Voter Uncertainty, Political Institutions, and Legislative Turnover

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Abstract: Variance in legislative turnover can have serious political consequences: low turnover may lead to legislators who are out of touch with their constituents, while high turnover can limit the ability of a legislature to fulfill its duties. Focusing on separation of powers arrangements, a factor overlooked by existing literature, we identify institutional conditions that affect the level of electoral turnover. Arrangements in which the executive and the legislature are equally responsible for budgetary outcomes, we argue, create ambiguous contexts for voters, leaving them more likely to exhibit a status quo bias and re-elect incumbents, thereby lowering turnover. We test our predictions using U.S. state-level data and show that these patterns of lower turnover are particularly strong during periods of economic decline.
1. Introduction

Legislative turnover can have a dramatic effect on a legislature’s ability to make policy and to represent the public. A low level of turnover, whether at the national or subnational level, implies high rates of incumbency, which may result in criticisms that legislators are out of touch and making policy choices that are inconsistent with the views of their constituents. On the other hand, high levels of turnover can lead to too many inexperienced legislators in office, limiting the ability of legislatures to fulfill their duties (Heinsohn and Freitag 2012; Kousser 2004; Matland and Studlar 2004). Indeed, scholars have long argued that legislative tenure and turnover affect the quality of policy-making, with both high and low turnover associated with poor policy outcomes and low governmental legitimacy (Luce 1924; Rosenthal 1998).

What explains the variation in turnover rates across legislatures? Although previous studies, which we discuss below, have identified electoral and institutional factors specific to legislatures that help shed light on patterns of turnover, we argue that the focus on legislatures alone leaves an important gap in the study of legislative turnover. More specifically, the existing literature gives little consideration to how broader institutional arrangements surrounding a legislature affect turnover. We fill this gap by showing how these institutional arrangements within separation of powers systems – in particular, how power and authority are allocated across the legislative and executive branches – can create ambiguous decision contexts for voters, contexts in which it is hard for voters to assign responsibility for political outcomes. Ambiguous contexts then make voters more likely to exhibit a status quo bias, leading them to cast ballots for incumbents and reducing the amount of turnover. Thus, our approach
demonstrates that to fully understand legislative turnover, we need to focus not only on legislative institutions, but also on the broader institutional structure of government.

The context we use to evaluate our general argument about turnover is the U.S. states, where there is a striking degree of variation in the level of legislative turnover across the states. While in some states large numbers of incumbents are defeated in their attempts to serve another term, in other states successful reelection rates hover around 100%. Why would turnover be so low in one state legislature yet so high in another? More importantly, why would we observe such high levels of variation across states within the same election year? Our goal is to consider state-level differences in legislative turnover and identify the conditions under which some states experience more electoral turnover than others. By doing so we can assess whether our general arguments about legislative turnover help to answer these questions, and more generally whether they provide a compelling explanation for turnover across legislatures.

2. Existing Literature

Much of the literature on legislative turnover has focused on the US, especially on the comparative study of state legislatures. Within this context, numerous studies document how various aspects of state legislatures affect turnover, with three factors receiving special attention: the type and size of districts, term limits, and legislative structures that affect member behavior. In terms of district-level factors, for example, we have learned that turnover is higher for multi-member districts (Niemi and Winsky 1987) and when districts recently have been redrawn (Jewell and Breaux 1988). Conversely, turnover decreases as the size of the constituency increases (Crain 1977). More
generally, some scholars have concluded that electoral factors in general have a greater
effect on turnover than other institutional factors (Rosenthal 1974).

Term limits also have been shown to affect levels of turnover. Francis and Kenny
(1997), for example, write “state legislatures with term limits will be loaded with
inexperience, ranging from one-third to three-fifths new members each term under eight-
year limits, and even greater inexperience under six-year limits” (251), thus influencing
turnover through indirect effects. Building on this study, Moncrief, Niemi, and Powell
(2004) demonstrate that although term limits can increase levels of legislative turnover,
this effect depends on length of the term limit and the political opportunity structure of
the state.

Studies also have focused on the way legislative structures affect the incentives to
run for reelection, which then affects the amount of turnover. Some research has focused
directly on how institutional characteristics that enhance the attractiveness of office-
holding (e.g., salary, opportunities for advancement, etc.) affect turnover rates (Greene
1993; Breux and Jewell 1992). Other research has placed the role of legislator
characteristics (e.g., progressive ambition, quality of challengers) more front and center
in explaining turnover, suggesting that institutions affect whether elected legislators have
these qualities (Maestas 2000).

Like these studies of the US states, a number of other comparative studies of
turnover in other contexts – both cross-national and within-country – have similarly
examined the combination of electoral effects and the effects of legislative institutions.
One prominent study by Matland and Studlar (2004), for example, examines the effect of
electoral and institutional factors on turnover across twenty-five countries. Their results
point to the importance of electoral factors, such as the nature of the electoral system and electoral volatility, while also finding some support for institutional effects.¹ Heinsohn’s (2014) analysis of German state parliaments shows support for a similar mixture of causal factors. And Samuels’s (2000) study of turnover in Brazil provides more evidence for the importance of electoral factors, while also showing that political ambition – which is in part a function of legislative institutions – affects levels of turnover.²

Taking these together, this body of work has provided useful insights into the ways that legislative factors – both electoral and institutional – contribute to turnover. Yet at the same time, little consideration has been given to the broader institutional structure of government. Specifically, with one exception scholars have not considered if and how differences in separation of powers arrangements affect patterns of turnover. Although this exception, by Heinsohn and Freitag (2012), is noteworthy for its investigation into whether separation of powers arrangement affect patterns of legislative turnover, their innovative study does not provide a theoretical argument about the relationship.³ As a result, it is unclear why separation of powers arrangements might

¹ More specifically, Matland and Studlar find that there is more turnover in less-institutionalized legislatures, specifically those found in new democracies.

² Kerby and Blidook’s (2011) study of voluntary turnover in Canada reveals the importance of a similar mix of factors, while Moncrief’s (1998) analysis (also of Canada) shows the importance of electoral factors like campaign finance regulations and the redrawing of legislative boundaries.

³ Focusing on Swiss cantonal parliaments, they adjudicate between two competing hypotheses. First, it is possible that a balance between the executive and the legislature
affect turnover or if the relationship is simply a by-product of broader political conditions. Where the study does suggest some explanation for these patterns, it speculates that all responsibility for shifts in turnover is due to the choices that the legislators make to seek reelection or exit politics.

The omission of broader institutional considerations from nearly all other studies is significant. At its core, turnover is a function of voter behavior, and the relationship between governmental branches within a state has broad implications for voters. Persson, Roland, and Tabellini (1997), for example, theorize that separation of powers arrangements affect the type of information available to voters, and this information in turn affects voters’ perceptions of legislative accountability. Anderson (2000) and Rudolph (2003a) make a similar point, suggesting that the way individuals hold legislators accountable for various state-level outcomes depends on the clarity with which citizens can identify the politicians responsible for these outcomes. Integrating these ideas, we will argue that separation of powers arrangements play a critical role in turnover because they affect informational clarity, which in turn affects legislative turnover. Thus, our argument shows how institutional and behavioral components combine to influence the level of turnover.

3. Voting under ambiguity

Our argument builds from three basic insights. First, we begin with the simple proposition that – all else held equal – voters are likely to prefer the status quo. This leads legislators to work harder to retain their seats, thereby decreasing turnover. Second, it is also possible that the amount of extra work that falls to legislatures will cause legislators to exit earlier, resulting in more turnover leading to lower turnover.
status quo bias emerges due to risk aversion, with individuals preferring the status quo because the “disadvantages of change loom larger than its advantages” (Kahneman, Knetsch, and Thaler 1991, 200); and because change seems risky while maintaining the status quo entails less threat (Anderson 2003). Holding other political factors constant, this bias then leads to the baseline effect that voters are more likely to select incumbents (Samuelson and Zeckhauser 1988). Second, we make the uncontroversial assumption that economic conditions will play a role in state elections (Rudolph 2003b). As a result, “whether and to what extent citizens assign credit and blame for…economic performance depends on whether they can identify who is in charge, how much responsibility they have, and what the alternatives are” (Anderson 2000, 168). Put another way, the extent to which individuals can hold politicians accountable for economic conditions depends on how they identify responsibility for those conditions (Anderson 1995).

Third, institutional arrangements affect both the strength of status quo bias and the ways in which economic conditions affect outcomes. Certain institutional arrangements can exacerbate the extent to which individuals favor the status quo, thereby driving down turnover. More specifically, and more central to our theoretical argument, the institutional arrangements in a polity affect an individual’s ability to identify responsibility for outcomes in that polity (Rudolph 2003a). We argue that under certain institutional conditions, determining responsibility for fiscal outcomes is so uncertain that it will increase status quo bias, thereby reducing turnover even further.

What sorts of institutional conditions are we referring to? In separation of powers systems, budgetary decisions – which directly affect economic outcomes – are generally made through a combination of efforts between the executive and legislative branches.
Notably, governments vary in the extent to which one of these branches holds greater responsibility. Turning to the context that will be the focus of our empirical analysis, in some U.S. states the governor might hold the bulk of responsibility over the budget; in other states, the legislature holds the greatest responsibility over budgetary outcomes; and in yet other states budgetary policy is “a struggle between the executive and legislature in which neither branch ever completely eclipses the other” (Clynch and Lauth 1991, 1).

We can classify these differences in separation of powers arrangements as producing higher or lower levels of ambiguity over responsibility, where we consciously use the term “ambiguity” in the specific sense that it arises in the psychological research that we draw upon – namely, ambiguous circumstances are those in which it is difficult to attribute responsibility for outcomes.\(^4\) In situations where responsibility for fiscal outcomes can, with relative clarity, be attributed to either the legislature or the executive, there is little ambiguity. In contrast, when the assignment of responsibility is largely uncertain, such that “responsibility for fiscal policy outcomes might legitimately be attributed to either institution” (Rudolph 2003a; 194), there is a high degree of ambiguity; and this, as we have argued, further exacerbates the existing status quo bias. Although this idea may seem like the opposing end of Powell and Whitten’s (1993) “clarity of responsibility,” we deliberately use the term ambiguity. We do so as the foundation of our approach comes from psychological research that refers to an inability to attribute responsibility for outcomes as “ambiguity.”

As this research suggests, the less certain individuals are about which outcomes

\(^4\) Divided government is another possible source of ambiguity. Since its effect is funneled through broader institutional arrangements, however, we focus on separation of powers.
are associated with decision alternatives, the more likely they are to exhibit status quo bias (Fernandez and Rodrik 1991). This leads to our first prediction:

*Prediction 1: Higher ambiguity in budgetary separation of powers arrangements leaves voters more likely to vote for incumbents, decreasing legislative turnover.*

Importantly, this prediction does *not* necessitate that voters have a *precise* understanding of the particular separation of powers arrangement. Rather, we assume only that for voters to attribute responsibility, they just need a general sense about which (if either) institution is dominant; and certain institutional arrangements can affect the extent to which voters have this sense of institutional dominance.\(^5\)

Our first prediction provides a starting point, but other factors can moderate the effects of ambiguity on turnover. In particular, as we noted, economic conditions can play an important moderating role. Einhorn and Hogarth (1986), for example, argue that when faced with ambiguity, individuals deciding among future options will consider prior outcomes, providing a natural opening for the consideration of economic conditions. As a result, it matters whether an individual has recently experienced gains or losses.

Although scholars agree that prior gains or losses can condition the extent of status quo bias, they disagree about the direction of the effect. Baseline expectations from prospect theory (Kahneman and Tversky 1979) suggest that *gains* make the individual particularly risk averse and thereby increase the tendency to retain the status quo (Anderson 2000). A different argument suggests an opposite effect: it is actually *losses*

\(^5\) Indeed, we recognize that voters may have some uncertainty regarding these arrangements, a point that we return to shortly when discussing the effect of economic gains and losses.
that increase the preference for the status quo, as individuals become more fearful of experiencing additional loss (Samuelson and Zeckhauser 1988).

Evidence exists for both perspectives, but the preponderance of theoretical and empirical evidence leads us to expect that losses, and not gains, will increase the preference for the status quo. Furthermore, arguments that maintain that gains increase the preference for the status quo are based on conditions of certainty, where individuals have clear information about prior losses or gains and about the outcomes associated with either decision alternative (Rabin and Thaler 2001). This is clearly contrary to the case at hand, where voters not only are unsure about future economic outcomes but also may not even be able to fully ascertain who is responsible for these existing economic outcomes.

Once uncertainty is taken into account, the evidence that losses increase the preference for the status quo becomes stronger. Studies suggest that when the potential distribution of gains and losses is uncertain, losses lead individuals to become more risk averse (Fernandez and Rodrik 1991), which in turn translates directly to maintaining the status quo. Thaler (1999) reinforces this argument, showing that uncertainty about future outcomes leads individuals to continue with existing investments and financial choices, even under conditions of economic loss. Additional research suggests that a combination of ambiguity and economic losses leaves individuals so risk averse that they are less likely to change the status quo than individuals who have experienced gains (Fershtman 1996). Building on this logic, we contend that separation of powers arrangements that create ambiguity will be particularly consequential during periods of economic loss:6

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6 Although ambiguity may also cause abstention (Ghirardato and Katz 2006), as long as it pushes some voters to incumbents we should still expect to see lower levels of turnover.
Prediction 2: Following periods of economic decline, higher ambiguity in separation of powers arrangements leaves voters more likely to vote for incumbents, decreasing legislative turnover.

4. Separation of Powers and Legislative Capacity

Our theoretical argument leads to predictions that separation of powers arrangements will affect turnover by influencing the level of ambiguity. Conditions in which responsibility for fiscal policy is clear are less ambiguous, while conditions in which responsibility could rest with either branch are more ambiguous. Although we acknowledge that there are many ways to consider the assignment of governmental blame and responsibility, we rely on budgetary power, which serves as a useful way to approach the separation of powers arrangement for several reasons. First, the budget is one of the highest profile issues in any democratic polity, affecting voters more than other shared power issues (e.g., appointments). Moreover, the powers and actions of governments regarding the budget have direct, observable effects on the economy. In the U.S. states, for example, legislatures and governors use the budget to influence policy on economic issues like worker training and unemployment benefits (Clynch and Lauth 1991; Rudolph 2003). The distribution of budgetary power thus provides a strong context in which to assess the relationship between separation of powers arrangements and legislative turnover. Hence, we consider whether power over the budget is divided relatively evenly across the branches, or whether one branch holds the bulk of the power. Cases where power is divided evenly – or balanced – across the branches we categorize as being more ambiguous.

Here a second institutional factor becomes important, especially in the context of the U.S. states: the legislature’s capacity (McCann, Shipan, and Volden forthcoming).
Even if institutional arrangements provide the legislature with some power over the budget, not every legislature is capable of fully using this power. Thus, although the balance of budgetary power between the executive and legislative branches is the first critical component in our approach to separation-of-powers arrangements, the legislature’s ability to counteract the executive’s power also matters. Whether the institutional balance between the legislature and the executive creates conditions that are actually ambiguous in practice depends on legislative capacity. In the U.S. states, a legislature’s capacity – that is, its ability to use the power allocated to it – depends on its professionalism (Huber, Shapan, and Pfahler 2001). By definition, professionalized legislatures have more resources (Fiorina 1994; Moncrief 1999), and these resources fundamentally affect the way the legislature relates to the governor (Mooney 1994; Huber and Shapan 2002).

Putting these factors together, we capture ambiguity through an interaction between budgetary power and legislative professionalism. Specifically, we predict that ambiguity is highest in cases where budgetary power is balanced and the legislature is professionalized. In contrast, cases in which power is balanced but the legislature is not professionalized should be less ambiguous, as the legislature is less likely to be able to fully use its available power and to be an equal participant in the budgetary process. Finally, in cases where power is unbalanced – that is, unevenly divided between the legislature and the executive – ambiguity is less likely to occur regardless of legislative
professionalism. We detail the connection between separation of powers arrangements and ambiguity in Table 1.⁷

| Table 1 here |

What type of turnover pattern would we expect under less ambiguous arrangements (i.e., when either one branch or the other has more authority over economic outcomes)? In less ambiguous arrangements, it may be clearer which branch of the government is responsible for economic outcomes. When most of the power lies in the hands of the legislature, a voter would be more likely to assign responsibility for economic outcomes to the legislature. On the other hand, in a situation where the executive holds most of the power, the voter would be less likely to hold the legislature responsible. In both of these situations, the role of ambiguity is quite low and we would expect economic conditions to play the strongest role in explaining turnout.

5. Empirical Analysis

To analyze the relationship among differences in separation of powers arrangements and legislative turnover, we focus on the U.S. states. We start with data collected by Moncrief et al. (2004), data that covers legislative elections from 1982 to 2000. Building on this data, we compile a dataset with three key components: (1) ⁷ Some research suggests that legislative professionalism affects turnover (Moncrief et al. 2004). However, this is most likely to happen (a) during presidential election years and (b) for incumbents of the president’s party (Berry et al. 2000). Because we include professionalism as part of an interaction it is unlikely that our analysis is merely reflecting this underlying pattern. We reinforce this point with plots of the marginal effect of professionalism.
measures of legislative turnover, (2) measures of separation powers, and (3) measures of economic conditions.

We base our measure of legislative turnover – our dependent variable – on the Moncrief et al. (2004) data, with one major adjustment. Because they use the data to consider the general effect of term limits on turnover, they do not differentiate between non-electoral turnover (i.e., incumbents losing seats due to term limits, retirements, resignations, etc.) and electoral turnover (i.e., incumbents losing seats to challengers in a vote). For our purposes, however, it is important to distinguish between these two types of turnover, since only electoral turnover is a direct product of the voter decision-making that we examine. Therefore, in order to test our theory we adjusted the turnover measures to capture only electoral turnover.\(^8\) Turnover in the lower and upper chambers of the legislature is considered separately in our dataset, as lower and upper chambers have different careers paths and different rates of reelection. Thus, we have two observations for each state in each year.\(^9\) For each of these observations, we measure turnover as a

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8 We made this adjustment as follows. First, we used the Moncrief et al. (2004) data to produce the raw number of legislators that “turned over.” We then collected data on the number of term-limited legislators each year (NCLS) as well as seats open due to early resignations and retirements by incumbents (Book of States, newspapers). Next we subtracted the number of legislators who left due to non-electoral causes from the raw number of legislators that “turned over.” To the extent that there is some bias in this estimate, it is an over-estimate bias. Our results are robust to the inclusion of retirements, though we cannot distinguish between strategic and non-strategic retirements.

9 With the usual exception: Nebraska has only one chamber.
percentage of the members in each legislative chamber that changed due to electoral outcomes.

We measure the first of our key institutional factors – balance of budgetary power – using a new measure that considers a number of different facets of state budgetary control (Krupnikov and Shipan 2012). This measure has been shown to capture greater variation in budgetary power and to provide a more internally valid approach to the relationship between gubernatorial and legislative responsibility over the budget than previous measures.\textsuperscript{10} We augment their measure to include the relative power of the legislature to override the governor’s veto, changing it from a 5-point scale to a 6-point scale. The two ends of the scale suggest institutionalized imbalances of power – that is, either the legislature or the governor has more power – while the midpoints suggest an institutional balance between the two branches.

Because we are interested in identifying cases where power is relatively equivalent versus cases in which power is not evenly distributed, we use this measure to create a binary variable. Cases where the governor has nearly full power over the legislature – those that score a 4 or above on the scale – are coded as unbalanced. In contrast, on the other end of the scale, the governor has no power over the budget. Cases below a 2.5 on the scale – which means the legislature has nearly full power over the budget – are also coded as unbalanced. In contrast, in the middle of the scale are states where the branches share responsibilities – the governor has some power, but the legislature also has some power. These are the conditions that are likely to create

\textsuperscript{10} See Krupnikov and Shipan (2012) for details on measure construction and details on merging with additional state-level data.
ambiguous conditions, provided the legislature has the professionalism (i.e., capacity) level necessary to respond.

Overall, then, we categorize a governor’s power over the budget as being lower or higher than that of the legislature (“unbalanced”), or as relatively equal with that of the legislature (“balanced”). We acknowledge that this dichotomizing of institutional powers simplifies the obviously more complex continuum of gubernatorial-legislator relations. Nonetheless, given that the dichotomy captures the extent to which a given institutional branch can work independently without the other, we are confident that this dichotomization provides a helpful proxy for the likely level of ambiguity in a state government.

We measure our second institutional factor, legislative professionalism, using standard professionalism scores (Squire 2000).11 We expect to observe that professionalism has differential effects depending on the balance conditions of the government. If it is solely professionalism that is moving turnover (Brace and Ward 1998), then we should observe that increases in professionalism lead to less turnover regardless of institutional conditions. If, however, what matters is the relationship between the governor and the legislature – operationalized here as the relationship between balance and professionalism – we should see the effect of professionalism differ by institutional condition.

To test our predictions, we also need a measure of economic conditions. Here we rely on the unemployment rate in a state, which often has been used as a key variable for

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11 These scores incorporate the frequency with which the legislature meets (i.e., days in session), salary, and the number of staff per member.
explaining economic conditions (Lewis-Beck and Stegmaier 2000) and for capturing the effect of state economic conditions on gubernatorial elections (Leyden and Borrelli 1995). Moreover, evidence suggests that individuals view unemployment as a key economic indicator. Kiewiet (1981), for example, finds unemployment to be a strong predictor of vote choice. And Mutz (1992) argues that media coverage leads many people to form economic expectations based on unemployment levels, even if they have not personally experienced unemployment.¹²

Our unemployment data come from the Bureau of Labor Statistics. In order to speak to the idea of past gains or losses we use this data to create a measure of the change in economic conditions over the previous two years.¹³ A negative value of this measure means that unemployment conditions have improved (i.e., there is less unemployment now than in the past), while a positive value means that economic conditions have worsened (i.e., there is more unemployment now than in the past). Connecting this to our theoretical argument, improved economic conditions represent gains, while worsened economic conditions represent losses.

In addition to our key theoretical variables and our professionalism controls, we also control for redistricting (Moncrief et al. 2004), multimember districts (Niemi and Winsky 1987), the adoption and implementation of term-limits, and non-budgetary power distributions, such as appointment power and veto power. We also control for the types of other elections –Presidential or Midterm – being held concurrently with the state

¹² Although we present results using unemployment we also considered state GDP and per-capita income. Our results are robust to these alternative measures.

¹³ This measure is unemploymentₜ – unemploymentₜ₋₂ (i.e., it entails a two-year lag).
legislative election, as well as other political conditions, such as the partisan climate\textsuperscript{14} and the fraction of legislators up for reelection (Moncrief et al. 2004).

5.1 Estimation: Balanced Government and Average Turnover

We begin our analysis with a simple first test: we pool our data and calculate the average turnover by balance of power and professionalism. To do so, we initially divide our continuous professionalism variable at the median to form categories of lower and higher professionalism. As we suggested in Table 1, we would expect the greatest ambiguity – and the least turnover – in cases where balanced power over the budget is paired with highly professionalized legislatures. The results are shown in Table 2.

[Table 2 here]

Below we will conduct more nuanced tests, but this initial look at the data, which provides a conservative test of our argument, is instructive for two reasons. First, as expected, we observe that the conditions that produce the highest amount of ambiguity – a balanced power distribution and a highly professional legislature – lead to the lowest turnover. Second, the category with the highest ambiguity differs significantly from the remaining three categories.

These differences are also substantively meaningful. Even if we hold legislative professionalism constant, shifting from a balanced distribution of power to an unbalanced one increases turnover by 3%. Given that the average state legislature has just under 150 members (combining both houses), a 3% difference means that about 4 to 5 legislators

\textsuperscript{14} Changes in partisan climate measured following Moncrief et al (2004). Results also robust to different measures of state-level partisan conditions as we show in the Supplementary Information.
could lose their seats solely due to the distribution of power in a state. This is significant, as over the past ten years the partisan control in nearly 20% of upper houses of professionalized legislatures could have shifted due to a loss by just three legislators.\textsuperscript{15}

*Assessing Prediction 1: Institutional Factors and Turnover*

The evidence in Table 2 provides a basic, initial test of our predictions. To test these predictions with greater precision and to consider how the type of election and the economic conditions of the state affect the role of ambiguity we estimate a series of models using ordinary least squares.\textsuperscript{16} We begin with our first prediction, which simply considers the relationship between the factors leading to ambiguity and legislative turnover. Specifically, we estimate the following model:

$$\text{Turnover} = \alpha + \beta_1 \text{Balanced} + \beta_2 \text{Professionalism} + \beta_3 \text{Balanced} \times \text{Professionalism} + \text{Controls}$$

We expect that more ambiguity will produce less turnover, meaning that the combination of professionalism and balance should have a negative effect on the dependent variable.

\textsuperscript{15} The average difference in partisan balance is based on data collected by Carl Klarner, made available through *State Politics & Policy Quarterly* (1997 to 2000).

\textsuperscript{16} Since an argument could be made that our observations are not fully independent, we rely on several different approaches to estimation. We use robust standard errors, clustering by state, as well as testing random and fixed effects approaches to estimation. We find that the results are substantively similar across all options, including an approach that excludes any adjustments to errors. We include these analyses in Supplementary Information, Parts 1 and 2.
That is, when the legislative and executive branches are balanced and the legislature has a high level of professionalism, ambiguity should lead to lower turnover (i.e., $\beta_3<0$).

We present the first tests of this prediction in Table 3. First, we see that for most of our controls we find results similar to those shown in Moncrief et al. (2004). All are in the same direction, for example, and most reach similar levels of significance. We next turn to our key theoretic variables. First, we see that the coefficient on the interaction has the correct sign and a p-value of 0.042, indicating that as the distribution of power is more balanced and as professionalism increases, we see less electoral turnover. Moreover, under “unbalanced” conditions, increased professionalism generally decreases turnover, which is consistent with previous findings (Moncrief et al. 2006). We do not find a significant coefficient on balance of power over the budget, which is to be expected, as this coefficient speaks to the role of balance when professionalism is at 0, which would be an extremely low level of professionalism. In such cases, ambiguity would be unlikely, leaving balance of power with a minimal effect. Given, however, that no states in our dataset have a professionalism score of 0, this coefficient holds little direct interpretive meaning. In contrast, the coefficient on the professionalism variable, which represents the effect of increasing professionalism when balance is at 0, offers more direct information.

[Table 3 Here]

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17 Our results are robust to a model that relies on different control variables. See Supplementary Information Parts 1, 2 and 4.

18 Our coefficients appear smaller simply because the dependent variable is raw percentages in Moncrief et al. (2004) and decimals in our analysis.
Because of the difficulty in assessing the effects of variables in a regression that includes interacted variables, we use our results to plot the marginal effect of shifting to a balanced power distribution as professionalism increases. Figure 1 shows that although the marginal effect of a balanced distribution on turnover is most often negative, it is significant only as professionalism increases, consistent with the argument that these are the conditions that lead to the greatest likelihood of ambiguity. This finding also reinforces the joint role of balance of power and professionalism. Although Berry et al. (2000) suggest that increases in professionalism often can eclipse other institutional and contextual factors that affect turnover, we see a different effect here: the power of governmental balance grows along with professionalism, suggesting the importance of both factors in affecting levels of turnover.

[Figure 1 Here]

Assessing Prediction 2: The Role of Economic Factors

Although Table 3 shows support for our first prediction – namely, the idea that separation of powers arrangements that increase ambiguity will lead to less legislative turnover – we also make a second prediction about the relationship between ambiguity and the economy. Specifically, we predict that in cases of economic decline, an ambiguous power arrangement is particularly likely to lead voters to a status quo bias, thus decreasing turnover. This means that under economic decline we should see greater differences in turnover due to ambiguous institutional arrangements, whereas during periods of economic growth, ambiguity should have a weaker effect on turnover.
This conditional relationship can be expressed by a triple interaction term between governmental balance, professionalism, and economic conditions. We include this interaction term in the following model:

\[
\text{Turnover} = \alpha + \beta_1 \text{Balanced} + \beta_2 \text{Professionalism} + \beta_3 \Delta \text{Unemployment} + \\
\beta_4 \text{Balance} \times \text{Professionalism} + \beta_5 \text{Balance} \times \Delta \text{Unemployment} + \\
\beta_6 \Delta \text{Unemployment} \times \text{Professionalism} + \beta_7 \text{Balance} \times \text{Professionalism} \times \\
\Delta \text{Unemployment} + \text{Controls}
\]

As unemployment grows (i.e., \(\Delta \text{Unemployment}\) is positive, meaning that the economy worsens), turnover should generally increase (i.e., \(\beta_3>0\)). Further, as ambiguity grows, turnover should generally decrease (i.e., \(\beta_4<0\)). At the same time, however, if our prediction holds and ambiguity is particularly paralyzing following economic losses, then we should see differential effects of ambiguity during economic gains and economic losses. It is worth emphasizing that this should not be taken to suggest that poor economic times are beneficial for legislators. Rather, legislators in states with particular separation of powers arrangements are likely to have an easier time weathering an economic downturn.

Since it is extremely difficult to draw conclusions directly from the coefficients of a regression involving a triple interaction, we turn straight to the marginal effects of our key variables.\(^\text{19}\) We examine these marginal effects using two figures. Each of these two figures tracks the marginal effect of moving to a balanced distribution of power, though they present this effect from two different directions. And each differs from Figure 1 in that they include economic conditions.

\(^{19}\) The coefficients can be found in the Supplementary Information, SI Table SI, Model 1.
Our theoretic predictions are that a combination of balance and higher professionalism produces a level of ambiguity that is particularly likely to reduce legislative turnover during periods of economic decline. If our results follow from these predictions, we should observe that the effect of balance of power is more important under some conditions and less important under others. Put another way, we should not expect that balance of power plays a significant role in turnover under all possible combinations of professionalism and economic conditions.

To demonstrate how the effect of balance of power shifts depending on the broader political context each of our next figures has several panels, representing different types of economic conditions (Figure 2) and different levels of professionalism (Figure 3). In both figures we plot the marginal effect of balance as a solid line and the confidence interval around this effect as a dashed line. In interpreting the results presented in these figures, the key is to examine differences in significance across these panels. Most notably, the significance of the effects changes as the level of professionalism increases to above-the-median levels and as the economy worsens. What is important for our predictions is that the effect of balance is statistically indistinguishable from zero under some conditions, but statistically significant under others.

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20 More specifically, Figure 2 allows us to assess the influence of balance on turnover as professionalism increases, contingent on economic conditions, while Figure 3 lets us see the influence of balance on turnover as economic conditions change, contingent on the level of professionalism.
We first turn to Figure 2, which tracks the marginal effect of balance as professionalism increases under varying economic conditions. Following our predictions, we should observe that during periods of economic growth, the marginal effect of increasing balance will be more limited, even under high levels of professionalism. In contrast, we should observe that during times of economic decline, shifting to a more balanced distribution of power over the budget would lead to significant decreases in turnover only when combined with higher levels of professionalism – that is, when ambiguity over budgetary decision-making is high. Such results would reinforce our prediction that ambiguous separation of powers arrangements are particularly critical during periods of economic decline.

First, we consider the effects of ambiguity during economic growth (left panel of Figure 2). We see that while the marginal effect of balance of power on turnover during periods of economic growth is generally positive, it does not reach significance even if we were to relax the confidence interval to 90%. Even under high professionalism – a case where increasing balance would lead to ambiguity – the marginal effect of balance of power is not significant. Initially, it may seem curious that ambiguity has a positive, albeit non-significant effect on turnover during good economic times. This result, however, is consistent with Thaler’s (1999) speculation that under uncertain circumstances individuals may be cavalier with even beneficial economic investments. Nonetheless, we cannot form any clear conclusions here, as the results do not reach significance.

21 In Figure 2 we categorize median decreases in unemployment as economic growth and median increases in unemployment as economic decline.
In contrast, the right panel of Figure 2 shows that during periods of economic decline, the marginal effect of balance of power on turnover is significant, but only when it combines with legislative professionalism to create ambiguity. We see that moving toward a balanced distribution of power reaches significance only at median and high levels of professionalism. Indeed, at low levels of professionalism, where shifting to a balanced distribution of power is unlikely to lead to ambiguity, the marginal effect of balance does not reach significance, reinforcing Prediction 2.

Since Figure 2 splits our data by economic conditions, we next use the full range of our economic variable to consider the relationship between balance and turnover in a different way. In Figure 3 we show the effect of balance of power as economic conditions change. In order to incorporate the effect of professionalism, each panel in Figure 3 represents a different level of professionalism. The top two panels in Figure 3 represent lower levels of professionalism, which in turns implies low levels of ambiguity even when the budgetary power is balanced. The bottom two panels in Figure 3 represent higher levels of professionalism, and consequently, cases where our theory suggests that balanced power could produce ambiguity. Following our predictions, as economic conditions worsen we should observe that the marginal effect of balance is both negative and statistically distinguishable from zero only in the lower two panels of Figure 3.

\[22\] In Figure 3 we categorize median decreases in unemployment as economic growth and median increases in unemployment as economic decline.
As we compare the four panels in Figure 3, we indeed observe that the shift in balance has a significant negative effect on turnover only when professionalism is high and during cases of economic decline. Although it appears that ambiguity increases turnover during periods of economic growth (again consistent with Thaler’s (1999) point), this effect does not reach significance. As a result, the main conclusions we can draw from our results are that ambiguity has a differential effect by economic conditions, being particularly consequential during economic decline.

[Figures 3 Here]

In sum, our results support our predictions about the relationship between institutional ambiguity and economic conditions. First, our base results (Table 3) show that a combination of a balanced distribution of power and high legislative professionalism has a negative effect on turnover. This finding is in line with our argument that these institutional conditions create ambiguity, thereby leading voters to cast ballots for incumbents. Put more simply, we see evidence of status quo bias.

Second, our next and more nuanced set of results reinforces our additional prediction that the level of ambiguity modifies the effect of economic decline. We theorized that institutional ambiguity causes individuals to be hesitant during periods of economic decline, leaving them more likely to support the status quo for fear of worsening economic conditions by voting against the incumbents. Again, we do not suggest that economic decline is beneficial for incumbents. Rather, incumbents in ambiguous institutional arrangements may have an easier time weathering an economic storm.
In addition to the tests discussed in the main text of the manuscript, we also conducted numerous robustness checks of our results. We considered the robustness of our results first by estimating a number of models using additional estimation approaches and model specifications (see Supplementary Information parts 1 and 2). Next, we also estimated models that rely on an alternative measure of legislative control and gubernatorial power compiled by Dometrius and Wright (2009) (see Supplementary Information part 3). 23 Finally, we estimated models that rely on different approaches to accounting for the partisan climate within a state, including measures that capture the extent of ideological polarization (e.g. Shor and McCarty 2011) (see Supplementary Information part 4). 24 For each additional specification included in the Supplementary Information we not only show the coefficient estimates for these robustness checks, but also demonstrate the substantive results through a series of figures. Although these different specifications change the types of control variables – and even the number of cases in our models – included in our models, all results reinforce the findings presented in the manuscript.

6. Conclusions

Prior research on the institutional determinants of turnover often neglects theoretical considerations about the ways in which separation of powers arrangements might affect legislative turnover. In this paper we directly address this omission. More

23 Here we rely on the American State Administrators Project (Dometrius and Wright 2009) measures of legislative control and gubernatorial power.

24 In this section we also include controls for the Ranney Index and the Holbrook and Van Dunk measures.
specifically, we argue that legislative turnover is a function of the broader institutional context of government – namely, the way in which power is distributed within separation of powers structures. Institutional arrangements where power is distributed in a balanced manner, and in which the legislature is capable of responding to the executive, are likely to lead to a decline in turnover.

We are able to identify the unique effects of these institutional arrangements by considering voter decision-making. Although an institutional arrangement where power is divided equally across branches allows both the executive and the legislature to share in producing political outcomes, these types of power arrangements also have consequences for voters. One such consequence is ambiguity in decision-making, meaning that voters are less able to determine which branch of government holds responsibility for a particular outcome. This ambiguity increases the tendency toward the status quo bias, which in this case translates to a higher likelihood of voting for the incumbent. In turn, the tendency to vote for the incumbent in ambiguous institutional conditions leads to an overall decline in turnover. Importantly, the effect of ambiguity is particularly consequential during times of economic decline, when institutional arrangements that produce ambiguity have a particularly deflating effect on turnover.

Although in this manuscript we consider the relationship between institutional arrangements and economic conditions using U.S. states, our results have broader implications. Doubtlessly, numerous contextual and individual factors influence an incumbent’s chances of reelection. Yet our results suggest that the effect of these additional factors may depend on the decision context a separation of powers arrangement creates for voters who are making electoral choices. In sum, a combination
of institutional effects and the decision-making behavior of voters leads us to a nuanced conclusion. Although some patterns in turnover may be best explained by institutional structures and some patterns may be best explained by broader political conditions, a more interesting and complete story is what happens when these two patterns of explanatory factors come together.
References:


Dometrius, Nelson, Cynthia Bowling, Margaret Ferguson, and Deil S. Wright (2012). “State-Level Measures of Institutional Budgetary Influence from the American


Table 1: Predicted Relationships Between Separation of Powers and Ambiguity

<table>
<thead>
<tr>
<th>Power Distribution</th>
<th>Legislature</th>
<th>Ambiguity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced</td>
<td>High Professionalism</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Low Professionalism</td>
<td>Low</td>
</tr>
<tr>
<td>Unbalanced</td>
<td>High Professionalism</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Low Professionalism</td>
<td>Low</td>
</tr>
</tbody>
</table>
Table 2: Average Turnover (in percent) by Category (All Cases Pooled)

<table>
<thead>
<tr>
<th>Power Distribution</th>
<th>Legislature Professionalism</th>
<th>Ambiguity</th>
<th>Turnover</th>
<th>Difference from high ambiguity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced</td>
<td>High</td>
<td>High</td>
<td>23.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Low</td>
<td>26.9%</td>
<td>+3.9**</td>
</tr>
<tr>
<td>Unbalanced</td>
<td>High</td>
<td>Low</td>
<td>26.0%</td>
<td>+3.0*</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Low</td>
<td>27.8%</td>
<td>+4.8**</td>
</tr>
</tbody>
</table>

***p<0.01; ** p<0.05; * p<0.1, one tailed.
Table 3: Effect of Balanced Government on Turnover (1982-2000)

<table>
<thead>
<tr>
<th>Theoretic Variables</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance (when professionalism = 0)</td>
<td>0.26</td>
</tr>
<tr>
<td>Professionalism (when balance = 0)</td>
<td>-1.70***</td>
</tr>
<tr>
<td>Balance \times Professionalism</td>
<td>-1.83**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control Variables</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment Change (increasing values = worsening conditions)</td>
<td>0.09***</td>
</tr>
<tr>
<td>Term Limits</td>
<td>-0.07</td>
</tr>
<tr>
<td>Term Limits in Effect</td>
<td>0.00***</td>
</tr>
<tr>
<td>Redistricting</td>
<td>0.88***</td>
</tr>
<tr>
<td>Multimember Districts</td>
<td>0.24**</td>
</tr>
<tr>
<td>Partisan Climate</td>
<td>0.90***</td>
</tr>
<tr>
<td>Fraction up for Reelection</td>
<td>-2.01***</td>
</tr>
<tr>
<td>Divided Government</td>
<td>-0.04</td>
</tr>
<tr>
<td>Election Type</td>
<td>-0.33***</td>
</tr>
<tr>
<td>Gubernatorial Appointment Power</td>
<td>-0.03</td>
</tr>
<tr>
<td>Gubernatorial Veto Power</td>
<td>-0.00</td>
</tr>
<tr>
<td>Constant</td>
<td>4.47***</td>
</tr>
</tbody>
</table>

Observations: 811
R-squared: 0.35

Results use robust standard errors. ***p<0.01, **p<0.05
Figure 1: The Marginal Effect of Increasing Balance on Turnover, as Professionalism Increases

Dashed line represents a 95% confidence interval. If we use a 90% confidence interval as the threshold of significance, the effect of balance still does not meet even this threshold of significance at lower levels of professionalism. Marginal effect on y-axis adjusted to percentage points.
Figure 2: Marginal Effect of Balance as Professionalism Increases, by Economic Conditions

Confidence intervals at 95%, although results do not reach significance even at 90% levels for economic growth. Economic growth is a median decrease in unemployment, economic decline is a median increase in unemployment. Y-axis represents percentage point changes. We include versions of this figure that track shifts at the most extreme levels of economic growth and decline in the Supplementary Information, SI Figure 5.
Figure 3: Marginal Effect of Balance as Economic Conditions Change, by Professionalism

Confidence intervals are at 95%. Y-axis represents a percentage point change. The X-axis represents the percentage point change in unemployment, from a decrease of 4 percentage point to an increase in 4 percentage points.