Separation of Powers as a Guardian of Civil Peace*

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Abstract

In a dynamic game of contest for executive power to persecute and expropriate, we show that separation of powers secures civil peace by constraining such power, removing elites' incentive to fight over it. The exact separation required varies with socio-economic development: under low interconnectedness within the elite, blocking the chief executive from setting the constitutional agenda is critical; under high interconnectedness, insulating justices' future career paths from the executive branch is key. Among other implications, these findings speak to the rise of majoritarian democracy in modern times and the shift in separation of powers from prioritizing *legislative* to *judicial* independence.

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1 Introduction

Famous authors have long championed separation of powers as a safeguard of individual liberty and property rights, which are fundamental to economic prosperity (e.g., Locke, 2003; Montesquieu, 1989; Hayek, 1960, 1979; North and Weingast, 1989). Yet worries have also been expressed that such institutional fragmentation may undermine government's ability to secure civil peace (e.g., Bodin, 1992; Hobbes, 1996).[1]

This tension remains understudied in the economics literature. An extensive literature on separation of powers has mainly studied its effect on policy outcomes and political accountability (e.g., Persson et al., 1997, 2000; Persson and Tabellini, 2002; de Figueiredo et al., 2006; Grossman and Helpman, 2008; Callander and Krehbiel, 2014). The theoretical literature on conflict has envisioned the roles of the constitutional or political arrangement in maintaining civil peace (e.g., Grossman, 2004; Garfinkel and Skaperdas, 2007, p. 703; Herrera et al., 2022). The literature on the origin of modern democracy has placed the challenge of civil conflict at its center (e.g., Acemoglu and Robinson, 2000, 2001, 2006).[2] But none of these literatures have provided a unified framework to analyze how the landscape of civil conflict and civil peace may be shaped by an independent legislature or an independent judiciary, or both.

In this paper, we propose a series of models, yet under a unified theme, to understand how particular forms of separation of powers affect civil conflict and civil peace. We find that separation of powers can be a powerful instrument in securing civil peace insofar as it puts strong constraints on executive power, without which elites would fight over this power to persecute and expropriate. We also show that the exact form of separation of powers that secures civil peace varies with socio-economic development: under low economic and social interconnectedness within the elite, legislative independence is essential; under high interconnectedness, judicial independence becomes key to maintaining civil peace.

We first propose a baseline model without separation of powers, showing how violent contest arises over the power to persecute and expropriate. The baseline model features a king, who is the chief executive, and $N-1$ members of his council, who are all important members of the elite and are each endowed with an asset. In each period, any council member may participate in a violent and destructive contest over the kingship, and the losers will lose their council seats to some newcomers. The winner can then, as the new king, persecute and expropriate council members, only subject to a voting rule in the council. This voting rule

[1] In particular, when civil peace coexists with fragmented government, the literature often views that the former is achieved *despite* the latter (e.g., Plumb, 1967, p. 189; Finer, 1997c, p. 1356–1358).

[2] For more general surveys of the literature on origins of conflict, see Hirshleifer (2001), Collier and Hoeffler (2007), Blattman and Miguel (2010), Esteban et al. (2012), and Baliga and Sjöström (2024).

measures the constraints on the executive power: at one end, the unanimity rule protects everyone from persecution with an individual veto; at the other end, dictatorship grants the king unlimited power to persecute and expropriate. Since we are constructing a stress test for institutions, we consider (pure-strategy) Markov perfect equilibria; in particular, we assume that the king cannot credibly commit to spare anyone from arbitrary persecution.

In this baseline model, we show that under any non-unanimity rule, the king can always persecute and expropriate at least one council member in equilibrium. Because these council members are always vulnerable to persecution, it is to their advantage to contest the kingship, also hoping to gain the power to persecute others. We show that without any separation-of-power institutions, the risk of civil conflict can be eliminated only under a unanimity rule over persecution decisions, i.e., when the king cannot persecute anyone in the council.

This result leads to ask a first question: what institutions can safeguard the unanimity rule over persecution decisions, so that civil peace will be secured? We show that the key is to deny the chief executive agenda-setting power on constitutional matters. This is the first form of separation of powers in our paper, i.e., to separate *legislative* and executive powers.

To demonstrate this result, we extend the baseline model by allowing the council to periodically change its voting rule, i.e., its constitution. We do so by adopting the pioneering framework of Acemoglu et al. (2012), introducing a "constitutional convention" at the end of each period. Either the king or a council member will set the constitutional agenda: he can propose a new voting rule for the next period, with the current voting rule as the default. The council then votes on the proposal, using the current voting rule.

We show that the unanimity rule for persecution decisions never abolishes itself, so it is always an equilibrium regime. But if an autocratic shock temporarily changes the unanimity rule, whether it will recover from the shock depends crucially on who sets the constitutional agenda. If the king sets the agenda, he may propose dictatorship, and all council members may prefer that to the current non-unanimity rule, since any non-unanimity rule, including dictatorship, may lead to the same war of all against all for the kingship, while dictatorship maximizes the prize of the war. Consequently, any autocratic shock to the unanimity rule, even the smallest one, may lead to a permanent collapse into dictatorship. But if the king is always denied the power to set the constitutional agenda, other council members will be able to propose, vote for, and reinstall the unanimity rule, which is their favorite. Therefore, the unanimity rule can fully recover even after the strongest autocratic shock, but only if the chief executive does not set the legislative agenda.

Separating legislative and executive powers is thus essential to maintaining strong executive constraints against autocratic shocks. Our theoretical analysis may be relevant to a few historical and contemporary contexts and theoretical debates. It may shed light on

why early democracies were more likely to operate by consensus rather than majority rule (e.g., Stasavage, 2020a). It also highlights the resilience of autocracies versus the fragility of democracies against autocratic shocks when legislative independence is absent (e.g., Finer, 1997a,b; Stasavage, 2020a). It may further help to understand the recent quick collapse of the consensual leadership of the Chinese Communist Party (CCP) into a one-man rule (e.g., Shirk, 2018; Cai, 2022; Li et al., 2022; Wu, 2022), where the chief executive of the Party, i.e., the General Secretary, has institutionalized agenda-setting power on the Party's constitutional matters (CCP, 1982). It also suggests that an independent legislature can temporarily expand executive power to manage emergencies, without sacrificing individual rights or civil peace in the longer term, the Venetian Republic being a prime example of this, in contrast to the Florentine Republic (e.g., Greif, 1995; Finer, 1997b). This implication goes against a long tradition in political theory that justifies dictatorship by its supposed advantage in managing crises and maintaining order (e.g., Bodin, 1992; Hobbes, 1996; Schmitt, 1985).

Although an independent legislature can safeguard the unanimity rule for persecution decisions, and thus guarantee civil peace, this may seem unsatisfactory from a modern perspective. The unanimity rule is often criticized for being inefficient or too rigid, or for favoring the status quo (e.g., Tullock, 1961; Aghion et al., 2004; Persico, 2004; Harstad, 2005; Fukuyama, 2014; Nunnari, 2021). Modern democracies primarily use majority rule for decisions, while checked by an independent judiciary to prevent the tyranny of majority (e.g., Montesquieu, 1989; Hamilton, 2008; Weber, 1978; Finer, 1997b; Stasavage, 2020a). Within our framework, the question is then: in a majoritarian democracy, can a judiciary secure civil peace, especially if embedded in a modern society, whose members are economically and socially highly interconnected (e.g., Durkheim, 2014; Greif, 2008; Cox et al., 2019; Greif et al., 2025)?

We show that in order to secure civil peace, the career paths of members of the judiciary must be sufficiently insulated from the executive branch of government. This is the second form of separation of powers in our paper, i.e., to separate *judicial* and executive powers.

To demonstrate this result, we extend the baseline model in another direction. First, we transfer the procedural check on persecution to a judiciary, where justices vote on any proposal from the king to persecute members of the executive council. Second, persecution of a council member may now incur a negative externality on the elite, including members of the judiciary. This externality can be significant when members of the elite are interconnected on a large scale, as in modern society. Finally, we allow a certain number of justices to later join the executive branch and thus possibly contest the kingship in the future.

We show that the judiciary can prevent persecution and thus eliminate the risk of civil conflict in equilibrium, but only when the level of interconnectedness is high *and* a great

number of justices cannot join the executive branch in the future. Indeed, only justices who are embedded in an interconnected elite circle would care to prevent persecution in the first place. But even when they do care, the king could still find it affordable to buy them off, so as to manipulate judicial decisions. This will be the case if these justices can join the executive branch in the future, because in that case they will aspire to and contest the kingship themselves; since their assets will eventually be destroyed in a future contest, they will care much less about the negative persecution externality incurred to it today. This is why insulating the judiciary's members' career paths from the executive branch of government is necessary to block the abuse of executive power for persecution, and thus to secure civil peace.

Separating judicial and executive powers is thus key to allowing modern society to adopt non-unanimous, majoritarian rules for executive decisions, while still protecting individual rights and thus securing civil peace. This result highlights the important role of institutional changes around the judiciary in the context of socio-economic development and may shed light on England's transition from frequent civil wars to perpetual civil peace around the beginning of the 18th century when the country pioneered modern, majoritarian democracy (e.g., Lovell, 1949; Finer, 1997c; Fukuyama, 2018; Stasavage, 2020a).

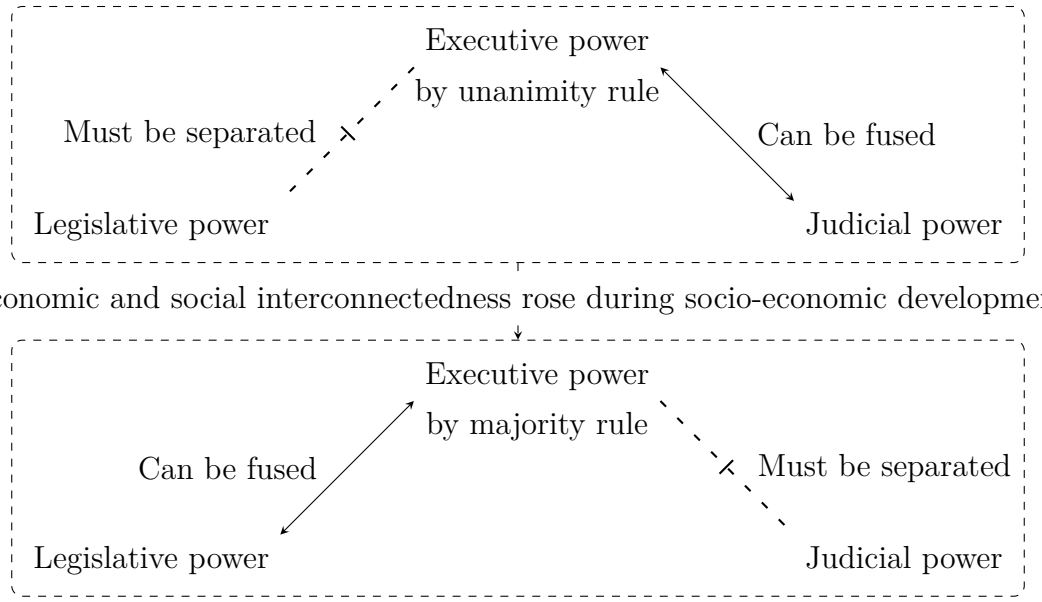


Figure 1: Co-evolution of the executive regime and separation of powers, a hypothesis

We can summarize all of our results in a hypothesis about the evolution of the separation of powers required to secure civil peace, as in Figure 1. When economic and social interconnectedness was low, as shown in the baseline model, strong constraints on executive power were required to secure civil peace: nothing short of a unanimity rule to approve persecution

decisions. As uncovered by the model with endogenous constitutional dynamics, resilience of the unanimity rule to autocratic shocks required an independent *legislature*.

As interconnectedness rises with socio-economic development, society can afford to adopt majoritarian rules for executive decisions without sacrificing individual rights and civil peace, but only if the *judiciary* is sufficiently independent, as shown in the model with the judiciary. Since in that case civil peace does not rely on unanimity rule in the executive council, the legislature can be fused with the executive, as is the case with parliamentary democracy. Socio-economic development may have thus facilitated a dual-transition of the decision rule and of separation of powers to secure civil peace: the central shift from early unanimous democracy to modern majoritarian democracy characterized by Stasavage (2020a) might have been supported by a shift in the emphasis of separation of powers from legislative independence to judicial independence. This hypothesis may shed further light on the English experience, which has been viewed as a prime example of the rise of parliamentarism in Europe, the precursor of modern parliamentary democracy (e.g., Locke, 2003; Montesquieu, 1989; Finer, 1997c).

Foundational works in the literature have noted the general inequality in agenda-setting power within political organizations (e.g., Dahl, 1956, p. 72, 84; Cox, 2006, p. 142), and the literature has primarily focused on how such power influences policy outcomes (e.g., Romer and Rosenthal, 1978; Tsebelis, 2003; Cox, 2006; Diermeier and Fong, 2011; Gehlbach, 2013; Anesi and Seidmann, 2014; Nunnari, 2021; Ali et al., 2023). Yet agenda-setting power is largely not the main focus of the literature on endogenous constitutions (e.g., Aghion et al., 2004; Barbera and Jackson, 2004; Acemoglu et al., 2012, 2015, 2021; Howell et al., 2023) and self-enforcing or stable institutions (e.g., surveys by Svolik, 2019; Acemoglu et al., 2021; Egorov and Sonin, 2024).[3] Bridging these threads of literature, we show that whether the legislature can strip the chief executive of agenda-setting power on constitutional matters may determine whether strong executive constraints can recover from autocratic shocks.

On the separation of executive and judicial powers, we emphasize the importance of insulating the career path of justices from the executive branch of government. This emphasis provides a fresh perspective from the organizational and personnel economics to the literature on 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), by linking it

[3]For example, Howell et al. (2023) focus on a specific arrangement of agenda-setting power; Aghion et al. (2004) and Barbera and Jackson (2004) abstract away from specific arrangements; Acemoglu et al. (2012) assume away the importance of agenda-setting power by postulating that all possible constitutional proposals can eventually be voted on. These approaches simplify the analysis, while deriving sufficiently general results. Important examples of the literature on self-enforcing or stable institutions are not limited to Przeworski (1991, 2006), Weingast (1997), Acemoglu and Robinson (2006, 2008), Myerson (2008), Fearon (2011), Bidner and Francois (2013), Bidner et al. (2015), Anderlini et al. (Forthcoming), and Rantakari (2025).

to the literature on the career paths of members of different branches of organizations (e.g., Gibbons and Waldman, 1999; Ortega, 2001; Lazear and Oyer, 2013; Hoffman and Stanton, 2025; Li, Forthcoming). Complementing the literature's focus on performance metrics in organizations, we connect the insulation of career paths of the justices and judges with a novel outcome, i.e., the potential reduction of political violence in modern society.

The paper is organized as follows. Section 2 analyzes the baseline model. Sections 3 and 4 analyze the two forms of separation of powers in our framework. Section 5 discusses implications of our results. Sketches of the proofs and the intuitions are provided in the main text, whereas more detailed and formal proofs and further extensions are gathered in the supplemental appendix.

2 Baseline Model: Executive Power and Civil Conflict

2.1 Setup

The baseline model has an infinite horizon. Each period t features a council, which consists of a king, who is the chief executive, and $N-1 \geq 2$ ordinary members of the council, who are important members of the elite and are each endowed with an asset that can bring an exogenous flow payoff of $R > 0$ at the end of each period. Period t has two stages:

Contest stage. Each ordinary member first simultaneously chooses whether or not to contest the kingship, and then the king must meet the challenge. The contest is violent and destructive, so it will destroy the assets of all participants of the contest, including the king. The contest's outcome is determined by a random draw: the winning probability for the incumbent king is $\Pi^K(Q_t)$, and that for each contesting ordinary member is $\Pi^M(Q_t)$, where $Q_t \in \{2, 3, \ldots, N\}$ is the total number of contestants. The functions $\Pi^K(\cdot)$ and $\Pi^M(\cdot)$ satisfy $\Pi^K(Q_t) > 0$, $\Pi^M(Q_t) > 0$, and $(Q_t - 1) \cdot \Pi^M(Q_t) + \Pi^K(Q_t) = 1$, i.e., any contestant has a strictly positive chance to win and there is one and only one winner in the contest.

The winner of the contest will become the new king, whereas the losing contestants will exit the game with a zero payoff. We consider the council to be a permanent institution. Therefore, to keep the council's size constant at N, $Q_t - 1$ new ordinary members will now join the council, each with an intact asset.[4] Those who did not contest will keep their positions and assets untouched; in case no one contested the kingship, this would apply to everyone in the council.

[4]We can microfound these entries by assuming that, outside the council, potential newcomers have a low flow payoff. For an example featuring an infinite pool of contenders for power, see Egorov and Sonin (2015).

Persecution stage. After the contest stage, whoever is the king proposes to persecute and expropriate $p_t \in \{0, 1, \ldots, N-1\}$ of the $N-1$ current ordinary members, randomly selected with equal probability, at an infinitesimal cost, $\epsilon > 0$, if $p_t \geq 1$. This equal-probability setting is standard in the literature, capturing the classic problem of commitment for the powerful in excluding others from their domination (e.g., Weingast, 1979; Bueno de Mesquita et al., 2003, p. 82; Gehlbach, 2013, p. 124–128).

The council will then vote on the persecution proposal. We assume that ordinary council members play weakly undominated strategies in voting, which, in this setting of two voting options, means they vote sincerely. They will also vote for the proposal when indifferent. Both assumptions are standard in the literature and help us focus on more intuitive equilibria in our analysis (e.g., Acemoglu et al., 2012; Gehlbach, 2013, p. 13–14; Dziuda and Loeper, 2016; Diermeier et al., 2017).

The proposal will be blocked if and only if at least e ordinary council members vote against it. Having this procedure captures the idea that legitimate domination of executive power is often rule-based (e.g., Weber, 2004, p. 33–34). This voting rule, $e \in \{1, 2, \ldots, N\}$, thus measures constraints on the executive power in our model:

- When $e = 1$, the *unanimity rule,* or *unanimous democracy,* protects each council member by requiring consensus for persecution decisions.[5]
- When $e = N$, the council cannot block any persecution, even if all the $N-1$ ordinary members voted against it. This is a *dictatorship* where the king has effectively unlimited power to persecute and expropriate.
- When $e \in \{2, 3, \ldots, N-1\}$, a *non-unanimous democracy* protects council members at a certain collective level, but not at the individual level. For example, if $e = \lfloor N/2 \rfloor + 1$, a majoritarian democracy only protects council members in the majority.

This voting rule for persecution decisions is thus central in our analysis. It is exogenous and invariant in the baseline model; we will endogenize it in Section 3.

If the persecution proposal is blocked, or if the king did not propose to persecute anyone, then everyone will remain in their positions through the end of period t, each receiving a payoff of R if his asset is intact.

If the proposal is approved, the king will persecute and expropriate the council members on the persecution list, and the persecuted will exit the game with a zero payoff. We assume that the king automatically cashes out each expropriated asset at a value of $\kappa \cdot R/(1-\delta)$, and

[5]As in the literature, the word "democracy" denotes constraints on the ruler and checks on the power of the executive (e.g., Weber, 1978; Ober, 2008; Stasavage, 2020a). One may also interpret any polycracy where consensus of co-rulers over any executive initiative is needed as a case of unanimity rule.

enjoy it only for the current period, where $\delta \in (0,1)$ is the exogenous social discount factor, $R/(1-\delta)$ is thus the value of the asset, and $\kappa \in (0,1)$ is an exogenous parameter indicating the efficiency of the expropriation and sale. Since p_t council members are persecuted, the king will eventually receive a persecution profit of $p_t \cdot \kappa \cdot R/(1-\delta)$ for this period, plus R if his asset is intact. The vacant positions in the council will be filled, again, by newcomers, each with an asset, and these newcomers and the ordinary council members who were not persecuted will receive R for this period. The persecution stage and thus period t end there, and period $t+1$ follows.

Completing the setup. The game starts with $N-1$ ordinary council members and a king, each endowed with an asset. All players maximize the net present value of their own expected payoff, using the social discount factor δ as their personal discount factor.

Solution concept. We consider pure-strategy Markov perfect equilibrium (MPE). This captures the classic problem of commitment for political players in the literature (e.g., Acemoglu, 2003; Myerson, 2008, 2015; Egorov and Sonin, 2011). Together with the equal-probability setting for persecution and the voting-for-persecution assumption for indifferent council members, adopting MPE introduces a stress test for institutions against persecutions and conflicts, helping us understand what institutions can secure civil peace *robustly*.

To clarify the Markovian state variables, each ordinary council member at the contest stage may consider the asset status of all players; so does the king at the persecution stage. Each ordinary council member voting on a persecution proposal may further consider whether her own name is on the proposal.

Enforceability of institutions. Before proceeding to analysis, one may wonder how the institutions modeled in this paper, such as the voting rule here and separation-of-powers institutions in Sections 3 and 4, may be enforced. Our response is that we apply the logic in Myerson (2008) and Fearon (2011): any publicly understood existing institution, when violated, may provide a clear public signal to coordinate rebellion, making itself possibly self-enforcing. In addition, the literature has long observed that rule-based coercion often draws voluntary submission (e.g., Weber, 1978, p. 215, 217; 2004, p. 33–34).[6]

[6]Along this Weberian interpretation, in our model, persecution is governed by rules, in that it follows a publicly understood procedure and is subject to the council's vote with a given rule. It is thus a form of *legitimate* violence. Contests are ruleless, in that anyone can initiate a contest and its outcome is determined randomly. We have here a form of *illegitimate* violence. Our model thus provides a framework to analyze the interaction between legitimate and illegitimate violence.

2.2 Analysis and Results

We first analyze the persecution stage for each period t:

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

We prove Lemma 1 in Supplemental Appendix A. The intuition is simple. Since persecution matters only to those who are on the persecution list, only they will vote against the persecution proposal. Given the voting rule e, the king can thus persecute at most $e-1$ ordinary council members. He will thus do so, not leaving anything on the table.

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

Proposition 1 (Risk of civil conflict under any non-unanimity rule)**.** *Consider any non-unanimity rule for persecution, i.e., $e \geq 2$. For δ large enough, there exists a unique MPE, where all ordinary council members contest the kingship in each period t.*

We prove Proposition 1 in Supplemental Appendix B. Since we emphasize the *risk*, not the inevitability, of civil conflict, we skip here the uniqueness proof but focus on why, under the stated conditions, any ordinary council member would not want to deviate at any time from contesting the kingship. On the conjectured equilibrium path, each ordinary council member's expected payoff is

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

i.e., he wins the kingship contest with probability $\Pi^M(N)$, and V^K is the value of being the king: by Lemma 1, he can capture $(e-1)\kappa R/(1-\delta)$ by expropriating $e-1$ council members in each period, provided that he survives the challenge to his throne in that period, which happens with probability $\Pi^K(N)$.

If he withdrew from the contest only in period t, his expected payoff would be

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

i.e., he would hope to survive the following persecution stage, by Lemma 1, with probability $(N-e)/(N-1)$, so as to receive a flow payoff, R, from his asset in period t and return to contest the same kingship, valued at V^K, in period $t+1$.

Given any non-unanimity rule, though, such survival is always uncertain, i.e., for any $e \geq 2$, $(N-e)/(N-1) < 1$. Therefore, the single deviation would forgo the council

member's opportunity to contest the kingship. This opportunity can be very valuable since, given any non-unanimity rule, the king can persecute and expropriate at least one ordinary council member, i.e., for any $e \geq 2$, $e - 1 \geq 1$, and when δ is large enough, V^K will be large enough to make the council member worse off under the single deviation.

Persecution power and Hobbesian wars. The analysis above reveals two inseparable implications of persecution power, i.e., when $e \geq 2$:

- first, the constant insecurity of each subject, i.e., $(N - e)/(N - 1) < 1$;
- second, the potentially great value of holding such power, i.e., a potentially large V^K.

Proposition 1 suggests that these two implications may jointly lead to violent contests over such power, Hobbesian wars of "every man against every man" (Hobbes, 1996, p. 85). There is nevertheless a key difference: Hobbes (1996, p. 95–96) argues that an absolute sovereign would save society from such wars. In our Proposition 1, such unbridled power will instead cause such wars.[7]

The analysis also implies that the unanimity rule for persecution decisions can fully eliminate the risk of violent contests, because the king is never capable of persecuting anyone. Everyone is safe, the throne is worthless, and no one would contest it:

Proposition 2 (Civil peace under unanimity rule)**.** *Under the unanimity rule for persecution, i.e., $e = 1$, there exists a unique MPE, where no one would ever contest the kingship.*

We prove Proposition 2 in Supplemental Appendix C. Gathering Propositions 1 and 2, our baseline results imply that, without separation-of-powers institutions that we will analyze in Sections 3 and 4, the unanimity rule over persecution decisions has a unique advantage in protecting *individual* rights, and thus in securing civil peace.

Robustness of results. We could assume that each contest damages only part of the assets of its participants, rather than totally destroying them. We show in Supplemental Appendices A, B, and C that the baseline results are robust to this alternative assumption.

We show in Supplemental Appendix B that the baseline results are robust when the personal discount factor differs from the social one. Supplemental Appendix B further shows that, under stronger executive constraints, i.e., a smaller $e \geq 2$, for the conflict in Proposition

[7]This point of Proposition 1 is consistent with some empirical evidence on political power and civil conflict. In particular, when political domination is insufficiently checked, "[e]arly states and empires are perhaps the most violent and warlike contexts in which humans have ever lived," since they fail to "break the link between the dominance motive and conflict" (Widerquist and McCall, 2017, p. 138, 166).

1 to emerge, a higher social discount factor is required. This is consistent with the intuition of Proposition 1.

We could also assume that, when choosing whom to persecute, the king prioritizes the most significant threat, for example, the longest-serving ordinary council member (e.g., Francois et al., 2015; Goldring and Matthews, 2023). Supplemental Appendices B and C show that, in this setting, for *any* $\delta \in (0, 1)$, Hobbesian wars can always appear under any non-unanimity rule, while the unanimity rule still secures civil peace. The Hobbesian wars in Proposition 1 are thus primarily driven by the persecution power, not by a high social discount factor.

3 Endogenous Constitutional Dynamics and Separation of Legislative and Executive Powers

If unanimity rule over persecution decisions can secure civil peace, what institutions can safeguard the rule itself? In this section, we adopt the pioneering framework of Acemoglu et al. (2012) to extend the baseline model, allowing the council to periodically change its voting rule, i.e., its constitution. We then compare the resulting constitutional dynamics depending on who sets the constitutional agenda, i.e., whether or not executive and legislative powers are separated.

3.1 Setup

We now add a constitutional convention to the end of each period t, where an agenda-setter, either the king or an ordinary council member, can first propose to change the voting rule for persecution decisions from e_t to $e'_{t+1} \in \{1, 2, \ldots, N\} \setminus \{e_t\}$, at an infinitesimal cost $\epsilon > 0$. We consider two arrangements of this agenda-setting power:

- If the constitutional agenda is always set by an ordinary council member, then we have *separation of executive and legislative powers,* in the sense that the chief executive, i.e., the king, is denied agenda-setting power on constitutional matters.
- If the king always sets the agenda, then executive and legislative powers are fused.

Once a new voting rule for persecution is proposed, the council will vote on it, with the current voting rule, e_t, being the default alternative, and the votes will be counted by the current voting rule. Again, each council member is assumed to vote by weakly undominated strategies, equivalent to sincere voting. If the new voting rule is approved, then the council

will adopt it for period $t+1$, i.e., $e_{t+1} = e'_{t+1}$; if it is rejected, or no proposal is made, then the current voting rule will remain, i.e., $e_{t+1} = e_t$.

Given our focus on the resulting dynamics of the voting rule, we simplify the contest and persecution stages, by assuming that all players follow the strategies in the baseline results: under the unanimity rule, no contest or persecution will happen; under any non-unanimity rule, a war of all against all will break out, destroying assets of contestants, and $e_t - 1$ ordinary members will be persecuted. This captures the classic idea that civil peace is central to human welfare and that institutional designers should take the risk of civil conflict very seriously (e.g., Hobbes, 1996; North et al., 2009; Cox et al., 2019; Dal Bó et al., 2022).

We still consider MPEs. To clarify the Markovian state variables, for each player who sets the constitutional agenda, the state of the game is characterized by the asset status of all players and the current voting rule, e_t; each player voting on any constitutional proposal needs to further consider the proposed new rule, e'_{t+1}.

3.2 Analysis and Results

A voting rule e is "self-stable" if it does not abolish itself in equilibrium, i.e., if $e_t = e$, then $e_{t+1} = e_t$ (Barbera and Jackson, 2004). We first show that the unanimity rule is self-stable:

Lemma 2 (Self-stability of unanimity rule)**.** *Regardless of who sets the constitutional agenda, in any MPE, the unanimity rule is self-stable, i.e., if $e_t = 1$, then $e_{t+1} = 1$.*

We prove Lemma 2 in Supplemental Appendix D. To clarify the intuition, at each constitutional convention, for each ordinary council member, keeping the unanimity rule now and thereafter will secure his asset forever, generating an expected payoff of $\delta \cdot R/(1-\delta)$. The best alternative to this is to install a dictatorship now, and keep it thereafter, which would generate an expected payoff of

$$\delta \cdot \frac{\Pi^M(N)}{1 - \delta \cdot \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \tag{3}$$

as that would maximize the persecution profit one could capture as a king, provided that he wins the first kingship contest of all against all with probability $\Pi^M(N)$, and survives all such wars thereafter, each with probability $\Pi^K(N)$. But this payoff is still lower than $\delta \cdot R/(1-\delta)$, since one's chance to win the first contest is small, because the war has one and only one winner: by $\Pi^M(N) \cdot (N-1) + \Pi^K(N) = 1$, for any $\delta \in (0,1)$ and $\kappa \in (0,1)$, we have

$$\delta \cdot \frac{\Pi^M(N)}{1 - \delta \cdot \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} = \delta \cdot \frac{1 - \Pi^K(N)}{1 - \delta \cdot \Pi^K(N)} \cdot \frac{\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta}. \tag{4}$$

Therefore, all ordinary council members would block any change from the unanimity rule.

This analysis further implies that, even if the current rule is non-unanimous ($e_t \geq 2$), when any ordinary council member is setting the constitutional agenda, he can always propose the unanimity rule, and all ordinary council members will support it, as it is their favorite rule for persecution decisions. Therefore, under separation of executive and legislative powers, the unanimity rule will always be introduced:

Proposition 3 (Constitutional dynamics under separation of executive and legislative powers)**.** *If the king is always denied agenda-setting power on constitutional matters, then in any MPE, the unanimity rule is self-stable, and any non-unanimity rule will transition to the unanimity rule, i.e., for any* $e_t \in \{1, 2, \ldots, N\}$, $e_{t+1} = 1$.

We prove Proposition 3 in Supplemental Appendix E. This result contrasts with the dynamics without such separation of powers:

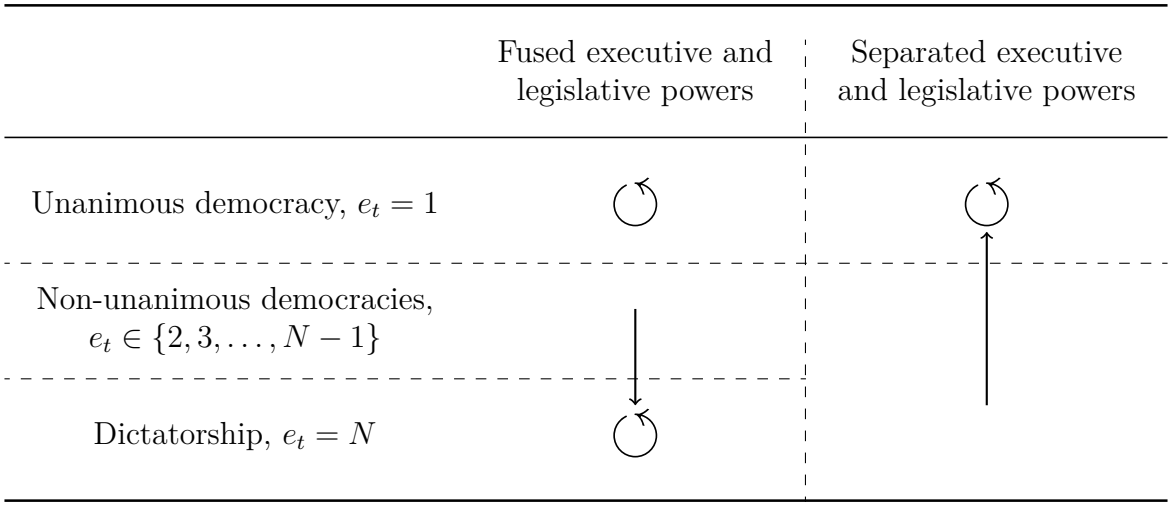
Proposition 4 (Constitutional dynamics under fusion of executive and legislative powers)**.** *If the king always sets the constitutional agenda, then in any MPE, the unanimity rule and dictatorship are self-stable; any other rules will transition to dictatorship, i.e., if* $e_t = 1$*, then* $e_{t+1} = 1$*; if* $e_t \geq 2$*, then* $e_{t+1} = N$.

We prove Proposition 4 in Supplemental Appendix F. The self-stability of the unanimity rule follows from Lemma 2. To understand why any non-unanimity rule ($e_t \geq 2$) will lead to dictatorship ($e_{t+1} = N$), first note that both the king and ordinary council members prefer dictatorship among all non-unanimity rules: all these rules will induce a war of all against all, while dictatorship maximizes the trophy of the war, i.e., the power to persecute and expropriate.

Second, when the current voting rule is any non-unanimity rule ($e_t \geq 2$), the king also prefers dictatorship ($e_{t+1} = N$) over the unanimity rule ($e_{t+1} = 1$). This is because, when the current voting rule is non-unanimous, the king at the constitutional convention must have fought and had his asset destroyed. The king will thus not appreciate the peace under the unanimity rule, but only value the power to persecute and expropriate others. Dictatorship maximizes such persecution power and is thus the king's favorite regime.

Given all this, if it is already a dictatorship ($e_t = N$), the king will not propose any change, making dictatorship self-stable ($e_{t+1} = N$). If the current rule is any other non-unanimity rule ($e_t \in \{2, 3, \ldots, N-1\}$), the king will propose to install dictatorship ($e'_{t+1} = N$). Between this and the current non-dictatorial, non-unanimity rule, all ordinary council members will vote for dictatorship ($e_{t+1} = N$). Therefore, when executive and legislative powers are fused, any non-unanimity rule will lead to dictatorship.

Table 1: Constitutional dynamics and separation of executive and legislative powers



Summary of Propositions 3 and 4. Executive and legislative powers fused/separated in terms of chief executive controlling/denied agenda-setting power on constitutional matters. Self-pointing arrows for self-stability; straight arrows for directions of transition.

Summarized in Table 1, Propositions 3 and 4 imply that separation between executive and legislative powers secures the unanimity rule, and thus civil peace, as the only equilibrium outcome. Propositions 3 and 4 are also especially relevant to an important question in the recent literature on institutional analysis (e.g., Acemoglu et al., 2015; Bisin and Verdier, 2021, 2024): how would an institution under a self-stable rule respond, when an institutional shock temporarily alters it? Propositions 3 and 4 lead to the following result:

Corollary 1 (Resilience of self-stable rules against regime shocks)**.** *Suppose that a regime shock temporarily alters a self-stable rule.*

- *Under separation of executive and legislative powers, following the shock, the unanimity rule will be restored.*
- *Without such separation, following the shock, only dictatorship can be restored; the unanimity rule will collapse into dictatorship.*

Note that in Corollary 1, without separation of executive and legislative powers, the unanimity rule is the most "fragile" equilibrium regime: even the smallest regime shock, which alters $e_t = 1$ to $e_t = 2$, will be followed by a permanent collapse into dictatorship, i.e., $e_\tau = N$ for all $\tau \geq t + 1$. But under separation of powers, the unanimity rule becomes the most "resilient": even the largest shock, which alters $e_t = 1$ to $e_t = N$, will be followed by a permanent restoration, i.e., $e_\tau = 1$ for all $\tau \geq t + 1$.

This contrast also implies a potential divergence in the capacity to manage exogenous emergencies, which usually requires strong executive power (e.g., Gratton and Lee, 2024). According to conventional wisdom, unanimous democracies would be hopeless here because of their strict constraints on executive power. But Proposition 3 suggests that a unanimous democracy may be willing to temporarily empower a chief executive without legislative power, confident that unanimous democracy will be restored after the emergency is dealt with. Yet, by Proposition 4, when the chief executive has access to legislative power, a unanimous democracy may still be reluctant to empower him, since he is capable of transforming the temporary empowerment into a permanent one. Therefore, *denying* the chief executive the access to legislative power may *strengthen* the emergency capacity of a unanimous democracy. We summarize this discussion as follows:

Corollary 2 (Emergency capacity of unanimous democracy)**.** *The emergency capacity of unanimous democracy is strong under separation of executive and legislative powers, and is weak without such separation of powers.*

Robustness of results. We have assumed in this section that all contest and persecution decisions follow the baseline results. If we make them endogenous like we do with the constitutional conventions' outcomes, we obtain the same results, derived in Supplemental Appendix G, as in Table 1.

Second, the intuition of Proposition 4 involves the fact that under a non-unanimity rule, a previous contest has destroyed the asset of the king, so he prefers dictatorship over the unanimity rule for the future. As we discuss in Supplemental Appendix F, this preference, and thus Proposition 4, will remain robust even if the king holds assets, as long as he has a strong enough incumbency advantage in a war of all against all and his holdings are bounded from above, for example, because of a natural limit to his span of control.

Third, in Supplemental Appendix H, we assume that the constitutional convention happens after each contest stage but before each persecution stage, and the results in this section are robust to this change in sequence.

Fourth, one may want a separate voting rule for constitutional change. Since all ordinary members are symmetric and play weakly undominated strategies, they always cast the same vote on any given constitutional proposal. Therefore, results in this section will remain robust under any super-majority rule in the council for constitutional change, including a unanimity rule among all ordinary council members.

Finally, Supplemental Appendix I shows that our analysis is robust if the constitutional convention is held less frequently, i.e., once every $T \geq 2$ periods, as long as T is finite. A non-dictatorial, non-unanimous regime can then last for a long time, i.e., T periods, but will

eventually shift to either dictatorship or the unanimity rule.

4 Socio-economic Development and Separation of Judicial and Executive Powers

We have shown that separation of executive and legislative powers safeguards the unanimity rule for persecution decisions, securing civil peace. That said, it does not speak to the fact that many modern democracies feature majority rule, which is non-unanimous but does not seem to provoke much civil conflict. How did modern democracies minimize the risk of civil conflict? In particular, we examine the role of judicial independence in conferring civil peace.

4.1 Setup

We now add to our baseline model a judiciary composed of $\bar{N}$ justices. We allocate to the judiciary the power to approve or not the king's persecution proposal. In doing so, we assume that the justices maximize the net present value of their own expected payoffs. Justices are assumed to play weakly undominated strategies, and will vote for any persecution proposal if indifferent. The votes are counted by an exogenous voting rule, $\bar{e} \in \{1, 2, \ldots, \bar{N}\}$.

An important feature of modern society is that individuals are connected economically and socially on a larger scale and in a more dense way than in traditional society (e.g., Durkheim, 2014; Greif, 2008; Cox et al., 2019; Greif et al., 2025). Therefore, persecution of one important individual from the elite may generate a negative externality among the entire elite circle, including members of the executive council and the judiciary. To model this, we assume that the asset of each non-persecuted council member and justice, denoted by i, will generate a flow payoff of

$$R_{it} = (1 - c \cdot p_t \cdot \theta_t) \cdot R_{i,t-1}$$

at the end of period t. Here, the variable p_t is the number of persecuted council members; $R_{i,t-1} > 0$ is the potential flow payoff of her asset before any persecution at period t, with the initial group of council members and justices as well as all later newcomers to the elite circle starting with a flow payoff of R. The exogenous intensity of the externality, $c > 0$, represents the degree of economic and social interconnectedness among the elites. The interpretation is thus:

- Making members of society economically and socially more interconnected, socio-economic development raises c.

This externality will kick in, i.e., $\theta_t = 1$, only when there has never been any contest or persecution by the end of period $t-1$, and otherwise $\theta_t = 0$. This captures the intuition that economic and social interconnectedness is usually fragile to political violence and difficult to rebuild (e.g., Cox et al., 2019).

Among the $\bar{N}$ justices, there are w "political" ones, where $w < \min\{N, \bar{N}\}$ is exogenous. After each persecution stage in period t, nature will randomly draw w ordinary executive council members from the total $N-1$ of them by equal probability, and then, with an exogenous probability $z \in (0,1)$, retire all of these w ordinary council members, letting them exit the game and receive their assets' flow payoffs from then on. Then those w political justices enter the executive council as new council members, with their former positions as political justices filled by newcomers. The rest of the $\bar{N} - w$ justices can never enter the executive council, so they are "apolitical." The number of these apolitical justices, $\bar{N} - w$, measures whether executive and judicial powers are separated:

- A great $\bar{N} - w$ indicates *separation of executive and judicial powers,* in the sense that many justices' future career paths are insulated from the executive branch.
- A small $\bar{N} - w$ suggests that executive and judicial powers are fused.

As we will see, this *personnel* perspective on judicial independence is developed from the classic idea that an organization attains authentic autonomy only if the career path of its personnel is insulated from other organizations (e.g., Weber, 1978; Evans, 1995).

Since we are constructing a stress test for institutions against conflict, we allow in this section the king to influence the justices: he can promise a transfer $T_{it} \geq 0$ to each justice i, in exchange for her vote for the persecution proposal. The total amount of transfers plus an infinitesimal implementation cost, $\epsilon > 0$, is subject to a budget constraint, which is the potential persecution profit, $\sum_{i \in P_t} \kappa R_{i,t-1}/(1-\delta)$, where P_t denotes the persecution list. Note that allowing the justices to be bribed makes it more difficult for the judiciary to prevent persecution, thus delivering a more strict stress test to uncover robust institutions.

In addition, we assume that, for any $Q \leq N$, $\Pi^K(Q)/\Pi^M(Q) \geq \Pi^K(N)/\Pi^M(N)$, i.e., a king's advantage in a smaller-scale contest is not smaller than his advantage in a war of all against all. This is reasonable, as the special status of the king should be no less significant in a smaller-scale contest. In particular, this condition holds when $\Pi^K(\cdot)$ and $\Pi^M(\cdot)$ are additive, which is standard in the literature (e.g., Hirshleifer, 1995; Skaperdas, 1996).[8]

We still consider MPEs. To clarify the Markovian state variables, for any ordinary council members at any contest stage, the payoff-relevant state of the game is characterized by the

[8]Mathematically, suppose that $\Pi^K(Q) \equiv K/\big((Q-1)M+K\big)$ and $\Pi^M(Q) \equiv M/\big((Q-1)M+K\big)$, where $M > 0$ and $K > 0$ are exogenous. The ratio $\Pi^K(Q)/\Pi^M(Q)$ is thus K/M, constant in Q.

externality status, θ_t, and the flow payoffs of all elites, $\{R_{i,t-1}\}$. At the persecution stage, the king also considers whether a contest has just happened, and a justice i further considers the persecution proposal, including the length of the persecution list, p_t, and the transfer promised to her, T_{it}.

4.2 Analysis and Results

We start with the absorbing state where the members of the elite are unconnected, i.e., $\theta_t = 0$.

Lemma 3 (When elites are unconnected)**.** *Starting from $\theta_t = 0$, there exists an MPE where each ordinary council member always contests the kingship, the king always proposes to persecute $N - 1$ council members without offering any transfers to the justices, and all justices always vote for any persecution proposal.*

We prove Lemma 3 in Supplemental Appendix J. What is the intuition? When the elites are unconnected ($\theta_t = 0$), persecution incurs no externality to all the justices, so they would not care to prevent persecution. The king can thus persecute as many ordinary council members as he likes, even without trying to influence the judiciary. To avoid being persecuted and to hold persecution power themselves, all ordinary council members then contest the kingship.

We can now proceed to the scenario where elites are interconnected ($\theta_t = 1$):

Proposition 5 (When elites are interconnected)**.** *To take the risk of civil conflict in Lemma 3 seriously, suppose that, when $\theta_t = 0$, everyone follows the MPE in Lemma 3. Starting from $\theta_t = 1$, the following is true:*

1. *if $\kappa > \left(\bar{N} - (\bar{e} - 1) - w\right) c$ and δ is large enough, then there exists an MPE where all ordinary council members contest the kingship;*

2. *if $\kappa \leq \left(\bar{N} - (\bar{e} - 1) - w\right) c$, then (a) no MPE would feature any contest over the kingship, and (b) there exists an MPE where no contest or persecution will ever happen.*

We prove Proposition 5 in Supplemental Appendix K. The intuition is as follows. In order to rule out any contest as an equilibrium, the king's persecution power must be neutralized. When the elites are interconnected ($\theta_t = 1$), if the king were to persecute $p_t \geq 1$ ordinary council members, such persecution would reduce the flow payoff of each of the justices' asset by cp_tR. To buy off each apolitical justice, the king would thus need to pay at least $cp_tR/(1-\delta)$. The amount to buy off each political justice, $cp_tR/\left(1 - \delta(1-z)\right)$, is strictly

smaller. This is because, with probability $z > 0$ in each future period, a political justice will join the executive council and thus, by Lemma 3, contest the kingship; her asset will be destroyed in the process, so she cares less about the externality incurred to her asset.

All this means that, to meet the required minimum support from $\bar{N} - \bar{e} + 1$ justices to persecute anyone, the king would prioritize buying off the w political justices, plus $\bar{N} - w - \bar{e} + 1$ apolitical justices. He would thus face a budget constraint of

$$w \cdot \frac{cp_tR}{1-\delta(1-z)} + \left(\bar{N} - (\bar{e}-1) - w\right) \cdot \frac{cp_tR}{1-\delta} + \epsilon \leq \frac{p_t\kappa R}{1-\delta}, \tag{5}$$

where $\epsilon > 0$ is the infinitesimal implementation cost, and $p_t\kappa R/(1-\delta)$ is the persecution profit. Therefore, if the elites are strongly interconnected (a high c) *and* there are many apolitical justices (a high $\bar{N} - w$) such that $\kappa \leq \left(\bar{N} - (\bar{e}-1) - w\right) c$, the budget constraint will be violated, and the king cannot afford to persecute anyone. Understanding that, any ordinary council member would then not contest the kingship.

If instead the elites are not strongly interconnected (a low c), *or* if there are too few apolitical justices (a low $\bar{N} - w$), such that $\kappa > \left(\bar{N} - (\bar{e}-1) - w\right) c$, the budget constraint may be satisfied. In particular, if δ is also large enough, the constraint may hold for any $p_t \geq 1$ and $z \in (0,1)$. In such cases, the king's persecution power is not constrained at all, and all ordinary council members may contest the kingship in equilibrium.

Proposition 5 suggests that in order to secure civil peace through a judiciary, only embedding the judiciary in an interconnected elite circle without insulating them is not enough. Instead, the judiciary must also attain *personnel* autonomy, making sure that its members may not join the executive branch in the future. Table 2 summarizes this point.

Table 2: Civil conflict and peace and separation of executive and judicial powers

	Separated executive and judicial powers	Fused executive and judicial powers
High interconnectedness among elites	No MPE features any war; peace can feature in MPE	War of all against all can feature in MPE
Low interconnectedness among elites	War of all against all can feature in MPE	War of all against all can feature in MPE

Summary of Proposition 5. Executive and judicial powers separated/fused in terms of whether or not many justices' future career paths insulated from executive branch.

Can interconnectedness solve everything? One may wonder: when the elites are highly interconnected such that persecution would incur a significant externality, could ordinary council members always protect each other on their own if the procedural check on persecution still lies in the executive council, even when it functions by a non-unanimity rule, $e \geq 2$?

The answer is no. In this scenario, each ordinary council member can contest the kingship right after surviving persecution – they are like the "political" justices, but with z equal to one. Therefore, to persecute $p_t \in \{1, \ldots, e-1\}$ council members, the king will need to pay only cp_tR each to buy off $N - e$ of the others. The king's budget constraint is thus

$$(N - e) \cdot cp_tR + \epsilon \leq \frac{p_t \kappa R}{1 - \delta}, \tag{6}$$

which can hold for any level of persecution externality, $c > 0$, as long as δ is large enough, leaving persecution, and thus civil conflict, possible. Therefore, when the elites are highly interconnected, to secure civil peace, either an independent legislature is needed to enact a unanimity rule for persecution decisions, or an independent judiciary is needed to neutralize persecution power.

5 Implications of Results

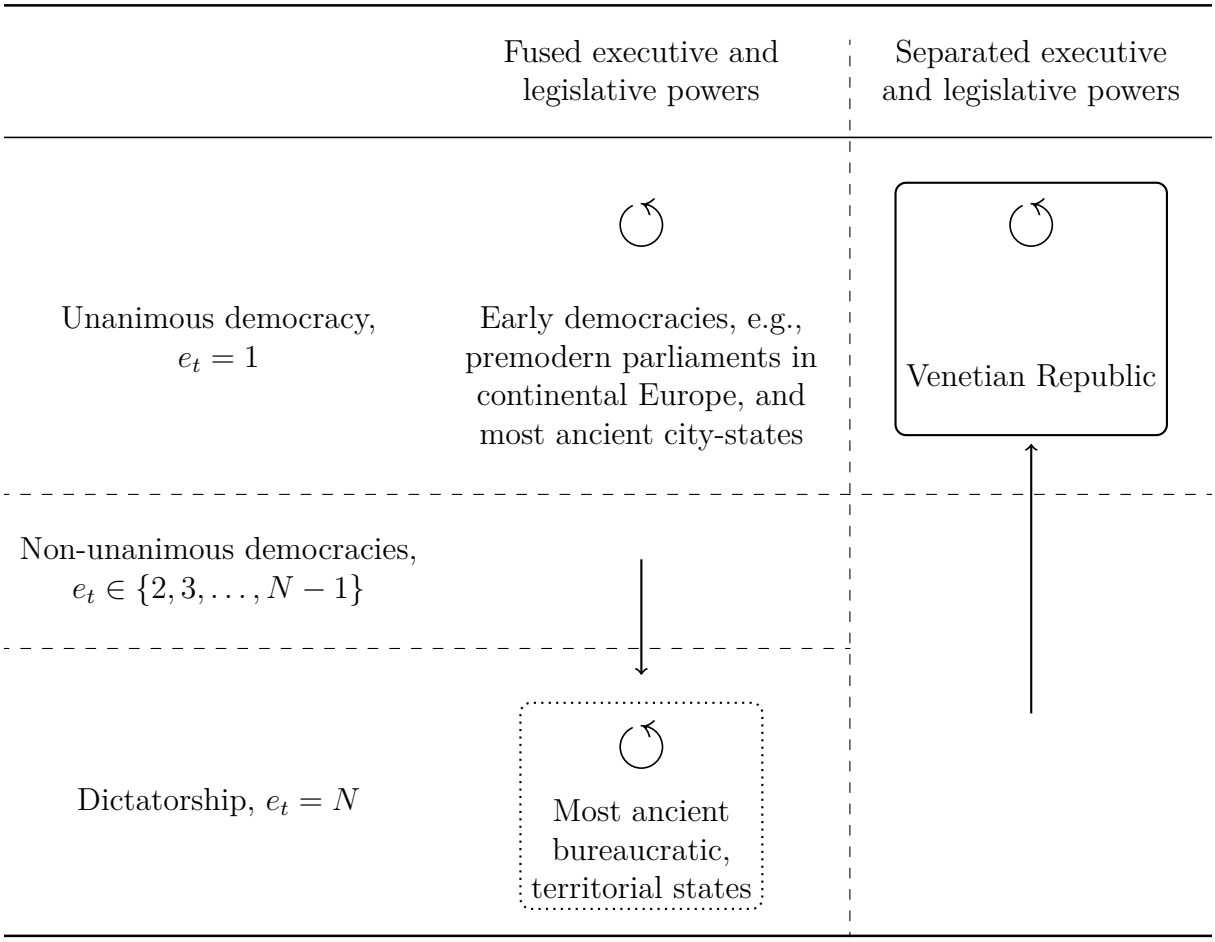
5.1 Dynamics of Political Regimes and Separation of Legislative and Executive Powers

Propositions 3 and 4 provide implications for the dynamics of political regimes and separation of legislative and executive powers. Table 3, expanded from Table 1, provides examples of self-stable regimes and indicates regimes that are resilient to regime shocks and have strong emergency capacity, in line with Propositions 3, 4, and Corollaries 1 and 2.

Common types of premodern political regimes. In Table 3, among the rules governing persecution decisions, only the unanimity rule and dictatorship can be self-stable. This suggests that, before socio-economic development created dense economic and social ties, i.e., without the persecution externality we modeled in Section 4, it might be more common to find dictatorship and unanimous democracy than regimes of other intermediate types.

This implication might shed light on stylized facts about premodern political regimes. At one end, based on a comprehensive data set, Stasavage (2020a, p. 4, 6, 17) observes that many "early democracies" have developed throughout human history on multiple continents.

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



Summary of implications of Propositions 3, 4, Corollaries 1, and 2 with examples. Executive and legislative powers fused/separated in terms of chief executive controlling/denied constitutional agenda. Self-pointing arrows for self-stability; straight arrows for directions of transition; dotted frame for resilience to regime shocks, strong emergency capacity, and risk of civil conflict; solid frame for regime resilience, strong emergency capacity, and civil peace. Sources in Section 5.1.

As their defining feature, individual constituencies "could either veto central decisions or opt out of them," i.e., they featured a unanimity rule. There are two important examples. First, in ancient city-states, consensus among numerous political players was required by the widespread multiplication of the same office, together with an intricate network of checks and balances (Weber, 1978, p. 949–950; Finer, 1997b, p. 406, 968; Trigger, 2003, p. 103). Second, in many parliaments of premodern continental Europe, each individual constituency could opt out of a central policy that was opposed by its delegates, who were bound by strict mandates (Myers, 1975, p. 148; Weber, 1978, p. 293; Finer, 1997b, p. 1035; Stasavage, 2020a, p. 17, 129–130). Such requirement for consensus corresponds to $e_t = 1$ in our model.

At the other end, Stasavage (2020a, p. 9) observes that "autocracies …were a clear alter-

native," where "autocrats created bureaucracies staffed with subordinates they themselves had selected and they themselves controlled." Regimes of this type were often found in territorial states (Trigger, 2003, p. 92). Such autocratic rules correspond to $e_t = N$.

In between these two, regimes of intermediate types, i.e., non-unanimous democracies, did exist in history, corresponding to $e_t \in \{2, 3, \ldots, N-1\}$ in our model. That said, Lord (1930, p. 138) and Stasavage (2020a, p. 17, 206) note that these intermediate types were less common among early democracies, which is consistent with the implication of Table 3. This is also consistent with the insight we have shown in Supplemental Appendix I and discussed in Section 3: under premodern conditions, an intermediate regime could potentially last for a long time, but it was eventually less stable than unanimous democracies or dictatorship.

Prevalence of autocracy in premodern times. Corollary 1 suggests that, to consolidate the unanimity rule against regime shocks, executive power must be separated from legislative power. Such separation was usually not present in premodern times (Weber, 1978, p. 283; Finer, 1997a, p. 347, 402, 405, 436–437; 1997b, p. 967; Greif, 1995, p. 735), and the chief executive generally "had very tight control over the agenda" of the legislature (Finer, 1997a, p. 347).

Corollary 1 thus implies that most early democracies, while self-stable, must have been vulnerable to autocratic shocks. This was evident in the city states of ancient Greece and medieval Europe, most of which succumbed to such shocks (Finer, 1997a, p. 331–333; Finer, 1997b, p. 983–984; Greif, 1994, p. 275–276; Greif, 1995, p. 736–737; Zingales, 2017, p. 115). Many premodern European parliaments also declined over time (Van Zanden et al., 2012).

Corollary 1 also implies that in the premodern world, dictatorships would be more likely to recover from regime shocks, therefore should be more prevalent. Indeed, Finer (1997b, p. 950) observes that "[e]ver since the Roman Republic fell, the ideal and practice of government throughout the entire globe had been, without exception, monarchical." Although once "widespread in human societies" (Stasavage, 2020a, p. 61), early democracies "were exceptional, not the rule, and were short-lived" (Finer, 1997b, p. 951). Konrad and Skaperdas (2012, p. 417, 419) also observe "the prevalence of autocracy," versus the "problems of long-term viability" of the "consensually organized, self-governing state."

Emergency capacity of unanimous democracy. The ability to respond to emergencies, such as wars, political crises, and natural catastrophes, is a fundamental attribute of state capacity (e.g., Schmitt, 1985; Agamben, 2005; Sorell, 2013; Stasavage, 2020b). Since the unanimity rule can paralyze decision-making in emergencies while quick decisions can be taken in a dictatorship, it may be tempting to dismiss consensual democracy and advocate

dictatorship on this ground (e.g., Schmitt, 1985). Corollary 2 suggests instead that separation of executive and legislative powers can be crucial in equipping unanimous democracy with a strong emergency capacity.

Lacking such separation of powers would make temporarily granting emergency power to the executive a one-way road to dictatorship. The danger of losing democracy like this has long been noticed since the fall of the Roman Republican constitution, under which executive magistrates exploited emergencies and their legislative agenda-setting power to remove checks and balances (e.g., Bellen, 1975; Hayek, 1979, p. 124–125; Finer, 1997a, p. 432–438; Qin, 2021, p. 81–106). By Corollary 2, if instead the legislature has agenda-setting power on constitutional matters, unanimous democracy can allow temporary expansion of executive power to deal with emergencies. As shown in Table 3, *only* unanimous democracy with the *necessary* help from a truly independent legislature can secure individual liberty, civil peace, and strong emergency capacity, all three *simultaneously.* This contrasts with the intellectual tradition posing that protection of individual liberty must sacrifice civil peace and emergency capacity (e.g., Hobbes, 1996; Schmitt, 1985; Gratton and Lee, 2024; survey by Philpott, 2020).

Florence vs. Venice. To further the point about the emergency capacity of unanimous democracy and separation of executive and legislative powers, we compare the institution of the Florentine Republic, as the representative of medieval Italian city-states (Finer, 1997b, p. 964, 979), with that of the Venetian Republic. Table 4 summarizes the comparison.

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

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

Sources: Maranini (1927), Lane (1973), Greif (1995), Finer (1997b), Kohl (2014).

Both Florence and Venice imposed multiple, strong checks and balances on their executive

magistrates (Finer, 1997b, p. 964, 968, 979, 995–996, 1005, 1007; Greif, 1995, p. 735, 738). These "elaborate checks and balances" were "to prevent any individual or his family …obtaining absolute power" (Finer, 1997b, p. 968, 1018). We thus read both the Florentine and Venetian political systems as requiring consensus from all relevant organs or powers for executive decisions, i.e., unanimous democracy in our model. Nevertheless, a crucial difference lies in who had agenda-setting power on constitutional matters.

In Florence, it was the main executive council (*Signoria*), led by the chief executive (*gonfaloniere della giustizia*), that controlled the agenda of legislative councils (Finer, 1997b, p. 966–967). It was thus clear that the chief executive was not denied agenda-setting power on constitutional matters.

In Venice, although the main executive council (*Collegio*) initiated legislation, the chief executive (*doge*) was *not* to propose any legislative agenda; instead, it was a different set of officials, the *savii grandi*, who prepared the agenda for the *Collegio* (Finer, 1997b, p. 1003–1004). In practice, there were six of these officials for each term of six months, and for each week, one of them led to set the legislative agenda for the republic, and the work was done with the *doge* being excluded (Finer, 1997b, p. 1003–1004).[9]

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

Indeed, the Florentines dealt with emergencies through an extremely cumbersome procedure: the main executive council first had to convene a general assembly (*Parliamentum*), which "consisted of every citizen aged over 14," and then the assembly's approval was required if an extraordinary commission (*Balía*) was to be set up and vested with emergency powers (Finer, 1997b, p. 970, 996). Yet even with such precautions, the Republic eventually slipped into "personal rule," and the process began "in the last years of the fourteenth century and the first part of the fifteenth, when …the *Parliamentum* and *Balía* were used more frequently, and to effect dramatic political changes" (Finer, 1997b, p. 970).

In Venice, on the contrary, the fast-track option of acting through a special tribunal (Council of Ten) was permanently ready for the main executive council whenever it "wanted rapid and secret emergency action" (Finer, 1997b, p. 1006). At the same time, such strong

[9]On the origin of such separation of powers, citing Lane (1973, p. 254–255) and Maranini (1927, p. 252–254), Kohl (2014, p. 35–38, 42–44) points out that the *savii grandi* were initially created to augment the *Collegio*, helping it prepare the legislative agenda, whereas the core of the *Collegio* was the Ducal Council (*Minor Consiglio*), whose members' main duty was to supervise and constrain the *doge*. It would thus be reasonable to expect the *savii grandi* to exclude the *doge* from their work.

emergency power for the executive did not undermine the republican constitution: "[w]hen the other Italian city-republics were almost all extinguished …it was Venice …that became emblematic of republicanism" (Finer, 1997b, p. 985). By its end in 1797, the Venetian Republic "had successfully preserved her independence for over 1300 years and the identical constitution for the last 500" (Finer, 1997b, p. 985).

In sum, Finer (1997b, p. 996) comments that Venice "successfully combined the principle of checks and balances with that of emergency action." Not only that, since the checks and balances "reduced the gains from capturing the *Doge*'s post," Venice "was characterized by internal tranquility," having experienced "hardly any violent internal political conflicts" (Greif, 1995, p. 735, 738). Civil peace and strong emergency capacity were thus both achieved under strong checks and balances, with the chief executive separated from legislative agenda-setting power.

Collapse of the consensual leadership of the Chinese Communist Party. We can also apply Corollary 1 to understand the dynamics of some modern regimes. It might shed light on the recent quick collapse of the consensual leadership of the Political Bureau Standing Committee of the Chinese Communist Party (CCP) into the personalistic rule of Xi Jinping.

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 member of the Political Bureau Standing Committee could constrain the General Secretary, i.e., the chief executive of the Party (e.g., Shirk, 1993, 2018; Huang, 2000; Vogel, 2005; Cai, 2022). This consensual leadership was long hailed as the cornerstone of Chinese political economy from the 1980s to the 2000s (e.g., Shirk, 1993, 2018; Cai, 2022). Yet the General Secretary has long been vested with agenda-setting power on all issues, including constitutional issues of the Party and the state, by the Party's Constitution (CCP, 1982, art. 21).[10]

Corollary 1 suggests that the consensus requirement within the Party leadership would be vulnerable to shocks of personalistic rule. This is consistent with the reading by Shirk (2018) about Xi's power consolidation since 2012: problems of corruption, inaction, and political rifts within the Party mounted under Xi's predecessor; as a result, when Xi became the General Secretary in 2012, he had a rare window to consolidate his power via an urgently needed anti-corruption campaign.[11] After the campaign, there was no return to consensual leadership, and Xi's rule became increasingly personalistic (e.g., Shirk, 2018; Cai, 2022).

[10]Since 1982, the Party's Constitution has always ruled that "the General Secretary is responsible for convening meetings of the Political Bureau and its Standing Committee," which are the highest governing bodies of the Party, "and shall preside over the work of the Secretariat," which is the operational agency of the Party's leadership (CCP, 1982, art. 21).

[11]For theorizing of the campaign, see Lu and Lorentzen (2018), Li et al. (2022), and Xi et al. (2025).

In 2018, the Party led the legislative National People's Congress to abolish the term limit for the Presidency of the state (National People's Congress of China, 2018). In October 2022, at the First Plenary Session of the 20th Central Committee of the Party, which was convened immediately after the closing of the 20th Party Congress, Xi was reelected as the General Secretary of the Party for a precedent-breaking third term (Central Committee of CCP, 2022). Not only that, but the degree to which he stacked loyalists into the Party leadership was even beyond the "strong Xi dominance" scenario that analysts had considered before the 20th Party Congress, showing how quickly and successfully he has transformed the consensual leadership of the Party into a one-man rule (e.g., Shih, 2022; Wu, 2022).[12]

5.2 Socio-economic Development, Separation of Judicial and Executive Powers, and Civil Peace under a Non-unanimity Rule

Proposition 5 implies that only when the judiciary is embedded in an economically and socially interconnected elite circle *and* when executive and judicial powers are separated in terms of the judiciary's members' future career paths, can society be free from the threat of political violence under a non-unanimous executive rule. This implication enriches our understanding of the advent of perpetual civil peace to England since the 18th century.

Table 5, adapted from Table 2, summarizes the main points in our interpretation of the English experience. First of all, unlike most parliaments in premodern continental Europe, which we have discussed in Section 5.1, English monarchs had, since the 14th century, made majority decisions binding, and individual constituencies could not block or opt out of these decisions (Stasavage, 2020a, p. 17–18, 212). We thus read the political regime of early-modern England as a non-unanimous, majoritarian rule.

The House of Lords was the judicial institution supposed to review persecution of peers (Lovell, 1949, p. 75). But given "local economic isolation" in the late 14th and 15th centuries (Plumb, 1967, p. 4), despite a long tradition of intermarriage, bitter rivalries were common among the aristocracy, ready to be escalated into armed conflict (Wilkinson, 1969, p. 310–318). Proposition 5 predicts that a judiciary embedded in an elite circle that did not have a too high level of economic and social interconnectedness would fail to protect elites against persecution. Indeed, in this period, the king could often condemn his rivals through parliamentary acts (Lovell, 1949, p. 70; Bellamy, 1970, p. 177).

To make things worse, in 1499, Henry VII elevated the old Court of Chivalry and replaced its head with a palace official, the Lord High Steward. This Court of the Lord High Steward then took over peer trials when Parliament was not in session, which was more than often

[12]The first version of our paper was dated February 2022, eight months before the 20th Party Congress.

Table 5: England under majority rule since the 14th century

	Executive and judicial powers separated since 18th century	Executive and judicial powers fused until late 17th century
High interconnectedness among elites since mid-17th century	Peer persecution rare, perpetual civil peace since 18th century	Peer persecution common, civil war every 50 years until late-17th century
Not too high interconnectedness among elites until early 17th century	(No overlap)	

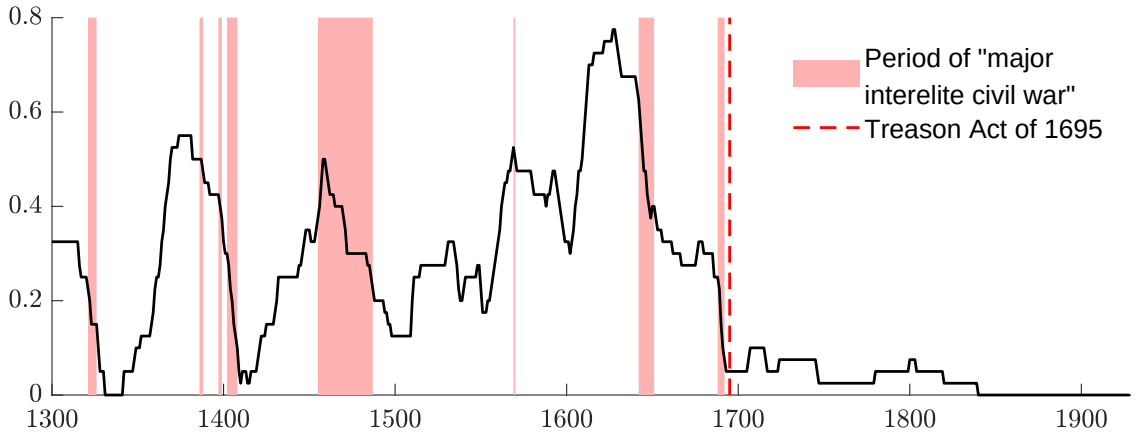
Summary of the English experience, consistent with Proposition 5. Executive and judicial powers separated/fused in terms of whether or not many judiciary's members' future career paths was insulated from the executive branch. Arrow for transition over time. Sources in Secion 5.2.

the case at the time (Lovell, 1949, p. 75). The Crown selected the judges, placing them under the king's patronage, making them available for future senior executive or ministerial appointments (Lovell, 1949, p. 71, 75). We thus read almost all these judges as political.

Proposition 5 predicts that such a judiciary, strongly fused with the Crown, would not be able to constrain the king's persecution power. Indeed, the Court of the Lord High Steward "ensured the crown control of peer trials": from 1499 to 1686, among the 16 peer trials in the Court, only three were acquitted; among the 20 in total during the same period, only four were acquitted. All these cases were capital cases (Lovell, 1949, p. 75, 79).

14th–17th-century England lacked sufficient economic and social interconnectedness among the elite and had no separation of judicial and executive powers. Proposition 5 predicts that the risk of civil conflict must have been significant under majority rule. Indeed, Figure 2 shows that "for [these] centuries the country had scarcely been free from turbulence for more than a decade at a time" (Plumb, 1967, p. 1). In particular, it "experienced a civil war roughly every fifty years" up until the end of 17th century; "often extremely bloody," these wars "pitted a monarch …against various elite opponents" for "political power and …dominance" (Fukuyama, 2018, p. 15, 17, 20).

It was only in the mid-17th century that the preconditions for the risk of civil wars started to wane. On the socio-economic front, a rise of interconnectedness among the elite was underway. England saw "the steady growth of the home market, …a greater diversification



40-year forward moving average. Data from Brecke (2012) for conflicts listed as within "England" or "Britain." Periods of "major interelite civil wars" identified as in Fukuyama (2018).

Figure 2: Average number of ongoing civil conflicts each year in England (before 1707), Great Britain (1707–1800), and the United Kingdom (after 1800)

of economic enterprise, …the gradual obliteration of local economic isolation, [and] 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. 3–5). The increasingly "complex" and "involved" financial structure further strengthened the interconnectedness among the elite (Plumb, 1967, p. 3).

On the institutional front, several critical developments had helped England separate judicial and executive powers by the beginning of the 18th century.

- First, after the Glorious Revolution of 1688, the Treason Act of 1695 restored the jurisdiction of the House of Lords over peer trials for treason, "thereby destroying the usefulness of the court [of the Lord High Steward] to the crown," which was never reconstituted (Lovell, 1949, p. 76).

- Second, the size of the House of Lords increased during the 17th century from under 60 to nearly 200 members (Russell, 2013, p. 17), admitting many more lords who were politically inactive but consistently attended only the state trials (Rees, 1987, p. 195, 240, 245–246).

- Third, as minor offenses or civil cases involving peers had been processed in prerogative or common law courts, the Triennial Act of 1641 first abolished all prerogative courts, and then the Act of Settlement of 1701 granted all court judges effectively life tenure (Finer, 1997c, p. 1347), insulating their career path from the executive branch.

The whole judicial system thus became "entirely free-standing [and] decoupled from the main

apparatus of central government" (Finer, 1997c, p. 1347). In our model's language, all this raised the number of apolitical justices, helping to separate judicial and executive powers.

Sufficient economic and social interconnectedness among the elite and total insulation of the judiciary from executive power had thus arrived in England. Proposition 5 suggests that the king's persecution power would thus be constrained, preventing England under the majority rule from falling into civil wars. Indeed, since the 1690s, it has become much more difficult for the Crown to control peer trials, and persecution of peers has become much rarer (Lovell, 1949, p. 76–79). As seen in Figure 2, from 1695 to the early 20th century, England had largely been peaceful internally, and no "major interelite civil war" had occurred (Fukuyama, 2018, p. 15, 19, 24).

5.3 Co-Evolution of Executive Regime and Separation of Powers

Gathering all our results leads to the hypothesis in Figure 1: socio-economic development may facilitate a dual-transition of the executive regime and the separation of powers that are required to secure civil peace. We may read the English experience during the 17th–18th centuries through the lens of this transition.

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, 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 away from the legislature (Plumb, 1967, p. 48). Eventually in 1689 the independent Parliament became "free to …formulate those constitutional changes that it felt necessary for its protection" (Plumb, 1967, p. 64–65). This focus on legislative independence was reflected in the idea of separation of powers in Locke (2003), which was, developed at that time, primarily about legislative independence, not judicial independence (Tuckness, 2020).

Per our hypothesis, an independent legislature, supporting a unanimous executive rule, could have helped England avoid the perpetual conflict it had seen under the majoritarian regime. Nevertheless, all this would soon become unnecessary. As discussed in Section 5.2, socio-economic development had been underway since the second half of the 17th century, so that civil peace under the majoritarian regime had become possible; this possibility turned into reality when judicial and executive powers became separated, largely through the Treason Act of 1695. This English experience inspired Montesquieu (1989, p. 156–157) to elevate judicial power and emphasize its separation from the executive branch and its role in securing individual rights.

Exactly when separation of executive and judicial powers was institutionalized, "the

'decoupled' Crown and Parliament were 'recoupled'" (Finer, 1997c, p. 1354). In 1705, Parliament repealed the provision that would have disqualified holders of offices under the Crown from membership of Parliament. Then the Succession to the Crown Act of 1707 allowed these office-holders to stand for re-election, paving the way for a fused executive and legislative power (Feilden, 1895, p. 143; Plumb, 1967, p. 144–146; Murrell, 2017, p. 43). This recoupling began a process eventually leading to the rise of parliamentarism, defined by the executive branch being accountable to the legislature and thus controlled by the legislative majority (Finer, 1997c, p. 1590). Becoming fully fledged in Britain by the 1830s, this kind of majoritarian rule was also adopted by many other European countries in the 19th century, often through a series of constitutional negotiations and exchanges (Finer, 1997c, p. 1353–1358, 1588–1608; Congleton, 2011). From here arose the modern form of parliamentary democracy.

The rise of modern parliamentarianism may thus be seen as a co-evolving process of the separation of powers between the different branches of government required to secure civil peace. The transition with socio-economic development of democratic governance from early unanimous democracy to modern majoritarian democracy, which has been highlighted by Stasavage (2020a), might have been supported by another transition in the institutions of separation of power, which is from prioritizing legislative independence, to emphasizing judicial independence. Further explorations in this direction are warranted.

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Supplemental Appendix

A Proof of Lemma 1 and Discussion on Robustness

Proof. Consider any particular Markov strategy profile. For any given proposal of persecution, since any contest over the kingship in the future will destroy any incumbent king's asset, if there is any, this asset of the current king will not enter any ordinary council member's voting decision. Therefore, regardless of whether the incumbent king has an asset, for any ordinary member not on the persecution list, she votes for it because she is indifferent about the proposal; for any ordinary member on the persecution list, having the proposal approved will remove her from the game with a zero payoff, whereas having it blocked will give her $R > 0$ for this period, plus the non-negative continuation value of surviving into the next period, so she will vote against it.

Now consider the king's choice of the size of the persecution proposal p_t in the Markov strategy profile. The king's expected payoff has potentially three components. First, he will receive a certain payoff of R from his asset, if he has any, for this period, or a zero payoff, if he does not have any asset. This component is independent of his current choice of p_t. Second, he will take into consideration an expected payoff of δV^K, where V^K is the continuation value for him under the Markov strategy profile. This component may depend on whether he has an asset now, but is independent of his current choice of p_t, too.

Finally, for any given $e \geq 2$, if the king chooses $p_t \geq e$, the proposal will be rejected, so he will receive no other payoff in this period, except for an infinitesimal cost for the persecution proposal; if the king chooses $p_t \leq e-1$, the king will get another $p_t \kappa R/(1-\delta)$ from persecution and expropriation, which is positive and strictly increasing in $p_t \in \{0, 1, \ldots, N-1\}$, plus the infinitesimal cost for the proposal for any $p_t \geq 1$. The king must thus choose $p_t = e - 1$, the largest size of the persecution proposal that can still be approved by the council. For $e = 1$, the king cannot get any persecution approved, so he will receive no other payoff in this period, except for the infinitesimal cost for any $p_t \geq 1$. He will thus choose $p_t = 0$.

Therefore, for the Markov strategy profile to be an MPE, for any $e \in \{1, 2, \ldots, N\}$, the king must choose $p_t = e - 1$, and the council will approve the persecution list, leading to $e - 1$ persecutions. □

Partial destruction of contestants' assets. We have assumed that any contest will destroy the assets of all contestants. Here we entertain a setting in which the contest only reduces the flow payoffs of all contestants' assets by applying a multiplier of $\nu \in [0, 1]$ to them, with the flow payoff of an undamaged asset being R, while any player exiting the

game survives each period with probability $\mu \in [0, 1)$; when an ordinary council member becomes the king by winning a contest, he will not inherit the king's asset, but will hold his own asset, which will generate a flow payoff of νR.

In this setting, the proof of Lemma 1 still applies, provided that the king's flow payoff from his asset, if there is any, is now damaged if there was a contest before, which is still independent of his current choice of p_t. This change will thus not affect the king's choice of p_t, and the result in Lemma 1 thus remains.

B Proof of Proposition 1 and Discussion on Robustness

Proof. Consider the strategy profile in which all ordinary council members always contest the kingship, and all players at each persecution stage follow the strategies in Lemma 1. We would like to show that when δ is large enough, the strategy profile in consideration is an MPE and, second, it is the unique MPE.

Claim 1. When δ is large enough, the strategy profile in consideration is an MPE. Given Lemma 1, we only need to examine whether the strategy profile is Markov perfect for all ordinary council members at each contest stage. First, under the strategy profile, the payoff to an ordinary council member is

$$V^M = \Pi^M(N) \cdot V^K, \tag{7}$$

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

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

is the value of being the new king under the strategy profile, which implies

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

Second, consider the single deviation, i.e., the ordinary council member would unilaterally not contest the kingship only in period t. Her payoff would be

$$V' = \frac{N-e}{N-1} \cdot \left(R + \delta V^M\right) = \frac{N-e}{N-1} \cdot \left(R + \frac{\delta\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1-\delta}\right), \tag{10}$$

where $(N-e)/(N-1)$ is the probability for this council member to avoid being persecuted

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 strategy profile in consideration.

Notice that when the voting rule is a non-unanimity rule, i.e., $e \geq 2$, we have

$$\frac{N-e}{N-1} \leq \frac{N-2}{N-1} < 1, \tag{11}$$

i.e., each ordinary council member is always vulnerable to persecution. Therefore, when δ is large enough,

$$V^M - V' = \left(1 - \frac{N-e}{N-1} \cdot \delta\right) \cdot \frac{\Pi^M(N)}{1 - \delta\Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} - \frac{N-e}{N-1} \cdot R > 0. \tag{12}$$

The ordinary council member would thus be worse off under the single deviation. The strategy profile in consideration is thus an MPE.

Claim 2. When δ is large enough, this proved MPE is the unique MPE. Suppose that there exists an MPE in which at least one ordinary council member does not contest in period t. By Lemma 1, in this MPE, each persecution stage must still see $e-1 \geq 1$ ordinary members persecuted, as long as $e \geq 2$.

Now consider one of these non-contesting members at the contest stage. In the supposed MPE, her payoff is

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

where V^M is her continuation value if she survives period t in the supposed MPE.

Under the single deviation, i.e., if she now unilaterally switched into contesting only in period t, her payoff would be

$$V'' = \Pi^M(Q') \cdot V^K, \tag{14}$$

where Q' is the resulting number of contestants, which is either 2 if there is no contest in the supposed MPE in period t, or $Q+1$ if there is a contest of $Q \in \{2, \ldots N-1\}$ contestants in the supposed MPE, whereas

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

is the continuation value of being a new king at the beginning of the following persecution stage in the supposed MPE, where $Q \in \{0, 2, \ldots, N-1\}$ is the number of contestants in

the contest in period t in the supposed MPE, and we generalize $\Pi^K(Q)$ to cover the case of $Q = 0$ by defining $\Pi^K(0) \equiv 1$. Therefore, under the single deviation, this ordinary member's payoff would be

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

Now note that, for any $e \geq 2$, when δ is large enough,

$$V'' - V^M = \frac{\Pi^M(Q')}{1 - \delta\Pi^K(Q)} \cdot \frac{(e-1)\kappa R}{1-\delta} - \frac{N-e}{N-1} \cdot R \Big/ \left(1 - \frac{N-e}{N-1} \cdot \delta\right) > 0. \tag{17}$$

This non-contesting ordinary member can thus be better off under the single deviation from the supposed strategy profile, making the supposed MPE not an MPE. Claim 2 is thus proved by contradiction.

Gather Claims 1 and 2. The proposition is thus proved. □

Social and personal discount factors. As we use the same parameter δ for both the social and the players' personal discount factor, we need to clarify their roles in Proposition 1. First, as discussed in Section 2.2, the players' personal discount factor is not the driving force here, and Proposition 1 will still hold if we denote the players' personal discount factor as a separate parameter, $\beta \in (0, 1)$, and take it as given. Second, note that if the players' personal discount factor rises, and if we take the expected value of staying on the conjectured equilibrium path (V^M) as given, the expected value of the single deviation (V') will increase, making the deviation more appealing. Therefore, we can read Proposition 1 as a strong result that, given any non-unanimity rule, when the social discount factor becomes large enough, even if the players' personal discount factor also rises at a similar pace, perpetual wars of all against all can still feature in an MPE.

Partial destruction of contestants' assets. To follow the discussion in Supplemental Appendix A, here we entertain the setting in which the contest only reduces the flow payoffs of all contestants' assets by applying a multiplier of $\nu \in [0, 1]$ to them, with the flow payoff of an undamaged asset being R, while any player exiting the game survives each period with probability $\mu \in [0, 1)$; when an ordinary council member becomes the king by winning a contest, he will not inherit the king's asset, but will hold his own asset, which will generate a flow payoff of νR.

In this setting, as discussed in Supplemental Appendix A, Lemma 1 remains. For any

ordinary council member at the contest stage of period t, her expected payoff under the strategy profile in Proposition 1 would be

$$V^M = \left(1-\Pi^M(N)\right)\cdot\frac{\nu R}{1-\mu\delta} + \Pi^M(N)\cdot\Bigg(\nu R + \frac{(e-1)\kappa R}{1-\delta} + \delta\left(1-\Pi^K(N)\right)\cdot\frac{\nu^2 R}{1-\mu\delta} + \delta\Pi^K(N)\cdot\Bigg(\nu^2 R + \frac{(e-1)\kappa R}{1-\delta} + \delta\left(1-\Pi^K(N)\right)\cdot\frac{\nu^3 R}{1-\mu\delta} + \delta\Pi^K(N)\cdot\left(\nu^3 R + \frac{(e-1)\kappa R}{1-\delta} + \dots\right)\Bigg)\Bigg), \quad (18)$$

which is

$$V^M = \left(1-\Pi^M(N)\right)\cdot\frac{\nu R}{1-\mu\delta} + \frac{\Pi^M(N)}{1-\nu\delta\Pi^K(N)}\cdot\nu R + \frac{\Pi^M(N)}{1-\delta\Pi^K(N)}\cdot\frac{(e-1)\kappa R}{1-\delta} + \frac{\Pi^M(N)}{1-\nu\delta\left(1-\Pi^K(N)\right)}\cdot\frac{\delta\left(1-\Pi^K(N)\right)\nu^2 R}{1-\mu\delta}; \quad (19)$$

a single deviation would give her an expected payoff of

$$V' = \frac{N-e}{N-1}\cdot\left(R+\delta V^M\right). \quad (20)$$

Therefore, when δ is large enough, given $e \geq 2$, we have

$$V^M - V' > 0. \quad (21)$$

The strategy profile in Proposition 1 would thus still constitute an MPE. Proposition 1 is thus robust with respect to letting contests only partially destroy the assets of contestants.

Comparative statistics with respect to the council size and voting rule. Denoting the personal and social discount factors separately as β and δ, respectively, also helps us derive additional results of comparative statics. For example, with these notations, Equation (9) would become

$$V^M = \frac{\Pi^M(N)}{1-\beta\Pi^K(N)}\cdot\frac{(e-1)\kappa R}{1-\delta}, \quad (22)$$

whereas Equation (10) would become

$$V' = \frac{N-e}{N-1}\cdot\left(R+\beta\cdot V^M\right). \quad (23)$$

Therefore, the strategy profile specified in Proposition 1 will be an MPE, if and only if

$$V^M - V' = \left(1 - \frac{N-e}{N-1} \cdot \beta\right) \cdot V^M - \frac{N-e}{N-1} \cdot R \geq 0, \tag{24}$$

or just

$$V^M \geq \frac{N-e}{N-1-(N-e)\cdot\beta} \cdot R. \tag{25}$$

By Equation (22), this condition is equivalent to

$$\frac{\Pi^M(N)}{1-\beta\Pi^K(N)} \cdot \frac{(e-1)\kappa R}{1-\delta} \geq \frac{N-e}{N-1-(N-e)\cdot\beta} \cdot R, \tag{26}$$

or just

$$\delta \geq 1 - \frac{\Pi^M(N)}{1-\beta\Pi^K(N)} \cdot \frac{N-1-(N-e)\beta}{N-e} \cdot (e-1)\kappa \equiv \underline{\delta}, \tag{27}$$

where $\underline{\delta}$ is the lowest value of the social discount factor δ that would still support the strategy profile specified in Proposition 1 as an MPE.

Now examine how $\underline{\delta}$ is affected by the council size, N, and the voting rule, e. First, note that

$$\frac{N-1-(N-e)\beta}{N-e} = \frac{(1-\beta)(N-e)+e-1}{N-e} = 1-\beta+\frac{e-1}{N-e} \tag{28}$$

is decreasing in N and increasing in e. Second, $e-1$ is increasing in e. By these two points, we have already seen that $\underline{\delta}$ is decreasing in e.

Third, it is intuitive to assume in addition that the winning probability of each participant in a war of all against all, either the incumbent king or an ordinary council member, will be lower if the war involves more participants, i.e., $\Pi^K(N)$ and $\Pi^M(N)$ are decreasing in N. Under this assumption, $\Pi^M(N)/\left(1-\beta\Pi^K(N)\right)$ is decreasing in N. Taking this point and the first point above together, we see that $\underline{\delta}$ is increasing in N.

We summarize these results as follows:

Corollary 3. *Distinguishing the personal and social discount factors, the lowest social discount factor that supports the strategy profile in Proposition 1 as an MPE is*

$$\underline{\delta} = 1 - \frac{\Pi^M(N)}{1-\beta\Pi^K(N)} \cdot \frac{N-1-(N-e)\beta}{N-e} \cdot (e-1)\kappa, \tag{29}$$

which is decreasing in e. Further assume that $\Pi^K(N)$ and $\Pi^M(N)$ are decreasing in N. Then $\underline{\delta}$ is increasing in N.

The intuition of Corollary 3 is consistent with the intuition of Proposition 1: other things equal, if fewer votes are required to block the king (a smaller e), or if there are

more ordinary council members in the council (a greater N), the kingship is effectively more constrained, which implies a weaker tendency of everyone to contest it. For such a kingship to be sufficiently profitable to attract perpetual wars of all against all, a higher social discount factor is needed.

The king prioritizing the most significant threat. We could also assume that, instead of randomly choosing whom to persecute, the king prioritizes persecuting the longest-serving ordinary council member, as she may pose the most significant threat to him (e.g., Francois et al., 2015; Goldring and Matthews, 2023). Formally, if such a member is unique, any persecution list will include her for sure, along with other ordinary members drawn by equal probability; otherwise, the persecuted are drawn from $N-1$ ordinary members by equal probability as in the baseline setting. We can show the following result for any $\delta \in (0,1)$:

Proposition 6. *In this alternative setting, for any non-unanimity rule, i.e., $e \geq 2$, there exists an MPE, where all ordinary council members contest the kingship in each period t.*

Proof. Consider the strategy profile that regardless of the seniority pattern of the ordinary council members and whether the incumbent king has an asset, all ordinary council members contest the kingship; the king proposes to persecutes $e-1$ ordinary council members; each ordinary council member votes against a persecution proposal if and only if her own name is on it. First, observe that the proof of Lemma 1 still applies to the strategies in consideration for each persecution stage. Second, at each contest stage, for each ordinary council member, the strategy in consideration, i.e., contesting, will generate a strictly positive expected payoff; the single deviation, i.e., withdrawing from the contest only for now, would make her the only longest-serving ordinary member in the council at the following persecution stage, so she would be persecuted for sure then, exiting the game with a zero payoff. Therefore, the single deviation would not make her better off. The strategy profile in consideration is thus an MPE. The proposition is thus proved. □

C Proof of Proposition 2 and Discussion on Robustness

Proof. Consider the strategy profile in which all ordinary council members never contest the kingship, and all players follow the strategies in Lemma 1. We would like to show first that the strategy profile in consideration is an MPE and second that it is the unique MPE.

Claim 1. The strategy profile in consideration is an MPE. Given Lemma 1, we only need to examine whether the strategy profile is Markov perfect for all ordinary council

members at each contest stage. Under the strategy profile, the expected payoff for any ordinary council member is

$$V^M = \frac{R}{1-\delta} > 0. \tag{30}$$

Her payoff under the single deviation would be

$$V' = \Pi^M(2) \cdot 0 = 0 < V^M, \tag{31}$$

since, by Lemma 1, any king cannot persecute anyone when $e = 1$. Therefore, the strategy profile in consideration is an MPE.

Claim 2. This proved MPE is the unique MPE. Suppose that there exists an MPE, in which at least one ordinary council member contests the kingship. For this non-contesting council member at the contest stage, her expected payoff in the supposed MPE is

$$V^M = \Pi^M(Q) \cdot 0 = 0, \tag{32}$$

where $Q \geq 2$ is the number of contestants in the supposed MPE. Her payoff under the single deviation would be

$$V'' = R + \delta \cdot V^M = R > 0 = V^M, \tag{33}$$

since, by Lemma 1, she will not be persecuted for sure when $e = 1$. Therefore, she would be better off under the single deviation from the supposed strategy profile, making the supposed MPE not an MPE. Claim 2 is thus proved by contradiction.

Gather Claims 1 and 2. The proposition is thus proved. □

Partial destruction of contestants' assets. To follow the discussion in Supplemental Appendices A and B, here we entertain the setting in which the contest only reduces the flow payoffs of all contestants' assets by applying a multiplier of $\nu \in [0, 1]$ to them, with the flow payoff of an undamaged asset being R, while any player exiting the game survives each period with probability $\mu \in [0, 1)$; when an ordinary council member becomes the king by winning a contest, he will not inherit the king's asset, but will hold his own asset, which will generate a flow payoff of νR.

In this setting, the proof of Claim 1 will go through, provided that now the single deviation would give the ordinary council member an expected payoff of

$$V' = \left(1 - \Pi^M(2)\right) \cdot \frac{\nu R}{1-\mu\delta} + \Pi^M(2) \cdot \frac{\nu R}{1-\delta}. \tag{34}$$

By $\mu \in [0,1)$ and $\nu \in [0,1]$, we have still

$$V' < \left(1 - \Pi^M(2)\right) \cdot \frac{\nu R}{1-\delta} + \Pi^M(2) \cdot \frac{\nu R}{1-\delta} \leq \frac{R}{1-\delta} = V^M \tag{35}$$

and thus Claim 1 proved.

The proof of Claim 2 will go through, too, provided that now the supposed strategy profile will give the ordinary council member an expected payoff of

$$V^M = \left(1 - \Pi^M(Q)\right) \cdot \frac{\nu R}{1-\mu\delta} + \Pi^M(Q) \cdot \frac{\nu R}{1-\delta}; \tag{36}$$

the single deviation would now give her an expected payoff of

$$V'' = R + \delta V^M. \tag{37}$$

Therefore, by $\mu \in [0,1)$ and $\nu \in [0,1]$, we have

$$\begin{aligned} V'' - V^M &= R - (1-\delta)V^M = R - \left(1 - \Pi^M(Q)\right)(1-\delta) \cdot \frac{\nu R}{1-\mu\delta} - \Pi^M(Q) \cdot \nu R \\ &> R - \left(1 - \Pi^M(Q)\right) \cdot \nu R - \Pi^M(Q) \cdot \nu R = (1-\nu)R \geq 0 \end{aligned} \tag{38}$$

and thus Claim 2 proved. Proposition 2 is thus robust with respect to allowing contests to only partially destroy the assets of contestants.

The king prioritizing the most significant threat. To follow the discussion in Appendix B, here we consider the alternative setting that the king prioritizes persecuting the longest-serving ordinary council member: if such a member is unique, any persecution list will include her for sure, along with other ordinary members drawn by equal probability; otherwise, the persecuted are drawn from $N-1$ ordinary members by equal probability as in the baseline setting. We can show the following result parallel to Proposition 2:

Proposition 7. *In this alternative setting, under the unanimity rule, i.e., $e = 1$, there exists no MPE where any ordinary council member would ever contest the kingship, but an MPE where all ordinary council members never contest the kingship.*

Proof. First, note that, under the unanimity rule, in any MPE, any ordinary council member who is on any persecution proposal will vote to block the proposal, since doing so will give her at least $R > 0$ in the current period, while being persecuted would make her exit the game and receive a zero payoff. Given the unanimity rule, the king will not be able to persecute

anyone, so he will not propose any persecution, saving the cost of proposing. Therefore, in any MPE, the king will not receive any persecution profit.

Now suppose that there exists an MPE where at least one ordinary council members contest the kingship. For any of them, contesting will give them a zero payoff; the single deviation, i.e., withdrawing from the contest only for now, would give them at least $R > 0$ in the following persecution stage. Therefore, the supposed MPE is not an MPE. It is thus proved by contradiction that there exists no MPE where any ordinary council member would ever contest the kingship.

Now consider the strategy profile that regardless of the seniority pattern of the ordinary council members and whether the incumbent king has an asset, all ordinary council members does not contest the kingship; the king does not propose to persecute any ordinary council members; each ordinary council member votes against a persecution proposal if and only if her own name is on it. In addition to the first point above, note that in any MPE, any ordinary council member who is not on the persecution proposal will still vote for the proposal, since she is still indifferent about it. For each ordinary council member at the contest stage, again, the strategy in consideration, i.e., not contesting, will give her an expected payoff of $R/(1-\delta) > 0$, while a single deviation, i.e., contesting the kingship only for now, would generate a zero payoff, so the single deviation would not make her better off. The considered strategy profile is thus an MPE, and the proposition is thus proved. □

D Proof of Lemma 2

Proof. Consider the strategies that, if the current rule is the unanimity rule, then the agenda-setter will not propose any new rule, and all ordinary council members will vote against any new rule if proposed. We want 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 the unanimity rule being replaced by a non-unanimity rule.

Claim 1. An MPE can include the strategies in consideration. First, given $e_t = 1$, when voting on any proposed new rule $e'_{t+1} \geq 2$, each ordinary council member's expected payoff under the strategies in consideration is $V = \delta \cdot R/(1-\delta)$. Second, consider a single deviation and, as required by sincere voting, suppose that the deviating ordinary member is pivotal, i.e., the single deviation can get $e'_{t+1} \geq 2$ approved. Then the deviating ordinary member will contest in period $t+1$, losing her asset for sure. Therefore, under the single deviation, she will not have any asset to generate any safe flow payoff however other players will behave; as a result, the best she will hope for is to become an ever-expropriating and

thus ever-contested king onward. This means that her expected payoff will be bounded from above by

$$\bar{V}' = \delta\Pi^M(N) \cdot \frac{(N-1)\kappa R}{1-\delta} + \left(\delta\Pi^K(N)\right) \cdot \left(\delta\Pi^M(N)\right) \cdot \frac{(N-1)\kappa R}{1-\delta} + \left(\delta\Pi^K(N)\right)^2 \cdot \left(\delta\Pi^M(N)\right) \cdot \frac{(N-1)\kappa R}{1-\delta} + \cdots = \frac{\delta\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}. \quad (39)$$

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

$$\delta \cdot \frac{\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta}, \quad (40)$$

i.e., $V > \bar{V}'$. Therefore, even if the single deviation can get $e'_{t+1} \geq 2$ to be approved, the deviating ordinary member will not be better off.

Now consider the agenda setter's strategy. First, given $e_t = 1$ and 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 $\epsilon > 0$. The agenda-setter will thus not be better off by proposing a change in the decision rule.

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

Claim 2. Any MPE cannot include alternative Markov strategies that would lead to the unanimity rule being replaced. Suppose that there exist alternative Markov perfect strategies where the agenda-setter will propose a non-unanimity rule $e'_{t+1} \geq 2$ and the ordinary council members will vote for it. Denote the expected payoff of each ordinary council member at the moment of voting under the supposed MPE as $\delta \cdot V^M$, where V^M is the expected payoff of her at the beginning of a period just having the unanimity rule replaced. Note V^M is bounded from above by

$$V^M \leq \frac{\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \quad (41)$$

since the ordinary council member will have her asset destroyed in the contest in period $t+1$; the best for her to hope for is thus to become a permanent dictator. By $\delta \in (0,1)$, $\kappa \in (0,1)$, and $(N-1)\cdot\Pi^M(N) + \Pi^K(N) = 1$, we then have

$$V^M \leq \frac{\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \frac{R}{1-\delta}. \quad (42)$$

Now consider a single deviation for her, where she will unilaterally vote against the proposal only in period t. Her expected payoff would be

$$\delta R + \delta^2 \cdot V^M. \tag{43}$$

For the supposed MPE to be an MPE, we must have

$$\delta \cdot V^M \geq \delta R + \delta^2 \cdot V^M, \text{ i.e., } V^M \geq \frac{R}{1-\delta}, \tag{44}$$

contradicting Inequality (42). Claim 2 is thus proved by contradiction.

Gather Claims 1 and 2. The lemma is thus proved. □

E Proof of Proposition 3

Proof. By Lemma 2, we have known that the unanimity rule 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 strategies that would lead to $e_{t+1} \neq 1$. 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 change.

Claim 1. If $e_t \geq 2$, 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. Suppose $e_t \geq 2$. For each ordinary council member, when voting on $e'_{t+1} = 1$, her expected payoff under the strategies in consideration is

$$V^M(e_{t+1} = 1) = \delta \cdot \frac{R}{1-\delta}. \tag{45}$$

If she could unilaterally block $e'_{t+1} = 1$ only for this period, with the continuation strategies including the strategies in consideration, her expected payoff would be

$$V' = \delta \Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta}, \tag{46}$$

i.e., she would hope to become the king in period $t+1$ so that she can persecute and expropriate, but that would give her no additional payoffs in the future civil peace from period $t+2$ onward, since the unanimity rule would be adopted for period $t+2$ and, by

Lemma 2, is self-stable. By $e_t \leq N$, $(N-1)\Pi^M(N) < (N-1)\Pi^M(N) + \Pi^K(N) = 1$, and $\kappa \in (0,1)$, we have

$$V' = \delta\Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta} \leq \delta \cdot \frac{(N-1)\Pi^M(N)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta} = V^M(e_{t+1} = 1). \quad (47)$$

Under sincere voting, she will thus always vote for the proposal $e'_{t+1} = 1$.

For the agenda-setting ordinary council member, when considering the constitutional agenda, her expected payoff under the strategies in consideration is

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

If she proposed $e'_{t+1} \geq 2$ or did not propose any constitutional change only in period t, with the continuation strategies including the strategies in consideration, her expected payoff would be, by $e_t \leq N$ and $e'_{t+1} \leq N$, at most

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

i.e., she would hope to become the king in period $t+1$ so that she can persecute and expropriate, but by Lemma 2, that would give her no additional payoffs in the future civil peace from period $t+2$ onward. Again, by $(N-1)\Pi^M(N) < 1$ and $\kappa \in (0,1)$, we have $\bar{V}'' < V_A^M(e_{t+1} = 1)$. Therefore, the single deviation would not 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. Claim 1 is thus proved.

Claim 2. If $e_t \geq 2$, then any MPE cannot include any alternative Markov strategies that would lead to $e_{t+1} \neq 1$. Suppose $e_t \geq 2$. There are several possibilities for the alternative Markov strategies: first, the agenda-setting ordinary council member may not propose any constitutional change; second, she may propose $e'_{t+1} \in \{2, 3, \ldots, N\} \setminus \{e_t\}$ and all ordinary council members would vote for the proposal; finally, she may propose $e'_{t+1} = 1$ and all ordinary council members would vote against it.

First, note that, for each ordinary council member voting on a proposal of the unanimity rule, if it is approved, by Lemma 2, the unanimity rule will become permanent, giving her an expected payoff of $\delta \cdot R/(1-\delta)$; if the proposal is not approved, given $e_t \geq 2$, her expected

payoff is bounded from above by

$$\bar{V} = \frac{\delta \Pi^M(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \tag{50}$$

since she will have her asset destroyed in the war of all against all in period t + 1, and the best she can hope for would be to become an ever-surviving king in a permanent dictatorship. By $(N-1) \cdot \Pi^M(N) + \Pi^K(N) = 1$, $\kappa \in (0,1)$, and $\delta \in (0,1)$, we have

$$\bar{V} = \frac{\delta \Pi^M(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta}. \tag{51}$$

Therefore, in any MPE, given $e_t \geq 2$, each ordinary council member will approve a proposal of the unanimity rule.

Now examine each of these three possibilities of the alternative Markov strategies. For the last possibility, the point above suggests that such strategies cannot be part of an MPE. For any of the first two possibilities, the period-t agenda-setting ordinary council member's expected payoff in the constitutional convention in period t is bounded from above by $-\epsilon + \bar{V}$, since period $t+1$ will have a non-unanimity rule, such that each ordinary council member will have her asset destroyed in the war of all against all in period $t+1$. If she single-deviates by proposing $e'_{t+1} = 1$ only in period t, as all ordinary council members will vote for the proposal, her expected payoff will be $-\epsilon + \delta \cdot R/(1-\delta)$. Again, by $(N-1) \cdot \Pi^M(N) + \Pi^K(N) = 1$, $\kappa \in (0,1)$, and $\delta \in (0,1)$, we have

$$-\epsilon + \bar{V} < -\epsilon + \delta \cdot \frac{R}{1-\delta}. \tag{52}$$

Therefore, the single deviation can make the agenda setter better off, suggesting that the supposed MPE is not an MPE. Therefore, all of these possible alternative Markov strategies cannot be part of an MPE. Claim 2 is thus proved.

Gather Claims 1 and 2. The proposition is thus proved. □

F Proof of Proposition 4 and Discussion on Robustness

Proof. By Lemma 2, we know that the unanimity rule is self-stable. To prove the rest of the proposition, we want to show that, in any MPE, first, if $e_t = N$, the king will not propose any constitutional change; second, if $2 \leq e_t \leq N-1$, then the king proposing $e'_{t+1} = N$ and all ordinary council members voting for it can be part of an MPE; third, if $2 \leq e_t \leq N-1$,

no alternative Markov strategies that would lead to $e_{t+1} \neq N$ can be part of an MPE.

Claim 1. In any MPE, if $e_t = N$, the king will not propose any constitutional change. 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 would propose a constitutional change, could make the king better off. First, without any deviation, the king's expected payoff is

$$\begin{aligned} V^K &= \delta\Pi^K(N) \cdot \frac{(N-1)\kappa R}{1-\delta} + \Big(\delta\Pi^K(N)\Big)^2 \cdot \frac{(N-1)\kappa R}{1-\delta} + \dots \\ &= \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}. \end{aligned} \tag{53}$$

Second, if the king deviates to propose $e'_{t+1} = 1$, then by Lemma 2, perpetual civil peace will bring him a payoff of $V' = 0 < V^K$ since the king has had his asset, if any, destroyed in the preceding contest, given $e_t = N$. Third, if the king deviates to propose $e'_{t+1} \in \{2, 3, \dots, N-1\}$, then his expected payoff is at most

$$\begin{aligned} \bar{V}'' = \delta\Pi^K(N) \cdot \frac{(N-2)\kappa R}{1-\delta} + \Big(\delta\Pi^K(N)\Big)^2 \cdot \frac{(N-1)\kappa R}{1-\delta} \\ + \Big(\delta\Pi^K(N)\Big)^3 \cdot \frac{(N-1)\kappa R}{1-\delta} + \dots = V^K - \delta\Pi^K(N) \cdot \frac{\kappa R}{1-\delta}, \end{aligned} \tag{54}$$

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

Now we check whether an MPE can include an alternative strategy for the king. We examine the alternatives one by one. First, consider the strategy where the king will propose $e'_{t+1} = 1$. By Lemma 2, this strategy in an MPE will lead to perpetual peace and no expropriation, generating a payoff of $-\epsilon$. A single deviation from it, where the king will propose $e'_{t+1} \geq 2$, would at least generate an expected payoff of $\delta\Pi^K(N)\kappa R/(1-\delta) > 0$ because of the possible winning and expropriation in period $t+1$, making the king better off. Therefore, this considered strategy cannot be part of an MPE. Second, consider the strategy where the king will propose $e'_{t+1} = N$. A single deviation from it whereby the king will not

propose any constitutional change 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

$$\tilde{V} = \delta \Pi^K(N) \cdot V^K(e_{t+1} = e'), \tag{55}$$

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

$$V''' = \delta \Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot V^K(e_{t+1} = e') \right). \tag{56}$$

Note that

$$V^K(e_{t+1} = e') < \frac{1}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \tag{57}$$

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

$$\begin{aligned} V''' - \tilde{V} &= \delta \Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} - \left(1 - \delta \Pi^K(N)\right) \cdot V^K(e_{t+1} = e') \right) \\ &> \delta \Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} - \frac{(N-1)\kappa R}{1-\delta} \right) = 0, \end{aligned} \tag{58}$$

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

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

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. First, under the strategies in consideration, for any ordinary council member voting on the proposal, her expected payoff is

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

since, by Claim 1, the dictatorship will become permanent. Voting no instead, if it can get the proposal rejected, would give the deviating ordinary member an expected payoff of

$$V' = \delta\Pi^M(N) \cdot \left(\frac{(e_t - 1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right). \tag{60}$$

Since $e_t < N$, 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.

Second, by Claim 1, the strategies in consideration will give the king an expected payoff of

$$\delta\Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right). \tag{61}$$

If the king does not propose any constitutional change only in period t, by $e_t < N$, he will expect

$$\begin{aligned} &\delta\Pi^K(N) \cdot \left(\frac{(e_t - 1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right) \\ &< \delta\Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right). \end{aligned} \tag{62}$$

Therefore, the king will not be better off under this single deviation. 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 expect at most

$$\begin{aligned} &\delta\Pi^K(N) \cdot \left(\frac{(N-2)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right) \\ &< \delta\Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right). \end{aligned} \tag{63}$$

Again, 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, given $e_t \geq 2$, his payoff will be $-\epsilon$ by Lemma 2; 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. Claim 2 is thus proved.

Claim 3. If $2 \leq e_t \leq N-1$, any MPE cannot include alternative Markov strategies that would lead to $e_{t+1} \neq N$. There are several possibilities for the alternative Markov strategies: first, the king does not propose any constitutional change; 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; fourth, the king proposes $e'_{t+1} = N$ but the ordinary members vote against it; finally, the king proposes $e'_{t+1} \in \{2, 3, \ldots, N-1\} \setminus \{e_t\}$ and the ordinary members vote for it.

First, note that, given $2 \leq e_t \leq N-1$, for each ordinary council member voting on a proposal of dictatorship, if it is not approved, her expected payoff will be bounded from above by

$$\begin{aligned} &\delta\Pi^M(N) \cdot \left(\frac{(e_t - 1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right) \\ &< \delta\Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right); \end{aligned} \tag{64}$$

if it is approved, by Claim 1, the dictatorship will become permanent, and her expected payoff will be

$$\delta\Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right). \tag{65}$$

Therefore, in any MPE, given $2 \leq e_t \leq N-1$, all ordinary council members will vote for a proposal of dictatorship. The fourth possibility of the alternative Markov strategies thus cannot be part of any MPE.

Second, for any of the other possibilities of the alternative Markov strategies, given $2 \leq e_t \leq N-1$, the agenda-setting king's asset has been destroyed in period t, so his expected payoff at the period-t constitutional convention is bounded from above by

$$\begin{aligned} &\delta\Pi^K(N) \cdot \left(\frac{(N-2)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right) \\ &< \delta\Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right) - \epsilon, \end{aligned} \tag{66}$$

where $\epsilon > 0$ is infinitesimal. If he single-deviates by proposing a dictatorship only in period t, by the point above, in any MPE, it will be approved, and by Claim 1, it will become

permanent, giving him an expected payoff of

$$-\epsilon+\delta\Pi^K(N)\cdot\left(\frac{(N-1)\kappa R}{1-\delta}+\frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}\right). \tag{67}$$

Therefore, the single deviation will make him better off. This suggests that the supposed MPE is not an MPE.

We have now established that an MPE cannot include any alternative Markov strategies that would lead to $e_{t+1}\neq N$. Claim 3 is proved.

Gather Lemma 2 and Claims 1, 2, and 3. The proposition is thus proved. □

Robustness of Proposition 4. A key force behind the intuition and proof of Proposition 4 is the fact that the king at the constitutional convention under a non-unanimity rule has no asset because a previous contest must have destroyed it. There are two ways to perturb the setting so that this would not hold. The first is to assume that the contest will damage the winner's asset only partially, or not at all. The pattern of regime transition in Proposition 4 can then still be supported by an MPE, as long as the incumbent advantage in a war of all against all, i.e., $\Pi^K(N)/\Pi^M(N)$, is not too small. In that case, it will be sufficiently likely for the king to win in future contests under dictatorship, so that he will prefer dictatorship in the future to the unanimity rule.

The second is to assume that, after persecution, instead of automatically selling all the expropriated assets, the king will add some of them to his holdings, which will keep generating cash flows for his consumption until he is dethroned. Under this perturbation, the pattern of regime transition in Proposition 4 can still be supported by an MPE when the incumbent advantage in a war of all against all is sufficiently big, as long as there exists a finite upper bound over the king's holdings, for example, because of a natural limit of one's span of control, which makes persecution power still attractive under wars of all against all, compared to peace under the unanimity rule.

G Endogenous Constitutional Dynamics with Endogenous Contest and Persecution Decisions

G.1 Setup

In Section 3, we simplify the contest and persecution stages by assuming that all players follow the strategies in the baseline results for their contest and persecution decisions, i.e.,

if the current decision rule is the unanimity rule ($e_t = 1$), no contest or persecution will happen; if it is a non-unanimity rule ($e_t \geq 2$), a war of all against all will happen and $e_t - 1$ ordinary members will be persecuted. In this section, we keep all the contest and persecution decisions endogenous.

To keep the analysis tractable, we impose an additional assumption mentioned before: the king prioritizes persecuting the longest-serving ordinary council member, who may pose the most significant threat to the king (e.g., Francois et al., 2015; Goldring and Matthews, 2023). Formally, if such a member is unique, any persecution list will include her for sure, along with other ordinary members drawn by equal probability; otherwise, the persecuted are drawn from $N - 1$ ordinary members by equal probability as in the baseline model.

G.2 Analysis and Results

We first show a result parallel to Proposition 4:

Proposition 8. *Suppose that the king always sets the constitutional agenda. The following strategy profile constitutes an MPE, such that on the equilibrium path, if $e_t = 1$, $e_{t+1} = 1$; if $e_t \geq 2$, $e_{t+1} = N$:*

1. *when $e_t \geq 2$,*
   - (a) *all ordinary council members contest the kingship;*
   - (b) *the king proposes to persecute $e_t - 1$ ordinary members;*
   - (c) *each ordinary member supports a persecution list if and only if she is not on it;*
   - (d) *if the king has lost his asset, when $e_t \leq N - 1$, he proposes $e'_{t+1} = N$; when $e_t = N$, he does not propose any change;*
   - (e) *if the king still has an asset,*
     - *if $\Pi^K(N) > 1/\left((N-1)\kappa + \delta\right)$, when $e_t = N$, he does not propose any change; when $e_t \in \{2, \ldots, N-1\}$, he proposes $e'_{t+1} = N$;*
     - *if $\Pi^K(N) = 1/\left((N-1)\kappa + \delta\right)$, when $e_t = N$, he does not propose any change; when $e_t \in \{2, \ldots N-1\}$, he proposes $e'_{t+1} = 1$;*
     - *if $\Pi^K(N) < 1/\left((N-1)\kappa + \delta\right)$, he proposes $e'_{t+1} = 1$;*
   - (f) *each council member supports $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$, if and only if $e'_{t+1} = 1$ or $e'_{t+1} > e_t$;*
2. *when $e_t = 1$, no ordinary council member contests the kingship; the king does not propose any persecution; each ordinary member supports a persecution list if and only*

if she is not on it; the king does not propose any constitutional change; each ordinary member votes against any constitutional change.

Proof. We examine whether there is any single deviation from the strategy profile in consideration that could make any player better off. First, consider the case when $e_t \geq 2$. First, consider each ordinary council member voting on the constitutional proposal $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$. If the proposal is approved and the game continues under the strategy profile in consideration, her expected payoff will be

$$\begin{cases} \delta \cdot \Pi^M(N) \left(\left(e'_{t+1} - 1 \right) \kappa R / (1-\delta) + \delta \Pi^K(N) \cdot V^K(N) \right) & \text{if } e'_{t+1} \geq 2; \\ \delta \cdot R/(1-\delta) & \text{if } e'_{t+1} = 1, \end{cases} \tag{68}$$

where

$$V^K(N) = \frac{1}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \tag{69}$$

is the expected payoff of a dictatorial king at a persecution stage under the strategy profile in consideration. If the proposal is blocked and the game continues under the strategy profile in consideration, the ordinary council member's expected payoff will be

$$\delta \cdot \Pi^M(N) \left(\frac{(e_t - 1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot V^K(N) \right). \tag{70}$$

By $e_t \leq N$, Equation (69), and Inequality (4), we have

$$\begin{aligned} & \delta \cdot \Pi^M(N) \left(\frac{(e_t - 1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot V^K(N) \right) \\ & \leq \delta \cdot \Pi^M(N) \left(\frac{(N-1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot V^K(N) \right) \\ & = \delta \cdot \Pi^M(N) \cdot \frac{1}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta}. \end{aligned} \tag{71}$$

By this and $e_t \geq 2$, the ordinary council member will support the constitutional change, if and only if $e'_{t+1} = 1$, or $e'_{t+1} \geq 2$ and $e'_{t+1} > e_t$, i.e., if and only if $e'_{t+1} = 1$ or $e'_{t+1} > e_t$. Thus, no single deviation from strategy 1(f) would make her better off.

Second, consider the king setting the constitutional agenda. Denote $\rho_t = 1$ if the king at the persecution stage and constitutional convention has an asset, and $\rho_t = 0$ if he does not. If the king proposes $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$ and the game continues under the strategy

profile in consideration, his expected payoff will be

$$\begin{cases} \delta\Pi^K(N)\cdot\left(\left(e'_{t+1}-1\right)\kappa R/(1-\delta)+\delta\Pi^K(N)\cdot V^K(N)\right)-\epsilon & \text{if } e'_{t+1}>e_t; \\ \delta\Pi^K(N)\cdot\left(\left(e_t-1\right)\kappa R/(1-\delta)+\delta\Pi^K(N)\cdot V^K(N)\right)-\epsilon & \text{if } 1<e'_{t+1}<e_t; \\ \mathbf{1}_{\rho_t=1}\cdot\delta\cdot R/(1-\delta)-\epsilon & \text{if } e'_{t+1}=1. \end{cases} \tag{72}$$

If the king does not propose any change and the game continues under the strategy profile in consideration, his expected payoff will be

$$\delta\Pi^K(N)\left(\frac{(e_t-1)\kappa R}{1-\delta}+\delta\Pi^K(N)\cdot V^K(N)\right). \tag{73}$$

It is thus verifiable that strategies 1(d) and (e) are optimal for him.

Third, consider each ordinary council member voting on any persecution list. If the ordinary member is not on the list and the game continues under the strategy profile in consideration, regardless of whether the persecution list is approved, her expected payoff will always be $R+\delta\Pi^M(N)\cdot V^K(N)$. Indifferent, she will vote for the list. If she is on the list and the game continues under the strategy profile, she will receive a zero payoff if the list is approved, and a strictly positive payoff if the list is blocked. She will thus vote against the list. Thus, no single deviation from strategy 1(c) would make her better off.

Fourth, consider the king contemplating persecuting $p_t\in\{0,1,\ldots,N-1\}$ ordinary council members. If the game continues under the strategy profile in consideration, he will expect from this persecution stage

$$\frac{p_t\kappa R}{1-\delta}\cdot\mathbf{1}_{p_t\le e_t-1}-\epsilon\cdot\mathbf{1}_{p_t\ge 1}, \tag{74}$$

and the return from of his asset, if any, the proposing cost, if any, in the constitutional convention, and the continuation value after that, i.e.,

$$R\cdot\mathbf{1}_{\rho_t=1}-\epsilon\cdot\mathbf{1}_{e_t\le N-1}-\epsilon\cdot\mathbf{1}_{e_t=N,\rho_t=1}+\delta\Pi^K(N)\cdot V^K(N), \tag{75}$$

independent of p_t. Strategy 1(b), i.e., proposing $p_t=e_t-1$, is thus optimal for him.

Finally, consider each ordinary council member deciding whether to contest the kingship. Under the strategy profile in consideration, she will contest, and her expected payoff will be at least

$$\Pi^M(N)\cdot\left(\frac{(e_t-1)\kappa R}{1-\delta}+\delta\Pi^K(N)V^K(N)-2\epsilon\right)>0. \tag{76}$$

If she does not contest only for now, she would become the single longest-serving ordinary

council at the persecution stage, and thus, by $e_t \geq 2$, be persecuted for sure, exiting with a zero payoff. The single deviation from strategy 1(a) would thus not make her better off.

Now consider the case when $e_t = 1$. First, consider the constitutional convention. For each ordinary council member voting on any constitutional change $e'_{t+1} \geq 2$, if the proposal is blocked and the game continues under the strategy profile in consideration, her expected payoff will be $\delta R/(1-\delta)$. If the proposal is approved and the game continues under the strategy profile in consideration, her expected payoff will be, by $e'_{t+1} \leq N$, Equation (69), and Inequality (4),

$$\delta \cdot \Pi^M(N) \left(\frac{(e'_{t+1}-1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot V^K(N) \right) \leq \delta \Pi^M(N) \cdot V^K(N) < \delta \cdot \frac{R}{1-\delta}. \quad (77)$$

Therefore, she will vote against any constitutional change. Given that, any constitutional change would be blocked, and the king will thus not propose any $e'_{t+1} \geq 2$. Thus, no single deviation from the strategy profile in consideration at the constitutional convention would make any player better off.

Second, consider the persecution stage. For each ordinary council member deciding whether to vote for any given persecution list, if she is not on the list herself and the game continues under the strategy profile in consideration, her expected payoff, regardless of whether the list is approved, will be $R/(1-\delta)$, so she will vote for the list. If she is on the list herself and the game continues under the strategy profile, she will receive a zero payoff if the list is approved, and will expected a payoff of $R/(1-\delta) > 0$ if the list is blocked, so she will vote against the list. Given this, by $e_t = 1$, any persecution list would be blocked, so the king will not propose to persecute anyone, saving the proposing cost. Thus, no single deviation from the strategy profile in consideration at the persecution stage would make any player better off.

Finally, consider the contest stage. For each ordinary council member, her expected payoff under the strategy profile is $R/(1-\delta)$. If she single-deviated to contest the kingship only for now, her expected payoff would be $\Pi^M(2) \cdot 0 = 0$, since she would lose her asset while remaining in a permanent unanimity rule. The single deviation would thus not make her better off.

We have thus shown that no single deviation from the strategy profile in consideration would make any player better off. The proposition is thus proved. □

We now show a result parallel to Proposition 3:

Proposition 9. *Suppose that the king is always denied the agenda-setting power on constitutional matters. The following strategy profile constitutes an MPE, such that on the*

equilibrium path, for any $e_t \in \{1, 2, \ldots, N\}$, $e_{t+1} = 1$*:*

1. *when* $e_t \geq 2$*:*
   (a) *all council members contest the kingship;*
   (b) *the king proposes to persecute* $e_t - 1$ *ordinary members;*
   (c) *each ordinary member supports a persecution list if and only if she is not on it;*
   (d) *the constitutional agenda-setting ordinary member proposes* $e'_{t+1} = 1$*;*
   (e) *each ordinary member supports* $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$ *if and only if* $e'_{t+1} = 1$ *or* $e'_{t+1} > e_t$*;*
   (f) *if the king has lost his asset, he supports* $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$ *if and only if* $e'_{t+1} > e_t$*;*
   (g) *if the king still has an asset, he supports* $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$ *if and only if* $e'_{t+1} > e_t$*, or if* $e'_{t+1} = 1$ *and* $\Pi^K(N) < 1/(e_t - 1)\kappa$*;*
2. *when* $e_t = 1$*, all players follow the corresponding strategies in Proposition 8.*

Proof. We examine whether there is any single deviation from the strategy profile in consideration that could make any player better off. First, consider the case when $e_t \geq 2$. First, for each ordinary council member voting on the constitutional proposal $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$, if it is approved and the game continues under the strategy profile in consideration, her expected payoff will be

$$\begin{cases} \delta \Pi^M(N) \cdot \left(e'_{t+1} - 1\right) \kappa R/(1-\delta) & \text{if } e'_{t+1} \geq 2; \\ \delta \cdot R/(1-\delta) & \text{if } e'_{t+1} = 1. \end{cases} \tag{78}$$

If the proposal is blocked and the game continues under the strategy profile in consideration, her expected payoff will be

$$\delta \Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta}. \tag{79}$$

Note that, by $e_t \leq N$, Equation (69), and Inequality (4), we have

$$\delta \Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta} < \delta \Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot V^K(N) \right) < \delta \cdot \frac{R}{1-\delta}. \tag{80}$$

Therefore, the council member will support the constitutional change, if and only if $e'_{t+1} > e_t$ or $e'_{t+1} = 1$. Thus, no single deviation from 1(e) would make her better off.

Second, consider the king voting on the constitutional proposal $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$. Still denote $\rho_t = 1$ if the king at the persecution stage and constitutional convention has

an asset, and $\rho_t = 0$ if he does not. If e'_{t+1} is approved and the game continues under the strategy profile in consideration, the king's expected payoff will be

$$\begin{cases} \delta\Pi^K(N) \cdot \left(e'_{t+1} - 1\right) \kappa R/(1-\delta) & \text{if } e'_{t+1} \geq 2; \\ \mathbf{1}_{\rho_t=1} \cdot \delta \cdot R/(1-\delta) & \text{if } e'_{t+1} = 1. \end{cases} \tag{81}$$

If e'_{t+1} is blocked and the game continues under the strategy profile in consideration, his expected payoff will be:

$$\delta\Pi^K(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta}. \tag{82}$$

Therefore, a king without any asset ($\rho_t = 0$) will support e'_{t+1} if and only if $e'_{t+1} > e_t$, whereas a king with an asset ($\rho_t = 1$) will support e'_{t+1} if and only if $e'_{t+1} > e_t$, or if $e'_{t+1} = 1$ and $\Pi^K(N) < 1/(e_t - 1)\kappa$. Thus, no single deviation from 1(f) or (g) would make him better off.

Third, consider the ordinary council member setting the constitutional agenda. If she proposes $e'_{t+1} \in \{1, \ldots, N\} \backslash \{e_t\}$ and the game continues under the strategy profile in consideration, her expected payoff will be

$$\begin{cases} \delta\Pi^M(N) \cdot \left(e'_{t+1} - 1\right) \kappa R/(1-\delta) - \epsilon & \text{if } e'_{t+1} > e_t; \\ \delta\Pi^M(N) \cdot (e_t - 1) \kappa R/(1-\delta) - \epsilon & \text{if } 1 < e_{t+1} < e_t; \\ \delta \cdot R/(1-\delta) - \epsilon & \text{if } e'_{t+1} = 1. \end{cases} \tag{83}$$

If she does not propose any change and the game continues under the strategy profile in consideration, her expected payoff will be

$$\delta\Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta}. \tag{84}$$

Recall that, by $e_t \leq N$, Equation (69), and Inequality (4), we have

$$\delta\Pi^M(N) \cdot \frac{(e_t - 1)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta}; \tag{85}$$

note that, by $e'_{t+1} \leq N$, Equation (69), and Inequality (4), we have

$$\delta\Pi^M(N) \cdot \frac{(e'_{t+1} - 1)\kappa R}{1-\delta} < \delta\Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta\Pi^K(N) \cdot V^K(N) \right) < \delta \cdot \frac{R}{1-\delta}. \tag{86}$$

It is thus optimal for her to propose $e'_{t+1} = 1$, i.e., adopt strategy 1(d).

Fourth, consider each ordinary council member voting on any persecution list. If she is not on the list and the game continues under the strategy profile in consideration, regardless

of whether the persecution list is approved, her expected payoff will always be $R/(1-\delta)$. Indifferent, she will vote for the list. If she is on the list and the game continues under the strategy profile, she will receive a zero payoff if the list is approved, and a strictly positive payoff if the list is blocked. She will thus vote against the list. Thus, no single deviation from strategy 1(c) would make her better off.

Fifth, consider the king contemplating persecuting $p_t \in \{0, 1, \ldots, N-1\}$ ordinary council members. If the game continues under the strategy profile in consideration, his expected payoff will be

$$\frac{p_t \kappa R}{1-\delta} \cdot \mathbf{1}_{p_t \leq e_t - 1} - \epsilon \cdot \mathbf{1}_{p_t \geq 1} + \delta \cdot \frac{R}{1-\delta} \cdot \mathbf{1}_{\rho_t = 1}. \tag{87}$$

It is thus optimal for the king to propose $p_t = e_t - 1$, adopting strategy 1(b).

Finally, consider each ordinary council member deciding whether to contest the kingship. Under the strategy profile in consideration, her expected payoff is at least

$$\Pi^M(N) \cdot \left(\frac{(e_t - 1)\kappa R}{1-\delta} - \epsilon \right) > 0. \tag{88}$$

If she does not contest only for now, she would become the single longest-serving ordinary council at the persecution stage, and thus, by $e_t \geq 2$, be persecuted for sure, exiting with a zero payoff. The single deviation from strategy 1(a) would thus not make her better off.

Now consider the case when $e_t = 1$. First, consider the constitutional convention. For each ordinary council member voting on any constitutional change $e'_{t+1} > 1$, if the proposal is blocked and the game continues under the strategy profile in consideration, her expected payoff will be $\delta R/(1-\delta)$. If the proposal is approved and the game continues under the strategy profile in consideration, her expected payoff will be, by $e'_{t+1} \leq N$, Equation (69), and Inequality (4),

$$\delta \Pi^M(N) \cdot \frac{(e'_{t+1} - 1)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta}. \tag{89}$$

Therefore, she will vote against any constitutional change. Given that, any constitutional change would be blocked, and the agenda-setting ordinary council member will thus not propose any $e'_{t+1} \geq 2$. Thus, no single deviation from the strategy profile in consideration at the constitutional convention would make any player better off.

For the persecution and contest stages, the arguments in the proof of Proposition 8 for the corresponding strategies hold. Thus no single deviation from the strategy profile in consideration at the persecution or persecution stage would make any player better off.

We have thus shown that no single deviation from the strategy profile in consideration would make any player better off. The proposition is thus proved. □

The results above imply that, when the contest and persecution decision are endogenous, there still exist MPEs that feature the contest and persecution decisions assumed in Section 3 and the same constitutional dynamics as in Propositions 3 and 4, respectively. In this sense, the constitutional dynamics implied by Propositions 3 and 4 are robust to endogenizing the contest and persecution decisions.

H Endogenous Constitutional Dynamics with Alternative Sequence of Stages

H.1 Setup

In Section 3, we assume that each constitutional convention happens right after each persecution stage. In this section, we consider the alternative sequence of stages: each constitutional convention happens right after each contest stage. In this alternative sequence, each period t goes as follows:

- First, a constitutional convention as in Section 3 happens. That is, a constitutional agenda-setter chooses whether to propose a new voting rule, $e'_t \in \{1, 2, \ldots, N\} \setminus \{e_{t-1}\}$, at an infinitesimal cost $\epsilon > 0$, where e_{t-1} is the voting rule for period $t-1$. If this agenda-setter does propose a new rule, all council members will vote sincerely on it, and the votes will be counted by the existing rule e_{t-1}. As in Section 3, depending on the voting result, a voting rule e_t, which is either the newly proposed e'_t or the default rule e_{t-1}, is generated for this period, t.

- Second, a persecution stage happens as in Section 3. That is, a random set of $e_t - 1$ ordinary council members could be persecuted, and each ordinary council member's probability to be persecuted would be $(e_t - 1)/(N - 1)$.

  To simplify the analysis, we introduce a restriction on persecution, only in the scenario where, in the preceding constitutional convention, the king, if he was the agenda-setter, did propose a new voting rule: the persecution of the $e_t - 1$ ordinary council members will happen if and only if none of them voted for the king's constitutional proposal in the preceding constitutional convention. If the king was not the agenda-setter in the preceding constitutional convention, or if he did not propose a new rule then, then the $e_t - 1$ ordinary council members will be persecuted as in Section 3.

  The rest of this stage then continues as in Section 3. That is, in case of persecution, the king will receive a payoff of $(e_t - 1)\kappa R/(1 - \delta)$. The persecuted exit the game with

a zero payoff, and their positions are filled by newcomers with their own assets. These newcomers and the non-persecuted ordinary council members receive a payoff of R. In case of no persecution, everyone will stay in the game, the king will receive a zero payoff, and each incumbent ordinary council member will receive R.

- Finally, a contest stage happens as in Section 3. That is, if the current voting rule is the unanimity rule ($e_t = 1$), then no contest will happen, period t will end here, and period $t+1$ will arrive. If the current rule is a non-unanimity rule ($e_t \geq 2$), then all incumbent ordinary council members will contest the kingship, and everyone, including the king and each ordinary council member, will lose his or her asset. The probability for the incumbent king to win this war of all against all is still $\Pi^K(N) > 0$, whereas the probability for each ordinary council member to win is still $\Pi^M(N) > 0$, where $\Pi^K(N) + \Pi^M(N) \cdot (N-1) = 1$ still holds. In this case, the defeated council members will exit the game, their positions will be filled by newcomers with their own assets, period t will end here, and period $t+1$ will arrive.

We focus on the case where the king has no asset at the start of the game, which will be so if there has been a contest before the game starts. Since now the king always has the strongest incentive to expand his persecution power, we still attempt to uncover the most robust institutions in preventing persecution and civil conflicts.

H.2 Analysis and Results

We first show a result parallel to Lemma 2:

Lemma 4. *Regardless of who has the agenda-setting power in constitutional conventions, in any MPE, if the inherited voting rule is the unanimity rule, then the agenda-setter will not propose to change it, and if the agenda-setter did propose to change it, then all ordinary council members would vote against the proposal. The unanimity rule is thus self-stable, i.e., if $e_t = 1$, then $e_{t+1} = 1$.*

Proof. The proof is parallel to the proof of Lemma 2. Again, we want to show first that an MPE can include the strategies in consideration and second that any MPE cannot include alternative Markov strategies that would lead to the unanimity rule being replaced by a non-unanimity rule.

Claim 1. An MPE can include the strategies in consideration. The proof of this claim is similar to the proof of Claim 1 in the proof of Lemma 2. There are only two differences between the proofs. First, when voting on any proposal of a non-unanimity rule

($e'_{t+1} \geq 2$), each ordinary council member's payoff under the strategies in consideration is now $V = R/(1-\delta)$, instead of $\delta R/(1-\delta)$ as in the proof of Lemma 2, since she will now receive in the persecution stage right after the current constitutional convention an additional payoff of R.

Second, when considering a single deviation for any ordinary council member, the deviating ordinary council member is voting for the proposed new rule, so she will survive the following persecution stage and receive R instead of a zero payoff there. She will still engage in a war of all against all in the contest stage right after, losing her asset for sure. Therefore, under the single deviation, the best she can hope for is still to become an ever-expropriating and thus ever-contested king onwards. This means that her expected payoff will be bounded from above by

$$\begin{aligned}\bar{V}' &= R + \delta\Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta\Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta\Pi^K(N) \cdot (\dots) \right) \right) \\ &= R + \frac{\delta\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \end{aligned} \tag{90}$$

instead of $\left(\delta\Pi^M(N) \cdot (N-1)\kappa R\right) / \left(\left(1-\delta\Pi^K(N)\right) \cdot (1-\delta)\right)$ as in the proof of Lemma 2.

Except for these two differences, the proof of Claim 1 in the proof of Lemma 2 applies here, and Claim 1 here is proved.

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

Now first suppose that the agenda-setter is the king. For any ordinary council member, her expected payoff on the supposed equilibrium path is

$$V^M = R + \delta\Pi^M(N) \cdot V^K(e'_{t+1}), \tag{91}$$

where $V^K(e'_{t+1})$ is the expected payoff of a king at the beginning of a period when the inherited voting rule is e'_{t+1}. A single deviation for this ordinary council member would be to unilaterally vote against so that she would block the proposal e'_{t+1}, but will come back to the supposed equilibrium path, voting for the same proposal of a constitutional change in

period $t+2$. Under this single deviation, the ordinary council member's expected payoff is

$$V'' = R + \delta V^M = R + \delta \left(R + \delta \Pi^M(N) \cdot V^K(e'_{t+1}) \right), \tag{92}$$

where V^M is still the expected payoff of a king at the beginning of a period when the inherited voting rule is the unanimity rule. We thus have $V'' > V^M$ if and only if

$$V^K(e'_{t+1}) < \frac{R}{(1-\delta) \cdot \Pi^M(N)}. \tag{93}$$

Note that $V^K(e'_{t+1})$ is bounded from above, i.e.,

$$V^K(e'_{t+1}) \leq \frac{1}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \tag{94}$$

since the best he can hope for is to expropriate $N-1$ ordinary council members and survive the war of all against all in each period. By $\delta \in (0,1)$, $\kappa \in (0,1)$, and $\Pi^K(N) + (N-1) \cdot \Pi^M(N) = 1$, we have indeed

$$\frac{1}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \frac{R}{(1-\delta) \cdot \Pi^M(N)}. \tag{95}$$

Therefore, we have

$$V^K(e'_{t+1}) < \frac{R}{(1-\delta) \cdot \Pi^M(N)}. \tag{96}$$

and thus $V'' > V^M$, i.e., the ordinary council member can be better off under a single deviation. Therefore, the supposed MPE is not an MPE, contradicting what we have supposed.

Now second suppose that the agenda-setting power lies in the council. For any ordinary council member, her expected payoff on the supposed equilibrium path is

$$V^M = \frac{N - e'_{t+1}}{N-1} \cdot \left(R + \delta \Pi^M(N) \cdot V^K(e'_{t+1}) \right), \tag{97}$$

where $V^K(e'_{t+1})$ still denotes the expected payoff of a king at the beginning of a period when the inherited voting rule is e'_{t+1}. A single deviation for this ordinary council member would still be to unilaterally vote against so that she would block the proposal e'_{t+1}, and will come back to the supposed equilibrium path, voting for the same proposal of a constitutional change in period $t+2$. This single deviation would give her an expected payoff of

$$V''' = R + \delta V^M = R + \delta \left(\frac{N - e'_{t+1}}{N-1} \cdot \left(R + \delta \Pi^M(N) \cdot V^K(e'_{t+1}) \right) \right), \tag{98}$$

Comparing these two expected payoffs, we have $V''' > V^M$ if and only if

$$\frac{N - e'_{t+1}}{N-1} \cdot \left(R + \delta \Pi^M(N) \cdot V^K(e'_{t+1})\right) < \frac{R}{1-\delta}. \tag{99}$$

Note that we have shown that $V^K(e'_{t+1})$ is bounded from above, i.e.,

$$V^K(e'_{t+1}) < \frac{R}{(1-\delta) \cdot \Pi^M(N)}. \tag{100}$$

By this upper bound and $e'_{t+1} \geq 2$, we have indeed

$$\frac{N - e'_{t+1}}{N-1} \cdot \left(R + \delta \Pi^M(N) \cdot V^K(e'_{t+1})\right) < \frac{R}{1-\delta}. \tag{101}$$

We thus have $V''' > V^M$, i.e., the ordinary council member can be better off under a single deviation. The supposed MPE is thus not an MPE, contradicting what we have supposed.

Gather Claims 1 and 2. The lemma is proved. □

We can now show a proposition parallel to Proposition 4:

Proposition 10. *If the agenda-setting power in constitutional conventions lies in the kingship, then in any MPE, the unanimity rule, dictatorship, and rules close to dictatorship are self-stable; any other rules will transition to dictatorship, i.e., if* $e_t = 1$*, or if* $e_t \geq \delta \Pi^K(N) \cdot (N-1) + 1$*, then* $e_{t+1} = e_t$*; if* $1 < e_t < \delta \Pi^K(N) \cdot (N-1) + 1$*, then* $e_{t+1} = N$*.*

Proof. First note that, by $\delta \in (0,1)$ and $0 < \Pi^K(N) < 1$, we have $1 < \delta \Pi^K(N) \cdot (N-1) + 1 < N$. The proof is then parallel to the proof of Proposition 4. By Lemma 4, we know that the unanimity rule is self-stable. To prove the rest of the proposition, we want to show that, first, if the inherited voting rule $e_t \geq \delta \Pi^K(N) \cdot (N-1) + 1$, then the king not proposing to change it can be part of an MPE; second, if $e_t \geq \delta \Pi^K(N) \cdot (N-1) + 1$, then no alternative Markov strategies that would lead to $e_{t+1} \neq e_t$ can be part of an MPE; third, if $1 < e_t < \delta \Pi^K(N) \cdot (N-1) + 1$, then the king proposing $e'_{t+1} = N$ and all ordinary council members voting for it can be part of an MPE; fourth, if $1 < e_t < \delta \Pi^K(N) \cdot (N-1) + 1$, no alternative Markov strategies that would lead to $e_{t+1} \neq N$ can be part of an MPE.

Claim 1. If $e_t \geq \delta \Pi^K(N)(N-1) + 1$, then the king not proposing to change the voting rule can be part of an MPE. Suppose $e_t \geq \delta \Pi^K(N)(N-1) + 1$. The king's

expected payoff under the strategy in consideration is

$$\begin{aligned} V^K &= \frac{(e_t-1)\kappa R}{1-\delta} + \delta\Pi^K(N)\cdot\frac{(e_t-1)\kappa R}{1-\delta} + \Big(\delta\Pi^K(N)\Big)^2\cdot\frac{(e_t-1)\kappa R}{1-\delta}+\dots \\ &= \frac{(e_t-1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)\cdot(e_t-1)\kappa R}{(1-\delta)\big(1-\delta\Pi^K(N)\big)}. \end{aligned} \tag{102}$$

A single deviation from it, where the king proposes to change the voting rule only for period $t+1$, will give him an expected payoff of either

$$V' = -\epsilon + V^K < V^K, \tag{103}$$

which is for the case where the king's proposal is blocked so that things will go as if he did not propose any new rule, or at most

$$\bar{V}' = -\epsilon + \frac{\delta\Pi^K(N)\cdot(N-1)\kappa R}{(1-\delta)\big(1-\delta\Pi^K(N)\big)}, \tag{104}$$

which is for the case where the king's proposal is approved by the council members, each playing Markov strategies, so that he will not be able to persecute anyone in the following persecution stage, only hoping to survive perpetual wars of all against all and always persecute at most $N-1$ ordinary council members onwards.

Since $V' < V^K$, we only need to compare V^K and $\bar{V}'$. By $e_t \geq \delta\Pi^K(N)\cdot(N-1)+1$,

$$\frac{(e_t-1)\kappa R}{1-\delta} + \frac{\delta\Pi^K(N)\cdot(e_t-1)\kappa R}{(1-\delta)\big(1-\delta\Pi^K(N)\big)} > -\epsilon + \frac{\delta\Pi^K(N)\cdot(N-1)\kappa R}{(1-\delta)\big(1-\delta\Pi^K(N)\big)} \tag{105}$$

holds. Therefore, we have $V^K > \bar{V}'$. Therefore, in both cases, the king cannot be better off under a single deviation from the strategy in consideration. Claim 1 is thus proved.

Claim 2. If $e_t \geq \delta\Pi^K(N)\cdot(N-1)+1$, then no alternative Markov strategies that would lead to $e_{t+1} \neq e_t$ can be part of an MPE. To prove this claim, we suppose $e_t \geq \delta\Pi^K(N)\cdot(N-1)+1$. We also suppose that there exist alternative Markov perfect strategies where, given the inherited voting rule e_t, the king will propose $e'_{t+1} \neq e_t$, and the ordinary council members will vote for it. The king's expected payoff on the supposed equilibrium path is thus

$$\tilde{V} = -\epsilon + \delta\Pi^K(N)\cdot V^K(e'_{t+1}), \tag{106}$$

where $V^K(e'_{t+1})$ is the expected payoff of the king at the beginning of a period when the inherited voting rule is e'_{t+1}, on the supposed equilibrium path. Now consider a single

deviation, where the king delays the proposal just for one period. The king's expected payoff under this single deviation is

$$\begin{aligned} V'' &= \frac{(e_t - 1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot \tilde{V} \\ &= \frac{(e_t - 1)\kappa R}{1-\delta} + \delta \Pi^K(N) \cdot \left(-\epsilon + \delta \Pi^K(N) \cdot V^K(e'_{t+1}) \right). \end{aligned} \tag{107}$$

Comparing these two expected payoffs, we have $V'' > \tilde{V}$ if and only if

$$V^K(e'_{t+1}) \leq \frac{(e_t - 1)\kappa R}{(1-\delta) \cdot \delta \Pi^K(N) \cdot \left(1 - \delta \Pi^K(N)\right)}. \tag{108}$$

Note that, for the king at the beginning of a period when the inherited voting rule is e'_{t+1}, the best he can hope for is to persecute $N-1$ ordinary council members in each period and survive perpetual wars of all against all. Therefore, his expected payoff is bounded from above, i.e.,

$$V^K(e'_{t+1}) \leq \frac{(N-1)\kappa R}{(1-\delta) \cdot \left(1 - \delta \Pi^K(N)\right)}. \tag{109}$$

Since $e_t \geq \delta \Pi^K(N) \cdot (N-1) + 1$, we have

$$\frac{(e_t - 1)\kappa R}{(1-\delta) \cdot \delta \Pi^K(N) \cdot \left(1 - \delta \Pi^K(N)\right)} \geq \frac{(N-1)\kappa R}{(1-\delta) \cdot \left(1 - \delta \Pi^K(N)\right)}. \tag{110}$$

Therefore, we have

$$V^K(e'_{t+1}) \leq \frac{(N-1)\kappa R}{(1-\delta) \cdot \left(1 - \delta \Pi^K(N)\right)} \leq \frac{(e_t - 1)\kappa R}{(1-\delta) \cdot \delta \Pi^K(N) \cdot \left(1 - \delta \Pi^K(N)\right)}. \tag{111}$$

We thus have $V'' > \tilde{V}$, i.e., the king can be better off under a single deviation. Therefore, the supposed MPE is not an MPE, contradicting what we have supposed. Claim 2 is thus proved by contradiction.

Claim 3. If $1 < e_t < \delta \Pi^K(N) \cdot (N-1) + 1$, 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 $t+1$, supposing that

the continuation strategies constitute an MPE. Note that, by Claims 1 and 2, dictatorship ($e_{t+1} = N$) is an absorbing state. The strategies in consideration will thus give the ordinary council member an expected payoff of

$$V^M = R + \delta\Pi^M(N) \cdot \frac{(N-1)\kappa R}{(1-\delta) \cdot (1 - \delta\Pi^K(N))}. \tag{112}$$

The single deviation, if it can get the proposal rejected, will give the deviating ordinary council member an expected payoff of at most

$$\bar{V}''' = \frac{N - e_t}{N-1} \cdot \left(R + \delta\Pi^M(N) \cdot \frac{(N-1)\kappa R}{(1-\delta) \cdot (1 - \delta\Pi^K(N))} \right), \tag{113}$$

since the best she can hope for is to survive and get R in the following persecution stage, then win a war of all against all to become the king, and keep prosecuting $N-1$ ordinary council members and winning perpetual wars of all against all onwards. Since $e_t > 1$, we have $V^M > \bar{V}'''$. 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 voting rule or proposes $e'_{t+1} \in \{1, 2, \ldots, N-1\} \setminus \{e_t\}$ only in period $t+1$. First, note that, supposing that the continuation strategies constitute an MPE, by Claims 1 and 2, the strategies in consideration will leave the king in the self-stable dictatorship from period $t+2$ onwards. Therefore, the expected payoff for the king under the strategies in consideration is

$$V^K = \delta\Pi^K(N) \cdot \frac{(N-1)\kappa R}{(1-\delta) \cdot \left(1 - \delta\Pi^K(N)\right)}. \tag{114}$$

Second, if the king does not propose a change in the voting rule only in period $t+1$, his expected payoff will be

$$\begin{aligned} V'''' &= \frac{(e_t - 1)\kappa R}{1-\delta} + \delta\Pi^K(N) \cdot V^K \\ &= \frac{(e_t - 1)\kappa R}{1-\delta} + \left(\delta\Pi^K(N)\right)^2 \cdot \frac{(N-1)\kappa R}{(1-\delta) \cdot \left(1 - \delta\Pi^K(N)\right)}. \end{aligned} \tag{115}$$

By $e_t < \delta\Pi^K(N) \cdot (N-1) + 1$, we have $V^K > V''''$, i.e., the king will not be better off under this single deviation.

Third, if the king proposes $e'_{t+1} \in \{2, \ldots, N-1\} \setminus \{e_t\}$ only in period $t+1$, then, the

king's expected payoff is either

$$V'''' = -\epsilon + V'''' < V'''' < V^K, \tag{116}$$

which is for the case where the king's proposal is rejected and things will then go as if he did not propose a new voting rule, or at most

$$\bar{V}'''' = -\epsilon + V^K < V^K, \tag{117}$$

which is for the case where the king's proposal is approved by the council members. In both cases, the king will thus not be better off under this single deviation.

Finally, if the king proposes $e'_{t+1} = 1$ only in period $t+1$, then, if it is approved by the council, by Lemma 4, his payoff will be $-\epsilon$; if it is rejected by the council, his expected payoff would be $V'''' < V^K$, at a cost of ϵ. In both cases, he will be worse off.

Therefore, we conclude that the king cannot be better off under any single deviation, supposing that the continuation strategies constitute an MPE. Claim 3 is thus proved.

Claim 4. If $1 < e_t < \delta\Pi^K(N) \cdot (N-1) + 1$, no alternative Markov strategies that would lead to $e_{t+1} \neq N$ can be part of an MPE. Suppose $1 < e_t < \delta\Pi^K(N)\cdot(N-1)+1$. There are several possibilities for the alternative strategies: first, the king does not propose any change in the voting rule; second, the king proposes $e'_{t+1} = 1$ and the ordinary council members vote for it; third, the king proposes $e'_{t+1} = e_t$ and the ordinary council members may or may not vote for it; fourth, the king proposes $e'_{t+1} = N$ and the ordinary council members vote against it; finally, the king proposes $e'_{t+1} \in \{2, 3, \ldots, N-1\} \setminus \{e_t\}$ and the ordinary council members vote for it. We examine these alternatives one by one.

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

$$\check{V}^K = \frac{(e_t - 1)\kappa R}{1-\delta} + \delta\Pi^K(N) \cdot \frac{(e_t - 1)\kappa R}{(1-\delta)\left(1 - \delta\Pi^K(N)\right)}. \tag{118}$$

Now consider a single deviation where the king will instead propose $e'_{t+1} = N$ only in period $t+1$. By the proof of Claim 3, in any MPE the ordinary council members will approve $e'_{t+1} = N$, and by Claims 1 and 2, in any MPE, $e_{t+1} = N$ is self-stable. Therefore, the king's expected payoff under the single deviation is thus

$$V''''' = -\epsilon + \delta\Pi^K(N) \cdot \frac{(N-1)\kappa R}{(1-\delta)\left(1 - \delta\Pi^K(N)\right)}. \tag{119}$$

Comparing these two expected payoffs, we have $V'''''' > \check{V}$ if and only if

$$e_t < \delta \Pi^K(N) \cdot (N-1) + 1, \tag{120}$$

which is exactly what we have supposed. Therefore, we have $V'''''' > \check{V}$, i.e., a single deviation is profitable.

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 $-\epsilon$, since by Lemma 4, the unanimity rule is self-stable 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 voting rule only in period $t+1$. The single deviation will bring at least $(e_t - 1)\kappa R/(1-\delta) > 0 > -\epsilon$ to the king, since $e_t > 1$.

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

Fourth, suppose that the king proposing $e'_{t+1} = N$ and the ordinary members voting 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, and is thus profitable.

Finally, suppose that the king proposing some $e'_{t+1} \in \{2, 3, \ldots, N-1\} \setminus \{e_t\}$ and the ordinary council members voting for it can be part of an MPE. By Claims 1 and 2, in any MPE, $e_{t+1} = N$ is self-stable, so the king's expected payoff in this supposed MPE is bounded from above, i.e.,

$$\hat{V}^K < -\epsilon + \delta \Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + V^K(N) \right), \tag{121}$$

where $V^K(N)$ is the king's expected payoff at the beginning of a period when the inherited voting rule is dictatorship, since the best he can hope for is to survive a war of all against all in period $t+1$, persecute $N-1$ ordinary council members in period $t+2$, and get into a self-stable dictatorship onwards. Now consider a single deviation where the king proposes $e'_{t+1} = N$ instead only in period $t+1$. By the proof of Claim 3, in any MPE the ordinary members will approve $e'_{t+1} = N$, and by Claims 1 and 2, in any MPE, $e_{t+1} = N$ is self-stable, again. This single deviation would thus give him an expected payoff of

$$V''''''' = -\epsilon + \delta \Pi^K(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + V^K(N) \right). \tag{122}$$

We have $\hat{V}^K < V'''''''$, so the single deviation is profitable.

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 4 is proved.

Gather Lemma 4 and Claims 1–4. The proposition is thus proved. □

We can also show the same result as in Proposition 3:

Proposition 11. *If the agenda-setting power in constitutional conventions lies in the council, then in any MPE, the unanimity rule is self-stable, and any non-unanimity rule will transition to the unanimity rule, i.e., for any* $e_t \in \{1, 2, \ldots, N\}$, $e_{t+1} = 1$.

Proof. The proof is parallel to the proof of Proposition 3. By Lemma 4, we have known that the unanimity rule 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 member proposing $e'_{t+1} = 1$ and all ordinary 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 constitutional change.

Claim 1. If $e_t \geq 2$, 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. Suppose $e_t \geq 2$. First, notice that, supposing the continuation strategies constitute an MPE, then by Lemma 4, the voting rule will stay at the unanimity rule. The payoff of each non-agenda-setting ordinary member in the constitutional convention is

$$V^M = \frac{R}{1-\delta}, \tag{123}$$

and the agenda-setting ordinary member' expected payoff is simply

$$V_A^M = -\epsilon + \frac{R}{1-\delta}. \tag{124}$$

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

$$V' = \frac{N - e_t}{N-1} \cdot R, \tag{125}$$

as she hopes to survive and receive R in the following persecution stage, but engaging in a war of all against all after will give her no additional payoffs in the future civil peace from period $t+2$ onward brought by the unanimity rule, since she will not have any asset then.

Note that by $e_t \geq 2$ and $\delta \in (0,1)$, we have

$$V^M = \frac{R}{1-\delta} > R > \frac{N-e_t}{N-1} \cdot R = V'. \tag{126}$$

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

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

$$\bar{V}'' = \frac{N-2}{N-1} \cdot R, \tag{127}$$

as her probability to survive and receive R in the following persecution stage is at most $(N-2)/(N-1)$, and engaging in a war of all against all after will give her no additional payoffs in the future civil peace from period $t+2$ onward brought by the unanimity rule. Again, by $e_t \geq 2$ and $\delta \in (0,1)$, we have

$$\bar{V}'' = \frac{N-2}{N-1} \cdot R < -\epsilon + \frac{R}{1-\delta} = V_A^M, \tag{128}$$

i.e., 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 proved.

Claim 2. If $e_t \geq 2$, then any MPE cannot include any alternative Markov strategies that would lead to $e_{t+1} \neq 1$. Suppose $e_t \geq 2$. There are several possibilities for the alternative Markov strategies: first, the agenda-setting ordinary council member does not propose a change in the voting rule; second, she proposes $e'_{t+1} \in \{2,3,\ldots,N\} \setminus \{e_t\}$ and all ordinary council members vote for the proposal; finally, she proposes $e'_{t+1} = 1$ but all ordinary council members vote against the proposal.

First, note that, under all of theses possibilities of the alternative strategies, period $t+1$ will have a non-unanimity rule. The period-$t+1$ agenda-setting ordinary council member will thus have her asset destroyed in the war of all against all in period $t+1$. Therefore, her expected payoff in the constitutional convention in period $t+1$ is bounded from above by

$$\bar{V} = \frac{N-2}{N-1} \cdot \left(R + \delta \Pi^M(N) \cdot \frac{(N-1)\kappa R}{(1-\delta)\left(1-\delta\Pi^K(N)\right)} \right), \tag{129}$$

as her probability to survive and receive R in the following persecution stage is at most $(N-2)/(N-1)$, and the best she can hope for onwards is to survive perpetual wars of all against all and persecute $N-1$ ordinary council members in each future period.

Second, consider a single deviation from either of the first two possibilities of the alternative strategies, where the agenda-setting council member will propose $e'_{t+1}=1$ instead only in period $t+1$. 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 4, in any MPE, the unanimity rule is self-stable. Therefore, under the single deviation and given the continuation strategies in the supposed MPE, the period-$t+1$ agenda-setting ordinary council member's expected payoff is

$$V'''=-\epsilon+\frac{R}{1-\delta}, \tag{130}$$

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

$$\begin{aligned}\bar{V}&=\frac{N-2}{N-1}\cdot\left(R+\delta\Pi^M(N)\cdot\frac{(N-1)\kappa R}{(1-\delta)\left(1-\delta\Pi^K(N)\right)}\right)\\&<R+\delta\Pi^M(N)\cdot\frac{(N-1)\kappa R}{(1-\delta)\left(1-\delta\Pi^K(N)\right)}<-\epsilon+\frac{R}{1-\delta}=V'''.\end{aligned} \tag{131}$$

Therefore, the single deviation can make the agenda-setting ordinary council member better off, suggesting that the supposed MPE is not an MPE.

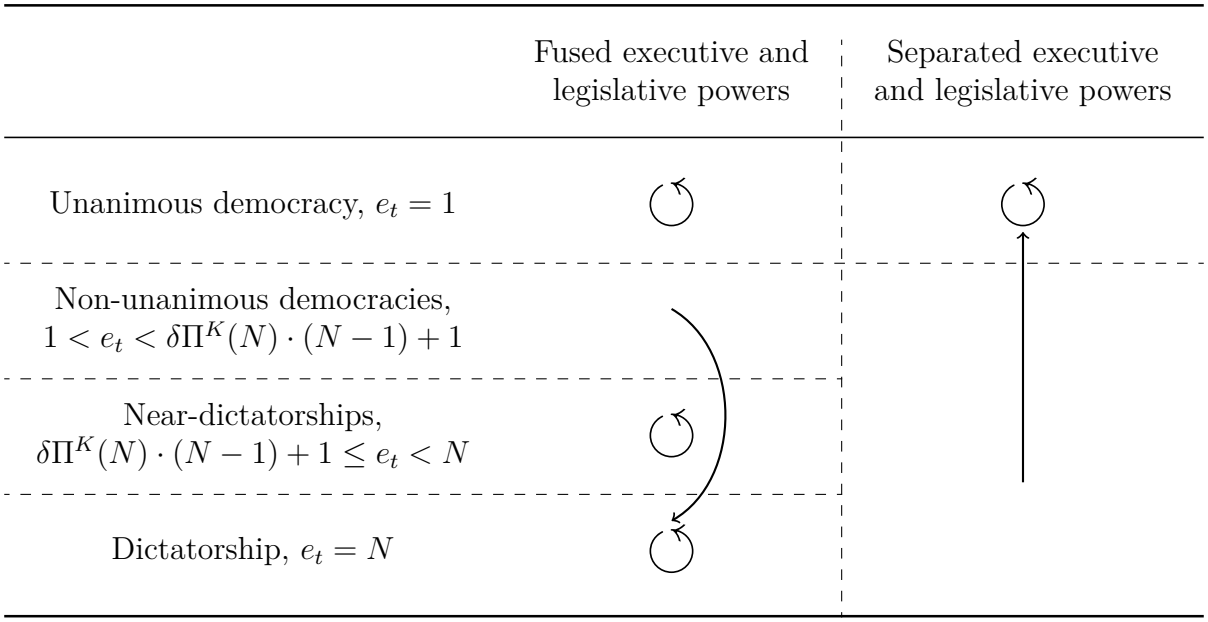
Third, consider a single deviation from the last possibility of the alternative strategies, where the agenda-setting ordinary council member will not propose any constitutional change only in period $t+1$. This single deviation will thus save her an infinitesimal cost. Therefore, the agenda-setting ordinary council member can be better off under the single deviation, suggesting that the supposed MPE is not an MPE. Therefore, she proposing $e'_{t+1}=1$ and the ordinary members voting against it cannot be part of an MPE.

Therefore, all of the possible alternative strategies cannot be part of an MPE. Claim 2 is thus proved.

Gather Claims 1 and 2. The proposition is thus proved. □

Gathering Propositions 10 and 11, we can produce Table 6, which is parallel to Table 1. Compared with Table 1, the only difference in Table 6 is that a new group of self-stable regimes emerge: these regimes are those that are close to dictatorship ($\delta\Pi^K(N)\cdot(N-1)+1\leq e_t<N$), and they are self-stable still only when the agenda-setting power on constitutional

Table 6: Endogenous constitutional dynamics, constitutional convention after contest



Summary of Propositions 10 and 11. Executive and legislative powers fused/separated in terms of chief executive controlling/denied constitutional agenda. Self-pointing arrows for self-stability; straight and curved arrows for directions of transition.

issues lies in the kingship. In this sense, results in Section 3 are robust when we consider the alternative sequence of the constitutional convention, contest, and persecution.

I Less Frequent Constitutional Conventions

In Section 3 we assume that a constitutional convention is held in each period. In this section, we assume instead that it is held every T periods, where $1 \leq T < \infty$, which nests the case of $T = 1$. In this setting, we can show results parallel to results in Section 3.

Lemma 5. *Lemma 2 holds: in any MPE, if $e_t = 1$, then $e_{t+1} = 1$.*

Proof. We only need to check any period t with a constitutional convention, and we follow the proof of Lemma 2. Still consider the strategies that, if the current rule is the unanimity rule, then the agenda-setter will not propose any new rule, and all ordinary council members will vote against any new rule if proposed.

Claim 1. An MPE can include the strategies in consideration. First, given $e_t = 1$, when voting on any proposed new rule $e'_{t+1} \geq 2$, each ordinary council member's expected payoff under the strategies in consideration is $V = \delta \cdot R/(1-\delta)$. Second, consider a single

deviation and, as required by sincere voting, suppose that the deviating ordinary member is pivotal, i.e., the single deviation can get $e'_{t+1} \geq 2$ approved. Then the deviating ordinary member will contest in period $t+1$, losing her asset for sure. Therefore, under the single deviation, she will not have any asset to generate any safe flow payoff however other players will behave; as a result, the best she will hope for is to become an ever-expropriating and thus ever-contested king onward, expropriating $e'_{t+1} - 1$ ordinary council members in each period from $t+1$ to $t+T$, and $N-1$ of them in each period after that. This means that her expected payoff will be bounded from above by

$$\bar{V}' = \delta\Pi^M(N) \cdot \left(\frac{(e'_{t+1}-1)\kappa R}{1-\delta} \cdot \frac{1-\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)} + \frac{\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right). \quad (132)$$

Note that, by $e'_{t+1} \leq N$, $\delta \in (0,1)$, $\kappa \in (0,1)$, and $(N-1)\cdot\Pi^M(N) + \Pi^K(N) = 1$, we have

$$\begin{aligned} \bar{V}' &\leq \delta\Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} \cdot \frac{1-\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)} + \frac{\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right) \\ &= \frac{\delta\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta} = V. \end{aligned} \quad (133)$$

Therefore, even if the single deviation can get $e'_{t+1} \geq 2$ to be approved, the deviating ordinary member will not be better off.

Now consider the agenda setter's strategy. First, given $e_t = 1$ and 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 $\epsilon > 0$. The agenda-setter will thus not be better off by proposing a change in the decision rule.

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

Claim 2. Any MPE cannot include alternative Markov strategies that would lead to the unanimity rule being replaced. Suppose that there exist alternative Markov perfect strategies where the agenda-setter will propose a non-unanimity rule $e'_{t+1} \geq 2$ and the ordinary council members will vote for it. Denote the expected payoff of each ordinary council member at the moment of voting under the supposed MPE as $\delta \cdot V^M$, where V^M is the expected payoff of her at the beginning of a period just having the unanimity rule

replaced. Note $\delta \cdot V^M$ is bounded from above by

$$\delta \cdot V^M \leq \delta \Pi^M(N) \cdot \left(\frac{(e'_{t+1}-1)\kappa R}{1-\delta} \cdot \frac{1-\left(\delta \Pi^K(N)\right)^T}{1-\delta \Pi^K(N)} + \frac{\left(\delta \Pi^K(N)\right)^T}{1-\delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right), \quad (134)$$

since the ordinary council member will have her asset destroyed in the contest in period $t+1$; the best she will hope for is to become an ever-expropriating and thus ever-contested king onward, expropriating $e'_{t+1}-1$ ordinary council members in each period from $t+1$ to $t+T$, and $N-1$ of them in each period after that. Again, by $e'_{t+1} \leq N$, $\delta \in (0,1)$, $\kappa \in (0,1)$, and $(N-1) \cdot \Pi^M(N) + \Pi^K(N) = 1$, we have

$$\begin{aligned} \delta \cdot V^M &\leq \delta \Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} \cdot \frac{1-\left(\delta \Pi^K(N)\right)^T}{1-\delta \Pi^K(N)} + \frac{\left(\delta \Pi^K(N)\right)^T}{1-\delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right) \\ &= \frac{\delta \Pi^M(N)}{1-\delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta}, \end{aligned} \quad (135)$$

which implies that $V^M < R/(1-\delta)$.

Now consider a single deviation for her, where she will unilaterally vote against the proposal only in period t. Her expected payoff would be

$$\delta \cdot \frac{1-\delta^T}{1-\delta} \cdot R + \delta^{T+1} \cdot V^M. \quad (136)$$

For the supposed MPE to be an MPE, we must have

$$\delta \cdot V^M \geq \delta \cdot \frac{1-\delta^T}{1-\delta} \cdot R + \delta^{T+1} \cdot V^M, \text{ i.e., } V^M \geq \frac{R}{1-\delta}, \quad (137)$$

contradicting $V^M < R/(1-\delta)$. Claim 2 is thus proved by contradiction.

Gather Claims 1 and 2. The lemma is thus proved. □

Proposition 12. *Proposition 3 holds for any period t with a constitutional convention: suppose that the king is always denied to set the constitutional agenda, and period t holds a constitutional convention. Then, in any MPE, for any $e_t \in \{1, 2, \ldots, N\}$, $e_{t+1} = 1$.*

Proof. We follow the proof of Proposition 3. By Lemma 5, we have known that the unanimity rule 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 strategies

that would lead to $e_{t+1} \neq 1$. 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 change.

Claim 1. If $e_t \geq 2$, 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. Suppose $e_t \geq 2$. For each ordinary council member, when voting on $e'_{t+1} = 1$, her expected payoff under the strategies in consideration is

$$V^M(e_{t+1} = 1) = \delta \cdot \frac{R}{1-\delta}. \tag{138}$$

If she could unilaterally block $e'_{t+1} = 1$ only for this period, with the continuation strategies including the strategies in consideration, her expected payoff would be

$$V' = \delta \Pi^M(N) \cdot \left(\frac{1 - \left(\delta \Pi^K(N)\right)^T}{1 - \delta \Pi^K(N)} \cdot \frac{(e_t - 1)\kappa R}{1-\delta} \right), \tag{139}$$

i.e., she would hope to become the king in each period from $t+1$ to $t+T$ so that she can persecute and expropriate, but that would give her no additional payoffs in the future civil peace from period $t+T+1$ onward, since the unanimity rule would be adopted for period $t+T+1$ and, by Lemma 5, is self-stable. By $e_t \leq N$, $T \geq 1$, $\delta \in (0,1)$, $\Pi^K(N) > 0$, $\kappa \in (0,1)$, and $(N-1) \cdot \Pi^M(N) + \Pi^K(N) = 1$, we have

$$\begin{aligned} V' &\leq \delta \Pi^M(N) \cdot \left(\frac{1 - \left(\delta \Pi^K(N)\right)^T}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right) \leq \frac{\delta \Pi^M(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \\ &< \delta \cdot \frac{R}{1-\delta} = V^M(e_{t+1} = 1). \end{aligned} \tag{140}$$

Under sincere voting, she will thus always vote for the proposal $e'_{t+1} = 1$.

For the agenda-setting ordinary council member, when considering the constitutional agenda, her expected payoff under the strategies in consideration is

$$V_A^M(e_{t+1} = 1) = -\epsilon + \delta \cdot \frac{R}{1-\delta}. \tag{141}$$

If she proposed $e'_{t+1} \geq 2$ or did not propose any constitutional change only in period t, with the continuation strategies including the strategies in consideration, her expected payoff

would be, by $e_t \leq N$ and $e'_{t+1} \leq N$, at most

$$\bar{V}'' = \delta\Pi^M(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right), \tag{142}$$

i.e., she would hope to become the king in each period from $t+1$ to $t+T$ so that she can persecute and expropriate, but by Lemma 5, that would give her no additional payoffs in the future civil peace from period $t+T+1$ onward. Again, by $T \geq 1$, $\delta \in (0,1)$, $\Pi^K(N) > 0$, $\kappa \in (0,1)$, and $(N-1) \cdot \Pi^M(N) + \Pi^K(N) = 1$, we have $\bar{V}'' < V_A^M(e_{t+1} = 1)$. Therefore, the single deviation would not 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. Claim 1 is thus proved.

Claim 2. If $e_t \geq 2$, then any MPE cannot include any alternative Markov strategies that would lead to $e_{t+1} \neq 1$. Suppose $e_t \geq 2$. There are several possibilities for the alternative Markov strategies: first, the agenda-setting ordinary council member may not propose any constitutional change; second, she may propose $e'_{t+1} \in \{2, \ldots, N\} \setminus \{e_t\}$ and all ordinary council members would vote for the proposal; finally, she may propose $e'_{t+1} = 1$ and all ordinary council members would vote against it.

First, note that, for each ordinary council member voting on a proposal of the unanimity rule, if it is approved, by Lemma 5, the unanimity rule will become permanent, giving her an expected payoff of $\delta \cdot R/(1-\delta)$; if the proposal is not approved, given $e_t \geq 2$, her expected payoff is bounded from above by

$$\bar{V} = \frac{\delta\Pi^M(N)}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \tag{143}$$

since she will have her asset destroyed in the war of all against all in period t + 1, and the best she can hope for would be to become an ever-surviving king in a permanent dictatorship. By $(N-1) \cdot \Pi^M(N) + \Pi^K(N) = 1$, $\kappa \in (0,1)$, and $\delta \in (0,1)$, we have

$$\bar{V} = \frac{\delta\Pi^M(N)}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \delta \cdot \frac{R}{1-\delta}. \tag{144}$$

Therefore, in any MPE, given $e_t \geq 2$, each ordinary council member will approve a proposal of the unanimity rule.

Now examine each of these three possibilities of the alternative Markov strategies. For the last possibility, the point above suggests that such strategies cannot be part of an MPE.

In any of the first two possibilities, the period-t agenda-setting ordinary council member's expected payoff in the constitutional convention in period t is bounded from above by $-\epsilon+\bar{V}$, since period $t+1$ will have a non-unanimity rule, such that each ordinary council member will have her asset destroyed in the war of all against all in period $t+1$. If she single-deviates by proposing $e'_{t+1}=1$ only in period t, as all ordinary council members will vote for the proposal, her expected payoff will be $-\epsilon+\delta\cdot R/(1-\delta)$. Again, by $(N-1)\cdot\Pi^M(N)+\Pi^K(N)=1$, $\kappa\in(0,1)$, and $\delta\in(0,1)$, we have

$$-\epsilon+\bar{V}<-\epsilon+\delta\cdot\frac{R}{1-\delta}. \tag{145}$$

Therefore, the single deviation can make the agenda setter better off, suggesting that the supposed MPE is not an MPE. Therefore, all of these possible alternative Markov strategies cannot be part of an MPE. Claim 2 is thus proved.

Gather Claims 1 and 2. The proposition is thus proved. □

Proposition 13. *Proposition 4 holds for any period t with a constitutional convention: suppose that the king always sets the constitutional agenda, and period t holds a constitutional convention. Then, in any MPE, if $e_t\in\{2,\ldots,N\}$, $e_{t+1}=N$.*

Proof. We follow the proof of Proposition 4. We want to show that, in any MPE, first, if $e_t=N$, the king will not propose any constitutional change; second, if $2\leq e_t\leq N-1$, then the king proposing $e'_{t+1}=N$ and all ordinary council members voting for it can be part of an MPE; third, if $2\leq e_t\leq N-1$, no alternative Markov strategies that would lead to $e_{t+1}\neq N$ can be part of an MPE.

Claim 1. In any MPE, if $e_t=N$, the king will not propose any constitutional change. 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 would propose a constitutional change, could make the king better off. First, without any deviation, the king's expected payoff is

$$\begin{aligned}V^K&=\delta\Pi^K(N)\cdot\frac{(N-1)\kappa R}{1-\delta}+\left(\delta\Pi^K(N)\right)^2\cdot\frac{(N-1)\kappa R}{1-\delta}+\ldots\\&=\frac{\delta\Pi^K(N)}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}.\end{aligned} \tag{146}$$

Second, if the king deviates to propose $e'_{t+1}=1$, then by Lemma 5, perpetual civil peace

will bring him a payoff of $V' = 0 < V^K$ since the king has had his asset, if any, destroyed in the preceding contest, given $e_t = N$. Third, if the king deviates to propose $e'_{t+1} \in \{2, 3, \ldots, N-1\}$, then his expected payoff is at most

$$\begin{aligned}\bar{V}'' &= \delta\Pi^K(N) \cdot \frac{(N-2)\kappa R}{1-\delta} + \cdots + \left(\delta\Pi^K(N)\right)^T \cdot \frac{(N-2)\kappa R}{1-\delta} \\ &\quad + \left(\delta\Pi^K(N)\right)^{T+1} \cdot \frac{(N-1)\kappa R}{1-\delta} + \left(\delta\Pi^K(N)\right)^{T+2} \cdot \frac{(N-1)\kappa R}{1-\delta} + \ldots \\ &= V^K - \left(\delta\Pi^K(N) + \cdots + \left(\delta\Pi^K(N)\right)^T\right) \cdot \frac{\kappa R}{1-\delta}, \end{aligned} \tag{147}$$

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

Now we check whether an MPE can include an alternative strategy for the king. We examine the alternatives one by one. First, consider the strategy where the king will propose $e'_{t+1} = 1$. By Lemma 5, this strategy in an MPE will lead to perpetual peace and no expropriation, generating a payoff of $-\epsilon$. A single deviation from it, where the king will propose $e'_{t+1} \geq 2$, would at least generate an expected payoff of $\delta\Pi^K(N)\kappa R/(1-\delta) > 0$ because of the possible winning and expropriation in period $t+1$, making the king better off. Therefore, this considered strategy cannot be part of an MPE. Second, consider the strategy where the king will propose $e'_{t+1} = N$. A single deviation from it whereby the king will not propose any constitutional change 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

$$\tilde{V} = \delta\Pi^K(N) \cdot V^K(e_{t+1} = e'), \tag{148}$$

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

only in period t, his expected payoff will be

$$V''' = \delta\Pi^K(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} + \left(\delta\Pi^K(N)\right)^T \cdot V^K(e_{t+T+1} = e') \right). \quad (149)$$

Note that

$$V^K(e_{t+T+1} = e') = V^K(e_{t+1} = e') < \frac{1}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \quad (150)$$

since the king can only expropriate $e' - 1 < N - 1$ ordinary members in each period of the first T periods since $t + T + 1$ or $t + 1$, respectively. Therefore,

$$\begin{aligned} V''' - \tilde{V} = \delta\Pi^K(N) \cdot & \left(1 - \left(\delta\Pi^K(N)\right)^T\right) \\ & \cdot \left(\frac{1}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} - V^K(e_{t+1} = e') \right) > 0, \end{aligned} \quad (151)$$

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

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

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. First, under the strategies in consideration, for any ordinary council member voting on the proposal, her expected payoff is

$$V^M = \delta\Pi^M(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} + \frac{\left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right), \quad (152)$$

since, by Claim 1, the dictatorship will become permanent. Voting no instead, if it can get the proposal rejected, would give the deviating ordinary member an expected payoff of

$$V' = \delta\Pi^M(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(e_t - 1)\kappa R}{1-\delta} + \frac{\left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \right). \quad (153)$$

Since $e_t < N$, 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.

Second, by Claim 1, the strategies in consideration will give the king an expected payoff of

$$\delta\Pi^K(N)\cdot\left(\frac{1-\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}+\frac{\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}\right). \tag{154}$$

If the king does not propose any constitutional change only in period t, by $e_t < N$, he will expect

$$\begin{aligned}&\delta\Pi^K(N)\cdot\left(\frac{1-\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(e_t-1)\kappa R}{1-\delta}+\frac{\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}\right)\\ &<\delta\Pi^K(N)\cdot\left(\frac{1-\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}+\frac{\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}\right).\end{aligned} \tag{155}$$

Therefore, the king will not be better off under this single deviation. 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 expect at most

$$\begin{aligned}&\delta\Pi^K(N)\cdot\left(\frac{1-\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-2)\kappa R}{1-\delta}+\frac{\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}\right)\\ &<\delta\Pi^K(N)\cdot\left(\frac{1-\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}+\frac{\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}\right).\end{aligned} \tag{156}$$

Again, 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, given $e_t \geq 2$, his payoff will be $-\epsilon$ by Lemma 5; 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. Claim 2 is thus proved.

Claim 3. If $2 \leq e_t \leq N-1$, any MPE cannot include alternative Markov strategies that would lead to $e_{t+1} \neq N$. There are several possibilities for the alternative Markov strategies: first, the king does not propose any constitutional change; 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; fourth, the king proposes $e'_{t+1} = N$ but the ordinary members vote against it; finally, the king proposes $e'_{t+1} \in \{2, 3, \ldots, N-1\} \setminus \{e_t\}$ and the ordinary members vote for it.

First, note that, given $2 \leq e_t \leq N-1$, for each ordinary council member voting on a proposal of dictatorship, if it is not approved, her expected payoff will be bounded from above by

$$\begin{aligned}
&\delta\Pi^M(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(e_t - 1)\kappa R}{1 - \delta} + \frac{\left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1 - \delta} \right) \\
&< \delta\Pi^M(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1 - \delta} + \frac{\left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1 - \delta} \right); \qquad (157)
\end{aligned}$$

if it is approved, by Claim 1, her expected payoff will be

$$\delta\Pi^M(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1 - \delta} + \frac{\left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1 - \delta} \right). \qquad (158)$$

Therefore, in any MPE, given $2 \leq e_t \leq N-1$, all ordinary council members will vote for a proposal of dictatorship. The fourth possibility of the alternative Markov strategies thus cannot be part of any MPE.

Second, for any of the other possibilities of the alternative Markov strategies, given $2 \leq e_t \leq N-1$, the agenda-setting king's asset has been destroyed in period t, so his expected payoff at the period-t constitutional convention is bounded from above by

$$\begin{aligned}
&\delta\Pi^K(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-2)\kappa R}{1 - \delta} + \frac{\left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1 - \delta} \right) \\
&< \delta\Pi^K(N) \cdot \left(\frac{1 - \left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1 - \delta} + \frac{\left(\delta\Pi^K(N)\right)^T}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1 - \delta} \right) - \epsilon, \qquad (159)
\end{aligned}$$

where $\epsilon > 0$ is infinitesimal. If he single-deviates by proposing a dictatorship only in period t, by the point above, in any MPE, it will be approved, and by Claim 1, it will become

permanent, giving him an expected payoff of

$$-\epsilon+\delta\Pi^K(N)\cdot\left(\frac{1-\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}+\frac{\left(\delta\Pi^K(N)\right)^T}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}\right). \tag{160}$$

Therefore, the single deviation will make him better off. This suggests that the supposed MPE is not an MPE.

We have now established that an MPE cannot include any alternative Markov strategies that would lead to $e_{t+1}\neq N$. Claim 3 is proved.

Gather Claims 1, 2, and 3. The proposition is thus proved. □

Lemma 5 and Propositions 12 and 13 imply that, when the constitutional conventions are held less frequently, remain the dynamics implied by Propositions 3 and 4 as in Table 1, only with the exception that any intermediate regimes ($e_t\in\{2,\ldots,N-1\}$) may now last for at most T periods, before transitioning into either the unanimity rule or dictatorship, and the direction of the transition still depends on whether executive and legislative powers are separated.

J Proof of Lemma 3

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

$$V^N=T_{it}+\frac{R_{i,t-1}}{1-\delta}; \tag{161}$$

If the persecution proposal is blocked, her expected payoff will be

$$V'=\frac{R_{i,t-1}}{1-\delta}\leq V^N, \tag{162}$$

regardless of whether she is pivotal. She will thus always find voting for the proposal optimal.

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

$$V^P=T_{it}+R_{i,t-1}+\delta\left(z\cdot V^M+(1-z)V^P\right), \tag{163}$$

where V^M is the expected value of being an ordinary council member at the start of period

$t+1$; if the persecution proposal is blocked, her expected payoff will be

$$V'' = R_{i,t-1} + \delta\left(z \cdot V^M + (1-z)V^P\right) \leq V^P, \tag{164}$$

regardless of whether she is pivotal. The single deviation from voting for the proposal would thus not make her better off.

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

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

$$V^M = \Pi^M(N) \cdot \left(\frac{(N-1)\kappa R}{1-\delta} + \delta V^K\right) > 0, \tag{165}$$

where V^K is the expected value of being the king at the start of period $t+1$. Her expected payoff under a single deviation, i.e., not contesting only in period t, is $0 < V^M$ because she will be one of the $N-1$ members to be persecuted. Therefore, the single deviation cannot make her better off. The lemma is thus proved. □

K Proof of Proposition 5

We first prove another lemma:

Lemma 6 (Just before persecution externality disappears)**.** *Suppose that there has been a contest for the kingship in period t with $\theta_t = 1$ such that $\theta_{t+1} = 0$. The following claims about period t are true:*

1. *in any MPE, any apolitical justice i will vote for any persecution proposal if and only if the transfer proposed to her satisfies $T_{it} \geq cp_t \cdot R/(1-\delta)$, and*
2. *any political justice i will do so if and only if $T_{it} \geq cp_t \cdot R/\left(1-\delta(1-z)\right)$;*
3. *in any MPE, the king does not propose to persecute anyone if $\kappa \leq \left(\bar{N} - w - \bar{e} + 1\right)c$, and will propose to persecute $p_t = N-1$ council members if $\kappa > \left(\bar{N} - w - \bar{e} + 1\right)c$ and δ is large enough.*

Proof. We prove the three claims one by one.

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

$$V^N = (1 - cp_t)R + T_{it} + \delta \cdot \frac{(1 - cp_t)R}{1 - \delta} = T_{it} + \frac{(1 - cp_t)R}{1 - \delta}, \tag{166}$$

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

$$V' = R + \delta \cdot \frac{R}{1 - \delta} = \frac{R}{1 - \delta}, \tag{167}$$

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

$$T_{it} \geq cp_t \cdot \frac{R}{1 - \delta}. \tag{168}$$

The claim is thus proved.

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

$$\begin{aligned} V^P &= (1 - cp_t)R + T_{it} + \delta \Bigg(z \cdot V^M + (1 - z) \\ &\qquad \cdot \Big((1 - cp_t)R + \delta \left(z \cdot V^M + (1 - z) \cdot \dots \right) \Big) \Bigg) \\ &= T_{it} + \frac{(1 - cp_t)R}{1 - \delta(1 - z)} + \frac{\delta z V^M}{1 - \delta(1 - z)}, \end{aligned} \tag{169}$$

where

$$V^M = \frac{\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} \tag{170}$$

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

$$\begin{aligned} V'' &= R + \delta\left(z \cdot V^M + (1-z) \cdot \left(R + \delta\left(z \cdot V^M + (1-z) \cdot \dots\right)\right)\right) \\ &= \frac{R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)}. \end{aligned} \tag{171}$$

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

$$T_{it} \geq cp_t \cdot \frac{R}{1-\delta(1-z)}. \tag{172}$$

The claim is thus proved.

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

$$T = \min\{\bar{N} - \bar{e} + 1, w\} \cdot cp_t \cdot \frac{R}{1-\delta(1-z)} + \max\{\bar{N} - \bar{e} + 1 - w, 0\} \cdot cp_t \cdot \frac{R}{1-\delta}, \tag{173}$$

which is

$$T = \begin{cases} \left(\bar{N} - \bar{e} + 1\right) \cdot cp_t R / \left(1 - \delta(1-z)\right), & \text{if } w \geq \bar{N} - \bar{e} + 1; \\ w \cdot cp_t R / \left(1 - \delta(1-z)\right) + \left(\bar{N} - \bar{e} + 1 - w\right) cp_t R/(1-\delta), & \text{if } w < \bar{N} - \bar{e} + 1, \end{cases} \tag{174}$$

subject to the budget

$$B = p_t \cdot \kappa R/(1-\delta). \tag{175}$$

To have any persecution proposal $p_t \in \{1, \dots, N-1\}$ approved, $T + \epsilon \leq B$ has to hold, where $\epsilon > 0$ is the infinitesimal cost of transfer implementation. It is straightforward to verify that, first, if $\left(\bar{N} - \bar{e} + 1 - w\right) \geq \kappa$, the king cannot get any persecution proposal approved, so he

will not make such a proposal; second, if $\left(\bar{N}-\bar{e}+1-w\right)c<\kappa$ and δ is large enough, the king can get any persecution proposal approved, so the king maximizes his expected payoff by persecuting $p_t=N-1$ members. The claim and the lemma are thus proved. □

We now prove Proposition 5:

Proof. We prove the claims in the order of Claims 2(a), 2(b), and 1:

Claim 2(a). Suppose $\kappa\leq\left(\bar{N}-(\bar{e}-1)-w\right)c$. Now, first, suppose that there exist an MPE, in which, starting from $\theta_t=1$, $Q-1\geq 2$ ordinary members contest the kingship. In the supposed MPE, any contesting ordinary council member's expected payoff is

$$V^M=\Pi^M(Q)\cdot\left(0+\delta\Pi^K(N)V^K\right)=\Pi^M(Q)\cdot\delta\Pi^K(N)\cdot V^K, \tag{176}$$

where

$$V^K=\frac{1}{1-\delta\Pi^K(N)}\cdot\frac{(N-1)\kappa R}{1-\delta}, \tag{177}$$

is the value of being the victorious king at the beginning of period $t+1$, since if she becomes the king after the current contest stage, by Lemma 6, she will not be able to persecute anyone in the following contest stage, knowing $\theta_t=1$ will become $\theta_{t+1}=0$, and everyone will follow the MPE in Lemma 3 from period $t+1$ on with $\theta_{t+1}=0$.

Under a single deviation, i.e., unilaterally not contesting only in the current contest stage, this ordinary council member's expected payoff is

$$V''=R+\tilde{z}\delta\cdot\frac{R}{1-\delta}+(1-\tilde{z})\delta\Pi^M(N)\cdot V^K, \tag{178}$$

where

$$\tilde{z}\equiv z\cdot w/(N-1)>0 \tag{179}$$

is the retirement probability for an ordinary council member, i.e., by Lemma 6, the king at the following persecution stage will still not be able to persecute anyone, given there has still been a contest between at least one ordinary council member and the king in the current contest stage; the ordinary council member will retire with probability $\tilde{z}$, and remain with probability $1-\tilde{z}$ as an ordinary council member in period $t+1$ and follow the MPE in Lemma 3 onwards with $\theta_{t+1}=0$. Recall that, for any $Q\in\{2,\ldots,N\}$,

$$\Pi^K(Q)/\Pi^M(Q)\geq\Pi^K(N)/\Pi^M(N). \tag{180}$$

We then have, by $\Pi^K(Q) \in (0,1)$,

$$\Pi^M(N) \geq \frac{\Pi^M(Q) \cdot \Pi^K(N)}{\Pi^K(Q)} > \Pi^M(Q) \cdot \Pi^K(N). \tag{181}$$

Therefore, we have

$$\begin{aligned} V'' - V^M &= R + \tilde{z}\delta \cdot \frac{R}{1-\delta} + (1-\tilde{z})\delta\Pi^M(N) \cdot V^K - \delta \cdot \Pi^M(Q) \cdot \Pi^K(N) \cdot V^K \\ &> R + \tilde{z}\delta \cdot \frac{R}{1-\delta} + (1-\tilde{z})\delta\Pi^M(N) \cdot V^K - \delta\Pi^M(N) \cdot V^K \\ &= R + \tilde{z}\delta \cdot \left(\frac{R}{1-\delta} - \Pi^M(N) \cdot V^K \right). \end{aligned} \tag{182}$$

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

$$\Pi^M(N) \cdot V^K = \frac{\Pi^M(N)}{1 - \delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta} < \frac{R}{1-\delta}. \tag{183}$$

Therefore,

$$V'' - V^M > R + \tilde{z}\delta \cdot \left(\frac{R}{1-\delta} - \Pi^M(N) \cdot V^K \right) > R > 0, \tag{184}$$

i.e., the ordinary member can benefit from the single deviation. The supposed MPE thus does not exist.

Second, suppose that there exists an MPE in which, starting from $\theta_t = 1$, only one ordinary council member contests the kingship. In the supposed MPE, by Lemma 6, any contesting ordinary council member's payoff is

$$\Pi^M(2) \cdot \left(0 + \delta\Pi^K(N) \cdot V^K \right) = \Pi^M(2) \cdot \delta\Pi^K(N) \cdot V^K. \tag{185}$$

Now consider a single deviation where the only contesting ordinary member withdraws from the contest only in period t. To characterize her expected payoff under this single deviation, we need to further characterize whether there will be any persecution at the following contest stage on the supposed equilibrium path. For any apolitical justice i voting on any persecution list of $p_t \geq 1$, if the list is approved, her expected payoff will be

$$T_{it} + \frac{(1 - cp_t)R}{1-\delta}, \tag{186}$$

since the flow payoff of her asset will be reduced to $(1 - cp_t)R$ as the game will transition

into the state of $\theta_{t+1} = 0$. If the list is blocked, her expected payoff will be

$$R + \delta\Big(R + \frac{\delta R}{1-\delta}\Big) = \frac{R}{1-\delta}. \tag{187}$$

This is because, if no persecution happens in period t, the game will stay in the state of $\theta_{t+1} = 1$; in period $t+1$, there will be a single ordinary council member contesting the kingship on the supposed MPE path, and by Lemma 6, the king will not be able to persecute anyone in period $t+1$, and the game will transition into the state of $\theta_{t+2} = 0$; in the whole process and from then on, the apolitical justice will always receive R in each period. The apolitical justice i will thus vote for the persecution list, if and only if

$$T_{it} + \frac{(1-cp_t)R}{1-\delta} \geq \frac{R}{1-\delta}, \text{ i.e., } T_{it} \geq \frac{cp_tR}{1-\delta}. \tag{188}$$

Given that, for any persecution of p_t ordinary members to happen in period t, even if the w political justices will vote for it without any transfer from the king, the king must still afford to pay these minimum transfers to the apolitical justices, plus a implementing cost, i.e.,

$$\big(\bar{N} - (\bar{e}-1) - w\big) \cdot \frac{cp_tR}{1-\delta} + \epsilon \leq \frac{p_t\kappa R}{1-\delta}, \text{ i.e., } \big(\bar{N} - (\bar{e}-1) - w\big) \cdot c < \kappa, \tag{189}$$

contradicting $\kappa \leq \big(\bar{N} - (\bar{e}-1) - w\big)\, c$. Therefore, the king still cannot get anyone persecuted in period t. Given all this and by Lemma 6, for the only contesting member who is now single-deviating in period t, her expected payoff is

$$\begin{aligned} &R + \tilde{z}\delta \cdot \frac{R}{1-\delta} + (1-\tilde{z})\delta \cdot \Pi^M(2) \cdot \Big(0 + \delta\Pi^K(N)V^K\Big) \\ &= R + \tilde{z}\delta \cdot \frac{R}{1-\delta} + (1-\tilde{z})\delta \cdot \Pi^M(2) \cdot \delta\Pi^K(N) \cdot V^K. \end{aligned} \tag{190}$$

Recall that, for any $Q \in \{2, \ldots, N\}$, we have, as above,

$$\Pi^M(Q) \cdot \Pi^K(N) \cdot V^K < \Pi^M(N) \cdot V^K < \frac{R}{1-\delta}. \tag{191}$$

We can thus bound the profit from the single deviation by

$$\begin{aligned} &R + \tilde{z}\delta \cdot \frac{R}{1-\delta} + (1-\tilde{z})\delta \cdot \Pi^M(2) \cdot \delta\Pi^K(N) \cdot V^K - \Pi^M(2) \cdot \delta\Pi^K(N) \cdot V^K \\ &= \big(1 - \delta(1-\tilde{z})\big) \cdot \frac{R}{1-\delta} - \big(1 - \delta(1-\tilde{z})\big)\, \Pi^M(2) \cdot \delta\Pi^K(N) \cdot V^K \\ &> \big(1 - \delta(1-\tilde{z})\big) \cdot \frac{R}{1-\delta} - \big(1 - \delta(1-\tilde{z})\big) \cdot \delta \cdot \frac{R}{1-\delta} = \big(1 - \delta(1-\tilde{z})\big) \cdot R > 0. \end{aligned} \tag{192}$$

The supposed MPE thus does not exist. Therefore, no MPE would feature any contest over the kingship, i.e., Claim 2(a) is proved.

Claim 2(b). Suppose $\kappa \leq \left(\bar{N} - (\bar{e} - 1) - w\right) c$. Consider the following strategy profile:

1. when $\theta_t = 0$, all players follow the MPE in Lemma 3;
2. when $\theta_t = 1$,
   (a) at the contest stage, no ordinary council members contest;
   (b) at the persecution stage,
      i. if there has been a contest in the preceding contest stage, the king and justices follow the strategies in Lemma 6;
      ii. if there has not been a contest in the preceding contest stage,
         A. the king proposes not to persecute any ordinary council members;
         B. any apolitical justice i will vote for a persecution list of p_t ordinary council members if and only if the transfer proposed to her satisfies $T_{it} \geq cp_t \cdot R/(1-\delta)$;
         C. any political justice i will vote for the persecution list if and only if the transfer proposed to her satisfies

$$T_{it} \geq \max\left\{\frac{R}{1-\delta} - \frac{(1-cp_t)R}{1-\delta(1-z)} - \frac{\delta z V^M}{1-\delta(1-z)}, 0\right\}, \tag{193}$$

where

$$V^M = \frac{\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}. \tag{194}$$

We want to show that this strategy profile constitutes an MPE. Note that, by Lemma 3, strategies 1 are Markov perfect; by Lemma 6, strategies 2(b)i are Markov perfect. We thus only need to examine strategies 2(a) and 2(b)ii.

First, consider strategy 2(a). Under the strategy profile in consideration, each ordinary council member's expected payoff is $R/(1-\delta)$, 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

$$\Pi^M(2) \cdot \left(0 + \delta\Pi^K(N) \cdot V^K\right) = \Pi^M(2) \cdot \delta\Pi^K(N) \cdot V^K, \tag{195}$$

as, by $\kappa \leq \left(\bar{N} - w - \bar{e} + 1\right) c$ and Lemma 6, she will not persecute anyone in the following persecution stage. Recall from above that

$$\Pi^M(2) \cdot \delta \Pi^K(N) \cdot V^K < \Pi^M(N) \cdot V^K < \frac{R}{1-\delta}. \tag{196}$$

Therefore, strategy in consideration is Markov perfect.

Second, consider strategies 2(b)ii. First, consider strategy 2(b)iiB. Under the strategy profile in consideration, if a persecution proposal with $p_t \geq 1$ is approved, the payoff to an apolitical justice i is

$$V^A = T_{it} + \frac{(1 - cp_t)R}{1-\delta}. \tag{197}$$

If the proposal is blocked, her payoff is

$$V'''' = \frac{R}{1-\delta}. \tag{198}$$

Under voting by weakly undominated strategies, she will support the proposal if and only if

$$T_{it} \geq cp_t \cdot \frac{R}{1-\delta}. \tag{199}$$

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

Second, consider strategy 2(b)iiC. If a persecution proposal with $p_t \geq 1$ is approved, any political justice i's expected payoff is

$$V^P = T_{it} + \frac{(1 - cp_t)R}{1 - \delta(1-z)} + \frac{\delta z V^M}{1 - \delta(1-z)}, \tag{200}$$

where

$$V^M = \frac{\Pi^M(N)}{1 - \delta \Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}. \tag{201}$$

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

$$V''''' = \frac{R}{1-\delta}, \tag{202}$$

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.,

$$T_{it} \geq \max\left\{\frac{R}{1-\delta} - \frac{(1-cp_t)R}{1-\delta(1-z)} - \frac{\delta z V^M}{1-\delta(1-z)}, 0\right\}. \tag{203}$$

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

Finally, consider strategy 2(b)iiA. Suppose that the king proposes to persecute $p_t \geq 1$ ordinary council members. For the proposal to be approved, he needs to commit sufficient transfers to $\bar{N} - \bar{e} + 1$ justices. By $w \geq 1$ and $\kappa \leq \left(\bar{N} - (\bar{e}-1) - w\right) c$, the total cost is no less than

$$\left(\bar{N} - \bar{e} + 1\right) \cdot \frac{p_t c R}{1-\delta} + \epsilon > \left(\bar{N} - (\bar{e}-1) - w\right) \cdot \frac{p_t c R}{1-\delta} \geq \frac{p_t \kappa R}{1-\delta}. \tag{204}$$

Therefore, the king cannot afford to persecute anyone. The strategy in consideration is thus Markov perfect. All strategies in the strategy profile in consideration are thus Markov perfect, and Claim 2(b) is thus proved.

Claim 1. Suppose $\kappa > \left(\bar{N} - (\bar{e}-1) - w\right) c$. Consider the following strategy profile:

1. when $\theta_t = 0$, all players follow the MPE in Lemma 3;
2. when $\theta_t = 1$,
   (a) all council members contest the kingship;
   (b) at the persecution stage,
      i. if someone has contested the kingship in the preceding contest stage, all players follow the MPE in Lemma 6;
      ii. if no one has contested the kingship in the preceding contest stage, there exists a set of Markov perfect strategies for the players.

We want to show that this strategy profile constitutes an MPE. Note that, by Lemma 3, strategies 1 are Markov perfect; by Lemma 6, strategies 2(b)i are Markov perfect. We thus only need to examine strategies 2(a) and 2(b)ii.

First, consider strategy 2(a). At the contest stage, under the strategy profile in consideration, any ordinary council member's expected payoff is

$$\begin{aligned}\tilde{V}^M &= \Pi^M(N) \cdot \left(V^K - T^* - \epsilon\right) = \Pi^M(N) \cdot \left(\frac{(N-1)}{1-\delta\Pi^K(N)} \cdot \frac{\kappa R}{1-\delta} - T^* - \epsilon\right) \\ &= V^M - \Pi^M(N) \cdot \left(T^* + \epsilon\right), \end{aligned} \tag{205}$$

where

$$V^K = \frac{(N-1)}{1-\delta\Pi^K(N)} \cdot \frac{\kappa R}{1-\delta}, \tag{206}$$

$$V^M = \frac{\Pi^M(N)}{1-\delta\Pi^K(N)} \cdot \frac{(N-1)\kappa R}{1-\delta}, \tag{207}$$

and

$$T^* = \begin{cases} \left(\bar{N} - \bar{e} + 1\right) \cdot c(N-1)R/\left(1-\delta(1-z)\right), & \text{if } w \geq \bar{N} - \bar{e} + 1; \\ w \cdot c(N-1)R/\left(1-\delta(1-z)\right) & \\ \quad + \left(\bar{N} - \bar{e} + 1 - w\right) \cdot c(N-1)R/\left(1-\delta\right), & \text{if } w < \bar{N} - \bar{e} + 1. \end{cases} \tag{208}$$

Given that $\kappa > \left(\bar{N} - (\bar{e}-1) - w\right) c$, for δ large enough, we have

$$\frac{(N-1)\kappa R}{1-\delta} - T^* - \epsilon > 0, \tag{209}$$

i.e., the king at the following persecution stage will afford to persecute $N-1$ ordinary council members. This implies $V^M > 0$. Under the single deviation where the ordinary council member unilaterally withdraw from contesting only for now, her expected payoff will be zero, since, by Lemma 6, she will be persecuted for sure in the following persecution stage. Therefore, no single deviation from strategy 2(a) will make the ordinary council member better off.

Now we construct Markove perfect strategies for strategies 2(b)ii. There are two scenarios. First, consider the scenario of $\bar{N} - (\bar{e}-1) - w \leq 0$. For any political justice i, given the other strategies in the strategy profile in consideration, having a persecution list of $p_t \geq 1$ ordinary council members approved while receiving a transfer T_{it} will give her an expected payoff of

$$\tilde{V}^P = T_{it} + V^P(p_t), \tag{210}$$

where

$$V^P(p_t) = \frac{(1-cp_t)R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)}. \tag{211}$$

If the persecution list is blocked, instead, given the other strategies in the strategy profile in consideration, $\theta_{t+1} = 1$ and all ordinary council members contest the kingship in period $t+1$. By Lemma 6 and $\bar{N} - (\bar{e}-1) - w \leq 0$, the king will then influence $\bar{N} - (\bar{e}-1)$ political justices to persecute $N-1$ ordinary council members. Therefore, for each political justice, the probability for her to be selected for transfers in period $t+1$ will be $\left(\bar{N} - (\bar{e}-1)\right)/w$.

Denote the transfer for each selected political justice as

$$T^*_{i,t+1} = \frac{c(N-1)R}{1-\delta(1-z)}, \tag{212}$$

and recall that the total amount of transfers will be

$$T^* = \left(\bar{N} - (\bar{e}-1)\right) \cdot \frac{c(N-1)R}{1-\delta(1-z)}. \tag{213}$$

Then, if the persecution list at t is blocked, each political justice's expected payoff will be

$$\begin{aligned} V'^P = R + \delta \cdot \Bigg\{ z \cdot \tilde{V}^M + (1-z) \cdot \Bigg[\left(1 - c(N-1)\right) R + \frac{\bar{N} - (\bar{e}-1)}{w} \cdot T^*_{i,t+1} \\ + \delta \Bigg(z \cdot V^M + (1-z) \cdot \Bigg(\left(1 - c(N-1)\right) R \\ + \delta \left(z \cdot V^M + (1-z) \cdot \dots \right) \Bigg) \Bigg) \Bigg] \Bigg\}, \end{aligned} \tag{214}$$

which is

$$\begin{aligned} V'^P &= R + \delta \cdot \Bigg\{ z \cdot \left(V^M - \Pi^M(N) \cdot (T^* + \epsilon) \right) \\ &\quad + (1-z) \cdot \Bigg[\left(1 - c(N-1)\right) R + \frac{\bar{N} - (\bar{e}-1)}{w} \cdot T^*_{i,t+1} \\ &\quad + \delta \Bigg(z \cdot V^M + (1-z) \cdot \Bigg(\left(1 - c(N-1)\right) R \\ &\quad + \delta \left(z \cdot V^M + (1-z) \cdot \dots \right) \Bigg) \Bigg) \Bigg] \Bigg\} \\ &= R + \delta \Bigg((1-z) \cdot \frac{\bar{N} - (\bar{e}-1)}{w} T^*_{i,t+1} + \frac{\delta(1-z)(1-c(N-1))R}{1-\delta(1-z)} \Bigg) \\ &\quad + \frac{\delta z V^M}{1-\delta(1-z)} - \delta z \Pi^M(N) \cdot (T^* + \epsilon). \end{aligned} \tag{215}$$

Therefore, any political justice will vote for persecuting p_t ordinary council members in period t if and only if $\tilde{V}^P \geq V'^P$, i.e.,

$$T_{it} \geq \max \left\{ V'^P - V^P(p_t), 0 \right\}. \tag{216}$$

For any apolitical justice i, given the other strategies in the strategy profile in consideration, having a persecution list of $p_t \geq 1$ ordinary council members approved while receiving a transfer T_{it} will give her an expected payoff of

$$\tilde{V}^A(p_t) = (1 - cp_t)R + T_{it} + \delta \cdot \frac{(1 - cp_t)R}{1 - \delta} = T_{it} + V^A(p_t), \tag{217}$$

where

$$V^A(p_t) = \frac{(1 - cp_t)R}{1 - \delta}. \tag{218}$$

If the persecution list is blocked, instead, given the other strategies in the strategy profile in consideration, $\theta_{t+1} = 1$ and all ordinary council members contest the kingship in period $t+1$. By Lemma 6 and $\bar{N} - (\bar{e} - 1) - w \leq 0$, the king will then influence no apolitical justices to persecute $N - 1$ ordinary council members in period $t + 1$. Then, if the persecution list at t is blocked, for each apolitical justice, her expected payoff will be

$$V'^A = R + \delta \cdot \frac{\big(1 - c(N-1)\big)\, R}{1 - \delta}. \tag{219}$$

Therefore, any apolitical justice will vote for persecuting p_t ordinary council members in period t if and only if $\tilde{V}^A \geq V'^A$, i.e.,

$$T_{it} \geq \max\left\{V'^A - V^A(p_t), 0\right\}. \tag{220}$$

Given the strategies of the political and apolitical justices in period t, the king can either choose how many ordinary council members to persecute, $p_t \in \{1, N-1\}$, and how many political and apolitical justices to influence, using the minimal transfer amounts we have just derived, respectively, or choose not to persecute anyone. He thus has a finite number of options to choose from, and thus will find a best response. We have then constructed the Markov perfect strategies for strategies 2(b)ii, in this scenario of $\bar{N} - (\bar{e} - 1) - w \leq 0$.

Second, consider the scenario when $\bar{N} - (\bar{e} - 1) - w > 0$. For any political justice i, given the other strategies in the strategy profile in consideration, having a persecution list of $p_t \geq 1$ ordinary council members approved while receiving a transfer T_{it} will give her an expected payoff of

$$\tilde{V}^P = T_{it} + V^P(p_t). \tag{221}$$

If the persecution list is blocked, instead, given the other strategies in the strategy profile in consideration, $\theta_{t+1} = 1$ and all ordinary council members contest the kingship in period $t+1$. By Lemma 6 and $\bar{N} - (\bar{e} - 1) - w > 0$, the king will then influence w political justices to persecute $N - 1$ ordinary council members in period $t + 1$. Then, if the persecution list

at t is blocked, for each political justice, her expected payoff will be

$$\begin{aligned} V'^P &= \frac{R}{1-\delta(1-z)} + \delta z \left(V^M - \Pi^M(N) \cdot T^* + \frac{(1-z)\delta V^M}{1-\delta(1-z)} \right) \\ &= \frac{R}{1-\delta(1-z)} + \frac{\delta z V^M}{1-\delta(1-z)} - \delta z \Pi^M(N) \cdot T^*, \end{aligned} \tag{222}$$

where

$$T^* = w \cdot \frac{c(N-1)R}{1-\delta(1-z)} + \left(\bar{N} - \bar{e} + 1 - w\right) \cdot \frac{c(N-1)R}{1-\delta}. \tag{223}$$

Therefore, any political justice will vote for persecuting p_t ordinary council members in period t if and only if $\tilde{V}^P \geq V'^P$, i.e.,

$$T_{it} \geq \max\left\{ V'^P - V^P(p_t), 0 \right\}. \tag{224}$$

For any apolitical justice i, given the other strategies in the strategy profile in consideration, having a persecution list of $p_t \geq 1$ ordinary council members approved while receiving a transfer T_{it} will give her an expected payoff of

$$\tilde{V}^A = T_{it} + V^A(p_t). \tag{225}$$

If the persecution list is blocked, instead, given the other strategies in the strategy profile in consideration, $\theta_{t+1} = 1$ and all ordinary council members contest the kingship in period $t+1$. By Lemma 6 and $\bar{N} - (\bar{e} - 1) - w > 0$, the king will then influence $\bar{N} - (\bar{e} - 1) - w$ apolitical justices to persecute $N - 1$ ordinary council members in period $t+1$. For each apolitical justice, she will be selected for the transfer

$$T^*_{i,t+1} = \frac{c(N-1)R}{1-\delta} \tag{226}$$

with probability $\left(\bar{N} - (\bar{e} - 1) - w\right) / \left(\bar{N} - w\right)$. Then, if the persecution list at t is blocked, for each apolitical justice, her expected payoff will be

$$V'^A = R + \delta \left(\frac{\bar{N} - (\bar{e} - 1) - w}{\bar{N} - w} \cdot \frac{c(N-1)R}{1-\delta} + \frac{\left(1 - c(N-1)\right) R}{1-\delta} \right). \tag{227}$$

Therefore, any political justice will vote for persecuting p_t ordinary council members in period t if and only if $\tilde{V}^A \geq V'^A$, i.e.,

$$T_{it} \geq \max\left\{ V'^A - V^A(p_t), 0 \right\}. \tag{228}$$

Given the strategies of the political and apolitical justices in period t, the king can either choose how many ordinary council members to persecute, $p_t \in \{1, N-1\}$, and how many political and apolitical justices to influence, using the minimal transfer amounts we have just derived, respectively, or choose not to persecute anyone. He thus has a finite number of options to choose from, and thus will find a best response. We have then constructed the Markov perfect strategies for strategies 2(b)ii, in this scenario of $\bar{N} - (\bar{e} - 1) - w > 0$.

Taking the two scenarios, we have thus constructed Markov perfect strategies for strategies 2(b)ii. The proposition is thus proved. □