature, 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] the *ius agendi cum plebe* – the right to …put resolutions to the [legislative] *concilium,*" which contributed to their extended tenures of authority; in 82–81 BC, Sulla instigated Valerius Flaccus to become the executive *interrex,* proposed himself to be "appointed …'*dictator* for *making the laws* and *reconstitution* of the Republic,'" and had the proposal sponsored by Flaccus and approved "by vote of the [legislative] *comitia centuriata,*" effectively consolidating the agenda-setting power of the executive on constitutional issues (Finer, 1997a, p. 402, 405, 436–437; Bellen, 1975). It was from then to 27 BC that a "reign of terror [was] institute[d], …the old constitution [was] abandoned" as Sulla and his successors set the constitutional agenda, and the Republic was eventually replaced by "the Empire," as "Octavian …came to be addressed as *princeps,* that is, 'First Man in the State,' …to express the nature of the new regime" (Finer, 1997a, p. 435, 582).

Putting Propositions 3 and 4 together, when the legislature is separated from the executive and the legislature's agenda-setting power on constitutional issues is consolidated, unanimous democracy can allow temporary dictatorial executive power to deal with emergencies. Note that Propositions 1 and 2 have already implied that only unanimous democracy can avoid perpetual conflicts and confer civil peace. In this sense, as shown in Table 3, *only* unanimous democracy with the *necessary* help from a truly independent legislature can achieve *both* civil peace and strong emergency capacity. This insight is diametrically different from the political theories that approach these two highly-valued 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 them to curtail such authority (e.g., survey by Philpott, 2020).

The Florentine vs. Venetian Republic. To further highlight the role of the agenda-setting power on constitutional issues in determining the capacity of unanimous democracy to deal with emergencies, we compare the institutions of the Florentine and Venetian Republics and their consequences, as shown in Table 3.

To start with, 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, …conform[ing] to the basic characteristic of the republics of antiquity, be they Greek or Roman." This system "includes …the plural executive, bound by laws, as opposed to one-man rule," and "the executive is subject to multiplex power" (Finer, 1997b, 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 not an exception but "[l]ike all the other city-republics" (Finer, 1997b, p. 995). For example, "the [steering cabinet] *Collegio* could initiate legislation and decrees but could not enact them, while the [legislative] Senate could enact them it 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; also 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 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* "with large armed force at his command," 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). The agenda-setting power on constitutional issues was thus not separated from the head of the executive.

In Venice, although the *Collegio* initiated legislation, it was eventually 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). In practice, "[e]ach week one of the six *savii* took it in turn to discharge this task and for that period," and, 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," i.e., either sending a proposal to the Senate or, in the case of emergency, the Council of Ten (Finer, 1997b, p. 1003–1004). The real agenda-setting power on constitutional issues was thus in the hands of these *savii grandi,* but not the doge, i.e., the head of the executive.

Given this difference in the agenda-setting power on constitutional issues, Propositions 3 and 4 imply that the Florentines would be worried about the substantial risk contained in

expanding the executive power during emergency, and this worry would make them reluctant to do so; the Venetians, on the contrary, would be more ready to expand the executive power when needed, since their legislature would be more confident to re-impose the checks and balances once the emergency was dealt with.

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] *Balía,* …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: "[i]t is significant that in the last years of the fourteenth century and the first part of the fifteenth, when the Republic was taking its first unconscious steps towards personal rule, the *Parliamentum* and *Balía* 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 as predicted by our Proposition 4, "[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). Consistent with Proposition 2, as the executive's authority was limited by "overlapping authorities of 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, when "she succumb[ed] to an invader, [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," read as unanimous democracy in our model, "with that of emergency action." The comparison between the Venetian and Florentine Republics is thus consistent with the implications from our Propositions 3 and 4.[8]

[8]The main reference for our comparison is the classic work of Finer (1997b, p. 950–1023). It may be

American vetocracy vs. consensual leadership of the Chinese Communist Party. To further illustrate the relevance of Propositions 3 and 4 to the contemporary world, we discuss some of their implications for comparing and understanding the institutional features and performances of American vetocracy and the consensus requirement in decision-making within the highest leadership of China, i.e., the Politburo Standing Committee of the Chinese Communist Party.

Both regimes can be interpreted as functioning by unanimity rule in our model. As Fukuyama (2014, p. 488) comments, the American political system was "a complex system of checks and balances 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 in Mao's last years were still fresh until recently (e.g., Xie and Xie, 2017; Shirk, 2018; Li et al., 2019). For these and other reasons, since the late 1970s until Xi'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, i.e., the highest ranking member of the Party (e.g., Shirk, 1993, 2018; Huang, 2000; Vogel, 2005; Xie and Xie, 2017; Li et al., 2019).

One big difference between these two examples is who has legislative agenda-setting power. In the United States, this power is vested with Congress, which, notably, excludes the President, and "in American political culture, …Congress jealously guards its right to legislate" from the Presidents' effort to shape legislations (Fukuyama, 2014, p. 496). Our Proposition 4 suggests that this separation of powers between the executive and the legislative agenda-setting power allows American vetocracy to be resilient when faced with regime shocks. The need for 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.

As a result, although being criticized for "sometimes making it impossible altogether"

worth mentioning that, although Finer himself pays special attention to the institutional arrangements in both Florence and Venice, including where the legislative agenda-setting power lies, he seemed unaware of the importance of the agenda-setting power on constitutional issues in the comparison. When comparing the features of the Venetian and Florentine systems, he emphasizes the Venetians' sophistication and fairness in their political selection, together with the relative unimportance of industry in Venice and Venice's geographical security (Finer, 1997b, p. 994–995). The stronger emergency capacity compared to Florence does appear as an important difference, but Finer (1997b, p. 996) takes it as given. Only guided by Propositions 3 and 4 could we uncover an institutional origin of this difference, even having limited ourselves within the materials that Finer (1997b, p. 950–1023) has presented.

to reach collective action on normal policy issues, Congress can still "delegate huge powers to the executive branch, allowing it to operate rapidly and sometimes with a very low degree of accountability," especially during economic and security crises (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.

Our Proposition 3 suggests therefore that the consensus requirement in the decision-making within the Party leadership will be vulnerable to shocks of personalistic rule. This is consistent with the reading by Shirk (2018) and Li et al. (2019): the problems about policy coordination failure, corruption, and political rifts within the Party mounted during the consensual leadership under Xi's predecessor; thus, when Xi became the General Secretary in 2012, he received a rare window to consolidate his power so that he could implement an urgent, large-scale, and intense anti-corruption campaign.[9] As the tide of the campaign fell, however, the convention of collective, consensual leadership did not returned, and Xi's rule has become increasingly personalistic (e.g., Shirk, 2018). In this process, consistent with Proposition 3, 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). As officially explained, this move was specifically to "maintain the authority of the Party Central Committee with Comrade Xi Jinping as its core" (Wang, 2018). All recent developments have suggested that Xi is likely to break the post-1989 norm that one should not serve as the paramount leader for more than ten years (Fewsmith, 2018; McGregor et al., 2018; CCCPC, 2021).

[9]For more studies on conceptual understanding of the anti-corruption campaign, see, for example, Lu and Lorentzen (2018), Xi et al. (2018), and Li et al. (2019).

5.3 Social Cohesion among Elites, Judicial Insulation, and Preservation of Peace under Non-unanimity Rule

Our Lemmas 3, 4, and Proposition 5 first imply that, only when the judiciary that oversees persecutions is sufficiently insulated from the executive *and* embedded in an elite circle in which everyone is connected with each other and socially highly cohesive, society under a non-unanimity rule can be free from political persecutions and civil conflicts. This implication is consistent with the English experience in its transition from perpetual civil wars to peace during the turn of the 17th to 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." Since these mandates implied a 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). We thus read the political regime of late-medieval–early-modern England as a non-unanimous, majority rule in our model.

This majority rule was supposed to have the High Court of Parliament, "the House of Lords as a court of first instance," as the judiciary that oversaw persecutions of peers (Lovell, 1949, p. 75). That said, against the backdrop of "local economic isolation" and the new form of "bastard feudalism," in the late 14th and 15th centuries, the aristocracy was "far from united" but "seriously divided" by "bitter …private feuds" and "local rivalries," which were easy to be "multiplied" and "esclat[ed]" (Plumb, 1967, p. 4; Wilkinson, 1969, p. 310–318). Our Lemmas 3, 4, and Proposition 5 predict 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. Consistent with the prediction, 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, [i.e.,] the act of attainder, …without, or so it seems, any …judicial process" (Bellamy, 1970, p. 177).

Although the House of Lords could not provide sufficient protection against persecution, the lords in the late Middle Ages still often "found the crown unwilling to admit …their claims [of] jurisdiction …over peer trials …[e]ven with the reduction to …*in rem*" (Lovell, 1949, p. 70–71). Their claims were eventually recognized by Henry VII, but "without the spirit of those claims" (Lovell, 1949, p. 71). In 1499, "Henry VII …took the old Court of Chivalry, made all its members peers, and replaced the constable at its head with a previously existing 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). Given that "the prior selection of triers by the crown" always put the triers under the crown's patronage with potential appointments to senior executive or ministerial positions in the future, we can read almost all the triers as the political judges in our model. Lemma 4 and Proposition 5 thus predict that such uninsulated judiciary would not be able to constrain the kingship's persecutory power. Consistent with the prediction, although the Stuarts "decreased [the] use of this court" in the 17th century, the Court "ensured the crown control of peer trials" as "the general result": 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 on trial were capital cases (Lovell, 1949, p. 75, 79).

Given, first, the lack of economic connections and social cohesion among the elites and the often failure of the judiciary to assert its jurisdiction over peer trials and, then, the lack of judicial insulation, Lemmas 3, 4, and Proposition 5 predict that England must have faced a significant risk of civil conflict during the 14–17th centuries. Consistent with the prediction, England "had scarcely been free from turbulence for more than a decade at a time" during this period (Plumb, 1967, p. 1), and "experienced a civil war roughly every fifty years, …continu[ing] up until the great Civil War of the 1640s" (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). Moreover, these wars "pitted a monarch …against various elite opponents" for "political power and, ultimately, dominance" (Fukuyama, 2018, p. 17, 20), just as we have modeled.

It was only in the mid-17th century when the preconditions for the perpetual civil conflict started to wane. On the socioeconomic front, a Durkheimian rise of connection, interdependence, and social cohesion among the elites was underway. As Plumb (1967, p. 4) summa-

rizes, "[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 during the turn of the 17th 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 eligible memberships of the House of Lords sharply increased during the 17th century from under 60 to approaching 200 (Russell, 2013, p. 17), admitting many more lords who were politically inactive, often skipping regular sessions, but "attached …importance" only "to the state trials" with "high attendance figures" (Rees, 1987, p. 195, 240, 245–246).[10] 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, from the Triennial Act 1641 that "abolish[ed] all the prerogative courts," to the Act of Settlement 1701 that "lay down unambiguously that [all court] 'Judges' Commissions be made *quamdiu se bene gesserint* (for as long as they act well),'" the whole judicial system 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 judges in our model and, therefore, helped achieve judicial insulation.

Given the sufficient connection and social cohesion among elites and total insulation of

[10]In the 18th century, "[e]ach session" of the House of Lords, "a solid core of about one-third of the membership never went up to London and, moreover, made no arrangements to be represented by proxy," and "[p]olitical leaders …were annually confronted with [the] problem …to secure …their supporters' …attendance in the House of Lord," whereas "state trials [had] high attendance figures" due to "social attraction and curiosity" (Rees, 1987, p. 240, 245–246). Rees (1987, p. 195–197, 246–249) discusses the observation with more data.

the judiciary from the executive, Lemma 4 and Proposition 5 predict that the judiciary could have become capable of constraining the persecutory power of the kingship and, therefore, preventing England under the majority rule from falling into perpetual civil conflict. Consistent with the prediction, since the late 17th–mid-18th centuries, the "engine of the crown" to control peer trials and political persecutions 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).

Our reading of the English experience sheds new light on the literature on the relationship between economic development, separation of powers, and political stability. The representative opinion in the literature is that the growth of political stability in England during the turn of the 17th century was achieved primarily because the interests of the elites were increasingly interconnected and the elite class became socioeconomically more homogenous, *despite* the separation of powers that fragmented authority of governance (e.g., Plumb, 1967, p. 189; Finer, 1997c, p. 1356). This opinion reflects the Hobbesian–Weberian tradition of the facilitative role of monopolized authority in political stability (Hobbes, 1996; Weber, 1946, p. 78). Guided by our Lemmas 3, 4, and Proposition 5, our reading affirms the general importance of growing socioeconomic complexity, interconnectedness, and social cohesion brought by economic development in achieving political stability (e.g., Cox et al., 2019); at the same time, it suggests that having only complexity, interconnectedness, and social cohesion may still be insufficient, and judicial insulation from the executive can be necessary.

Other premodern or early modern European states. Besides early modern England, how were the levels of judicial insulation and elite cohesion in other premodern or early modern European states, and what have historians said about their political regimes? Examining some examples would shed more light on the relevance of Lemmas 3 and 4 and Propositions 2 and 5, as they imply that, without sufficient judicial insulation *or* elite cohesion, unanimity rule can be particularly appealing in its advantage in preventing political persecution and preserving civil peace.

Table 4 categorizes the examples in our examination into four quadrants and shows how we read their political regimes. In the top-left quadrant is early modern England, where the judiciary was sufficiently insulated from the executive and the elites were closely connected and sufficiently socially cohesive, whereas a non-unanimous rule applied as we have just discussed. We now first discuss why we can categorize the other states into the their quadrants, respectively, before discussing their political regimes together.

Table 4: Judicial insulation, elite cohesion, and political regimes of premodern or early modern European states

	Insulated judiciary	Uninsulated judiciary
Connected and socially cohesive elites	Majority rule Early modern England	Unanimity rule Venetian Republic, Athenian democracy
Disconnected or socially incohesive elites	Unanimity rule Polish–Lithuanian Commonwealth, most medieval Italian city-republics	Unanimity rule French Old Regime, Crown of Castile, Dutch Republic

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

Polish–Lithuanian Commonwealth and typical medieval Italian city-republics. In the bottom-left quadrant are states that had 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).[11]

On the one hand, the *Sejm*'s membership was entitled not only to the "mighty magnates," but also to "every one of the …noblemen …[i]n principle" (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 communi-

[11]Since the 15th century, the Polish–Lithuanian nobility had enjoyed the privilege that the king did not "have the power to confiscate noble estates without previously securing a judgement in a court of law" and "the famous principle of *neminem captivabimus nisi iure victum,*" i.e., "nobody could be imprisoned until convicted of a crime in a court of law" (Frost, 2015, p. 140, 305).

cations, and comparatively feeble urbanization" in the late Middle Ages, the Polish noble estate, i.e., the *szlachta*, 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, if not "soured considerably" even further, by the Union of Lublin (Frost, 2015, p. 494). It is thus not too wild to interpret that the elites in the Commonwealth were socially incohesive in the sense in our model.

A similar characterization can be made for most medieval Italian city-republics but for a different judicial institution. "[A] uniquely medieval Italian innovation," one of the "common characteristics [of] [t]he …city-republics of the fourteenth century," except for Venice, was "the *podestà* in charge of judicial business," which had been "grafted on to [the legislative and executive] councils" since the 13th century (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). Not citizens but "outsider[s]" and "foreigner[s]," these 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, we can characterize that the *podestarial* judiciary of a typical Italian city-republic was not connected with the native elites not only before, but also over the whole course of its tenure.

Venetian Republic and Athenian democracy. Opposite to the bottom-left quadrant of Table 4, in the top-right quadrant are states that had inter-connected and socially cohesive elites but a judiciary that was not much insulated from the executive. For example, 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 the inter-clan relationship, and "one clan might assist another on a particular occasion and then be repaid in kind by that other clan many years later," building "'honest' 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 social 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.

A similar case can be made for the Athenian democracy. In Athens, it was the legislative "Assembly [that] had jurisdiction over offences allegedly against the state," especially through a procedure of "the *eisangelia,*" i.e., "impeachment," during which "the Assembly …acted like an American Grand Jury and voted on whether there was a prima facie case," before trials "in a popular court …or by the Assembly itself" (Finer, 1997a, p. 345–346). In the case of conviction, the court and Assembly "could impose any penalty," including "ostracism, [i.e.,] dishonourable banishment with confiscation of goods, a range of forfeitures and fines, and, for the most serious crimes, the death penalty" (Finer, 1997a, p. 346, 356–357).

Although "[t]he distinction between the deliberative, the executive, and judicial 'powers' is …recognized explicitly by Aristotle," the citizens who exercised these powers were closely connected and socially cohesive (Finer, 1997a, p. 355). Traditionally they had resided within the "tiny" territory of "Attica, with Athens as its capital," which was "just the same size as Hong Kong" (Finer, 1997a, p. 341). "[L]eaders of the democratic [and] the opposing oligarchic part[ies]" had already come from the same "ancient and wealthy lineages" (Finer, 1997a, p. 342–343). "Up to the end of the sixth century BC, …[a]ll this …trib[alism]," if any, was eventually "changed by Cleisthenes": "the citizenry [was] 'mixed up' [and] sectionaliz[ed] [into] ten *phylae* (misleadingly translated as 'tribes')," each of which "[c]riss-cross[ed] …the City, the Coast, and the Plain …and their [traditional] settlements" and "would contain men from the three [areas] alike" (Finer, 1997a, p. 344). "Henceforth the *locus* for determining citizenship," which was the key to the Athenian political life, "was no longer the *phratry,*" i.e., the clan (Finer, 1997a, p. 344).

One may also note that, in Athens, any substantial insulation between the judicial and executive powers would be against "[t]he guiding principle of the political system, [i.e.,] the *demokratia,*" which included that, "with the rarest exceptions, all posts, whether executive, legislative, or judicial, should be open, by rotation, to the entire citizen body for a one-year term" (Finer, 1997a, p. 345). In particular, "[t]he Council, [which] was the essential organ of executive power, …the magistracies, [who] were the executive agents of the Council and Assembly, [and] the judiciary" were all "filled by casting lots (sortition) …annually" from the same pool for the Assembly, i.e., "all citizens, …with minor qualification" (Finer, 1997a, p. 345, 347–348). Moreover, the executive "Council had certain judicial functions, too": it could initiate "the *eisangelia*" and "challenge claims to citizenship," potentially leading to ostracism (Finer, 1997a, p. 348). Therefore, not only could the elites who had judicial power join the executive in the future, but some did already have the executive power. We can thus conclude that the judicial insulation that we have modeled was low in the Athenian democracy.

French Old Regime, Crown of Castile, and Dutch Republic. In the last, bottom-right quadrant of Table 4 are states that had neither an insulated judiciary nor connected and socially cohesive elites. The very first example is the French Old Regime. This regime is of our 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 Old Regime, "[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 Old Regime 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 Old Regime, note that both of 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 was that 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, it became even more of the case that these regional powers and noble houses 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 and was strengthened in turn by the "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, the French national politics had "especially" had "conflicting" and "narrow local views and interests" to "reconcile" (Lord, 1930, p. 138; Strayer, 1970, p. 52). To the extreme, regional and family rivalries could resort to assassinations or even civil wars, as the Armagnac–Burgundian feud did (Langlois, 1922, p. 126–127). We thus read the French Old Regime as having a low level of interconnectedness and social cohesion among the elites who had the judicial and executive powers in our model.

The French situation was representative of continental Europe in the late Middle Ages and early modern period. 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 mostly "professionals," sometimes "all laymen" (O'Callaghan, 1989, p. 159–160; O'Callaghan, 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; O'Callaghan, 1993, p. 43). The Castilian judicial power was thus uninsulated from and eventually held by the executive in the same way as their French counterpart. At the same time, the nobility that were potentially on trial held "suspicion of the judges as professionals" (O'Callaghan, 1989, p. 160), while the general "enmity between the Castilians and Leonese" pervaded. 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 cohesion among the elites in our model.

The final example in this quadrant and Table 4 is the interesting 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 "most spectacular example [of] the arrest and trial of [Johan van] Oldenbarnevelt and his associates in 1618–19," state trials were held in "a special, …*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, but its "precise constitutional position was never absolutely clear" (Price, 1994, p. 211–215). That said, during state trials and "for [this] specific purpose, the States General was able to exercise powers that were unambiguously sovereign" (Price, 1994, p. 215). In this sense, we can read the judiciary as part of the executive, rather than insulated from it, in the language of our model.

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 perhaps hostility" among them (Price, 1994, p. 221, 223). These "had inevitable and important effects on the politics of the Union, [especially] in foreign policy," 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; Price, 1998, p. 101, 103). Given all this, we read these delegates to the States General, who held the executive and judicial powers of the Dutch Republic, as socially incohesive in our model.

Judicial history and political regimes of these states. Lemmas 3 and 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 then implies that such societies, under such a consideration, could adopt unanimity rule, i.e., a political regime that would grant elaborate checks and balances and overlapping of authorities so that each individual stakeholder has veto power in any state decisions. By our state-specific discussions above, these implications should apply to all the examples in Table 4, except early modern England.

The judicial history and political regimes of these examples were indeed consistent with the implications. We now briefly discuss them one by one. In the Polish–Lithuanian case, even under the famous 1505 principle of "*Nihil Novi,*" i.e., "nothing new …should be decreed …without the common agreement" from the *Sejm,* which recognized the nobility's collective, not individual, veto power, the bigger players 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, "politicide"-like *liberum veto* was adopted, granting individual veto power to each single 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 a carefully designed political regime with "elaborate checks and balances" (Finer, 1997b, p. 1018; Greif, 2006, p. 241). Since this regime granted veto power to each relevant organ or power to the focal decision, in Section 5.2 we have read it as unanimity rule in our model. That said, under autocratic shocks when the unanimity rule was temporally 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 made him easy to be captured during a general emergency when the executive had extensive authority while the republic was under pressure (Finer, 1997b, p. 967; Greif, 2005, p. 751; Greif, 2006, p. 240). As we have discussed in Section 5.2, the unanimity rule would be vulnerable to autocratic shocks and eventually slip into a dictatorship-like regime.

For the Venetian Republic, it is difficult for us to speculate whether and how political persecution would happen under an non-unanimous rule, because the unanimity rule in Venice, as we have discussed in Section 5.2, had been not only strong but also resilient.

What we do know is that under this unanimity rule, Venice was famous for its "impartial justice" and "a freedom of speech and a toleration for individual views that were a byword throughout Italy [and] 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," which we have discussed in Section 5.2 (Finer, 1997b, p. 1016).

Similarly, when the Athenian democracy was at its full strength, unanimity rule held not only in the form of overlapping of authorities of all relevant organs, but also in the principle that "with the rarest exceptions, [the] one-year term [and selection] by casting lots (*sortition*) [and] rotation [for] all posts" granted an extremely high frequency of direct participation in political decision to each individual of "the entire citizen body" (Finer, 1997a, p. 344–368). Under this unanimity rule, although ostracism as political trial ran the risk of being "sometimes abused," the main theme was that "in any event it was not often used, and after 415 [BC] faded out of existence altogether," serving its "calming influence" primarily from the off-equilibrium path (Finer, 1997a, p. 356–357). Consistently, when Madison (2008, p. 52) claims that the Athenian, "pure democracy" was domestically "violent" and "incompatible with personal security or the rights of property," Finer (1997a, p. 362) refutes the views, "as far as Athens is concerned, as demonstrably false" – "[n]ot merely false: they are *contrevérités.*"

In both the French Old Regime and the Crown of Castile, it had been easy for the king to capture the judicial power. In France, despite the "mutual enmity between [the king] and the [judicial] *Parlement,*" 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 the judicial power] was ever present," and 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, "with the urban renaissance, 'men of the good towns' or other spokesmen of 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 met 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 we have discussed in Section 5.2, the system in practice granted each constituency individual veto power because their right to "indefinitely postpone" and "suspend" decisions so that to "destruct …a representative assembly," making a *de facto* unanimity rule (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 from positions of influence" managed by "Maurits [van Oranje,] now the presiding figure, [i.e., the *Stadholder,*] in the state" (Israel, 1995, p. 450). Although Maurits further "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).[12] 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, conversely, subjection of the weaker provinces to the direction of Holland," i.e., no non-unanimous rule, "could have …construct[ed] a stable and workable system," and "either was likely to lead to the break-up of the Union, or at least to severe domestic unrest" (Price, 1994, p. 278–279).[13] In this sense, the unanimity rule "was in fact the cornerstone of the Union" (Price, 1994, p. 279). Here ends our discussion of these examples.

6 Conclusion and a Remark on Separation of Powers and Beyond

In this paper, we entertain the idea that unchecked political authority may attract contestants for such authority, making it a cause rather than a solution to the Hobbesian war "of all against all." When doing so, we analyze a dynamic game of political contest and

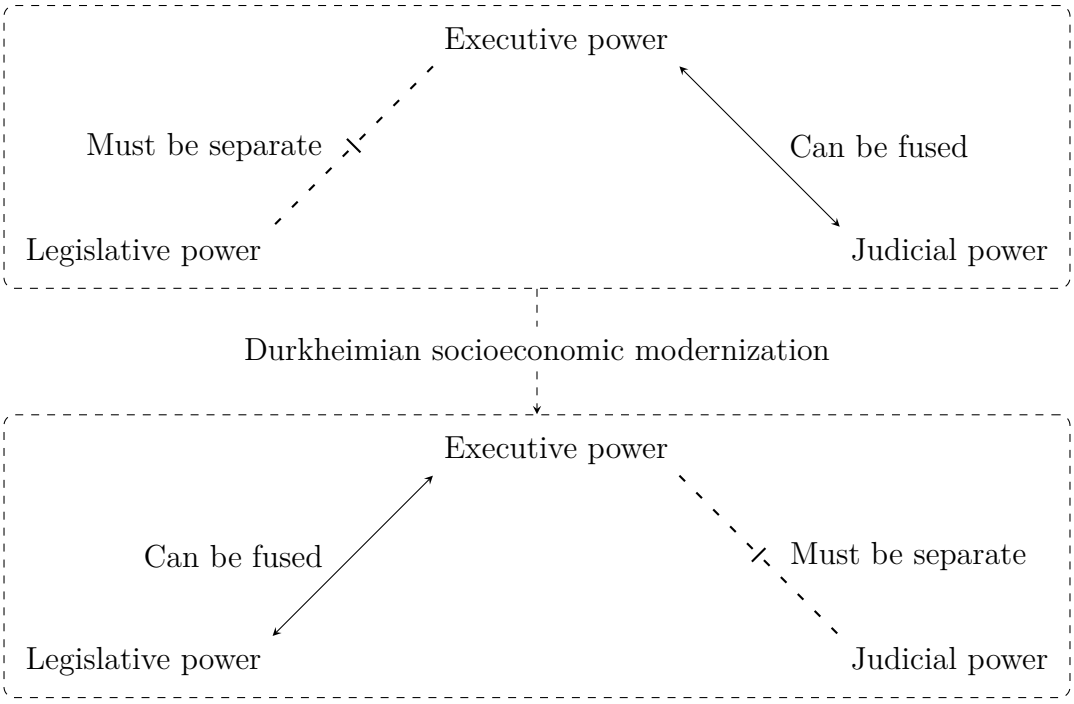
[12] Admittedly, "the refusal of any one of them to agree to a given measure could, at a pinch, be ignored" (Price, 1994, p. 279). That said, the consequence of this temporary breach of unanimity rule had been limited by the design that "[t]he presidency of the assembly changed every week, being held by a representative of each province in turn" (Price, 1994, p. 212).

[13] Specifically, "[a]ny political system which allowed Holland to be regularly coerced into having to support policies which were against its perceived interests could not have lasted long," whereas "the same principle also afforded the weaker provinces an important measure of protection from the danger of being overwhelmed by Holland" (Price, 1994, p. 279).

persecution in a king's council. Propositions 1 and 2 show that in a weakly institutionalized environment, which is captured by the solution concept of Markov perfect equilibrium, only unanimity rule in the council can prevent perpetual contests for political authority and preserve civil peace. As we endogenize the council's decision rule, Propositions 3 and 4 show that, although unanimity rule is self-stable, its resilience depends critically upon having the agenda-setting power in constitutional design separated from the head of the executive, so that any non-unanimity rule would not collapse into dictatorship. When we incorporate a persecution-overseeing judiciary, Proposition 5 shows that the judiciary can lift society under non-unanimity rule out of perpetual contests over political authority only if the judiciary is embedded in an interconnected, socially cohesive elite circle and if career paths of the judicial members are sufficiently insulated from the executive. We have discussed the 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 is about separation of powers, which we elaborate here. First, note that Durkheim (2014) famously reads modernization as a socioeconomic 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 elaborate division of labor and the functional complementarity between dissimilar people, conferring a high degree of interdependence among them.

If we take the Durkheimian reading of modernization seriously while putting all the propositions in this paper together, a hypothesis about the evolution of separation of powers emerges. We summarize it in Figure 4. Proposition 5 implies that before modernization, i.e., when elites and society in general were organized by mechanical solidarity and thus lacked interconnection and social cohesion, even an insulated judiciary would not preempt the risk of perpetual civil conflict under non-unanimity rule. Propositions 1 and 2 suggest that such society would rely on unanimity rule, whereas Proposition 3 and 4 imply that for the unanimity rule to be resilient, separating the *executive* power from the *legislative* power would be necessary, especially when it came to constitutional issues. After modernization, i.e., when elites and society in general are organized by organic solidarity and thus are interconnected and socially more cohesive, by Proposition 5, such society does not have to insist upon unanimity rule and can enjoy civil peace under a non-unanimity rule, such as the majority rule, but this is possible only when the *executive* and *judicial* powers are separated in their career paths. 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, 2, 3, 4, 5, and Durkheim (2014).

Figure 4: Socioeconomic modernization and separation of powers

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 when the connection, interdependence, and social cohesion among the elites and society in general were too low, which we have discussed in Section 5.3. As we have also discussed, modernization had been underway in the second half of the 17th century, such that around the turn of the century, civil peace under the non-unanimity rule had become possible; the possibility was realized with the help

of 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 shift of the focus of separation of powers was also reflected in the commentaries on the English experience from the leading thinkers at that time. Tuckness (2020) observes that, published 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," which is the situation that we have modeled in Sections 2 and 3. Compare to that, publishing in 1748, not only did Montesquieu elevate "the power of judging" to one of the "three sorts of powers [i]n each state," he emphasized separation between the executive and judicial powers: "[p]olitical liberty in a citizen is that tranquillity of spirit which comes from the opinion each one has of his security, and …[n]or is there liberty if the power of judging is not separate …from executive power [because] the judge could have the force of an oppressor" (de Montesquieu, 1989, p. 156–157). This insight is consistent with our Lemmas 3, 4, and Proposition 5.

The hypothesis about the shift of the focus of separation of powers is also consistent with the process of socioeconomic and political modernization in many other European states. As Finer (1997c, p. 1589, 1591) observes, there were first "numerous …constitutional monarchies," whose "distinguishing principle" was "a freestanding 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 power. At the same time, "[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 were defined by having members of the executive "responsible to the legislature," i.e., without separating the executive and legislative power (Finer, 1997c, p. 1589–1591).

If we take this hypothesis seriously, based on our theoretical results, we may go further to hypothesize a general picture of political development: before modernization, once an independent legislature was established, it consolidated the veto powers under unanimity rule, conferring civil peace (Propositions 2 and 4); this peace facilitated economic growth

and socioeconomic modernization, making the elites and society in general more interconnected and socially more cohesive (e.g., Durkheim, 2014); the socioeconomic diversification demanded and accelerated professionalization of law, helping insulate the judicial power from the executive (e.g., Weber, 1978; Deflem, 2008); eventually, the process would allow the political regime to fuse the legislature and the executive and bring the so-called "modern 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" is weaker than under unanimity rule (Proposition 5; Stasavage, 2020a, p. 17). Although beyond the scope of the current paper, efforts toward this and other directions are warranted.

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 persecution 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 for 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 e' 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 $e' \geq e$, the proposal will be rejected, and the king will get δV^D, where V^D is the continuation payoff for the king under the continuation strategies in the Markov strategy profile; if the king chooses $e' \leq e-1$, the king will get $e'\kappa R/(1-\delta)+\delta V^D$. Since the payoff from persecution and expropriation $e'\kappa R/(1-\delta)$ is positive and is strictly increasing in $e' \in \{0, 1, \ldots, N-1\}$, the king must thus choose $e' = e-1$, i.e., 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 $e' \geq 1$, he will thus choose $e' = 0$.

Therefore, for the Markov strategy profile to be subgame perfect, i.e., to be an MPE, for any $e \in \{1, 2, \ldots, N\}$the king must chooses $e' = e-1$ and the council will eventually

approve to persecute $e-1$ ordinary members. The lemma is thus proven. □

B Proof of Proposition 1

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

Claim 1. As $\delta \to 1$, the strategy profile in consideration is an MPE. We first observe that, since under this strategy profile each persecution stage will be played as specified in Lemma 1, this strategy profile can be an MPE. At the same time, we see that, by the proof of Lemma 1, any single player, either the king or an ordinary council member, cannot be better off under any single deviation of his or hers in the persecution stage of any particular one period from the strategy profile in consideration.

To prove Claim 1, we thus need to compare, as $\delta \to 1$, 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

$$V^M = \Big(1 - \Pi^M(N)\Big) \cdot 0 + \Pi^M(N) \cdot V^D = \Pi^M(N) \cdot V^D, \tag{6}$$

where $\Pi^M(N)$ is her probability to win the contest, and V^D 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

$$V^D = (e-1)\frac{\kappa R}{1-\delta} + \delta \cdot \Pi^D(N) \cdot V^D = \frac{(e-1)\frac{\kappa R}{1-\delta}}{1 - \delta\Pi^D(N)}. \tag{7}$$

Therefore, her payoff under the strategy profile is

$$V^M = \Pi^M(N) \cdot \frac{(e-1)\frac{\kappa R}{1-\delta}}{1 - \delta\Pi^D(N)}. \tag{8}$$

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

$$V' = \frac{N-e}{N-1} \cdot \Big(R + \delta V^M\Big) = \frac{N-e}{N-1} \cdot \left(R + \delta\Pi^M(N) \cdot \frac{(e-1)\frac{\kappa R}{1-\delta}}{1 - \delta\Pi^D(N)}\right), \tag{9}$$

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 $\delta \to 1$. Notice that by Equations (8) and (9), the difference between them is

$$V^M - V' = \left(1 - \frac{N-e}{N-1} \cdot \delta\right) \cdot \Pi^M(N) \cdot \frac{(e-1)\frac{\kappa R}{1-\delta}}{1 - \delta\Pi^D(N)} - \frac{N-e}{N-1} \cdot R \to \infty \quad \text{as} \quad \delta \to 1, \tag{10}$$

because the council's decision rule is non-unanimous, i.e., $e \geq 2$, and we have discussed the intuition in the main text. 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 $\delta \to 1$. Therefore, the strategy profile in consideration is an MPE as $\delta \to 1$.

Claim 2. As $\delta \to 1$, this proven MPE is the unique MPE. To prove this claim, we 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, however, 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 under it, there must exist a period, which we denote as t, in which at least one ordinary member at the contest stage, whom we denote as i, will not contest the kingship. 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.

Now 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 to contest only in period t. To do that, we need to compare, as $\delta \to 1$, 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

$$V^M = \frac{N-e}{N-1} \cdot \left(R + \delta V^M\right) = \frac{\frac{N-e}{N-1} \cdot R}{1 - \frac{N-e}{N-1} \cdot \delta}, \tag{11}$$

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

$$V'' = \Big(1 - \Pi^M(Q')\Big) \cdot 0 + \Pi^M(Q') \cdot V^D = \Pi^M(Q') \cdot V^D, \tag{12}$$

where Q' is the resulting number of participants of the contest under the single deviation, which satisfies $Q' = \max\{2, Q+1\}$; V^D 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

$$V^D = (e-1)\frac{\kappa R}{1-\delta} + \delta \cdot \Pi^D(Q) \cdot V^D = \frac{(e-1)\frac{\kappa R}{1-\delta}}{1 - \delta\Pi^D(Q)}, \tag{13}$$

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, and we generalize $\Pi^D(Q)$ to cover the case of $Q = 0$ by defining $\Pi^D(0) \equiv 1$. Therefore, this ordinary member i's payoff under the single deviation is

$$V'' = \Pi^M(Q') \cdot \frac{(e-1)\frac{\kappa R}{1-\delta}}{1 - \delta\Pi^D(Q)}, \tag{14}$$

Now compare the two payoffs, V^M and V'', when $\delta \to 1$. Notice that by Equation (11) and $e \geq 2$, V^M is bounded; by Equation (14) and $e \geq 2$, V'' approaches infinity as δ approaches one, and we have discussed the intuition in the main text. Therefore, we have

$$V'' - V^M = \Pi^M(Q') \cdot \frac{(e-1)\frac{\kappa R}{1-\delta}}{1 - \delta\Pi^D(Q)} - \frac{\frac{N-e}{N-1} \cdot R}{1 - \frac{N-e}{N-1} \cdot \delta} \to \infty \quad \text{as} \quad \delta \to 1. \tag{15}$$

Therefore, as $\delta \to 1$, we have $V'' - V^M > 0$. Therefore, as $\delta \to 1$, 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 as $\delta \to 1$, contradicting what we have supposed, i.e., this supposed strategy profile is 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 $\delta \to 1$, the strategy profile considered in the proposition is the unique MPE of the baseline model. The proposition is thus proven. □

C Proof of Proposition 2

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

Claim 1. The strategy profile in consideration is an MPE. We first observe that, given the unanimous decision rule of the council, since under this strategy profile each persecution stage will be played as specified in Lemma 1, this strategy profile can be an MPE. At the same time, we see that, by the proof of Lemma 1, any single player, either the king or an ordinary council member, cannot be better off under any single deviation of his or hers in the persecution stage of any particular one period from the strategy profile in consideration.

To prove Claim 1, we thus 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

$$V^M = \frac{R}{1-\delta} > 0. \tag{16}$$

Second, her payoff under the single deviation is

$$V' = \Pi^M(2) \cdot 0 = 0, \tag{17}$$

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

Claim 2. This proven MPE is the unique MPE. To prove this claim, we 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, however, 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 under it, there must exist a period, which we denote as t, in which at least one ordinary member at the contest stage, whom we denote as i, will contest the kingship.

Now 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

$$V^M = \Pi^M(Q) \cdot 0 = 0, \tag{18}$$

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

$$V'' = R + \delta \cdot V^M = R. \tag{19}$$

Observe that $V'' > V^M$. 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, contradicting what we have supposed, i.e., this supposed strategy profile is 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. The proposition is thus proven. □

D Proof of Lemma 2

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

Claim 1. An MPE can include the strategies in consideration. To prove this claim, we would like 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 would like to show that, the agenda-setter will not be better off under a single deviation, either, where she will propose a change in the decision rule in period t.

About the ordinary council members in the constitutional convention, first observe that each ordinary council member's payoff under the strategies in consideration is $V = \delta \cdot R/(1-\delta)$. Second, under a single deviation of theirs, if the single deviation cannot get $e'_{t+1} \geq 2$ approved, the deviating ordinary member's payoff is still V, and she is not better off. If the single deviation can get $e'_{t+1} \geq 2$ approved, instead, then the deviating ordinary member will contest with everyone else 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, and the best she can hope for is to become an ever-contested and ever-expropriating king onwards. This means her expected payoff will be bounded from above by

$$\begin{aligned}\bar{V}' = \delta\Pi^M(N)\cdot\frac{(N-1)\kappa R}{1-\delta} + \Big(\delta\Pi^D(N)\Big)\cdot\Big(\delta\Pi^M(N)\Big)\cdot\frac{(N-1)\kappa R}{1-\delta} \\ + \Big(\delta\Pi^D(N)\Big)^2\cdot\Big(\delta\Pi^M(N)\Big)\cdot\frac{(N-1)\kappa R}{1-\delta} + \cdots = \frac{\delta\Pi^M(N)\frac{(N-1)\kappa R}{1-\delta}}{1-\delta\Pi^D(N)}. \qquad (20)\end{aligned}$$

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

About the agenda-setter, first observe that 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 $\epsilon > 0$, while not proposing will not. Therefore, the agenda-setter will not be better off by proposing a change in the decision rule.

Therefore, no player will be better off under her single deviation from the strategies in consideration. The strategies in consideration can thus 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

$$V'' = \delta R + \delta^2\cdot\Pi^M(N)\cdot V^D, \qquad (21)$$

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^D 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

$$V^M = \delta\cdot\Pi^M(N)\cdot V^D \geq 0, \qquad (22)$$

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

Now consider V^D:

$$V^D = \frac{(e'_{t+1}-1)\kappa R}{1-\delta} + \delta \cdot V^D_{t+2} \leq \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V^D_{t+2}, \tag{23}$$

where V^D_{t+2} is the expected payoff for a king before the contest stage at $t+2$. Now consider V^D_{t+2}:

$$V^D_{t+2} \leq \max\left\{\delta \cdot V^D_{t+3}, \Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V^D_{t+3}\right)\right\}, \tag{24}$$

where V^D_{t+3} is the expected payoff for a king before the contest stage at $t+3$, because the decision rule is either unanimity or not at $t+2$. By careful induction, one can show that $V^D \leq \left(\frac{(N-1)\kappa R}{1-\delta}\right) / \left(1-\delta\Pi^D(N)\right)$.[14]

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

$$\begin{aligned} V'' - V^M &= \delta R + \delta^2 \cdot \Pi^M(N) \cdot V^D - \delta \cdot \Pi^M(N) \cdot V^D = \delta R - \delta \cdot \Pi^M(N) \cdot (1-\delta) \cdot V^D \\ &\geq \delta R - \delta \cdot \Pi^M(N) \cdot (1-\delta) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1-\delta \cdot \Pi^D(N)} = \delta R \left(1 - \frac{(N-1) \cdot \Pi^M(N)\kappa}{1-\delta \cdot \Pi^D(N)}\right) > 0, \end{aligned} \tag{30}$$

since $(N-1) \cdot \Pi^M(N) + \Pi^D(N) = 1$, $\delta \in (0,1)$, 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.

[14] To see this point, denote the countable but either none, finite, or infinite future periods s when $\delta \cdot V^D_{s+1} > \Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V^D_{s+1}\right)$ as $\{s_n\}_{n=1}$. Without losing generality, suppose $s_1 \geq t+4$ and $s_2 \geq s_1 + 2$. Now first iterate to period s_1 with careful observation:

$$\begin{aligned} V^D &\leq \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V^D_{t+2} \leq \frac{(N-1)\kappa R}{1-\delta} + \delta \cdot \Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V^D_{t+3}\right) \\ &= \frac{(N-1)\kappa R}{1-\delta} + \delta\Pi^D(N) \cdot \frac{(N-1)\kappa R}{1-\delta} + \Pi^D(N)\delta^2 \cdot V^D_{t+3} \\ &\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{2} \left(\delta\Pi^D(N)\right)^s + \Pi^D(N)^2\delta^3 \cdot V^D_{t+4} \\ &\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-2} \left(\delta\Pi^D(N)\right)^s + \Pi^D(N)^{s_1-t-2}\delta^{s_1-t-1} \cdot V^D_{s_1} \\ &\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-2} \left(\delta\Pi^D(N)\right)^s + \Pi^D(N)^{s_1-t-2}\delta^{s_1-t-1} \cdot \delta \cdot V^D_{s_1+1}. \end{aligned} \tag{25}$$

Gather Claims 1 and 2. By Claims 1 and 2, unanimity is thus self-stable in any MPE. The proposition is thus proven. □

Then iterate to period s_2 with careful observation:

$$\begin{aligned}
V^D &\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-2} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{s_1-t-2}\delta^{s_1-t-1} \cdot \delta\Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V^D_{s_1+2}\right) \\
&= \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-2} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{s_1-t-1}\delta^{s_1-t-1} \cdot \delta \cdot \frac{(N-1)\kappa R}{1-\delta} \\
&\quad + \Pi^D(N)^{s_1-t-1}\delta^{s_1-t} \cdot \delta \cdot V^D_{s_1+2} \\
&< \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_1-t-1} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{s_1-t-1}\delta^{s_1-t} \cdot \delta \cdot V^D_{s_1+2} \\
&\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_2-t-3} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{s_2-t-3}\delta^{s_2-t-2} \cdot \delta \cdot V^D_{s_2} \\
&\leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{s_2-t-3} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{s_2-t-3}\delta^{s_2-t-2} \cdot \delta^2 \cdot V^D_{s_2+1}. \qquad (26)
\end{aligned}$$

Denoting $n_\tau \leq \tau - (t+2)$ as the number of future periods s from period $t+2$ to period $\tau - 1$ such that $\delta V^D_{s+1} > \Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta \cdot V^D_{s+1}\right)$, we are ready to observe that, when we iterate to period τ, we will have, if $n_\tau \geq 1$, then

$$\begin{aligned}
V^D &< \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2-n_\tau} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{\tau-t-2-n_\tau}\delta^{\tau-t-1-n_\tau} \cdot \delta^{n_\tau} \cdot V^D_\tau \\
&= \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2-n_\tau} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{\tau-t-2-n_\tau}\delta^{\tau-t-1} \cdot V^D_\tau \\
&< \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{\tau-t-2-n_\tau}\delta^{\tau-t-1} \cdot V^D_\tau; \qquad (27)
\end{aligned}$$

if $n_\tau = 0$, then

$$V^D \leq \frac{(N-1)\kappa R}{1-\delta} \cdot \sum_{s=0}^{\tau-t-2} \Big(\delta\Pi^D(N)\Big)^s + \Pi^D(N)^{\tau-t-2}\delta^{\tau-t-1} \cdot V^D_\tau. \qquad (28)$$

Therefore, by iterating the induction to the infinite future, we have

$$V^D \leq \frac{\frac{(N-1)\kappa R}{1-\delta}}{1-\delta\Pi^D(N)} + \lim_{\tau\to\infty} \Pi^D(N)^{\tau-t-2-n_\tau}\delta^{\tau-t-1} \cdot V^D_\tau. \qquad (29)$$

Note that $V^D_\tau \leq \left(\frac{(N-1)\kappa R}{1-\delta}\right)/(1-\delta) < \infty$ because the king will not be able to do better than surviving and expropriating $N-1$ ordinary council members for sure in each period; also, note that $n_\tau \leq \tau - (t+2)$. Therefore, we have $\lim_{\tau\to\infty} \Pi^D(N)^{\tau-t-2-n_\tau}\delta^{\tau-t-1} \cdot V^D_\tau = 0$ and thus $V^D \leq \left(\frac{(N-1)\kappa R}{1-\delta}\right) / \big(1-\delta\Pi^D(N)\big)$.

E Proof of Proposition 3

Proof. By Lemma 2, we have known that unanimity is self-stable. To prove the rest of the proposition, we would like to show that, in any MPE, first, if $e_t = N$, then 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 $e_t = N$, then 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 $e'_{t+1} \in \{1, 2, \ldots, N\}$, will make the king better off or not. First observe that without any deviation, the king's expected payoff is

$$V^D = \delta\Pi^D(N) \cdot \frac{(N-1)\kappa R}{1-\delta} + \left(\delta\Pi^D(N)\right)^2 \cdot \frac{(N-1)\kappa R}{1-\delta} + \cdots = \frac{\delta\Pi^D(N) \cdot \frac{(N-1)\kappa R}{1-\delta}}{1-\delta\Pi^D(N)}. \quad (31)$$

Second, realize that if the king deviates to propose $e'_{t+1} = 1$, then by Lemma 2, perpetual civil peace will bring him the payoff

$$V' = 0, \quad (32)$$

since the king does not have any asset. Observe that $V^D > V'$, since unanimity brings perpetual peace without expropriation, while dictatorship brings the opportunity to expropriate. Third, realize that if the king deviates to propose $e'_{t+1} \in \{2, 3, \ldots, N-1\}$, then his expected payoff is at most

$$\begin{aligned} \bar{V}'' = \delta\Pi^D(N) \cdot \frac{(N-2)\kappa R}{1-\delta} + \left(\delta\Pi^D(N)\right)^2 \cdot \frac{(N-1)\kappa R}{1-\delta} \\ + \left(\delta\Pi^D(N)\right)^3 \cdot \frac{(N-1)\kappa R}{1-\delta} + \cdots = V^D - \delta\Pi^D(N) \cdot \frac{\kappa R}{1-\delta}, \end{aligned} \quad (33)$$

i.e., if 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 $V^D > \bar{V}''$, since she will expropriate at least one fewer ordinary council members at the persecution stage of period $t+1$ if he proposes $e'_{t+1} \in \{2, 3, \ldots, N-1\}$. Finally, realize that if the king deviates to propose $e'_{t+1} = N$, he will just pay the additional

cost of proposal for no changes. Therefore, any single deviation will not make the king better off, i.e., not proposing an 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 alternative one by one. First, consider the strategy that 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 $\delta\Pi^D(N)\kappa R/(1-\delta) > 0$ 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 that the king will propose $e'_{t+1} = N$. A single deviation from it, where 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 $e'_{t+1} = e' \in \{2, 3, \ldots, N-1\}$. The king's expected payoff is

$$\tilde{V} = \delta\Pi^D(N) \cdot V^D(e_{t+1} = e'), \tag{34}$$

where $V^D(e_{t+1} = e')$ 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

$$V''' = \delta\Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta\Pi^D(N) \cdot V^D(e_{t+1} = e') \right). \tag{35}$$

Note that

$$V^D(e_{t+1} = e') < \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta\Pi^D(N)}, \tag{36}$$

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

$$\begin{aligned} V''' - \tilde{V} &= \delta\Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} - \left(1 - \delta\Pi^D(N)\right) \cdot V^D(e_{t+1} = e') \right) \\ &> \delta\Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} - \frac{(N-1)\kappa R}{1-\delta} \right) = 0, \end{aligned} \tag{37}$$

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

We have now established that not proposing an 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

$$V^M = \delta \Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + V^D(e_{t+2} = N) \right) \tag{38}$$

where

$$V^D(e_{t+2} = N) = \delta \Pi^D(N) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^D(N)}, \tag{39}$$

by Claim 1, is 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

$$V' = \delta \Pi^M(N) \cdot \left(\frac{(e_t - 1)\kappa R}{1-\delta} + V^D(e_{t+2} = N) \right). \tag{40}$$

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 $e'_{t+1} = e' \in \{2, 3, \ldots, N-1\} \setminus \{e_t\}$ 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

$$V^D(e_{t+1} = N) = \delta \Pi^D(N) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta \Pi^D(N)}, \tag{41}$$

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

$$V'' = \delta \Pi^D(N) \cdot \left(\frac{(e_t - 1)\kappa R}{1-\delta} + V^D(e_{t+2} = N) \right). \tag{42}$$

Supposing the continuation strategies constitute an MPE, by Claim 1, $V^D(e_{t+1} = N) = V^D(e_{t+2} = N)$. Therefore, by $e_t \leq N-1$, we have $V^D(e_{t+1} = N) > V''$, 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

$$\bar{V}''' = \delta\Pi^D(N) \cdot \left(\frac{(N-2)\kappa R}{1-\delta} + V^D(e_{t+2} = N) \right). \tag{43}$$

Again, we have $V^D(e_{t+1} = N) > V'''$, 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, then 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 $e'_{t+1} \in \{2, 3, \ldots, N-1\} \setminus \{e_t\}$ 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

$$V^D(e_{t+1} = e_t) = \delta\Pi^D(N) \cdot \left(\frac{(e_t - 1)\kappa R}{1-\delta} + V^D(e_{t+2} = e_t) \right), \tag{44}$$

where $V^D(e_{t+2} = e_t)$ 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

$$V'''' = \delta\Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + V^D(e_{t+2} = N) \right). \tag{45}$$

Since $e_t < N$ and $V^D(e_{t+2} = e_t) \leq V^D(e_{t+2} = N)$ as non-dictatorship, non-unanimous regimes could have persecuted at least one more ordinary members, we have $V^D(e_{t+1} = e_t) < V''''$. 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 $\delta\Pi^D(N) \cdot \frac{(e_t-1)\kappa R}{1-\delta} > 0$ 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 $e'_{t+1} = e' \in \{2, 3, \ldots, N-1\} \setminus \{e_t\}$ 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

$$\bar{V} = \delta\Pi^D(N) \cdot \left(\frac{(e'-1)\kappa R}{1-\delta} + V^D(e_{t+2} = N) \right). \tag{46}$$

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,

$$V'''' = \delta\Pi^D(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + V^D(e_{t+2} = N) \right). \tag{47}$$

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 $e'_{t+1} = e' \in \{2, 3, \ldots, N-1\} \setminus \{e_t\}$ 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. □

F Proof of Proposition 4

Proof. By Lemma 2, we have known that unanimity is self-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

$$V^M(e_{t+1} = 1) = \delta \cdot \frac{R}{1-\delta}. \tag{48}$$

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 the proposal rejected, then the deviating ordinary member's expected payoff will be

$$V' = \delta \Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta}, \tag{49}$$

i.e., she hopes to become the king in period $t+1$ so that she can persecute and expropriate, but that would given 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

$$V' = \delta\Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta} \leq \delta \cdot \frac{(N-1)\Pi^M(N)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta} = V^M(e_{t+1} = 1). \quad (50)$$

Therefore, even if the single deviation can 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

$$\bar{V}'' = \delta\Pi^M(N) \cdot \frac{(N-1)\kappa R}{1-\delta}, \quad (51)$$

i.e., again, she hopes to become the king in period $t+1$ so that she can persecute and expropriate, but that would given 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 $e'_{t+1} \in \{2, 3, \ldots, N\} \setminus \{e_t\}$ and all ordinary council members votes 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 an non-unanimity rule. The period-t agenda-setting ordinary council member will thus have her asset destroyed in the all-out contest in period t. Therefore, her expected payoff in the constitutional convention in period t is, by $e_{t+1} \leq N$, at most

$$\bar{V} = \delta\Pi^M(N) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1 - \delta\Pi^D(N)}. \quad (52)$$

Second, now consider a single deviation from either possibility of the alternative strategies, where the agenda-setting ordinary 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

$$V''' = \delta \frac{R}{1-\delta}, \tag{53}$$

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

$$\bar{V} = \delta\Pi^M(N) \cdot \frac{\frac{(N-1)\kappa R}{1-\delta}}{1-\delta\Pi^D(N)} < \delta \cdot \frac{\frac{\left(1-\Pi^D(N)\right)\cdot R}{1-\delta}}{1-\delta\Pi^D(N)} < \delta \cdot \frac{\frac{\left(1-\delta\Pi^D(N)\right)\cdot R}{1-\delta}}{1-\delta\Pi^D(N)} = \delta\frac{R}{1-\delta} = V'''. \tag{54}$$

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 possibilities of the 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 for each player whether she or he would like to better off by switching to a single deviation from the considered strategy profile. First, consider any non-political judge i. Her expected payoff under the considered strategy profile is

$$V^N = \frac{R_{i,t-1}}{1-\delta}. \tag{55}$$

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

$$V' = \frac{R_{i,t-1}}{1-\delta} = V^N, \tag{56}$$

regardless of whether she is pivotal. As we have assumed that all judges will vote for any persecution proposal when indifferent, she would not switch to the single deviation.

Second, consider any political judge i. Her expected payoff under the considered strategy profile is

$$V^P = R_{i,t-1} + \delta\left(z \cdot V^M + (1-z)V^P\right), \tag{57}$$

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

$$V'' = R_{i,t-1} + \delta\left(z \cdot V^M + (1-z)V^P\right) = V^P, \tag{58}$$

regardless of whether she is pivotal. As we have assumed that all judges will vote for any persecution proposal when indifferent, she would not switch to the single deviation.

Third, consider the king at the persecution stage. When he is choosing to commit transfers to the judges. Given the continuation strategies in the considered strategy profile, no transfer is needed to influence the judges 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 $e' = e - 1$ 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

$$V^M = \Pi^M(N) \cdot \left(\frac{(e-1)\kappa R}{1-\delta} + \delta V^D\right) \geq 0, \tag{59}$$

where V^D 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

$$\bar{V} = 0 \leq V^M, \tag{60}$$

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 better her off.

To summarize, we have shown that no player could better off by switching to a single deviation from the considered strategy profile. The lemma is thus proven. □

H Proof of Lemma 4

Proof. We prove the three claims one by one.

Claim 1. First, examine any non-political judge i's strategy given any persecution proposal with e' ordinary members to be persecuted. Suppose that she is pivotal. Her expected payoff

from voting for the proposal is

$$V^N = (1 - ce')R + T_{it} + \delta \cdot \frac{(1 - ce')R}{1 - \delta} = T_{it} + \frac{(1 - ce')R}{1 - \delta}, \tag{61}$$

where R is her potential return to asset because $\theta_t = 1$, while $(1 - ce')R$ 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

$$V' = R + \delta \cdot \frac{R}{1 - \delta} = \frac{R}{1 - \delta}, \tag{62}$$

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.,

$$T_{it} \geq ce' \cdot \frac{R}{1 - \delta}. \tag{63}$$

The claim is thus proven.

Claim 2. Second, examine any political judge i's strategy given any persecution proposal with e' ordinary members to be persecuted. Suppose that she is pivotal. Her expected payoff from voting for the proposal is

$$\begin{aligned} V^P &= (1 - ce')R + T_{it} + \delta \Bigg(z \cdot V^M + (1 - z) \\ &\qquad \cdot \Big((1 - ce')R + \delta \left(z \cdot V^M + (1 - z) \cdot \dots \right) \Big) \Bigg) \\ &= T_{it} + \frac{(1 - ce')R}{1 - \delta(1 - z)} + \frac{\delta z V^M}{1 - \delta(1 - z)}, \end{aligned} \tag{64}$$

where

$$V^M = \frac{\pi^M(N)}{1 - \delta \Pi^D(N)} \cdot \frac{(e - 1)\kappa R}{1 - \delta} \tag{65}$$

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

$$\begin{aligned} V'' &= R + \delta\left(z \cdot V^M + (1-z) \cdot \left(R + \delta\left(z \cdot V^M + (1-z) \cdot \ldots\right)\right)\right) \\ &= \frac{R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)}. \end{aligned} \tag{66}$$

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.,

$$T_{it} \geq ce' \cdot \frac{R}{1-\delta(1-z)}. \tag{67}$$

The claim is thus proven.

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

$$\begin{aligned} T &= \min\{\bar{N} - \bar{e} + 1, w\} \cdot ce' \cdot \frac{R}{1-\delta(1-z)} + \max\{\bar{N} - \bar{e} + 1 - w, 0\} \cdot ce' \cdot \frac{R}{1-\delta} \\ &= \begin{cases} \left(\bar{N} - \bar{e} + 1\right) \cdot ce' \cdot \frac{R}{1-\delta(1-z)}, & \text{if } w \geq \bar{N} - \bar{e} + 1; \\ w \cdot ce' \cdot \frac{R}{1-\delta(1-z)} + \left(\bar{N} - \bar{e} + 1 - w\right) \cdot ce' \cdot \frac{R}{1-\delta}, & \text{if } w < \bar{N} - \bar{e} + 1. \end{cases} \end{aligned} \tag{68}$$

subject to the budget

$$B = e' \cdot \frac{\kappa R}{1-\delta}. \tag{69}$$

Note as $\delta \to 1$, 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

$$\left(\bar{N} - \bar{e} + 1 - w\right) c < \kappa. \tag{70}$$

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

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

to persecute e' ordinary members is

$$V^D(e') = e' \cdot \frac{\kappa R}{1-\delta} - T + \delta V^D_{t+1}, \tag{71}$$

subject to

$$e' \in \{0, 1, \ldots, e-1\}, \quad \left(\bar{N} - \bar{e} + 1 - w\right) c < \kappa. \tag{72}$$

where T is the total transfers to give out, which is depending on e', and V^D_{t+1} 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 e'. The king will thus choose $e' = e - 1$ to maximize his expected payoff.

The claim and the lemma are thus proven. □

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 preceding contest stage,
      - · the king proposes to persecute $e-1$ ordinary members and commits to transfer $T_{it} = c(e-1) \cdot \frac{R}{1-\delta(1-z)}$ to each of $\min\{\bar{N} - \bar{e} + 1, w\}$ political judges and $T_{it} = c(e-1) \cdot \frac{R}{1-\delta}$ to each of $\max\{\bar{N} - \bar{e} + 1 - w, 0\}$ non-political judges;
      - · any non-political judge i will vote for any persecution proposal that would persecutes e' ordinary council members at the current persecution stage if and only if the transfer proposed to her satisfies $T_{it} \geq ce' \cdot R/(1-\delta)$;
      - · any political judge i will vote for any persecution proposal at the current persecution stage if and only if the transfer proposed to her satisfies $T_{it} \geq ce' \cdot R/\left(1 - \delta(1-z)\right)$;
    - ∗ 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 judges and $T_{it} = c(e-1)\cdot\frac{R}{1-\delta}$ to each of $\max\{\bar{N}-\bar{e}+1-w, 0\}$ non-political judges;
- any non-political judge i will vote for any persecution proposal that would persecutes e' ordinary council members at the current persecution stage if and only if the transfer proposed to her satisfies $T_{it} \geq ce'\cdot R/(1-\delta)$;
- any political judge i will vote for any persecution proposal at the current persecution stage if and only if the transfer proposed to her satisfies $T_{it} \geq ce'\cdot\frac{R}{1-\delta(1-z)} - \delta z \Pi^M(N)\cdot T^*$,

where

$$T^* = \begin{cases} \left(\bar{N}-\bar{e}+1\right)\cdot c(e-1)\cdot\frac{R}{1-\delta(1-z)}, & \text{if } w \geq \bar{N}-\bar{e}+1; \\ w\cdot c(e-1)\cdot\frac{R}{1-\delta(1-z)} + \left(\bar{N}-\bar{e}+1-w\right)\cdot c(e-1)\cdot\frac{R}{1-\delta}, & \text{if } w < \bar{N}-\bar{e}+1. \end{cases} \tag{73}$$

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 $\kappa > \left(\bar{N}-w-\bar{e}+1\right)c$, $\delta \to 1$, 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 judges 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 judges 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, by $\kappa > \left(\bar{N}-w-\bar{e}+1\right)c$ and $\delta \to 1$, each ordinary council member's expected payoff is $V^M = \Pi^M(N)\cdot V^D$, where $V^D > 0$ 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 $V' = 0 < V^D$, 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 judges at the persecution stage with $\theta_t = 1$ when there has not been a contest in the preceding contest stage. First, consider any non-political judge i. Suppose she is pivotal. Under the strategy profile in consideration, as in

the proof of Lemma 4, her expected payoff is

$$V^N = (1 - ce')R + T_{it} + \delta \cdot \frac{(1 - ce')R}{1 - \delta} = T_{it} + \frac{(1 - ce')R}{1 - \delta}, \tag{74}$$

where R is her potential return to asset because $\theta_t = 1$, while $(1 - ce')R$ 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

$$\begin{aligned} V' &= R + \delta \cdot \Bigg(\big(1 - c(e-1)\big) R + T^*_{i,t+1} \\ &\qquad + \delta \Big(\big(1 - c(e-1)\big) R + \delta \cdot \Big(\big(1 - c(e-1)\big) R + \dots \Big) \Big) \Bigg) \\ &= R + \delta \left(T^*_{i,t+1} + \frac{\big(1 - c(e-1)\big) R}{1 - \delta} \right) = R + \delta \left(\frac{c(e-1)R}{1 - \delta} + \frac{\big(1 - c(e-1)\big) R}{1 - \delta} \right) \\ &= \frac{R}{1 - \delta}, \end{aligned} \tag{75}$$

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 judge will be prioritized to receive a transfer in period $t + 1$, i.e.,

$$T^*_{i,t+1} = \frac{c(e-1)R}{1 - \delta}. \tag{76}$$

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.,

$$T_{it} \geq ce' \cdot \frac{R}{1 - \delta}. \tag{77}$$

Therefore, the strategy of each non-political judge 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 judge 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

$$\begin{aligned} V^P &= (1-ce')R + T_{it} + \delta\Bigg(z \cdot V^M + (1-z) \\ &\qquad \cdot \Big((1-ce')R + \delta\left(z \cdot V^M + (1-z) \cdot \dots \right) \Big) \Bigg) \\ &= T_{it} + \frac{(1-ce')R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)}, \end{aligned} \tag{78}$$

where

$$V^M = \frac{\pi^M(N)}{1-\delta\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \tag{79}$$

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

$$\begin{aligned} V'' &= R + \delta \cdot \Bigg(z \cdot \tilde{V}^M + (1-z) \cdot \Bigg(\big(1-c(e-1)\big) R + T^*_{i,t+1} \\ &\qquad + \delta\Bigg(z \cdot V^M + (1-z) \\ &\qquad \cdot \Big(\big(1-c(e-1)\big) R + \delta\left(z \cdot V^M + (1-z) \cdot \dots \right) \Big) \Bigg) \Bigg) \Bigg) \\ &= R + \delta \left(z\tilde{V}^M + (1-z)T^*_{i,t+1} + \frac{(1-z)\big(1-c(e-1)\big)R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)} \right) \\ &= R + \delta \left(z\tilde{V}^M + \frac{(1-z)c(e-1)R}{1-\delta(1-z)} + \frac{(1-z)\big(1-c(e-1)\big)R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)} \right) \\ &= \frac{R}{1-\delta(1-z)} + \delta z \left(\tilde{V}^M + \frac{\delta V^M}{1-\delta(1-z)} \right) \\ &= \frac{R}{1-\delta(1-z)} + \delta z \left(V^M - \Pi^M(N) \cdot T^* + \frac{\delta V^M}{1-\delta(1-z)} \right) \\ &= \frac{R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)} - \delta z \Pi^M(N) \cdot T^*, \end{aligned} \tag{80}$$

where no persecution would happen in the current persecution stage;

$$\tilde{V}^M = \Pi^M(N) \left(\frac{(e-1)\kappa R}{1-\delta} - T^* + \delta \cdot \frac{\Pi^D(N)}{1-\delta\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \right) = V^M - \Pi^M(N) \cdot T^* \tag{81}$$

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;

$$T^*=\begin{cases}\left(\bar{N}-\bar{e}+1\right)\cdot c(e-1)\cdot\frac{R}{1-\delta(1-z)}, & \text{if } w\geq\bar{N}-\bar{e}+1;\\ w\cdot c(e-1)\cdot\frac{R}{1-\delta(1-z)}+\left(\bar{N}-\bar{e}+1-w\right)\cdot c(e-1)\cdot\frac{R}{1-\delta}, & \text{if } w<\bar{N}-\bar{e}+1\end{cases}\tag{82}$$

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 judge, if remains as a judge during period $t+1$, will be prioritized to receive a transfer in period $t+1$, i.e.,

$$T^*_{i,t+1}=\frac{c(e-1)R}{1-\delta(1-z)}.\tag{83}$$

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.,

$$T_{it}\geq ce'\cdot\frac{R}{1-\delta(1-z)}-\delta z\Pi^M(N)\cdot T^*.\tag{84}$$

Therefore, the strategy of each political judge 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 preceding contest stage. Suppose that he proposes to persecute e' ordinary council members. For the proposal to be approved, he needs to commit sufficient transfers to $\bar{N}-\bar{e}+1$ judges. By $z\in(0,1)$, it is cheaper to influence a political judge than a non-political one. Therefore, the total amount of transfers needed is

$$\begin{aligned}\tilde{T}&=\min\{\bar{N}-\bar{e}+1,w\}\cdot\left(ce'\cdot\frac{R}{1-\delta(1-z)}-\delta z\Pi^M(N)\cdot T^*\right)\\&\quad+\max\{\bar{N}-\bar{e}+1-w,0\}\cdot ce'\cdot\frac{R}{1-\delta}\\&=\begin{cases}\left(\bar{N}-\bar{e}+1\right)\cdot\left(ce'\cdot\frac{R}{1-\delta(1-z)}-\delta z\Pi^M(N)\cdot T^*\right), & \text{if } w\geq\bar{N}-\bar{e}+1;\\ w\cdot\left(ce'\cdot\frac{R}{1-\delta(1-z)}-\delta z\Pi^M(N)\cdot T^*\right)+\left(\bar{N}-\bar{e}+1-w\right)\cdot ce'\cdot\frac{R}{1-\delta}, & \text{if } w<\bar{N}-\bar{e}+1,\end{cases}\end{aligned}\tag{85}$$

subject to the budget

$$B = e' \cdot \frac{\kappa R}{1-\delta}. \tag{86}$$

Note as $\delta \to 1$, if $w \geq \bar{N} - \bar{e} + 1$, then $\tilde{T} \leq B$ will always hold; when $w < \bar{N} - \bar{e} + 1$, given $\kappa > \left(\bar{N} - \bar{e} + 1 - w\right) c$, $\tilde{T} \leq B$ will hold, too. Therefore, given $\delta \to 1$ and $\kappa > \left(\bar{N} - \bar{e} + 1 - w\right) c$, 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 $e' \in \{1, \ldots, e-1\}$ ordinary members is

$$V^D(e') = e' \cdot \frac{\kappa R}{1-\delta} - \tilde{T} + \delta V^D_{t+1}, \tag{87}$$

where $\tilde{T}$ is the total transfers to give out, which is depending on e', and V^D_{t+1} 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 e'. The king will thus choose $e' = e - 1$ to maximize his expected payoff, getting

$$V^D(e-1) = \frac{(e-1)\kappa R}{1-\delta} - \tilde{T}|_{e'=e-1} + \delta V^D_{t+1}. \tag{88}$$

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

$$V^D(0) = \delta \tilde{V}^D_{t+1} = \delta \Pi^D(N) \cdot \left(\frac{(e-1)\kappa R}{1-\delta} - T^* + \delta V^D_{t+1} \right), \tag{89}$$

where $\tilde{V}^D_{t+1}$ 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 $\tilde{T}|_{e'=e-1} < T^*$. Therefore, by $\delta \in (0,1)$, $\Pi^D(N) \in (0,1)$, and $\tilde{T}|_{e'=e-1} < T^*$, we have $V^D(0) < V^D(e-1)$. Therefore, the king will choose to persecute $e' = e - 1$ 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 judges 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 $\kappa \leq \left(\bar{N} - w - \bar{e} + 1\right) c$, $\delta \to 1$, 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

$$V^M = \Pi^M(N) \cdot \delta V^D, \tag{90}$$

where

$$\begin{aligned} V^D &= \Pi^D(N) \cdot \left(\frac{(e-1)\kappa R}{1-\delta} + \delta \cdot \Pi^D(N) \cdot \left(\frac{(e-1)\kappa R}{1-\delta} + \delta \cdot \Pi^D(N) \cdot \dots \right) \right) \\ &= \frac{\Pi^D(N)}{1 - \delta\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \end{aligned} \tag{91}$$

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 $\delta \to 1$, 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

$$V'' = R + \delta \left(z \cdot \frac{R}{1-\delta} + (1-z)V^M \right) = R + \delta \left(z \cdot \frac{R}{1-\delta} + (1-z)\Pi^M(N) \cdot \delta V^D \right), \tag{92}$$

where the king at the persecution stage will still not be able to persecute anyone given there has still been a contest in the preceding 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

$$\begin{aligned} V'' - V^M &= R + \delta \left(z \cdot \frac{R}{1-\delta} + (1-z)\Pi^M(N) \cdot \delta V^D \right) - \Pi^M(N) \cdot \delta V^D \\ &= \frac{\big(1 - \delta(1-z)\big) R}{1-\delta} - \big(1 - \delta(1-z)\big) \Pi^M(N) \delta V^D \\ &= \big(1 - \delta(1-z)\big) \left(\frac{R}{1-\delta} - \Pi^M(N) \delta V^D \right) > 0 \end{aligned} \tag{93}$$

if and only if

$$\frac{R}{1-\delta} - \Pi^M(N) \delta V^D > 0. \tag{94}$$

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

1, we have

$$\frac{R}{1-\delta} - \Pi^M(N)\delta V^D = \frac{R}{1-\delta} - \Pi^M(N)\delta \cdot \frac{\Pi^D(N)}{1-\delta\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta}$$
$$> \frac{R}{1-\delta} \cdot \left(1 - \frac{(N-1)\Pi^M(N)}{1-\Pi^D(N)}\right) = \frac{R}{1-\delta} \cdot (1-1) = 0. \tag{95}$$

Therefore, $V'' - V^M > 0$, i.e., the ordinary member can benefit from the single deviation. Contesting at $\theta_t = 1$ given everyone else is contesting thus cannot 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 judges 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 judge i will vote for any persecution proposal that would persecutes e' ordinary council members at the current persecution stage if and only if the transfer proposed to her satisfies $T_{it} \geq ce' \cdot R/(1-\delta)$;
      - any political judge i will vote for any persecution proposal at the current persecution stage if and only if the transfer proposed to her satisfies $T_{it} \geq \frac{R}{1-\delta} - \frac{(1-ce')R}{1-\delta(1-z)} - \frac{\delta z V^M}{1-\delta(1-z)}$,

where

$$V^M = \frac{\pi^M(N)}{1-\delta\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta}. \tag{96}$$

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 $\kappa \leq \left(\bar{N} - w - \bar{e} + 1\right) c$, $\delta \to 1$, 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 judges 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

$$V''' = \Pi^M(2) \cdot \left(0 + \delta \cdot V^D_{t+1}\right), \tag{97}$$

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

$$V^D_{t+1} = \frac{\Pi^D(N)}{1 - \delta\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \tag{98}$$

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 $\Pi^D(2) \in (0,1)$, $\delta \in (0,1)$, $e \leq N$, $\kappa \in (0,1)$, and $(N-1)\Pi^M(N) + \Pi^D(N) = 1$, we have

$$\begin{aligned}
&V^M - V''' \\
&= \frac{R}{1-\delta} - \Pi^M(2) \cdot \delta \cdot V^D_{t+1} = \frac{R}{1-\delta} - \Pi^M(2) \cdot \delta \cdot \frac{\Pi^D(N)}{1 - \delta\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \\
&= \frac{R}{1-\delta} \cdot \left(1 - \Pi^M(2) \cdot \delta \cdot \frac{\Pi^D(N)}{1 - \delta\Pi^D(N)} \cdot (e-1)\kappa\right) \\
&> \frac{R}{1-\delta} \cdot \left(1 - \frac{\Pi^M(2)}{\Pi^D(2)} \cdot \frac{(N-1)\Pi^D(N)}{1 - \Pi^D(N)}\right) = \frac{R}{1-\delta} \cdot \left(1 - \frac{\Pi^M(2)}{\Pi^D(2)} \cdot \frac{\Pi^D(N)}{\Pi^M(N)}\right) \geq 0
\end{aligned} \tag{99}$$

if and only if

$$\frac{\Pi^D(N)}{\Pi^M(N)} \leq \frac{\Pi^D(2)}{\Pi^M(2)}, \tag{100}$$

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 judges at the persecution stage with $\theta_t = 1$ when there has not been a contest in the preceding contest stage. First, consider any non-political judge 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

$$V^N = T_{it} + \frac{(1 - ce')R}{1 - \delta}. \tag{101}$$

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

$$V'''' = \frac{R}{1 - \delta}. \tag{102}$$

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.,

$$T_{it} \geq ce' \cdot \frac{R}{1 - \delta}. \tag{103}$$

Therefore, the strategy of each non-political judge 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 judge 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

$$V^P = T_{it} + \frac{(1 - ce')R}{1 - \delta(1 - z)} + \frac{\delta z V^M}{1 - \delta(1 - z)}, \tag{104}$$

where

$$V^M = \frac{\pi^M(N)}{1 - \delta\Pi^D(N)} \cdot \frac{(e - 1)\kappa R}{1 - \delta} \tag{105}$$

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

$$V''''' = \frac{R}{1 - \delta}, \tag{106}$$

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.,

$$T_{it} \geq \frac{R}{1 - \delta} - \frac{(1 - ce')R}{1 - \delta(1 - z)} - \frac{\delta z V^M}{1 - \delta(1 - z)}. \tag{107}$$

Therefore, the strategy of each political judge 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 preceding contest stage. Suppose that he proposes to persecute e' ordinary council members. For the proposal to be approved, he needs to commit sufficient transfers to $\bar{N} - \bar{e} + 1$ judges. Now consider whether the king can afford such transfers. First, suppose the king prioritizes non-political judges. Note that, by $w > 0$ and $\kappa \leq (\bar{N} - w - \bar{e} + 1)c$, for any $e' \in \{1, 2, \ldots, e-1\}$, the transfers for $\bar{N} - \bar{e} + 1$ non-political judges, if there are, will cost

$$(\bar{N} - \bar{e} + 1) \cdot ce' \cdot \frac{R}{1-\delta} > (\bar{N} - w - \bar{e} + 1) \cdot ce' \cdot \frac{R}{1-\delta} \geq e' \cdot \frac{\kappa R}{1-\delta}, \tag{108}$$

so the king will not be able to afford such transfers. Second, suppose that the king prioritizes political judges. 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 judges. Also note that, as $\delta \to 1$, we have, by $e \leq N$ and $(N-1)\Pi^M(N) + \Pi^D(N) = 1$,

$$\begin{aligned}
&\frac{R}{1-\delta} - \frac{(1-ce')R}{1-\delta(1-z)} - \frac{\delta z V^M}{1-\delta(1-z)} \\
&= \frac{R}{1-\delta} - \frac{(1-ce')R}{1-\delta(1-z)} - \frac{\delta z}{1-\delta(1-z)} \cdot \frac{\Pi^M(N)}{1-\delta\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \\
&\to \frac{R}{1-\delta} - \frac{\Pi^M(N)}{1-\Pi^D(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \geq \frac{R}{1-\delta} - \frac{(N-1)\Pi^M(N)}{1-\Pi^D(N)} \cdot \frac{\kappa R}{1-\delta} \\
&= \frac{R}{1-\delta} - \frac{\kappa R}{1-\delta} = \frac{(1-\kappa)R}{1-\delta} > 0,
\end{aligned} \tag{109}$$

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

$$\begin{aligned}
&w \cdot \left(\frac{R}{1-\delta} - \frac{(1-ce')R}{1-\delta(1-z)} - \frac{\delta z V^M}{1-\delta(1-z)} \right) + (\bar{N} - w - \bar{e} + 1) \cdot ce' \cdot \frac{R}{1-\delta} \\
&> (\bar{N} - w - \bar{e} + 1) \cdot ce' \cdot \frac{R}{1-\delta} \geq e' \cdot \frac{\kappa R}{1-\delta}.
\end{aligned} \tag{110}$$

The king will thus not be able to afford such transfers. Gathering the two cases of prioritization, we know that as $\delta \to 1$, the king will not be able to get any persecution approved in the current persecution stage. Given the infinitesimal cost of proposing persecutions, 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 judges 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 and the proposition are thus proven. □

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