# "Together or Apart"? On Joint versus Separate Electoral Accountability

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**Abstract**

Democratic constitutions assign competing policy-making responsibilities across multiple elected agents. One agent initiates policies (the *proposer*) and the other scrutinizes and either passes or rejects them (the *veto player*). A fundamental distinction lies in whether both offices are subject to direct elections ("separate appointments"), or whether voters instead are forced to make a single decision which determines the electoral fate of both agents ("joint appointments"). Why should voters benefit from a relatively coarse electoral instrument? A career-concerned veto player builds reputation through rejection of the proposer's policies. A system which commits voters to bind the electoral fate of both agents reduces the veto player's incentives to engage in spurious obstruction of the proposer's initiatives. This can improve voters' retrospective assessment of politicians, and their ability to select competent politicians through elections.[1]

*Keywords*: Veto, Pandering, Selection, Accountability

[1]Additional proofs and results are available in a supplementary online appendix.

## 1. Introduction

Liberal democracy is underpinned by two fundamental principles. First, holders of policy-making responsibilities should be subject to a threat of replacement, through elections. Second, policy-making responsibilities should be divided across multiple elected bodies. The threat of democratic replacement provides incentives for policymakers to act in the public interest (*moral hazard*) and allows voters to remove politicians of poor skill or character (*adverse selection*). Dividing policy-making responsibility protects against tyranny, and allows voters to delegate to each body a responsibility for policing the other.

A classic division of policymaking responsibilities between elected institutions is between a body which is charged with *proposing* initiatives, and a body which is charged with *scrutinizing* those initiatives, and either passing or rejecting them. In the United States, legislative proposals originate in Congress, but are subject to Presidential veto. In the United Kingdom, the overwhelming majority of legislative initiatives originate within the Cabinet but must be approved as Acts of Parliament. In American cities, councils design ordinances which are subject to veto by the mayor. In the United Kingdom, the London Mayor submits policy initiatives to the Greater London Assembly, which can be vetoed by a two-thirds majority.[2]

I subsequently refer to the body which proposes policies as the *proposer*, and the body which must choose to pass or reject proposals as the *veto player* (Tsebelis (2002)).

Despite the normative appeal of (1) subjecting politicians to electoral accountability, and (2) dividing policy-making responsibilities across elected bodies, there is significant cross-country variation in how these principles are combined. My objective is to study a fundamental variation across countries in electoral mechanisms which govern the survival of the proposer and the veto player. I address the consequences of this variation for the quality of electoral accountability, political selection, and democratic performance. I distinguish between systems of *joint electoral appointments* and systems of *separate electoral*

[2]The Greater London Authority's power to veto mayoral strategies (under qualifying circumstances) was introduced in the Localism Act 2011.

*appointments*.

In a system of joint electoral appointments, the voter's electoral instrument is a single ballot which simultaneously determines the electoral fate of the proposer and the veto player. Every parliamentary system of government is a system of joint appointments: a single electoral decision by each voter determines the composition of both the executive and the legislature. As a consequence, "...there is no way for a citizen to vote for a party's prime ministerial candidate without also endorsing the party's legislative candidate or slate"(Samuels and Shugart, 2010, 197). Systems of joint appointments are also prominent at the sub-national level: in most German states, voters select the composition of the state parliament—the Landtag— which then appoints the chief executive, the Ministerpräsident.[3] In the majority of municipal governments in the United Kingdom, mayors are appointed by elected councils. Indirect mayoral appointments are also made in Denmark, France and Spain.[4]

In a system of separate electoral appointments, by contrast, the voter's electoral instrument comprises two distinct ballots with which to determine the electoral fate of the proposer and the veto player. Every presidential system of government represents a system of separate appointments: each voter may express a distinct preference over the holders of executive and legislative office. Systems of separate appointments also arise at the sub-national level: in the United Kingdom, the Local Government Act 2000 first introduced the prospect of directly elected mayors for local authorities in England and Wales, of which there are presently seventeen, including the Mayor of London. Separately elected mayors can be found in major US cities, and in contrast with their German counterparts, American governors are also directly elected.

The co-existence of systems of joint and separate electoral appointments poses a puzzle for democratic theory. With separate appointments, voters have the flexibility to make distinct

[3]In Germany, the state governments of Berlin, Bremen and Hamburg employ slightly different nomenclatures and structures. However, the principle of joint appointments also applies in these cases.

[4]See also *http://www.citymayors.com/government/europe_mayors.html*.

choices about the retention or replacement of both the proposer and the veto player: they may replace one agent and retain the other, replace neither agent, or replace both agents. Under a system of joint appointments, voters forfeit this extra degree of control, instead committing to tie the fate of each agent into a single electoral decision: either replace both agents, or replace neither agent. Since voters can replicate any decision under separate appointments that they would wish to make under joint appointments, why should they benefit from a constitutional arrangement which effectively ties their hands and curtails their flexibility to hold politicians accountable?

To address this question, I consider a model featuring a *proposer*, a *veto player*, and a *voter*. The proposer may be an executive—such as a president or a prime minister, a governor, or a local mayor. The veto player may be interpreted as the median member of one of the national legislative chambers, or a senior legislative office-holder in the majority party, or in a town council. What is crucial is that it represents an agent that can forestall progress on an initiative that is submitted by the proposer. The voter is most naturally interpreted as the median voter.

The role of the proposer is to submit a policy for scrutiny by the veto player. The payoff consequences of this policy may be good or bad for the voter. Its prospects for success depend positively on the ability of the proposer: a *high ability* proposer is more likely to submit a good policy than a *low ability* proposer.

The role of the veto player is to scrutinize the proposer's policy, and learn about its payoff consequences. The prospects for the veto player to accurately forecast the policy's payoff consequences for the voter depend positively upon the veto player's ability: a *high ability* veto player is more likely to discern the consequences of a policy than a *low ability* veto player. The veto player subsequently decides whether to *pass* or *reject* the policy.

If the veto player passes the policy, its payoff consequences are revealed to all agents, including the voter. For example, when an infrastructure project is implemented, everyone directly observes whether the project was well conceived. If, however, the veto player rejects the proposer's policy, its payoff consequences are not publicly revealed. The interpretation

is that if the policy is not implemented, its merits will remain a matter of counterfactual speculation.

After the voter observes the policy outcome, or alternatively that the policy was rejected by the veto player, she chooses a *retention strategy*, which governs the electoral fate of each agent. It is at this stage that I distinguish, formally, between a system of separate and joint appointments.

In a system of *separate appointments*, the voter can choose from four possible actions: she may (1) replace both the proposer and the veto player, (2) retain both agents, (3) retain the proposer and replace the veto player, or (4) replace the proposer and retain the veto player. This gives the voter the option—but not the obligation—to formally separate her decision about whether to retain each agent. Under *joint appointments*, the voter can choose from only two possible actions: she may either (1) replace both the proposer and the veto player, or (2) retain both agents. However, she does not have the flexibility to retain one agent whilst replacing the other.

A fundamental economic intuition is that an agent cannot be made worse off when her set of available choices expands. Does this intuition also apply to the present political environment? When the proposer and the veto player are motivated solely by the welfare of the voter, the answer is yes: the voter *always* prefers to endow herself with the option to make *separate appointments*. After all, she can replicate any strategy under separate appointments that she would wish to make under joint appointments, but the reverse is not true.

Suppose, however, that the veto player is instead mainly motivated by the desire to retain office, and that the voter prefers politicians of high ability. There are two ways that the veto player can build reputation as an effective agent of the voter. First, she can implement the proposer's policies when she believes that they are likely to succeed. If high ability veto players are expected to pass good policies, the success of the proposer's policy is directly accretive to the proposer's reputation and indirectly accretive to the veto player's reputation.

However, the veto player can also provide evidence of her ability by rejecting the pro-

poser's policy. If the voter expects high ability veto players to reject ill-conceived proposals, observing a rejection may convey favorable information about the veto player's ability—perhaps more so than appearing passively to pass the proposer's policy. For example, Walter Bagehot writes: "The natural tendency of the members of every legislature is to make themselves conspicuous... they wish to make their *will* felt in great affairs... They are embodying the purposes of others if they aid; they are advancing their own opinions if they defeat: they are first if they vanquish; they are auxiliaries if they support" (Bagehot, 1889, 69).

If the proposer's policy is likely to succeed, its specious rejection carries an immediate opportunity cost. It also exerts a secondary indirect effect through subsequent political selection. On the one hand, bad outcomes harm the voter; on the other hand, they constitute powerful information about the proposer's ability, which the voter can use as a basis for replacing her with a fresh alternative. I show how a higher frequency of rejections may worsen the quality of the voter's inference about *both* the proposer and the veto player, diminishing her ability to use her electoral instrument as an effective tool of political selection. Thus, it is valuable for the voter to provide countervailing incentives to the veto player.

The key finding of this paper is that these countervailing incentives can be achieved through an implicit constitutional commitment by the voter to tie her hands via a system of *joint appointments*.

To see why, consider a system in which the veto player's survival is tethered to the proposer's survival ("joint appointments"). If the voter believes that a rejection indicates a high ability veto player who uncovered a bad policy, the voter's assessment of the proposer must fall, since low ability proposers are more likely to submit bad proposals. If this downgrade in the voter's assessment is sufficiently severe, she prefers to remove both agents, rather than retain them both—even if she is *certain* that a rejection by the veto player indicates that she is high ability. This attenuates the benefit to the low ability veto player from speciously rejecting the proposer's policy in order to convey favorable information about her competence. However, it also provides the high ability veto player with incentives to pass a policy even if she believes that it is very likely to fail. This is because a remote prospect that the policy

will succeed is better than the certainty of removal: if the bill succeeds, the veto player can retain office on the coattails of the proposer.

So, a system of joint appointments curbs the incentive of the low ability veto player to pander at the cost of removing the incentive of the high ability veto player to protect the voter from policies which are very likely to fail.

Consider, instead, a system of separate appointments, in which the veto player can survive independently of the proposer. In particular, she will be retained or replaced *solely* on the voter's assessment of her own ability. This lifts the career concern constraint on the high ability veto player from acting upon her beliefs: she now prefers to reject policies when she believes that they will have adverse consequences for the voter. However, it also aggravates the low ability veto player's incentives to reject the proposer's policies in order to pander to the voter, since now she does not internalize the consequence for the proposer's own electoral survival.

The obstructive tendency of the veto player harms the voter. But, under a system of separate appointments, the voter cannot commit to replace a veto player that she holds in higher regard than an untested alternative (Fearon (1999)). Under a system of joint appointments, by contrast, the voter's restriction to joint retention or joint replacement limits her ex-post flexibility to decide the veto player's fate independently from that of the proposer. Since the voter's decision about the fate of the veto player depends on her assessment of *both* agents' abilities, a system of joint appointments forces the veto player to internalize the consequences of her spurious attacks for the reputation of the proposer, and thus—indirectly—the proposer's electoral survival.

I provide conditions under which this strategic consequence of joint appointments renders it preferable to a system of separate appointments, despite the latter providing the voter with a more flexible instrument for achieving electoral accountability. I also show that, despite the greater flexibility of separate appointments for achieving effective political selection, the equilibrium consequences of this system may render a system of joint appointments a more effective means for the voter to (1) form accurate retrospective inferences about the ability

of politicians, and most strikingly (2) obtain high ability politicians via elections, despite the coarseness of her instrument under joint appointments.

The implications for separation of powers in parliamentary and presidential systems are analyzed by Persson et al. (1997) in a model of pure moral hazard, rather than adverse selection. My work also relates to career concerns models of political agency—notably, Canes-Wrone et al. (2001) and especially Fox and Van Weelden (2010), in which related forces arise from the intrinsic preferences of the veto player over the proposer's reputation with the voter, which the authors interpret as the veto player's partisanship. In the present setting, by contrast, all of the veto player's behavior derives from her own electoral incentives under each constitutional regime. Groseclose and McCarty (2001) consider a related setting in which the voter is uncertain about the veto player's ideological preferences, and the proposer's choice of policy is guided by her desire to make the veto player appear ideologically mis-aligned with the voter. In order to achieve this goal, the proposer (Congress) may submit a policy which she knows that the veto player (the President) will reject, despite the existence of policies that both the proposer and veto player strictly prefer over the status quo. In my setting, the voter's uncertainty is instead about the *ability* of the proposer and the veto player, rather than the veto player's ideological preferences. However, the papers provide complementary accounts of why the veto player may appear to excessively reject the proposer's policies.

The empirical implications of my model resonate with a number of stylized facts. In the parliamentary-presidential interpretation, for example, my model predicts that the proportion of executive proposals which are passed by the legislature—a statistic commonly referred to as 'legislative success' e.g., Saiegh (2011)—will be higher under a system of joint appointments than a system of separate appointments. This prediction is consistent with a raft of evidence from Mainwaring and Shugart (1997), Cheibub et al. (2004) and Samuels and Shugart (2010), amongst others.

My aim is not to contribute a positive account of why presidents have more difficulty getting their initiatives through the legislature than their prime-ministerial counterparts, however. This positive question is addressed by many authors: Cox (1987), Huber (1996),

Diermeier and Vlaicu (2011) are notable examples.[5] These papers also produce useful ancillary predictions about patterns of coalition formation and government spending. However, these observations do not have clear-cut implications for the quality of governance in a polity.

Instead, this paper uniquely addresses a distinct set of previously unaddressed questions which derive from these stylized facts. Does a higher or lower propensity for acquiescence by the veto player under each system imply that one arrangement is more 'effective' than the other? After all, if the veto player is performing her constitutional function, we *should* observe her reject the proposer's policies under some circumstances. In order to make these assessments, a normative benchmark of the veto player's behavior is essential. My framework also addresses the consequences of each system for the ability of the voter to make informed retrospective assessments of politicians' abilities, and use them to ensure the best possible political selection. These are fundamental normative concerns for the quality of democracy, and this paper represents the first formal analysis of these questions across alternative and empirically relevant constitutional settings.

## 2. Model

I consider a two-date setting with dates 0 and 1. The agents are a *proposer* ($p$), a *veto player* ($v$) and a *voter*. Throughout the analysis for the sake of tractability, only the veto player and the voter play an active role.[6] The proposer is either *high ability* or *low ability*

[5]At the heart of their explanation is the executive's dependence on the confidence of the legislature. In the parliamentary-presidential context, this paper shows that even in the absence of such a mechanism, the joint electoral fate of the legislature and executive can exert powerful effects on legislative support of the executive's agenda, even without the threat of confidence motions hanging over it.

[6]A previous version of the paper endogenized the quality of the proposer's policy, and showed how the behavior of the veto player affects the proposer's incentives. Since the veto player's behavior is the first-order strategic force and due to space constraints, I focus on this for clarity. Details are available upon request.

$p \in \{p_H, p_L\}$, and the probability that she is high ability is $\alpha \in (0,1)$. Likewise, the veto player is either *high ability* or *low ability* $v \in \{v_H, v_L\}$, and the probability that she is high ability is $\beta \in (0,1)$. I assume that the veto player knows only her own ability, although my results extend to a setting in which the veto player knows the ability of the proposer.

The timing unfolds as follows. At the start of date 0, each agent's type is drawn, and a proposal is exogenously generated by the proposer. For simplicity, I assume that the policy may be either *high quality* or *low quality*. If the proposer is high ability, her proposal is always high quality. If, instead, the proposer is low ability, her proposal can be high or low quality with equal probability.

Next, the veto player acquires information about the fitness of the policy. I capture this by assuming that a high ability veto player learns the policy's quality. The learning could be interpreted as arising from investigation by a legislative committee (Gilligan and Krehbiel (1987) or Hirsch and Shotts (2012)). While a high ability veto player perfectly learns the quality of the proposal, the low ability veto player receives no additional information, and thus remains uninformed beyond the prior distribution.

The veto player then chooses either to *pass* the proposer's policy, or *reject* it. If a high quality policy is passed, it *succeeds* with probability one. If a low quality policy is passed, it *succeeds* with probability $\delta > 0$ and *fails* with probability $1 - \delta$. The specific value of $\delta$ plays no substantive role in my analysis, and I will treat $\delta$ as being arbitrarily close to zero: a strictly positive value of $\delta$ is used to avoid knife-edge equilibria that can arise when a low quality policy is *certain* to fail.[7] A $\delta > 0$ realistically reflects that even mediocre policies have some chance of succeeding, or at least have some chance of being *perceived* as successful.

If, instead, the policy is rejected, the payoff consequences are not observed.[8] However,

[7]When $\delta = 0$, a high ability proposer who learns that a proposal is low quality *knows* that it has no chance of succeeding. For any $\delta > 0$, however, there is a positive prospect that the voter will observe a success. This is important for ensuring continuity of equilibrium properties, and rules out knife-edge equilibria which only exist in the case of $\delta = 0$.

[8]This is chosen for simplicity. So long as there is a wedge in the voter's ability to ob-

the voter does observe that the policy was rejected: she may be able to use this inference to form a fresh assessment of both the veto player and the proposer.

After the voter observes the veto player's action, and possibly the policy outcome, she chooses from amongst a set of possible decisions about whether to retain or replace each of the politicians. It is here that I make a distinction between two possible electoral regimes.

Under a system of *separate* appointments, I allow the voter to choose any probability distribution over four possible actions: (1) retain both agents, (2) replace both agents, (3) retain the proposer and replace the veto player, or (4) replace the proposer and retain the veto player. Under a system of *joint* appointments, I restrict the voter to choose a distribution over only two of these actions: (1) retain both agents or (2) replace both agents. Thus, the set of actions from which the voter may choose under joint appointments is a strict subset of those available to her under separate appointments. If the proposer is replaced, her successor is high ability with probability $\alpha$; if the veto player is replaced, her successor is high ability with probability $\beta$.

At date 1, the interaction proceeds as in date 0: after the veto player's decision, payoffs for both dates are collected, and the interaction ends.

The payoff of the voter is 1 if a policy is implemented and *succeeds* and 0 if a policy is implemented and *fails*. If the policy is rejected, the voter enjoys a status quo payoff $\kappa \in (\delta, 1/2)$. The restrictions on $\kappa$ create a straightforward normative benchmark for the behavior of the veto player: $\kappa > \delta$ implies that a high ability veto player should reject a low quality policy, while $\kappa < \frac{1}{2}$ implies that a low ability veto player should always pass a policy, in the first-best.[9]

A lower value of $\kappa$ may indicate the urgency of a policy problem; for example, in times of

serve policy quality depending on whether it is passed or rejected, the qualitative results go through.

[9]We could allow for $\kappa > \frac{1}{2}$. However, this makes the date one optimal action of a low ability veto player depend on her belief about the proposer's ability and generates a plethora of sub-cases which add little insight.

economic crisis, the consequences of inaction may be almost as bad as those from a flawed intervention, i.e. $\kappa$ close to 0. One could also interpret $\kappa$ in terms of the stability of a democratic system: in fragile democracies, gridlock between the proposer and veto player may provoke a constitutional crisis whose consequences are nearly as dire as those which arise from a government which is demonstrably unable to address urgent policy issues.

Politicians are motivated by the rewards of office: the payoff of each of the proposer and veto player is her own probability of re-election. In particular, the veto player does not hold an intrinsic preference over the retention of the proposer. I make this assumption so that it is clear how career concerns across different appointment regimes are the sole driving force behind my results.

I study sequential equilibria satisfying the D2 refinement (Cho and Kreps (1987)), formally defined in the Appendix. To avoid trivial equilibria, I assume that if, under a strategy profile, the probability with which the veto player is re-elected is independent of the outcome observed by the voter (i.e., that her probability of re-election is the same regardless of whether a policy was implemented and succeeded or that it was implemented and failed, or that it was rejected), that she resolves in favor of the action which she believes maximizes the welfare of the voter.

**Discussion.** In systems of joint appointments, the proposer is very often directly nominated by the veto player. For example, in parliamentary democracies, the executive is drawn from the majority tendency in the legislature, i.e. from within a dominant political party or coalition of parties within the legislature. This raises the question of why a veto player might select a low quality proposer, or otherwise be uncertain of her ability. The proposer may be desirable with respect to non-policy attributes. For example, John Major was seen as a force for compromise in the wake of Margaret Thatcher's divisive premiership. A politician may have been successful as enforcer of party discipline in the legislature, or in a cabinet post, but lack the unique set of skills required of a chief executive. For example, Gordon Brown was widely considered to be an extremely effective Chancellor of the Exchequer, but proved less effective in the leadership capacity of Prime Minister. Moreover, his accession

to that office was allegedly the result of a gentlemen's agreement between himself and Tony Blair in exchange for Brown's support of Blair's leadership bid, lending further justification to the idea that even when the veto player may formally nominate the proposer, the basis for such an appointment may lie in other factors than the presumed leadership capacity of the candidate. All of the results can be obtained under an alternative assumption that the veto player knows the ability of the proposer.

My focus on settings in which politicians are primarily distinguished by their abilities is in the tradition of an important literature which focuses on distortions arising from politicians' incentives to convince voters of their policymaking skills, including most notably Canes-Wrone et al. (2001). However, there are two natural ways in which an explicit role for ideological conflict could be introduced into the model. First, we could suppose that the voter receives a benefit (either positive or negative) from retaining the incumbent politicians which is independent of the ability of each agent ('partisanship in the electorate'). This will affect the characterizations of the low ability veto player's mixtures in the analysis, below, but so long as this effect is not overwhelming relative to the voter's concern for good policy outcomes, the qualitative results will go through. Second, we could suppose that the veto player receives a benefit (either positive or negative) from the retention of the proposer which is independent of the proposer's ability ('partisanship amongst politicians'). This will affect the characterizations of the voter's mixture which generates indifference on the part of the low ability veto player in the mixed strategy equilibria, below. However, once again, so long as this effect is not too large, the qualitative results hold. Moreover, the emphasis of the paper is to show how observationally equivalent behavior can be generated even without recourse to partisan motives. This also makes the paper complementary to Fox and Van Weelden (2010), whose primary emphasis is to capture partisanship precisely in this way.

Although the model is rooted in an institutional comparison, its insights are considerably broader. For example, the constitutional convention in the United Kingdom known as the 'doctrine of collective responsibility' prevents members of the Cabinet from disagreeing

publicly with the government's program. My argument may also provide an explanation as to why a system which suppresses public dissent amongst members of the government serves to enhance democratic accountability of the government, as a whole.

## 3. Preliminary Results

**A Single Period.** I begin with a benchmark in which the veto player chooses her actions to maximize the voter's expected payoff. This action profile will also be selected at date 1, since re-appointment concerns are absent.[10]

**Claim 1.** At date one, the high ability veto player implements the proposer's policy if she learns the policy is high quality, and rejects the policy if she learns the policy is low quality. The low ability veto player always implements the proposer's policy.

The high ability veto player will pass a policy if and only she believes that it will benefit the voter. The low ability veto player implements all policies, since on balance the expected payoff consequences for the voter are better than the payoff of the status quo, $\kappa$.

The voter's expected payoff from this single date is strictly increasing in the ability of each kind of politician. The more likely that the proposer is high ability, the more likely she will submit a policy that will have favorable consequences for the voter. On the other hand, the more likely that the veto player is high ability, the more likely that she will protect the voter from the adverse consequences of an ill-conceived proposal. This implies that, all else equal, the voter always prefers politicians of higher ability.

**Two Periods: Complete Information.** I next study a setting in which the voter holds complete information about both types of politician. This provides a benchmark for politicians' behavior in the absence of any incentives to signal favorable information about their own abilities. This benchmark yields a strong conclusion.

[10]Formally, at date 1 the veto player is re-elected with probability zero regardless of the policy outcome, so my earlier assumption resolves her indifference in favor of choosing the policy which she believes maximizes the voter's welfare.

**Proposition 1.** If the voter holds complete information about politicians' types, she strictly prefers a system of *separate* appointments to a system of *joint* appointments.

At date 1, the veto player acts in the voter's interest, under both systems, and at date 0, the veto player's career concerns play no role in her behavior since her ability is already known to the voter. So, the only basis for comparing the two electoral contracts is how they affect the voter's expected payoff at date one, via her selection decision in between dates 0 and 1.

Suppose, first, that both the proposer and veto player are believed to be high ability. In that case, the voter prefers to retain them both. This action is available to her under both a system of separate and joint appointments. Suppose, instead, that both politicians are believed to be low ability. In that case, the voter prefers to replace them both. Once again, this action is available to her under both systems.

Suppose, however, that the voter learns that one of the agents is high ability, but that the other is low ability. Specifically, consider the case in which the voter learns that the veto player is high ability, and the proposer is low ability. With separate appointments, she will retain the veto player but remove the proposer, in which case her payoff is

$$\alpha + (1-\alpha)\frac{1}{2}(\kappa+1). \tag{1}$$

With probability $\alpha$, the new proposer will be high ability. She will design a high quality policy, which will be passed by the high ability veto player. With probability $1-\alpha$, the proposer is low ability, and equally likely to design a high- or low-quality policy. If the high ability veto player identifies a high quality policy, with probability one half, she will implement it: it succeeds for sure. If, instead, she identifies a low quality policy, with probability one half, she will maintain the status quo, yielding a payoff $\kappa$ to the voter.

Under joint appointments, by contrast, the voter cannot separate the retention of the proposer and the veto player. Instead, she may either retain both politicians, or replace them both. Her payoff is therefore:

$$\max\left\{\frac{\kappa+1}{2}, \alpha + (1-\alpha)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right)\right\}. \tag{2}$$

If the voter retains both proposer and veto player, her expected payoff is the first term. The second term is her payoff if she replaces both the proposer and the veto player. If she draws a high ability proposer, or a low ability proposer and a high ability veto player, she is no worse off than if she retained both agents. But, if she draws two low ability agents, her expected payoff is $\frac{\delta+1}{2}$. Since expression (2) is strictly less than (1), the voter must be worse off as a consequence of the constraint that she must either jointly retain, or jointly replace, the proposer and the veto player.

Thus, in the absence of career concerns, the quality of political selection—and the voter's payoff—is maximized under the system which confers the greatest electoral flexibility.

## 4. Career Concerns

In this section, I study the full two-period model in which each politician is motivated by the desire to retain political office.

**Joint appointments.** I first study a setting in which the electoral survival of the proposer and the veto player are institutionally fused, and in which the voter does not know the ability of either the proposer or the veto player. Recall that under joint appointments, the voter may choose a distribution over two possible actions: (1) *retain* both politicians, or (2) *replace* them both.

I first ask: can an equilibrium be sustained in which both the high and low ability veto players implement the proposer's policy, regardless of their beliefs about its merits?

Under this strategy profile, the voter will never observe any dissent between the veto player and the proposer. Nonetheless, we must specify a belief for the voter in the event that she were to observe that the proposer's policy is rejected by the veto player. Suppose that if she were to observe a veto, she believes that with probability one, the veto player is high ability and received unfavorable information about the consequences of the proposer's policy.

This implies that the voter's assessment of the proposer falls from the unconditional belief that the proposer is high ability to the belief that the proposer is high ability *conditional*

on the veto player being high ability *and* holding unfavorable beliefs about the proposer's policy. Intuitively: a high ability veto player believes that the proposer's policy will likely harm the voter when the proposer indeed submits a low quality policy. In turn, it is a low ability proposer who submits a low quality policy. So, the presence of a high ability veto player who believes the policy is likely to harm the voter is very bad news for the voter about the ability of the proposer.

Since the voter is restricted to joint retention or joint replacement, she faces a choice between the gamble of throwing out both politicians in order to try and get a better draw in the second period, or sticking with her current draw. The advantage of the latter course of action is that, at the very least, she benefits from the high ability veto player's protection at date one. So, she will prefer to replace both politicians so long as:

$$\alpha + (1-\alpha)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right) \geq \frac{\kappa+1}{2}. \tag{3}$$

As the status quo payoff $\kappa$ becomes more favorable, a high ability veto player compensates more for a low ability proposer. Thus, as $\kappa$ rises, the RHS rises more quickly than the LHS. Re-arranging this expression yields a critical value:

$$\kappa^*(\alpha, \beta, \delta) = \frac{\alpha + \delta(1-\beta)(1-\alpha)}{1-(1-\alpha)\beta} \tag{4}$$

such that if and only if the status quo payoff $\kappa$ falls below this critical value, the voter would prefer to remove *both* agents, despite holding the veto player in the highest possible regard.

**Proposition 2.** Under *joint appointments*, if the value of the status quo is not too large, i.e., $\kappa < \kappa^*(\alpha, \beta, \delta)$, a unique equilibrium exists in which both the high and low ability veto players implement the proposer's policy regardless of their beliefs about its consequences.

To interpret the threshold, evaluate it at $\delta = 0$ and recall that (1) the voter believes that she faces a low ability proposer and a high ability veto player and (2) she values the status quo payoff only in the event that a high ability veto player and a low ability proposer hold office, since this is the only setting in which the status quo will be implemented. The threshold

$\kappa^*(\alpha, \beta, 0)$ is the probability that the voter draws a high ability proposer, conditional on any proposer-veto-player pair *other* than a low ability proposer and a high ability veto player. As this probability increases, the voter must derive a greater benefit from the status quo payoff in order for her to value the certainty of a low ability proposer and a high ability veto player over an uncertain fresh draw of both agents.

Two observations are crucial. First, any (specious) attempt by the low ability veto player to accrue reputation by blocking the proposer's initiatives will be fruitless, since the gain in her own reputation necessarily comes at the expense of the proposer's.

Second, in furnishing the low ability veto player with good incentives, a system of joint appointments simultaneously provides insufficient incentives to the high ability veto player to act in the voter's interest. Since the high ability veto player is certain to be removed if she rejects a policy, but has some prospect of retaining office if she does not (for any $\delta > 0$), her hands are tied regardless of her beliefs. Thus, the equilibrium outcome is as if there were no veto player, whatsoever!

For the sake of clarity, I have not endowed the veto player with any primitive preference for or against the survival of the proposer. Nonetheless, a system of joint appointments effectively forces her to behave as if she cared solely for the survival of the proposer, which she fully internalizes in order to guarantee her own retention by the voter.

Suppose, instead, that the status quo payoff is relatively high, $\kappa > \kappa^*(\alpha, \beta, \delta)$. Then, the voter would instead prefer to retain both the proposer and the veto player rather than remove them both, if she were certain that the veto player is high ability and the proposer is low ability. This is because the veto player is now a valuable bulwark against bad policies.

I show that when $\kappa > \kappa^*(\alpha, \beta, \delta)$ there exists an equilibrium in which the high ability veto player rejects policies which she believes will harm the voter. The reason is that by rejecting these policies, she can now enjoy an electoral benefit. Could the low ability veto player simultaneously be incentivized to implement any policy that she believed would benefit the voter? The answer is *no*: the voter would interpret a veto as evidence that the veto player is surely high ability, and this would induce the low ability veto player to attack the proposer

to pander to the voter.

To construct an equilibrium, consider the following strategy profile of the veto player: the high ability veto player rejects the proposer's policy if she learns that the policy is low quality, and implements the policy if it is high quality; the low ability veto player employs a mixed strategy in which she rejects any proposal with probability $\tau \in (0,1)$. Let $\pi(p, v, \tau)$ denote the voter's belief that the proposer is ability $p \in \{p_L, p_H\}$ and the veto player is ability $v \in \{v_L, v_H\}$, after observing that the proposer's policy is rejected under this strategy. I first show that for any mixture, $\tau$, the voter's assessment of the proposer is strictly worse than her prior belief ($\alpha$), after she observes that the proposer's policy is rejected.

**Lemma 1.** If the high ability veto player rejects a low quality policy, and implements a high quality policy, the voter's posterior assessment of the proposer falls after a policy is rejected, regardless of the low ability veto player's strategy. That is:

$$\sum_{v \in \{v_L, v_H\}} \pi(p_H, v, \tau) < \alpha \tag{5}$$

for any strategy of the low ability veto player, $\tau \in (0,1)$.

Even though the voter is aware that a low ability veto player is spuriously rejecting policies, any rejection immediately brings the proposer's ability into doubt. Next, define:

$$\bar{\tau}(\alpha) = \frac{1-\alpha}{2}. \tag{6}$$

When the high ability veto player implements a high quality policy, and rejects it otherwise and the low ability veto player rejects the proposer's policy with probability $\bar{\tau}(\alpha)$, the posterior belief assigned to the veto player by the voter is equal to the prior:

$$\sum_{p \in \{p_L, p_H\}} \pi(p, v_H, \bar{\tau}(\alpha)) = \beta. \tag{7}$$

If the high ability veto player rejects a policy only when she believes it will harm the voter, $\bar{\tau}(\alpha)$ is the overall probability with which the high ability veto player is expected to reject a policy—the probability that she acquires information which leads her to believe that the

proposer's policy will harm the voter. This probability diminishes in $\alpha$—the probability of a high ability proposer—since a higher prospect of a high ability proposer renders the prospect of a policy which harms the voter less likely. If the proposer is a president, for example, $\alpha$ could be interpreted as her approval rating that is inherited from the previous legislative cycle.

Suppose, then, that the voter observes that the veto player rejected the proposer's policy. If the voter retains both the proposer and the veto player after observing that her policy was vetoed, her expected date one payoff is:

$$\sum_{v\in\{v_L,v_H\}} \pi(p_H, v, \tau) + \pi(p_L, v_H, \tau)\frac{1}{2}(\kappa+1) + \pi(p_L, v_L, \tau)\frac{1}{2}(\delta+1). \tag{8}$$

If, instead, the voter removes both politicians, her expected payoff is:

$$\alpha + (1-\alpha)\left(\beta\frac{1}{2}(\kappa+1) + (1-\beta)\frac{1}{2}(\delta+1)\right). \tag{9}$$

To construct an equilibrium, we identify a (unique) mixture by the low ability veto player ($\tau$) which equates these two expected payoffs.

To derive properties of this mixed strategy, suppose that the low ability veto player never rejects a policy, i.e. $\tau = 0$. In that case, the voter would believe that a veto surely indicated a high ability veto player. And, since the voter is favorable to the status quo ($\kappa > \kappa^*(\alpha, \beta, \delta)$), she strictly prefers to retain both agents after observing the veto player reject the proposer's policy. This would be inconsistent with the low ability veto player's incentives.

Suppose, instead, that the low ability veto player is so prone to rejecting the proposer's policy that the voter's posterior belief about the veto player after observing a veto is equal to the prior (i.e., $\tau = \bar{\tau}(\alpha)$). In this case, the voter is *strictly* less optimistic about the proposer's ability than the prior (Lemma 1) and no more optimistic than the prior belief ($\beta$) about the veto player. So, the voter strictly prefers to replace both agents.

I show that there is a unique intermediate strategy, $\hat{\tau}(\alpha, \beta, \kappa, \delta) \in (0, \bar{\tau}(\alpha))$, which leaves the voter indifferent between *joint* retention and *joint* replacement of both politicians. As per Lemma 1, the voter's belief that the proposer is high ability after observing that her

policy rejected is still strictly worse than the prior, $\alpha$. That is:

$$\sum_{v \in \{v_L, v_H\}} \pi(p_H, v, \hat{\tau}(\alpha, \beta, \kappa, \delta)) < \alpha. \tag{10}$$

On the other, her evaluation of the veto player is strictly *more* favorable than the prior:

$$\sum_{p \in \{p_L, p_H\}} \pi(p, v_H, \hat{\tau}(\alpha, \beta, \kappa, \delta)) > \beta. \tag{11}$$

If the voter could separate her retention decisions, she would remove the proposer and retain the veto player. But under joint appointments, she can only choose from joint replacement or joint retention. So, she is indifferent between each of these actions despite having strict preferences over each of the two politicians, individually, relative to each of their potential replacements. In essence, *the veto player must look exceptionally good in the eyes of the voter to make up for the loss of reputation of the proposer*, after she rejects the proposer's policy.

**Proposition 3.** If the status quo is sufficiently favorable ($\kappa \geq \kappa^*(\alpha, \beta, \delta)$), under joint appointments, there exists an equilibrium in which the high ability veto player implements high quality policies, and rejects low quality policies. The low ability veto player vetoes a proposal with probability $\hat{\tau}(\alpha, \beta, \kappa, \delta) \in (0, \bar{\tau}(\alpha))$. The voter randomizes between joint retention and joint replacement of the proposer and the veto player, after the proposer's policy is rejected. She retains both agents after a policy is implemented and succeeds, and replaces both agents after a policy is implemented and fails.[11,12]

[11]The voter's mixed strategy renders the low ability veto player indifferent between implementing and rejecting the proposer's policy. If the policy is passed, the low ability veto player is retained if and only if the proposal succeeds, which the low ability veto player believes will occur with probability $\alpha + (1 - \alpha)\frac{1+\delta}{2}$. Thus, after observing a rejection, the voter retains both the proposer and the veto player with the same probability.

[12]The only other possible equilibrium is a unique 'mirror' equilibrium in which the strategy of the high ability veto player is reversed. That is: the high ability veto player rejects high

I document the effect of changes in primitives on the propensity of the veto player to reject the proposer's policies.

**Corollary 1.** The propensity of the low ability veto player to reject the proposer's policy is (a) *decreasing* in $\alpha$, the voter's initial confidence in the ability of the proposer and (b) *decreasing* in $\beta$, the voter's initial confidence in the ability of the veto player, and (c) *increasing* in $\kappa$, the value of the status quo.

That the propensity of the low ability veto player to engage in more obstruction as the value of the status quo ($\kappa$) rises is not because she internalizes the welfare of the voter, but because the voter places a greater induced value on a high ability veto player. This makes the voter more willing to retain both agents on a thinner prospect that the veto player is indeed high ability, which allows the low ability veto player to raise her propensity to reject the proposer's policies and yet keep the voter indifferent.

*To summarize*: when the status quo is not too valuable—$\kappa < \kappa^*(\alpha, \beta, \delta)$—there is a unique equilibrium in which both high ability and low ability veto players implement all policies, regardless of their beliefs about whether they will help or harm the voter. On the other hand, when the status quo is valuable—$\kappa \geq \kappa^*(\alpha, \beta, \delta)$—both veto player types are willing to attack the proposer in order to improve the voter's assessment of their own abilities; however, this propensity is still moderated by the imperative for joint survival.

**Separate Appointments.** I now consider a system in which the voter can choose not only between retention and replacement of both agents, but in which she can also formally separate her retention decision by retaining one agent but removing the other.

I start by considering the strategic difference between systems, from the perspective of the veto player. As before, suppose the high ability veto player rejects the proposer's policy

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quality policies and implements low quality policies. As in the equilibrium of Proposition 3, the low ability veto player randomizes between implementing and rejecting the proposer's policy. I do not consider it since it is both substantively implausible and welfare-dominated by the equilibrium described in Proposition 3.

if it is low quality, and implements the policy if it is high quality; the low ability veto player employes a mixed strategy in which she rejects any proposal with probability $\tau \in (0,1)$. Let $\pi(p,v,\tau)$ denote the voter's belief that the proposer is ability $p \in \{p_L, p_H\}$ and the veto player is ability $v \in \{v_L, v_H\}$, after observing that the proposer's policy is rejected under this strategy.

In a system of *joint appointments*, a necessary condition for the veto player to be retained after rejecting the proposer's policy is that the voter's expected payoff from joint retention:

$$\sum_{v\in\{v_L,v_H\}} \pi(p_H,v,\tau) + \pi(p_L,v_H,\tau)\left(\frac{\kappa+1}{2}\right) + \pi(p_L,v_L,\tau)\left(\frac{\delta+1}{2}\right), \tag{12}$$

weakly exceeds her expected payoff from joint replacement:

$$\alpha + (1-\alpha)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right). \tag{13}$$

Under *separate appointments*, however, the veto player can be retained in either of two ways—with the proposer, or without her. Thus, a necessary condition for the veto player's survival, after she rejects the proposer's policy, is that the voter's highest expected payoff from an action in which the veto player is retained:

$$\max\Bigg\{\underbrace{\sum_{v\in\{v_L,v_H\}} \pi(p_H,v,\tau) + \pi(p_L,v_H,\tau)\left(\frac{\kappa+1}{2}\right) + \pi(p_L,v_L,\tau)\left(\frac{\delta+1}{2}\right)}_{\text{retain proposer, retain veto player}}, \tag{14}$$

$$\underbrace{\alpha + (1-\alpha)\sum_{p\in\{p_L,p_H\}} \pi(p,v_H,\tau)\left(\frac{\kappa+1}{2}\right) + (1-\alpha)\sum_{p\in\{p_L,p_H\}} \pi(p,v_L,\tau)\left(\frac{\delta+1}{2}\right)}_{\text{replace proposer, retain veto player}}\Bigg\}, \tag{15}$$

is weakly better than her highest expected payoff from an action in which the veto player is replaced:

$$\max\Bigg\{\underbrace{\sum_{v\in\{v_L,v_H\}} \pi(p_H,v,\tau) + \sum_{v\in\{v_L,v_H\}} \pi(p_L,v,\tau)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right)}_{\text{retain proposer, replace veto player}}, \tag{16}$$

$$\underbrace{\alpha + (1-\alpha)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right)}_{\text{replace proposer, replace veto player}}\Bigg\}. \tag{17}$$

I first show that an implication of a system of separate appointments is that the low ability veto player must veto policies with a frequency which ensures that, after observing a veto, the voter's posterior assessment of the veto player is equal to the prior, $\beta$. That is, the low ability veto player must choose a mixed strategy in which her probability of rejecting a policy is $\tau = \bar{\tau}(\alpha)$, defined in (6).

The reason is simple: the voter's preference for replacement or retention of the veto player turns solely on her evaluation of the incumbent relative to an untested alternative. This untested alternative is believed to be high ability with probability $\beta$.

Suppose that, after a veto, the voter's posterior assessment were strictly less favorable than the prior, i.e., $\tau > \bar{\tau}(\alpha)$. Then, the voter would strictly prefer to replace the veto player after she rejects the proposer's policy. Then, the low ability veto player would strictly prefer to pass the proposer's policy, which contradicts the voter's assessment. Suppose, instead, that the voter's assessment of the veto player, after observing a veto, is strictly *more* favorable than the prior, $\alpha$, i.e., $\tau < \bar{\tau}(\alpha)$. This implies that the veto player is sure to be retained after she rejects the proposer's policy. Since the low ability veto player faces certain removal if she implements a policy which subsequently fails, she would always prefer to reject a policy, once again contradicting the voter's assessment.[13]

We conclude that the low ability veto player must instead reject the proposer's policy with a frequency which ensures that the voter learns nothing whatsoever about her ability from observing that the proposer's policy is rejected. This renders the voter indifferent between retaining and replacing the veto player. However, since the voter is strictly less enthusiastic about the proposer's ability (recall Lemma 1), she *always* removes the proposer when observing that her policy is rejected. So, despite having the institutional flexibility to choose from four distinct possible actions under separate appointments, equilibrium implies that the voter only mixes over at most two actions with positive probability: *replace the proposer, replace the veto player*, and *replace the proposer, retain the veto player*.

[13]Some additional steps are needed: these are formally derived in the Appendix.

We have obtained our first key equilibrium property under separate appointments: when the voter observes that the proposer's policy is rejected, she always removes the proposer. The second key equilibrium property is that the veto conveys no information to the voter about the veto player's ability. Crucially, the propensity of the low ability veto player to reject the proposer's policies, $\bar{\tau}(\alpha)$, is greater under *separate* electoral appointments than *joint* electoral appointments, $\hat{\tau}(\alpha, \beta, \kappa, \delta)$, since she is retained solely on the basis of her own reputation rather than the voter's joint assessment of the veto player and the proposer.

**Proposition 4.** Under separate appointments, there exists an equilibrium in which the high ability veto player implements the policy of the proposer if and only if she learns that it is high quality. The low ability veto player rejects the proposer's policy with probability $\bar{\tau}(\alpha)$. The voter randomizes between replacing both agents and replacing only the proposer, after the proposer's policy is rejected. She retains both agents after a policy is implemented and succeeds, and replaces both agents after a policy is implemented and fails.[14,15]

Under separate appointments, the voter can—at least in principle—separate her decision about whether to retain or replace each of the proposer and veto player. This ex-post flexibility provides a natural intuition as to why she might prefer separate appointments over joint appointments. However, the first hint that this intuition could fail arises from the distortions induced by the career concerns of the veto player: in equilibrium, the voter's

[14]The voter's mixed strategy renders the low ability veto player indifferent between implementing and rejecting the proposer's policy. If the policy is passed, the low ability veto player is retained if and only if the proposal succeeds, which the low ability veto player believes will occur with probability $\alpha + (1-\alpha)\frac{1+\delta}{2}$. Thus, after observing a rejection, the voter retains *only* the veto player with probability $\alpha + (1-\alpha)\frac{1+\delta}{2}$, and with complementary probability replaces both agents.

[15]Depending on parameters, there may exist at most one other equilibrium: a 'mirror' equilibrium in which the high ability veto player rejects a policy if and only if it is high quality, and implements a policy if and only if it is low quality.

*effective* set of decisions is coarsened to either retention solely of the veto player, or the replacement of both politicians.

**Corollary 2.** The probability with which the low ability veto player rejects the proposer's policy under a system of separate appointments is *decreasing* in $\alpha$, the voter's initial confidence in the ability of the proposer, and constant in both the veto player's initial reputation $\beta$ and the value of the status quo, $\kappa$.

Notice that the probability with which the veto player rejects the policy under a system of separate appointments depends negatively on the prior reputation of the proposer, as in a system of joint appointments. Unlike a system of joint appointments, however, the veto player's propensity to reject the proposer's policy does not respond to the relative value placed by the voter on the status quo $\kappa$ or her starting reputation $\beta$. This implies that the obstruction of the veto player is unresponsive to the external environment, as captured by the value of the status quo. It also implies that even when the veto player's initial approval ratings are low, she will continue to attack the proposer.

*To summarize*: under a system of separate appointments, the high ability veto player is incentivized to act in the voter's interest. However, the potential for the low ability veto player to survive independently of the proposer provides the most powerful incentives for her to mimic the high ability veto player by speciously rejecting the proposer's policies—to a significantly greater extent than under joint appointments, since $\bar{\tau}(\alpha) > \hat{\tau}(\alpha, \beta, \kappa, \delta)$.

## 5. Comparing Systems

When (1) politicians are solely motivated by the voter's welfare, or (2) there is no uncertainty about their abilities, the voter necessarily prefers the ex-post flexibility of a system of separate appointments to one of joint appointments. I revisit this result in the light of career concerns. For simplicity, I take $\delta = 0$; all results therefore hold for $\delta$ arbitrarily small.

The voter's value from each system is determined by its immediate (date-0) and long-term (date-1) consequences. The immediate implication of each system for the voter is her

prospect for having a high quality policy implemented, and a low quality policy rejected. The implications for her date-1 payoff stem from her prospect of obtaining the best possible selection of politicians.

The problem of political selection is subtle. Effective political selection requires that the date-0 outcome provide the voter with accurate *information* about agents' capabilities. It also requires that the electoral mechanism endow her with the flexibility to *act* on this information in order to make the best possible retention decisions.

These dual components of electoral accountability are strategically intertwined. A system of separate appointments gives the voter more flexibility to use her beliefs effectively to replace or retain each of the proposer and the veto player. On the other hand, the veto player's equilibrium behavior changes with this flexibility by raising her propensity to reject the proposer's policy. This has a direct consequence for the voter's inference after observing the veto player's decision to reject the proposer's policy about *both* the proposer *and* the veto player. It therefore has a direct consequence for the ability of the voter to engage in informed retrospective (but inherently forward-looking) voting.

One way to formalize informed retrospective voting is the accuracy of the voter's belief about a politician's type, at the end of date 0. The quality of political selection is naturally captured by the expected quality of a date-1 politician. The next result shows that in spite of the greater ex-post flexibility conferred on the voter by a system of separate appointments, a system of joint appointments may improve the quality of political selection of the proposer through the *information* channel. Recall that $\kappa^*(\alpha, \beta, 0) = \frac{\alpha}{1-(1-\alpha)\beta}$ is the cut-off under joint appointments such that if $\kappa \leq \kappa^*$, the proposer's policy is never rejected.

**Proposition 5.** The voter's posterior inference about the proposer's type is always more accurate, in expectation, under *joint appointments*. Moreover, if and only if the status quo is not too valuable:

$$\kappa \leq \max\left\{\frac{\alpha}{1-(1-\alpha)\beta}, \frac{\alpha}{\alpha+\beta+\alpha\beta}\right\},$$

then the prospect of a high ability date-1 proposer is maximized under *joint appointments*.

This striking result states that despite a system of joint appointments giving the voter only an indirect channel to replace or retain the proposer, via this coarsened instrument she may be better positioned to obtain a proposer who is high ability than she would be under a system which gives her *direct* control of the proposer's electoral fate.

The first reason for more informed retrospective voting under joint appointments is that the voter observes better data on first period outcomes, since she is relatively more likely to see the outcome of an implemented policy. A failed policy is a 'smoking gun' from the voter's perspective, providing the best information about the proposer's ability. When the value of the status quo is not too high, i.e., $\kappa < \kappa^*$, the proposer's policy is *never* rejected under joint appointments. Even when $\kappa \geq \kappa^*$, the propensity of the low ability veto player to reject the proposer's policy is lower under joint appointments. These give the voter the most fruitful setting to learn about the proposer's capability.

A second reason for the voter's improved learning applies when the status quo is relatively valuable to the voter ($\kappa > \kappa^*$). In this case, both the high and low ability veto player may reject the proposer's policy under both joint and separate appointments. Under joint appointments, however, vetoes are more informative about the type of proposer in office, since they are relatively more likely to arise from a high ability veto player than a low ability veto player. Under separate appointments, a veto is relatively more likely to have come from a low ability veto player, whose information about the quality of the proposal, and thus the proposer, is significantly worse. Since the frequency of spurious rejections by the low ability veto player is higher under separate appointments, and their informativeness about the proposer's ability is lower, the information available to the voter when making her decision is significantly impaired under a system of separate appointments.

This result connects to a literature which studies the relationship between the ability of voters to hold politicians accountable for their performance, and the *clarity of responsibility* of political institutions (Powell Jr and Whitten (1993)). This literature argues that "complex institutional and governmental structures blur lines of responsibility and make it difficult for voters to assign responsibility and sanction government governments on the basis of their

performance" (Hobolt et al., 2013, 164). In my setting, the degree of clarity of responsibility arises purely from the strategic consequences of institutions, rather than the institutions, *per se*: as a low ability veto player's propensity to reject proposals rises, the voter sees fewer policy outcomes. She therefore struggles to infer whether a rejection implies that the proposer submitted a bad policy, or instead that she was the victim of a career-concerned veto player.

How does the informational advantage under joint appointments trade off with the fact that under separate appointments, the sure replacement of the proposer after a veto is an effective means to remove low ability proposers, and moreover the voter's ability to formally separate this decision makes a low ability proposer relatively less safe than she would be under a system of joint appointments? Strikingly, Proposition 5 shows that separate appointments may yield a lower quality of political selection, despite conferring on the voter a more flexible instrument for achieving it.

To see why, consider a system of joint appointments, and suppose that the status quo is not too valuable, i.e., $\kappa < \kappa^*$. Recall from Proposition 2 that both high and low ability veto players implement the proposer's policy regardless of their beliefs about its consequences. If the proposer at date zero is high ability, the voter will correctly retain her. Under a system of separate appointments, however, the voter may fail to retain her because the low ability veto player speciously rejects her proposal. In that case, the proposer is removed from office (Proposition 4) and the voter must once again hope to draw a high ability proposer from the pool.

Suppose, instead, that the status quo is valuable, i.e., $\kappa \geq \kappa^*$. Under both systems, the high ability veto player acts in the interest of the voter, so the key comparison between the quality of political selection under each system hinges on the behavior of the low ability veto player, *and* the voter's retention decision after observing the rejection of the proposer's policy.

Under both appointment regimes, the low ability veto player attempts to pool with the high ability veto player by speciously rejecting proposals. However, this behavior is less

aggressive under a system of joint appointments, since the veto player's survival hinges on the survival of the proposer. In addition, the behavior of the voter towards the proposer is less decisive under a system of joint appointments, since she may retain the proposer even after her policy is rejected; under separate appointments, however, the proposer is immediately removed when her policy is rejected. Conditional on a rejection, the voter always correctly removes a low ability proposer under separate appointments, and mistakenly removes a high ability proposer. Moreover, rejections are more frequent under separate appointments.

When the status quo is valuable $\kappa \geq \kappa^*$, the propensity of the low ability veto player to reject policies under joint appointments is increasing in $\kappa$ (recall Corollary 1). Since the voter values observations of the policy outcome in order to make informed choices, she will continue to enjoy better political selection under that system so long as the status quo is not *too* valuable, i.e., $\kappa \leq \frac{\alpha}{\alpha+\beta+\alpha\beta}$. When the status quo crosses above this threshold, the low ability veto player still rejects the proposer's policy with lower frequency under joint appointments than separate appointments, since $\hat{\tau}(\alpha, \beta, \kappa, 0) < \bar{\tau}(\alpha)$. However, this lower frequency is not sufficient to compensate the voter for the diminished frequency with which she acts to remove low ability proposers under joint appointments.

The 'bottom line' judgement on each system incorporates its relative prospects for political selection at date one, as well as the immediate payoff consequences at date zero. For example, a system of separate appointments is comparatively more likely to generate a 'type 1' error, in the sense that it is more likely that a policy which would benefit the voter is rejected by the veto player. On the other hand, a system of joint appointments is comparatively likely to generate a 'type 2' error, by which a policy that harms the voter is implemented by the veto player. In the benchmark setting of complete information, a system of separate appointments is *always* superior, from the perspective of the voter. My final result shows that this conclusion may be reversed once the career concerns of the veto player are taken into account.

**Proposition 6.** Regardless of the prospect of a high ability proposer ($\alpha$) or veto player ($\beta$), there always exist values of the status quo for which the voter strictly prefers a system of

*joint appointments*. In particular, when the prospect of a high ability proposer is not very small, i.e., $\alpha > 3 - 2\sqrt{2}$, there exists $\kappa^{**} \leq \kappa^*$ such that if and only if $\kappa \leq \kappa^{**}$ or $\kappa \geq \kappa^*$, the vote prefers a system of *joint appointments*.

Remarkably, a system of joint appointments may be preferred by the voter, once the career concerns of the veto player are taken into account.[16]

Recall that when the value of the status quo is relatively low, i.e., $\kappa < \kappa^*$, both the high and low ability veto player passes all of the proposer's policies under joint appointments, but when $\kappa \geq \kappa^*$, she may reject the proposer's policies. By contrast, under separate appointments, vetoes occur with positive probability for all parameters. Thus, we must consider the voter's induced preferences over constitutions for each of these possible intervals.

On both sub-intervals, depending on the prospects of a high ability proposer ($\alpha$) or veto player ($\beta$), there may exist additional cut-off thresholds for the value of the status quo which demarcate contexts in which the voter prefers joint versus separate appointments. In particular, the proposition states that if the prospect of a high ability proposer is not too small, the voter will *always* prefer joint appointments whenever the value of the status quo is relatively high, i.e., $\kappa \geq \kappa^*$; moreover, she may even prefer joint appointments in circumstances where such an arrangement induces both high- and low-ability veto players to take no action, whatsoever, to protect the voter, i.e., when the value of the status quo is sufficiently small. While the voter would prefer for a high ability veto player to reject low-quality proposals, this protection may come at too high a cost, via the pandering behavior of the low ability veto player under separate appointments. In that case, the voter prefers a system of government in which the veto player's incentives render her entirely passive.

*To summarize*: under a wide range of circumstances, the voter strictly prefers to tie her

[16]In the proof of Proposition 6, I also explicitly characterize the values of the status quo for which joint appointments is preferred by the voter when the prospect of a high ability proposer is very small, i.e., $\alpha < 3 - 2\sqrt{2}$. However, the characterization involves a plethora of cases which yield little substantive insight.

hands via an explicit commitment not to separate the electoral fate of the proposer and veto player.

## 6. Conclusion

I analyze alternative patterns of delegation from voter to policy-making agents, conceived as a proposer and a veto player. I focus on differences in the incentives given to the veto player to fulfill its constitutional responsibility of scrutinizing proposals, passing those which it believes to be merited and otherwise rejecting them, under two canonical electoral regimes. My main finding is that despite endowing voters with a more coarsened instrument for holding both the proposer and the veto player to account, a system of joint appointments, which fuses their electoral survival can produce better-informed voters and generate the highest quality of political selection. It achieves this by attenuating the veto player's incentives to pander by speciously and inefficiently rejecting the proposer's policies in order to build a reputation for competence.

Recent work at the intersection of formal theory and comparative politics has provided important explanations for patterns of executive-legislative relations across different countries. However, formal theorists have remained almost entirely silent about the consequences of these patterns for democratic *performance*, based on criteria such as political accountability, transparency and selection. This paper represents an attempt to extend a line of formal-theoretic enquiry recently renewed by Strom (2000), whose objective is to interpret observable differences in comparative political systems along these crucial measures of democratic quality.

Whilst I have attempted to render the analysis as transparent as possible by focusing on one crucial source of variation, in practice, policy-making institutions vary with respect to many other important details. With the objective of broadening its application and relevance to the greatest possible extent, my approach necessarily abstracts from these features. Incorporating these subtleties into the analysis is an important challenge for future theoretical and empirical work.

## 7. Acknowledgements

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## 8. Biographical Statement

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## 9. Online Appendix for "Together or Apart"?

*Appendix A: Definitions and Refinement*

I provide additional notation that will be used in the proofs and the definition of the refinement. The set of observations on which the voter conditions her belief when making her replacement decisions is $Y = \{y_S, y_F, y_R\}$, where $y_S$ is an outcome in which the policy is passed by the veto player and succeeds, $y_F$ is an outcome in which the policy is passed by the veto player and fails, and $y_R$ is an outcome in which the policy is rejected by the veto player.

**Types Set.** I define the set of proposer-veto-player-signal types as:

$$T = \{(p_H, v_H, s_G), (p_H, v_H, s_B), (p_L, v_H, s_G), (p_L, v_H, s_B), (p_H, v_L), (p_L, v_L)\}. \tag{18}$$

where the definition reflects that a proposer is high ability $p_H$ or low ability $p_L$, and a high ability veto player learn whether the policy is high quality ($s_G$) or low quality ($s_B$) and the low ability veto player remains uninformed beyond the prior. For proofs, it is useful to work with a veto-player type set: $V = \{(v_H, s_G), (v_H, s_B), v_L\}$.

**Strategies.** The strategy of the high ability veto player type $(v_H, s)$ for $s \in \{s_B, s_G\}$ is $\tau(v_H, s) \in [0, 1]$, the probability of rejecting a policy. The corresponding strategy of the low ability veto player is written $\tau(v_L) \in [0, 1]$. A veto player strategy profile is $\boldsymbol{\tau} = (\tau(v_H, s_G), \tau(v_H, s_B), \tau(v_L)) \in [0, 1]^3$. The set of voter actions under *separate appointments* is $K^+ = \{(1_p, 1_v), (0_p, 0_v), (1_p, 0_v), (0_p, 1_v)\}$, where $1_j$ for $j \in \{p, v\}$ denotes the retention of politician $j \in \{p, v\}$. So, for example, the action $(1_p, 0_v)$ indicates the action in which the proposer is retained and the veto player is replaced. The set of voter actions under *joint appointments* is $K^- = \{(1_p, 1_v), (0_p, 0_v)\}$. The voter's strategy is a probability distribution $\eta(k|y)$ for each action $k \in K$ after each outcome $y \in Y$: I let $\boldsymbol{\eta} = \{\{\eta(k|y)\}_{k \in K})\}_{y \in Y}$ for $K \in \{K^-, K^+\}$ (depending on the appointment regime) denote the voter's strategy. A *strategy profile* is $(\boldsymbol{\tau}, \boldsymbol{\eta})$.

I study sequential equilibria satisfying the D2 refinement (see below). To avoid trivial equilibria, I assume that if the probability with which the veto player is re-elected is constant for any outcome $y \in \{y_S, y_F, y_R\}$ that she strictly prefers an action which maximizes the expected utility of the voter, where the expectation is taken with respect to that veto-player type's private information.

**Equilibrium Refinement.** I use the D2 criterion, modified to take into account aggregate uncertainty faced by each veto player type. Let $\Psi(K)$ denote the set of all probability distributions over $K \in \{K^+, K^-\}$, with

element $\psi \in \Psi$; $\psi(k|y)$ denotes the probability that the voter selects action $k \in K$ given outcome $y \in Y$, where $\sum_{k \in K} \psi(k|y) = 1$. The action set of the veto player is $A = \{\text{pass}, \text{reject}\}$; I refer to a generic element of $A$ as $a \in A$.

For an action $a$ by the veto player, and an outcome $y \in Y$, let $T(a, y)$ denote the set of proposer-veto player-signal types in $T$ such that the pair $(a, y)$ arises with positive probability for at least one $\boldsymbol{\tau} \in [0, 1]^3$. In words: $T(a, y)$ is the set of types that could possibly have arisen under some veto player strategy profile if the voter observed action $a$ and outcome $y$. Let $\Delta(T(a, y))$ denote the set of all probability distributions over $T(a, y)$, with element $\mu \in \Delta(T(a, y))$; $\mu(t)$ denotes the probability that the voter associates with type $t \in T(a, y)$ under probability distribution $\mu$, where $\sum_{t \in T(a,y)} \mu(t) = 1$. The voter's expected date 1 payoff when the date zero proposer-veto-player-signal type is $t \in T$ and the voter chooses action $k$ at the end of date 0 is denoted $v(t, k)$: by Claim 1 (below) this payoff is well-defined and unique.

Suppose a strategy profile $(\boldsymbol{\tau}, \boldsymbol{\eta})$ which is part of a sequential equilibrium has the property that an action $a \in A$ is selected with probability 0 by all veto player types. Define:

$$MBR(T(a, y)) = \bigcup_{\mu : \mu \in \Delta(T(a,y))} \left\{ \arg \max_{\psi \in \Psi(K)} \sum_{k \in K} \psi(k|y) \sum_{t \in T(a,y)} \mu(t) v(t, k) \right\} \tag{19}$$

*In words*: the term in brackets is the set of all probability distributions over the voter's action set $K$ which maximize her expected payoffs when her belief over the set of proposer-veto-player-signal types is $\mu$. We then take the union over all the possible beliefs of the voter which place positive probability on elements of $T(a, y)$. This gives us a set of mixtures with which the voter could respond after observing the off-equilibrium pair $(a, y)$.

Let $u^*(v, \boldsymbol{\tau}, \boldsymbol{\eta})$ denote the expected payoff to the veto player type $v \in \{(v_H, s_G), (v_H, s_B), v_L\}$, in an equilibrium where the strategy profile is $(\boldsymbol{\tau}, \boldsymbol{\eta})$, and $u(v, a, k, y)$ denote the expected payoff to veto player $v$ when she takes the action $a$ (which the strategy prescribes her to take with probability zero), and the voter takes action $k \in K$ after outcome $y \in Y$. Let $\phi(y|v, a)$ denote the conditional probability assigned by veto player type $v \in V$ to the policy outcome $y \in \{y_S, y_F, y_R\}$, given her action $a$ and type $v \in V$. Define:

$$D(t, a) = \left\{ \psi \in MBR(T(a, y)) : u^*(v, \boldsymbol{\tau}, \boldsymbol{\eta}) < \sum_{y \in Y} \phi(y|v, a) \sum_{k \in K} \psi(k|y) u(v, a, k, y) \right\} \tag{20}$$

and

$$D^0(v, a) = \left\{ \psi \in MBR(T(a, y)) : u^*(v, \boldsymbol{\tau}, \boldsymbol{\eta}) = \sum_{y \in Y} \phi(y|v, a) \sum_{k \in K} \psi(k|y) u(v, a, k, y) \right\} \tag{21}$$

Under criterion D2, the voter's belief places probability zero on $v \in V$ after observing action $a \in A$ if and only if $\{D^0(v,a) \cup D(v,a)\} \subset \bigcup_{v' \in V, v' \neq v} D(v',a)$. I impose condition D2 on agents' beliefs at out-of-equilibrium events throughout the subsequent analysis, where the appropriate set $K \in \{K^-, K^+\}$ is taken, depending on the appointment regime.

*Appendix B: Proofs of Results*

**Additional Notation.** In the proofs, $\pi(t|y, \boldsymbol{\tau})$ denotes the voter's belief that type profile is type $t \in \{p_L, p_H\} \times \{(v_H, s_G), (v_H, s_B), v_L\}$ when the strategy profile is $\boldsymbol{\tau}$, after outcome $y \in \{y_S, y_F, y_R\}$. I sometimes use the short-hand:

$$\eta(y) \equiv \eta(1_p, 1_v|y) + \eta(0_p, 1_v|y) \tag{22}$$

which denotes the total probability that the veto player is retained after outcome $y$ when the voter uses strategy $\boldsymbol{\eta}$. Under a system of joint appointments we have $\eta(0_p, 1_v|y) = 0$.
I next establish a fact which is useful in subsequent proofs.

**Lemma 2.** In any sequential equilibrium, the voter's beliefs at the end of date 0 on and off the equilibrium path satisfy $\pi(p_H, v|y_F) = 0$ for $v \in \{(v_H, s_G), (v_H, s_B), v_L\}$.

*Proof.* Follows directly from the consistency requirement of sequential equilibrium. □

Note that this result constrains beliefs both on and off the equilibrium path.

**Proof of Claim 1.** At date one, the probability with which the veto player is retained after any outcome $y \in \{y_S, y_F, y_R\}$ is zero. Thus, each of the high and low ability veto players chooses the action which maximizes the welfare of the voter given their respective beliefs about the quality of the proposal. At date one, $\alpha < 1$ implies that at any information set of the veto player type $(v_H, s_G)$, $\tau(v_H, s_G) = 0$ is strictly preferred since $1 > \kappa$. Similarly, $\tau(v_H, s_B) = 1$ is strictly preferred at any information set so long as $\kappa > \delta$. Finally, $\tau(v_L) = 0$ follows from $\kappa < \frac{1}{2}$. That is, the parameter restriction $0 < \delta < \kappa < \frac{1}{2}$ implies that regardless of the beliefs that a date-1 veto player type $v \in \{(v_H, s_G), (v_H, s_B), v_L\}$ holds about the ability of the date-1 proposer—who may be a fresh draw or retained from the previous date—her optimal action depends only on her private signal if she his high ability, or it is simply to pass the proposer's policy if she is a low ability veto player.

**Proof of Proposition 1.** This is direct from the argument in the text, with the additional observation that if the proposer is type $p_H$ and the veto player is type $v_L$, the voter weakly prefers to retain both politicians, which she can do under either system.

**Proof of Proposition 2.** I claim that there exists an equilibrium under joint appointments, for $\kappa \leq \kappa^*(\alpha, \beta, \delta)$ in which the strategies are:

(i) $\tau(v_H, s_G) = 0$, $\tau(v_H, s_B) = 0$, $\tau(v_L) = 0$.

(ii) $\eta(0_p, 0_v|y) = 1$ if $y \in \{y_R, y_F\}$ and $\eta(1_p, 1_v|y_S) = 1$.

and in which beliefs not specified by Bayes' rule are: $\sum_{p \in \{p_L, p_H\}} \pi(p, v_H, s_B|y_R; \boldsymbol{\tau}) = 1$.

The proof of existence is straightforward from the text, so I focus on establishing uniqueness of the equilibrium strategies. I proceed by a sequence of smaller claims, some of which are used in later results. Let $\lambda(t)$ for $t \in V = \{(v_H, s_G), (v_H, s_B), v_L\}$ denote the interim belief of the veto player type $(v_H, s)$ that a proposal will yield the voter a payoff of 1 if passed. That is, $\lambda(v_H, s_B) = \delta$, $\lambda(v_H, s_G) = 1$ and $\lambda(v_L) = \alpha + (1-\alpha)\left(\frac{1+\delta}{2}\right)$.

**Claim 2.** Under either joint appointments or separate appointments, for any strategy of the voter, and for all parameters, if the low ability veto player weakly prefers to reject the proposer's policy, either $\tau(v_H, s_G) = 1$ or $\tau(v_H, s_B) = 1$.

*Proof.* The veto player type $t \in \{v_L, (v_H, s_G), (v_H, s_B)\}$ prefers to reject a policy if:

$$\eta(y_R) \geq \eta(y_F) + \lambda(t)(\eta(y_S) - \eta(y_F)). \tag{23}$$

where $\eta(y) \equiv \eta(1_p, 1_v|y) + \eta(0_p, 1_v|y)$ is the total probability that the veto player is retained after outcome $y$. Suppose, first, $\eta(y_S) > \eta(y_F)$. Then, the claim follows from $\lambda(v_H, s_B) < \lambda(v_L)$. If, instead, $\eta(y_S) < \eta(y_F)$, the claim follows from $\lambda(v_L) < \lambda(v_H, s_G)$. Suppose, finally, $\eta(y_S) = \eta(y_F) \equiv \bar{\eta}$. If $\eta(y_R) > \bar{\eta}$, the claim is trivially correct. If, instead, $\eta(y_R) = \bar{\eta}$, we have $\eta(y_S) = \eta(y_F) = \eta(y_R)$, so that the probability of re-election does not depend on the outcome $y \in \{y_F, y_R, y_S\}$, in which case the veto player strictly prefers to take the action which maximizes the payoff of the voter; this implies $\tau(v_H, s_B) = 1$. Finally, if $\eta(y_R) < \bar{\eta}$, then (23) fails for the low ability veto player type, so the low ability veto player strictly prefers to pass a policy. Since the supposition of the Claim fails, the implication of the Claim holds. □

**Claim 3.** Under either joint appointments or separate appointments, for any strategy of the voter, and for all parameters, if the low ability veto player weakly prefers to implement the proposer's policy, either $\tau(v_H, s_G) = 0$ or $\tau(v_H, s_B) = 0$.

*Proof.* Similar to the previous Claim. □

**Claim 4.** Under joint appointments, if $\kappa \leq \kappa^*(\alpha, \beta, \delta)$, there exists no equilibrium in which $\tau(t) = 1$ for all $t \in \{(v_H, s_G), (v_H, s_B), v_L\}$.

*Proof.* Consider a strategy in which $\tau(t) = 1$ for $t \in \{(v_H, s_G), (v_H, s_B), v_L\}$. By Lemma 2, in a sequential equilibrium, $\sum_{t \in V} \pi(p_H, t|y_F) = 0$, so the expected payoff from joint retention after outcome $y_F$ is weakly less than $\frac{1+\kappa}{2}$. For $\kappa \leq \kappa^*(\alpha, \beta, \delta)$, this is less than the expected benefit of joint replacement, so $\eta(0_p, 0_v|y_F) = 1$ is a strict best response. A veto player type $t$ thus weakly prefers to pass a policy for any pair $(\eta(y_S), \eta(y_R))$ such that $\lambda(t) \geq \frac{\eta(y_R)}{\eta(y_S)}$. Since $\lambda(v_H, s_G) > \lambda(v_L) > \lambda(v_L, s_B)$, the D2 refinement requires that the voter's belief places probability 1 on the veto player being type $(v_H, s_G)$ after observing $y_S$. Since $\Pr(p_H|v_H, s_G, y_S) = \frac{2\alpha}{1+\alpha}$ under the strategy profile, this implies that the voter's value of joint retention is:

$$\frac{2\alpha}{1+\alpha} + \frac{1-\alpha}{1+\alpha}\frac{1+\kappa}{2} > \alpha + (1-\alpha)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right) \tag{24}$$

for all parameters, and so $\eta(y_S) = 1$. For any $\eta(y_R) \leq 1$, this implies $\tau(v_H, s_G) = 0$, which contradicts $\boldsymbol{\tau} = (1, 1, 1)$. □

**Claim 5.** In an equilibrium under joint appointments, for $\kappa \leq \kappa^*(\alpha, \beta, \delta)$, $\eta(0_p, 0_v|y_R) = 1$.

*Proof.* (1) Suppose $\tau(v_L) < 1$. Since $\eta(1_p, 1_v|y_F) = 0$ for $\kappa \leq \kappa^*(\alpha, \beta, \delta)$ this implies $\lambda(v_L)\eta(1_p, 1_v|y_S) \geq \eta(1_p, 1_v|y_R)$. This implies $\eta(1_p, 1_v|y_S) > \eta(1_p, 1_v|y_R)$ unless $\eta(1_p, 1_v|y_S) = \eta(1_p, 1_v|y_R) = \eta(1_p, 1_v|y_F) = 0$. This implies $\tau(v_H, s_G) = \tau(v_L) = 0$ and $\tau(v_H, s_B) = 1$. In turn, the voter's posterior inference after outcome $y_S$ implies $\eta(1_p, 1_v|y_S) = 1$, a contradiction. We conclude $\eta(1_p, 1_v|y_S) > \eta(1_p, 1_v|y_R)$. Since $\lambda(v_H, s_G) > \lambda(v_L)$, this implies $\lambda(v_H, s_G)\eta(1_p, 1_v|y_S) > \eta(1_p, 1_v|y_R)$. Thus, $\tau(v_L) < 1$ implies $\tau(v_H, s_G) = 0$. The voter's expected benefit of jointly retaining the proposer and the veto player after the proposer's policy is rejected is:

$$\frac{\alpha(1-\beta)\tau(v_L) + (1-\alpha)\beta\frac{\tau(v_H, s_B)}{2}\frac{\kappa+1}{2} + (1-\alpha)(1-\beta)\tau(v_L)\frac{1+\delta}{2}}{\alpha(1-\beta)\tau(v_L) + (1-\alpha)\beta\frac{\tau(v_H, s_B)}{2} + (1-\alpha)(1-\beta)\tau(v_L)}. \tag{25}$$

This expression is maximized either at $(\tau(v_L), \tau(v_H, s_B)) = (1, 0)$ or $(\tau(v_L), \tau(v_H, s_B)) = (0, 1)$. In both cases, it is strictly less than the benefit of joint replacement, since $\kappa \leq \kappa^*(\alpha, \beta, \delta)$. So, we must have $\eta(1_p, 1_v|y_R) = 0$, i.e., $\eta(0_p, 0_v|y_R) = 1$.

(2) Suppose, instead, $\tau(v_L) = 1$. This implies $\eta(1_p, 1_v|y_R) \geq \lambda(v_L)\eta(1_p, 1_v|y_S)$. If $\eta(1_p, 1_v|y_R) = 0$, we have $\eta(1_p, 1_v|y_R) = \eta(1_p, 1_v|y_S) = \eta(1_p, 1_v|y_F) = 0$ which implies $\tau(v_L) = 0$, a contradiction. So, $\eta(1_p, 1_v|y_R) > 0$. Since $\eta(1_p, 1_v|y_F) = 0$ for $\kappa \leq \kappa^*(\alpha, \beta, \delta)$, $\eta(1_p, 1_v|y_R) > 0$ implies $\tau(v_H, s_B) = 1$. Then, $\tau(v_L) = \tau(v_H, s_B) = 1$

and the previous Claim implies $\tau(v_H, s_G) < 1$. This implies that the voter believes that the veto player type is $(v_H, s_G)$ with probability one after $y_S$. Since $\Pr(p_H|v_H, s_G, y_S) = \frac{2\alpha}{1+\alpha}$, the voter strictly prefers joint retention, so $\eta(1_p, 1_v|y_S) = 1$, and $\tau(v_H, s_G) = 0$. Since $\tau(v_H, s_G) = 0$ and $\tau(v_L) = \tau(v_H, s_B) = 1$, after outcome $y_R$ the voter's expected payoff from joint retention is given by (25), evaluated at $\tau(v_L) = \tau(v_H, s_B) = 1$, which is strictly less than the expected payoff from joint retention for $\kappa \leq \kappa^*(\alpha, \beta, \delta)$. This implies $\eta(1_p, 1_v|y_R) = 0$, i.e., $\eta(0_p, 0_v|y_R) = 1$. □

**Claim 6.** In an equilibrium under joint appointments, $\kappa \leq \kappa^*(\alpha, \beta, \delta)$ implies $\tau(v_L) = 0$ and $\eta(1_p, 1_v|y_S) = 1$.

*Proof.* From the previous claims, $\kappa \leq \kappa^*(\alpha, \beta, \delta)$ implies implies $\eta(1_p, 1_v|y_R) = \eta(1_p, 1_v|y_F) = 0$. Suppose $\eta(1_p, 1_v|y_S) = 0$. Then, $\tau(v_H, s_B) = 1$, $\tau(v_L) = 0$ and $\tau(v_H, s_G) = 0$. This implies that the voter's value of joint retention after the outcome $y_S$ is:

$$\frac{\alpha + (1-\alpha)\beta\frac{1}{2}\left(\frac{\kappa+1}{2}\right) + (1-\alpha)(1-\beta)\frac{1+\delta}{2}\frac{1+\delta}{2}}{\alpha + (1-\alpha)\beta\frac{1}{2} + (1-\alpha)(1-\beta)\frac{1+\delta}{2}} > \alpha + (1-\alpha)\beta\left(\frac{\kappa+1}{2}\right) + (1-\alpha)(1-\beta)\left(\frac{\delta+1}{2}\right), \quad (26)$$

so that $\eta(1_p, 1_v|y_S) = 1$, a contradiction. So, $\eta(1_p, 1_v|y_S) > 0$. Since $\lambda(v_L) > 0$, $\eta(1_p, 1_v|y_S) > 0$ implies $\tau(v_L) = 0$ and $\tau(v_H, s_G) = 0$. Since $\eta(1_p, 1_v|y_R) = \eta(1_p, 1_v|y_F) = 0$ and $\lambda(v_H, s_G) > \lambda(v_L) > \lambda(v_H, s_B) = \delta > 0$, we therefore have $\tau(v_L) = \tau(v_H, s_G) = \tau(v_H, s_B) = 0$. Then, the voter strictly prefers $\eta(1_p, 1_v|y_S) = 1$ if:

$$\frac{2\alpha}{1+\alpha+\delta(1-\alpha)} + \frac{(1-\alpha)(1+\delta)}{1+\alpha+\delta(1-\alpha)}\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right) \quad (27)$$

$$> \alpha + (1-\alpha)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right) \quad (28)$$

which is true. □

We have therefore shown that in an equilibrium under joint appointments for $\kappa \leq \kappa^*(\alpha, \beta, \delta)$, $\eta(1_p, 1_v|y_S) = 1$, $\eta(1_p, 1_v|y_R) = \eta(1_p, 1_v|y_F) = 0$, and $\tau(v_L) = 0$. This implies $\tau(v_H, s_G) = \tau(v_H, s_B) = 0$, which completes the argument for uniqueness of the strategy profile; uniqueness of beliefs follows from the strategy except for the belief in the event of a veto, which is pinned down by the belief refinement.

**Proof of Proposition 3.** For $\kappa \geq \kappa^*(\alpha, \beta, \delta)$, I claim existence of an equilibrium in which:

(i) $\tau(v_H, s_G) = 0$, $\tau(v_H, s_B) = 1$, $\tau(v_L) = \hat{\tau}(\alpha, \beta, \delta, \kappa)$ satisfying:

$$\hat{\tau}(\alpha, \beta, \delta, \kappa) = \frac{\alpha(-\beta\delta + \beta\kappa + \delta - 1) + (\beta - 1)(\delta - \kappa)}{2(\beta - 1)(\delta - \kappa)}. \quad (29)$$

(ii) $\eta(1_p, 1_v|y_S) = 1$, $\eta(1_p, 1_v|y_F) = 0$, $\eta(1_p, 1_v|y_R) = \hat{\eta}(\alpha, \delta)$ solving:

$$\alpha + (1-\alpha)\frac{1+\delta}{2} = \hat{\eta}(\alpha, \delta). \tag{30}$$

The only part of establishing existence which is not immediate is the derivation of $\hat{\tau}(\alpha, \beta, \delta)$, which is obtained as a solution to:

$$\frac{(1-\beta)\hat{\tau}(\alpha,\beta,\delta)(\alpha + (1-\alpha)\left(\frac{1+\delta}{2}\right)) + \beta(1-\alpha)\frac{1}{2}\frac{1+\kappa}{2}}{(1-\beta)\hat{\tau}(\alpha,\beta,\delta) + \beta(1-\alpha)\frac{1}{2}} = \alpha + (1-\alpha)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right) \tag{31}$$

which, when re-arranged, yields the solution given above. I next prove that there is at most one additional equilibrium, on this region, in which $\tau(v_H, s_G) = 1$ and $\tau(v_H, s_B) = 0$, and $\tau(v_L) = \frac{\alpha((\beta-1)\delta-\beta\kappa+1)+(\beta-1)(\delta-\kappa)}{2(\beta-1)(\delta-\kappa)}$.

**Claim 7.** For $\kappa \geq \kappa^*(\alpha, \beta, \delta)$ there exists no equilibrium in which $\tau(v_L) = \tau(v_H, s_G) = \tau(v_H, s_B) = 0$ under joint appointments.

*Proof.* From the proof of Claim 2, under this strategy profile, D2 implies that the voter's belief after outcome $y_R$ must place probability 1 over the union of veto player types $(v_H, s_G)$ and $(v_H, s_B)$. Since $\kappa \geq \kappa^*(\alpha, \beta, \delta)$, the voter's payoff from joint retention after outcome $y_R$ is strictly greater than the benefit of joint replacement, which implies $\eta(1_p, 1_v|y_R) = 1$. On the other hand, the voter's continuation payoff from joint retention after the outcome $y_F$ is:

$$\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right) < \alpha + (1-\alpha)\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right). \tag{32}$$

where the RHS is the value of joint replacement and the LHS is the value of joint retention, where $\tau(v_L) = \tau(v_H, s_G) = \tau(v_H, s_B) = 0$ implies $\sum_{p\in\{p_L,p_H\}}\sum_{s\in\{s_G,s_B\}}\pi(p, v_H, s|y_F; \boldsymbol{\tau}) = \beta$. This implies $\eta(1_p, 1_v|y_F) = 0$. But this implies $\tau(v_H, s_B) = 1$. □

**Claim 8.** In an equilibrium under joint appointments, for $\kappa \geq \kappa^*(\alpha, \beta, \delta)$, $\tau(v_L) > 0$.

*Proof.* Suppose $\tau(v_L) = 0$. Then either $\tau(v_H, s_G) > 0$ or $\tau(v_H, s_B) > 0$, by the previous claim. But, since $\kappa > \kappa^*(\alpha, \beta, \delta)$ then $\eta(1_p, 1_v|y_R) = 1$. If $\min\{\eta(1_p, 1_v|y_S), \eta(1_p, 1_v|y_F)\} < 1$, the low ability veto player strictly prefers $\tau(v_L) = 1$. Suppose, instead, we have that $\min\{\eta(1_p, 1_v|y_S), \eta(1_p, 1_v|y_F)\} = 1$. Then, $\eta(1_p, 1_v|y_S) = \eta(1_p, 1_v|y_F) = \eta(1_p, 1_v|y_R) = 1$. This implies $\tau(v_L) = 0$, a contradiction. □

**Claim 9.** In an equilibrium under joint appointments, for $\kappa \geq \kappa^*(\alpha, \beta, \delta)$, $\tau(v_L) < 1$.

*Proof.* Suppose $\tau(v_L) = 1$. Then, Claim 2 and $\tau(v_L) = 1$ implies $\max\{\tau(v_H, s_G), \tau(v_H, s_B)\} = 1$. Suppose, in addition, $\min\{\tau(v_H, s_G), \tau(v_H, s_B)\} = 1$. By a similar argument to Claim 4, D2 implies the voter's belief satisfy:

$$\sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y_S, \boldsymbol{\tau}) = \sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y_F, \boldsymbol{\tau}) = 1, \tag{33}$$

so the voter's payoff from joint retention after outcome $y \in \{y_S, y_F\}$ is weakly greater than $\frac{\kappa+1}{2}$, which strictly exceeds the payoff from joint replacement if $\kappa > \kappa^*(\alpha, \beta, \delta)$. Thus, $\eta(1_p, 1_v|y_S) = \eta(1_p, 1_v|y_F) = 1$. Then, for any $\eta(1_p, 1_v|y_R) \in [0, 1]$, $\tau(v_H, s_G) = 0$, a contradiction. Thus, $\min\{\tau(v_H, s_G), \tau(v_H, s_B)\} < 1$. But $\tau(v_L) = 1 > \min\{\tau(v_H, s_G), \tau(v_H, s_B)\}$ once again implies (33), so that the voter strictly prefers to retain both politicians, regardless of the outcome $y \in \{y_S, y_F\}$, which implies that for any $\eta(1_p, 1_v|y_R) \in [0, 1]$, $\tau(v_L) = 0$, a contradiction. □

We have therefore established $\tau(v_L) \in (0, 1)$ in an equilibrium if $\kappa \geq \kappa^*(\alpha, \beta, \delta)$.

**Claim 10.** In an equilibrium under joint appointments, $\kappa \geq \kappa^*(\alpha, \beta, \delta)$ implies (1) either $\tau(v_H, s_G) = 1$ or $\tau(v_H, s_B) = 1$ and (2) either $\tau(v_H, s_G) = 0$ or $\tau(v_H, s_B) = 0$.

*Proof.* Since $0 < \tau(v_L) < 1$, follows from Claims 2 and 3. □

**Claim 11.** If $\kappa \geq \kappa^*(\alpha, \beta, \delta)$, $\tau(v_H, s_G) = 0$ and $\tau(v_H, s_B) = 1$, there exists a unique $\tau(v_L) \in (0, 1)$ which makes the voter indifferent between joint retention and joint replacement.

*Proof.* The voter is indifferent between joint retention and joint replacement under this strategy of the high ability veto player types if and only if:

$$\frac{\alpha(1-\beta)\tau(v_L) + (1-\alpha)\beta\frac{1}{2}\frac{\kappa+1}{2} + (1-\alpha)(1-\beta)\tau(v_L)\frac{\delta+1}{2}}{\alpha(1-\beta)\tau(v_L) + (1-\alpha)\beta\frac{1}{2} + (1-\alpha)(1-\beta)\tau(v_L)} \tag{34}$$

$$= \alpha + (1-\alpha)\left(\beta\frac{\kappa+1}{2} + (1-\beta)\frac{\delta+1}{2}\right). \tag{35}$$

The uniqueness of $\tau(v_L)$ solving the above is immediate from algebra, which yields $\hat{\tau}(\alpha, \beta, \kappa, \delta)$. □

These results imply that under joint appointments, if $\kappa \geq \kappa^*(\alpha, \beta, \delta)$ the only other possible form of equilibrium other than the one characterized in the Proposition is one in which $\tau(v_H, s_G) = 1$, $\tau(v_H, s_B) = 0$. It is easy to show that there is at most one such equilibrium, in which the low ability veto player chooses the strategy $\tau(v_L) = \frac{\alpha((\beta-1)\delta-\beta\kappa+1)+(\beta-1)(\delta-\kappa)}{2(\beta-1)(\delta-\kappa)}$.

**Proof of Proposition 4.** I claim existence of an equilibrium in which:

(i) $\tau(v_H, s_G) = 0$, $\tau(v_H, s_B) = 1$, $\tau(v_L) = \frac{1-\alpha}{2}$;

(ii) $\eta(1_p, 1_v|y_S) = 1$, $\eta(0_p, 0_v|y_F) = 1$, $\eta(0_p, 1_v|y_R) = \hat{\eta}(\alpha, \delta)$ solving:

$$\alpha + (1-\alpha)\frac{1+\delta}{2} = \hat{\eta}(\alpha, \delta) \tag{36}$$

and $\eta(0_p, 0_v|y_R) = 1 - \hat{\eta}(\alpha, \delta)$. Existence is immediate from arguments in the main text, so I focus on showing that there is at most one other equilibrium, in which $\tau(v_H, s_G) = 1$ and $\tau(v_H, s_B) = 0$.

**Claim 12.** Under separate appointments: if $\tau(v_H, s_G) < \tau(v_H, s_B)$, then $\eta(1_p, 1_v|y) + \eta(1_p, 0_v|y) = 0$ for $y \in \{y_R, y_F\}$.

*Proof.* After $y \in \{y_F, y_R\}$, the voter strictly prefers to remove the proposer if:

$$\max\Bigg\{\alpha + (1-\alpha)\beta\left(\frac{\kappa+1}{2}\right) + (1-\alpha)(1-\beta)\left(\frac{\delta+1}{2}\right), \tag{37}$$

$$\alpha + (1-\alpha)\sum_{p\in\{p_L,p_H\}}\sum_{s\in\{s_B,s_G\}}\pi(p, v_H, s|y, \boldsymbol{\tau})\left(\frac{\kappa+1}{2}\right) + (1-\alpha)\sum_{p\in\{p_L,p_H\}}\pi(p, v_L|y, \boldsymbol{\tau})\left(\frac{\delta+1}{2}\right)\Bigg\}, \tag{38}$$

$$> \max\Bigg\{\sum_{t\in V}\pi(p_H, t|y, \boldsymbol{\tau}) + \sum_{t\in V}\pi(p_L, t|y, \boldsymbol{\tau})\left(\beta\left(\frac{\kappa+1}{2}\right) + (1-\beta)\left(\frac{\delta+1}{2}\right)\right) \tag{39}$$

$$\sum_{t\in V}\pi(p_H, t|y, \boldsymbol{\tau}) + \sum_{s\in\{s_G,s_B\}}\pi(p_L, v_H, s|y, \boldsymbol{\tau})\left(\frac{\kappa+1}{2}\right) + \pi(p_L, v_L|y, \boldsymbol{\tau})\left(\frac{\delta+1}{2}\right)\Bigg\}, \tag{40}$$

By Lemma 2, $\sum_{t\in V}\pi(p_H, t|y_F, \boldsymbol{\tau}) = 0$ for any $\boldsymbol{\tau}$. Moreover:

$$\sum_{t\in V}\pi(p_H, t|y_R, \boldsymbol{\tau}) = \frac{\alpha\left(\beta\Pr(y_R|p_H, v_H) + (1-\beta)\tau(v_L)\right)}{\alpha\beta\Pr(y_R|p_H, v_H) + (1-\alpha)\beta\Pr(y_R|p_L, v_H) + (1-\beta)\tau(v_L)}, \tag{41}$$

which is strictly less than $\alpha$ if and only if $\tau(v_H, s_B) > \tau(v_H, s_G)$. So, after event $y \in \{y_R, y_F\}$, (37) is strictly higher than (39). Thus, I need only show that after $y \in \{y_F, y_R\}$, (38) is strictly higher than (40). This is equivalent to:

$$\alpha - \sum_{t\in V}\pi(p_H, t|y, \boldsymbol{\tau}) > \left(\frac{\kappa+1}{2}\right)\left(\sum_{s\in\{s_G,s_B\}}\pi(p_L, v_H, s|y, \boldsymbol{\tau}) - (1-\alpha)\sum_{p\in\{p_L,p_H\}}\sum_{s\in\{s_G,s_B\}}\pi(p, v_H, s|y, \boldsymbol{\tau})\right) \tag{42}$$

$$+\left(\frac{\delta+1}{2}\right)\left(\pi(p_L, v_L|y, \boldsymbol{\tau}) - (1-\alpha)\sum_{p\in\{p_L,p_H\}}\pi(p, v_L|y, \boldsymbol{\tau})\right) \tag{43}$$

For $y = y_F$, the result is immediate. For $y = y_R$, repeated substitution and $\Pr(y_R|p_H, v_L) = \Pr(y_R|p_L, v_L)$, imply that the strict inequality follows from $\Pr(y_R|p_L, v_H) > \Pr(y_R|p_H, v_H)$, which is equivalent to $\tau(v_H, s_B) > \tau(v_H, s_G)$. □

**Claim 13.** In an equilibrium under separate appointments, $\tau(v_L) \in (0,1)$.

*Proof.* Suppose $\tau(v_L) = 1$. If $\min\{\tau(v_H, s_G), \tau(v_H, s_B)\} < 1$,

$$\sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y_F, \boldsymbol{\tau}) = \sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y_S, \boldsymbol{\tau}) = 1. \tag{44}$$

This implies $\eta(y_S) \equiv \eta(1_p, 1_v|y_S) + \eta(0_p, 1_v|y_S) = 1$ and $\eta(y_F) \equiv \eta(1_p, 1_v|y_F) + \eta(0_p, 1_v|y_F) = 1$. Let $\eta(y_R) \equiv \eta(1_p, 1_v|y_R) + \eta(0_p, 1_v|y_R)$. If $\eta(y_R) < 1$, $\tau(v_L) = 0$ is strictly optimal, a contradiction. If $\eta(y_R) = 1$, then $\eta(y_S) = \eta(y_F) = \eta(y_R) = 1$ and thus $\tau(v_L) = 0$ is strictly preferred by the low ability veto player. Suppose, instead, $\min\{\tau(v_H, s_G), \tau(v_H, s_B)\} = 1$. By Claim 2 and the D2 refinement, the voter's belief from the off-path outcome $y \in \{y_S, y_F\}$ is:

$$\sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y; \boldsymbol{\tau}) = 1. \tag{45}$$

which implies $\eta(y_R) = 1$. If $\min\{\eta(y_S), \eta(y_F)\} < 1$, the high ability veto player strictly prefers $\tau(v_H, s_G) = 0$, a contradiction. If $\min\{\eta(y_S), \eta(y_F)\} = 1$, $\eta(y_S) = \eta(y_F) = \eta(y_R) = 1$, so that $\tau(v_H, s_G) = 0$ is once again strictly preferred by the high ability veto player. This contradicts $\min\{\tau(v_H, s_G), \tau(v_H, s_B)\} = 1$. Ruling out $\tau(v_L) = 0$ follows a similar approach. □

This result, in addition to Claims 2 and 3, implies that in an equilibrium under separate appointments, $\max\{\tau(v_H, s_G), \tau(v_H, s_B)\} = 1$ and $\min\{\tau(v_H, s_G), \tau(v_H, s_B)\} = 0$.

**Claim 14.** In an equilibrium under separate appointments, $\tau(v_H, s_G) = 0$ and $\tau(v_H, s_B) = 1$ implies:

$$\sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y_R; \boldsymbol{\tau}) \leq \beta \tag{46}$$

*Proof.* Suppose, to the contrary, $\sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y_R; \boldsymbol{\tau}) > \beta$. This is equivalent to $\tau(v_L) < \bar{\tau}(\alpha)$. By the previous Claim, a proposer's policy is rejected with positive probability on the equilibrium path. Moreover, $\tau(v_H, s_G) < \tau(v_H, s_B)$ and Claim 12 imply the voter (a) strictly prefers the action $(0_p, 0_v)$ to $(1_p, 0_v)$ and (b) strictly prefers the action $(0_p, 1_v)$ to $(1_p, 1_v)$ after the outcome $y_R$. Thus, $\eta(0_p, 1_v|y_R) = 1$ if $\sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_B,s_G\}} \pi(p, v_H, s|y_R; \boldsymbol{\tau}) > \beta$. This implies $\tau(v_L) = 1$ if $\lambda(v_L)\eta(y_S) + (1 - \lambda(v_L))\eta(y_F) < 1$. If $\min\{\eta(y_S), \eta(y_F)\} < 1$, $\lambda(v_L) \in (0,1)$ implies $\tau(v_L) = 1$, which contradicts Claim 13. Suppose, instead, $\min\{\eta(y_S), \eta(y_F)\} = 1$. Since $\eta(y_R) = 1$, we have $\tau(v_H, s_B) = 1$, $\tau(v_H, s_G) = 0$, and $\tau(v_L) = 0$, which again contradicts Claim 13. □

**Claim 15.** In an equilibrium under separate appointments in which $\tau(v_H, s_G) = 0$ and $\tau(v_H, s_B) = 1$:

$$\sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y_R; \boldsymbol{\tau}) \geq \beta \tag{47}$$

*Proof.* Suppose, to the contrary, $\sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_G,s_B\}} \pi(p, v_H, s|y_R; \boldsymbol{\tau}) < \beta$. By $\tau(v_H, s_G) = 0$ and $\tau(v_H, s_B) = 1$, this is equivalent to $\tau(v_L) < \bar{\tau}(\alpha)$. The supposition $\tau(v_H, s_G) = 0$ and $\tau(v_H, s_B) = 1$ and Claim 12 implies that the voter weakly prefers at least one action in which the veto player is retained to every action in which she is removed if:

$$\alpha + (1-\alpha) \sum_{p\in\{p_L,p_H\}} \sum_{s\in\{s_B,s_G\}} \pi(p, v_H, s|y, \boldsymbol{\tau}) \frac{\kappa+1}{2} + (1-\alpha) \sum_{p\in\{p_L,p_H\}} \pi(p, v_L|y, \boldsymbol{\tau}) \frac{1+\delta}{2} \tag{48}$$

$$\geq \alpha + (1-\alpha)\beta \left(\frac{\kappa+1}{2}\right) + (1-\alpha)(1-\beta)\frac{1+\delta}{2}, \tag{49}$$

which is equivalent to (47). Since we are supposing (47) is violated, we have $\eta(y_R) = 0$. If $\max\{\eta(y_S), \eta(y_F)\} > 0$, the low ability veto player strictly prefers $\tau(v_L) = 0$, contradicting Claim 13. If $\max\{\eta(y_S), \eta(y_F)\} = 0$, then $\eta(y_S) = \eta(y_F) = \eta(y_R) = 0$, so that the low ability veto player strictly prefers $\tau(v_L) = 0$. But this implies (47) holds strictly. □

These steps imply that in every equilibrium under separate appointments, in which $\tau(v_H, s_B) > \tau(v_H, s_G)$, we have $\tau(v_H, s_B) = 1$, $\tau(v_H, s_G) = 0$, and $\tau(v_L) = \bar{\tau}(\alpha)$, which is part of the equilibrium characterized in the Proposition. The uniqueness of the voter's strategy given the strategy of the veto player types is immediate.

**Proof of Proposition 5.**

Under joint appointments, for $\kappa \leq \kappa^*$, the probability assigned by the voter to the realized type of the proposer is:

$$\alpha\pi(p_H|y_G) + (1-\alpha)\frac{1}{2}\left(1 - \pi(p_H|y_G) + 1\right) \tag{50}$$

where $\pi(p_H|y_G) = \frac{2\alpha}{1+\alpha}$ is the probability that the proposer is high ability, given that her policy is implemented and is successful. Here is an explanation of this expression. With probability $\alpha$, the proposer is high ability, in which case she submits a high quality policy with probability 1. This is implemented by both veto player types, in which case the voter observes $y_S$, and updates her posterior belief to $\pi(p_H|y_G)$. With probability $1-\alpha$, the proposer is instead low ability, in which case she is equally likely to submit a high or a low quality policy, both of which are implemented by both veto player types with probability 1. If the proposal

is high quality, it succeeds, in which case the voter's updated belief that the proposer is indeed low ability is $1-\pi(p_H|y_G)$. If the proposal is low quality, given the restriction in this section to $\delta=0$, it fails, in which case the voter's updated belief places probability 1 on the proposer indeed being low ability.

Likewise, under joint appointments for $\kappa > \kappa^*$ (the equilibrium of Proposition 3), or under separate appointments (the equilibrium of Proposition 4), the probability assigned by the voter to the realized type of the proposer is:

$$\begin{aligned}&\alpha\beta\pi(p_H|y_G)+(1-\beta)\tau\left(\alpha\pi(p_H|y_R,\tau)+(1-\alpha)(1-\pi(p_H|y_R,\tau))\right.\\&+(1-\beta)(1-\tau)\left(\alpha\pi(p_H|y_G)+(1-\alpha)\frac{1}{2}\left(1-\pi(p_H|y_G)+1\right)\right)\\&+(1-\alpha)\beta\frac{1}{2}\left(1-\pi(p_H|y_R,\tau)+1-\pi(p_H|y_G,\tau)\right).\end{aligned}\tag{51}$$

where:

$$\pi(p_H|y_R,\tau)=\frac{\alpha(1-\beta)\tau}{(1-\beta)\tau+\beta\frac{1}{2}(1-\alpha)}\tag{52}$$

is the posterior belief of the voter that the proposer is high ability, conditional on observing that her policy is rejected, and $\tau\in\{\hat{\tau},\bar{\tau}\}$ as per the relevant Proposition. Substituting in $\bar{\tau}$, we take the difference between the posterior beliefs under joint appointments for $\kappa\leq\kappa^*$ and separate appointments, and obtain:

$$\frac{(1-\alpha)\alpha^2(1-\beta)(1+\beta-\alpha(1-\beta))}{\alpha+1}>0.\tag{53}$$

Next, we compare joint appointments for $\kappa\geq\kappa^*$ with separate appointments. To do so, it is sufficient to show that the derivative of (51) is strictly negative. The derivative takes the sign of the following expression:

$$-\beta^2\left(\alpha(2\tau-1)+2\tau^2-2\tau+1\right)+2\beta\tau(\alpha+2\tau-1)-2\tau^2,\tag{54}$$

which is linear in $\alpha$. For $\alpha=0$, the expression is:

$$-\beta^2\left(2\tau^2-2\tau+1\right)-2\beta\tau(1-2\tau)-2\tau^2,\tag{55}$$

which is strictly monotonic in $\tau\leq\frac{1}{2}$. Set $\tau=0$ and the expression simplifies to $-\beta^2<0$; at $\tau=\frac{1}{2}$, the expression is $-\frac{1}{2}(1+\beta^2)<0$. Finally, for $\alpha=1$, (54) is $-2(\beta-1)^2\tau^2<0$. Thus, (54) is strictly negative, and we conclude that (51) is strictly decreasing in $\tau$.

Next, I prove that under the conditions in the proposition, the prospect of a high ability date-1 proposer is maximized under joint appointments. Under joint appointments, for $\kappa\leq\kappa^*$, the probability that the date-1

proposer is high ability is:

$$\alpha + (1-\alpha)\frac{1}{2}\alpha. \tag{56}$$

Here is an explanation of this expression. With probability $\alpha$, the proposer is high ability, in which case she will submit a high quality policy which will be implemented with probability 1. When the voter observes a successful outcome—again, with probability 1—she retains the proposer with probability 1. With probability $1-\alpha$, the proposer is low ability, in which case she is equally likely to submit a high or low quality proposal. If she submits a high quality proposal, she is retained with probability 1, i.e., the date-1 proposer is low ability with probability 1. If, instead, she submits a low quality proposal, it will be implemented and fail with probability 1 (again, recall that I consider the limiting case $\delta = 0$). In that case, the voter will replace the proposer with probability 1, in which case she draws a high ability proposer at date 1 with probability $\alpha$.

Likewise, under joint appointments for $\kappa > \kappa^*$ (the equilibrium of Proposition 3), the probability of a high ability date-1 proposer is:

$$\alpha\beta + \alpha(1-\beta)(\hat{\tau}(\eta(y_R) + (1-\eta(y_R))\alpha) + 1 - \hat{\tau}) + (1-\alpha)\beta\frac{1}{2}(1-\eta(y_R))\alpha \tag{57}$$

$$+(1-\alpha)(1-\beta)\left(\hat{\tau}(1-\eta(y_R))\alpha + (1-\hat{\tau})\frac{1}{2}\alpha\right). \tag{58}$$

where $\eta(y_R) = \frac{1+\alpha}{2}$. Finally, under separate appointments (the equilibrium of Proposition 4), the probability of a high ability date-1 proposer is:

$$\alpha\beta + \alpha(1-\beta)(\bar{\tau}\alpha + (1-\bar{\tau})) + (1-\alpha)\beta\frac{1}{2}\alpha + (1-\alpha)(1-\beta)\left(\bar{\tau}\alpha + (1-\bar{\tau})\frac{1}{2}\alpha\right). \tag{59}$$

Note the difference between this and the previous expression: the mixed strategy of the low ability veto player is different, and the proposer is removed with probability 1 after a veto under separate appointments, but retained with probability $1-\eta(y_R)$ under joint appointments.

Substituting, we take the difference between the probability of a high ability proposer under joint appointments for $\kappa \leq \kappa^*$ and separate appointments, and obtain:

$$\frac{1}{4}(\alpha-1)^2\alpha(1-\beta) > 0. \tag{60}$$

We conclude that if $\kappa \leq \kappa^* = \frac{\alpha}{1-(1-\alpha)\beta}$, the probability of a high ability proposer is maximized under joint appointments. Suppose, instead, $\kappa > \kappa^*$. Substituting in, once again, we take the difference between the

probability of a high ability proposer under joint appointments for $\kappa > \kappa^*$ and separate appointments, and obtain:

$$\frac{(\alpha-1)\alpha(\alpha(\beta\kappa+\kappa-1)+\beta\kappa)}{4\kappa}, \tag{61}$$

which is strictly decreasing in $\kappa$, and is strictly positive if and only if $\kappa \leq \frac{\alpha}{\alpha+\beta+\alpha\beta}$. We conclude that the probability of a high ability proposer is maximized under joint appointments if and only if

$$\kappa \leq \max\left\{\frac{\alpha}{1-(1-\alpha)\beta}, \frac{\alpha}{\alpha+\beta+\alpha\beta}\right\}. \tag{62}$$

**Proof of Proposition 6.**

I now establish the welfare comparison across systems for all parameters. Formally, I claim that:

1. if $\kappa^*(\alpha,\beta,0) \geq \frac{1}{2}$, the voter prefers a system of joint appointments if and only if:

$$\kappa \leq \min\left\{\frac{1}{2}, \frac{(2-\alpha^2+3\alpha)(1-\beta)}{(\alpha^2-1)\beta^2+\alpha^2(-\beta)+\beta+4}\right\}, \tag{63}$$

2. if $\frac{-\alpha^2+3\alpha+2}{\alpha^2(-\beta)+\beta+4} < \kappa^*(\alpha,\beta,0) < \frac{1}{2}$, the voter prefers a system of joint appointments if and only if:

$$\kappa \leq \min\left\{\kappa^*(\alpha,\beta,0), \frac{(2-\alpha^2+3\alpha)(1-\beta)}{(\alpha^2-1)\beta^2+\alpha^2(-\beta)+\beta+4}\right\}, \tag{64}$$

   and

3. if $\kappa^*(\alpha,\beta,0) \leq \frac{-\alpha^2+3\alpha+2}{\alpha^2(-\beta)+\beta+4}$ and $\kappa^*(\alpha,\beta,0) < \frac{1}{2}$, the voter prefers a system of joint appointments if and only if:

$$\kappa \leq \min\left\{\kappa^*(\alpha,\beta,0), \frac{(2-\alpha^2+3\alpha)(1-\beta)}{(\alpha^2-1)\beta^2+\alpha^2(-\beta)+\beta+4}\right\}, \tag{65}$$

   or

$$\kappa \in \left[\kappa^*(\alpha,\beta,0), \min\left\{\frac{1}{2}, \frac{-\alpha^2+3\alpha+2}{\alpha^2(-\beta)+\beta+4}\right\}\right]. \tag{66}$$

I now prove this claim. Define the voter's continuation value from replacing both the proposer and the veto player at the end of date 0, i.e., the action $(0_p, 0_v)$, to be:

$$V(0_p,0_v) = \alpha + (1-\alpha)\left(\beta\frac{1+\kappa}{2} + (1-\beta)\frac{1}{2}\right) \tag{67}$$

Then, voter's expected payoff under joint appointments, for $\kappa \leq \kappa^*$, is:

$$\alpha 2 + (1-\alpha)\left(\frac{1}{2}\left(1 + \beta\frac{1+\kappa}{2} + (1-\beta)\frac{1}{2}\right) + \frac{1}{2}V(0_p, 0_v)\right). \tag{68}$$

Here is an explanation of this expression. With probability $\alpha$, the proposer is high ability, in which case she implements a high quality policy which succeeds with probability 1 at date 0, and is implemented. So, the voter retains a high ability proposer with probability 1 at the end of date 0, who will once again implement a high quality proposal at date 1. So, if a high ability proposer is realized, the voter receives a payoff of 2—recall that there is no time discounting.

Suppose, instead, that the proposer is low ability. With probability $\frac{1}{2}$, she submits a high quality policy, which generates a payoff of 1 for the voter and guarantee's the proposer's retention. If the veto player is high ability, with probability $\beta$, the voter's continuation value is $\frac{1+\kappa}{2}$. If the veto player is low ability, she will implement the low ability proposer's policy, which is equally likely to be high quality or low quality: this implies that the proposal is equally likely to succeed or fail, and so the voter's continuation payoff is one half. Finally, if the low ability proposer submits a low quality policy, the voter receives a date-0 payoff of zero, and removes both agents. Her continuation payoff is therefore the value associated with a fresh draw of both the proposer and the veto player, i.e., $V(0_p, 0_v)$.

Likewise, under joint appointments for $\kappa > \kappa^*$ (the equilibrium of Proposition 3), the voter's value is:

$$\alpha\beta 2 + \alpha(1-\beta)\left(\hat{\tau}\left(\kappa + \eta(y_R) + (1-\eta(y_R))V(0_p, 0_v)\right) + (1-\hat{\tau})2\right) \tag{69}$$

$$+(1-\alpha)\beta\left(\frac{1}{2}\left(1 + \frac{\kappa+1}{2}\right) + \frac{1}{2}\left(\kappa + \eta(y_R)\frac{1+\kappa}{2} + (1-\eta(y_R))V(0_p, 0_v)\right)\right) \tag{70}$$

$$+(1-\alpha)(1-\beta)\left(\hat{\tau}\left(\kappa + \eta(y_R)\frac{1}{2} + (1-\eta(y_R))V(0_p, 0_v)\right) + (1-\hat{\tau})\left(\frac{1}{2}\left(1 + \frac{1}{2}\right) + \frac{1}{2}V(0_p, 0_v)\right)\right). \tag{71}$$

where $\eta(y_R) = \frac{1+\alpha}{2}$. Finally, under separate appointments (the equilibrium of Proposition 4), the voter's value is:

$$\alpha\beta 2 + \alpha(1-\beta)\left(\bar{\tau}\left(\kappa + \eta(y_R)\left(\alpha + \frac{1-\alpha}{2}\right) + (1-\eta(y_R))V(0_p, 0_v)\right) + (1-\bar{\tau})2\right) \tag{72}$$

$$+(1-\alpha)\beta\left(\frac{1}{2}\left(1 + \frac{\kappa+1}{2}\right) + \frac{1}{2}\left(\kappa + \eta(y_R)V(0_p, 1_v|v_H) + (1-\eta(y_R))V(0_p, 0_v)\right)\right) \tag{73}$$

$$+(1-\alpha)(1-\beta)\left(\bar{\tau}\left(\kappa + \eta(y_R)\left(\alpha + \frac{1-\alpha}{2}\right) + (1-\eta(y_R))V(0_p, 0_v)\right) + (1-\bar{\tau})\left(\frac{1}{2}V(0_p, 0_v) + \frac{1}{2}\left(1 + \frac{1}{2}\right)\right)\right). \tag{74}$$

where $V(0_p, 1_v|v_H)$ is the voter's continuation value from replacing the proposer and retaining the veto player at the end of date 0, given that the veto player is in fact high ability:

$$V(0_p, 1_v|v_H) = \alpha + (1-\alpha)\frac{1+\kappa}{2}. \tag{75}$$

Substituting in for the mixed strategies of the low ability veto player, we take the difference between the voter's value under joint appointments (when $\kappa \leq \kappa^*$) and separate appointments, and obtain:

$$\frac{1}{8}(\alpha-1)\left(\alpha^2(\beta-1)(\beta\kappa-1)+3\alpha(\beta-1)-\beta^2\kappa+\beta(\kappa+2)+4\kappa-2\right) \tag{76}$$

which is linear in $\kappa$, the value of the status quo. It is strictly decreasing in $\kappa$ if and only if $\alpha^2(\beta-1)\beta-\beta^2+\beta+4>0$, which is true. Thus, we obtain a threshold:

$$\underline{\kappa} = \frac{(2-\alpha^2+3\alpha)(1-\beta)}{(\alpha^2-1)\beta^2+\alpha^2(-\beta)+\beta+4} \tag{77}$$

such that if $\kappa \leq \min\left\{\underline{\kappa}, \kappa^*, \frac{1}{2}\right\}$, the voter strictly prefers joint appointments. If, on the other hand, $\underline{\kappa} < \kappa^* \leq \frac{1}{2}$ and $\kappa \in (\underline{\kappa}, \kappa^*]$, the voter prefers a system of separate appointments.

Next, we consider values of the status quo $\kappa > \kappa^*$. Such values can only arise if $\kappa^* < \frac{1}{2}$, which holds if and only if $\alpha < \frac{1-\beta}{2-\beta}$. In that case, we take the difference of the voter's value under joint appointments (when $\kappa > \kappa^*$) and separate appointments, and obtain:

$$-\frac{\alpha(\kappa-1)\left(\alpha^2(\beta\kappa-1)+3\alpha-(\beta+4)\kappa+2\right)}{8\kappa}, \tag{78}$$

the sign of which is the same as the sign of the following expression:

$$\alpha^2(\beta\kappa-1)+3\alpha-(\beta+4)\kappa+2, \tag{79}$$

which is linear and strictly decreasing in $\kappa$. Thus, we obtain another cut-off value:

$$\bar{\kappa}(\alpha,\beta) = \frac{-\alpha^2+3\alpha+2}{\alpha^2(-\beta)+\beta+4}, \tag{80}$$

such that if $\kappa \in [\kappa^*, \bar{\kappa}]$, the voter prefers joint appointments, and if instead $\kappa \in \left[\bar{\kappa}, \frac{1}{2}\right]$, the voter strictly prefers separate appointments. Applying appropriate boundary restrictions (recall that $\kappa$ may only take values between zero and one half) yields the characterization at the start of the proof.

To see that the Proposition as stated in the main paper is consistent with the characterization at the start of the proof, note that $\bar{\kappa}$ is strictly increasing in $\alpha$ and strictly decreasing in $\beta$. Thus, we can identify a unique

value of $\alpha$, which I denote $\bar{\alpha}$, such that if $\alpha \geq \bar{\alpha}$, for *any* $\beta$, $\bar{\kappa}(\alpha, \beta) \geq \frac{1}{2}$. This value of $\alpha$ solves $\bar{\kappa}(\bar{\alpha}, 1) = \frac{1}{2}$, i.e., $\bar{\alpha} = 3 - 2\sqrt{2}$. So, if $\alpha > 3 - 2\sqrt{2}$, the voter prefers a system of joint appointments if:

$$\kappa \leq \min \left\{ \kappa^*(\alpha, \beta, 0), \frac{(2 - \alpha^2 + 3\alpha)(1 - \beta)}{(\alpha^2 - 1)\beta^2 + \alpha^2(-\beta) + \beta + 4} \right\}, \tag{81}$$

or if $\kappa \geq \kappa^*(\alpha, \beta)$.