Term Limited Legislators Invest Less
in Learning their District

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Abstract

Previous work argues that term limits influence politicians' behavior, often in ways that are detrimental to representation and legislative effectiveness. In this paper, we examine a mechanism through which term limits may affect legislative behavior. Specifically, we argue that politicians who face term limits will be less knowledgeable about their districts because term limits incentivize politicians to invest less time in district-specific knowledge and activities. To test this, we surveyed US state legislators (in 2012) and asked them to provide key demographic characteristics about their constituents. The error in legislators' answers to these questions are 10 percent larger among those in states with term limits compared to those from states without term limits.

Word Count: 6,042

Do term limited legislators know less about their constituents? Reelection provides politicians with a strong incentive to know their district as this informs them on how to effectively present themselves and their legislative actions to their constituents (Fenno 1978). Variation in term limits across states provide researchers with the chance to learn how time-horizons affect legislative behavior (Mooney 2009). Because term limits affect legislators' time horizons, term limits can affect how much legislators invest in learning about their district. Term limited legislators know that they will eventually have to leave their current position. This knowledge decreases the incentives to invest in their job (Kousser 2005).

Term limited legislators have particularly strong incentives to underinvest in district-specific information and activities. Legislators can take some of their skills to other jobs when they leave the legislature. The policy information that legislators gain, for example, might be useful in pursuing work outside of the legislature (Parker 1998). However, any district information that the legislators develop will be hard to translate into useful information once they leave the legislative chamber.

Previous work has found that term limits cause legislators to invest less in district-specific activities. Carey, Niemi, and Powell (1998), for example, find that term limited legislators spend less time getting money for projects in their district. They also find that term limited legislators report worrying more about state interests. Carey et al. (2006) also find that term limits affect how legislators approach their job. They find that term limited legislators feel less constrained by the need to represent their districts' preferences; instead, choosing policies they (the legislators) prefer.

We test whether term limits also have a negative effect on how much legislators invest in learning about their constituents. Our expectation is that legislators will make more errors about the size of various groups in their district. We focus on the groups who make up the district because this is a key way that legislators think about their district (Fenno 1978, chapter 1). Another reasonable approach is to study legislator perceptions on specific issues (Broockman and Skovron 2018). In designing our study, we choose to focus on group sizes because this is information that legislators can rely on to help make decisions about many issues. In other words, for any issue that comes up, legislators might think about the groups in the district and what members of those groups would likely want.

We test whether term limited legislators know less about their district by using data from an original survey we carried out in 2012. In the survey, we asked legislators about the demographics of their district. In particular, we asked them to indicate what percentage of the people their district fell into the following five categories: African-American, Latino, employed in blue collar jobs, home owners, and living below the federal poverty level. We compare legislators' responses about the percentage of their district in each of these five different demographic groups with the census estimates for their district (which are based on the five-year samples of the American Community Household Survey).

We find that term limited legislators are less knowledgeable about the groups in their districts. They make errors that are about 10 percent larger than the errors made by legislators who are not term limited. Knowing the groups in the district is part of what legislators do to be effective delegates for their constituents. Term limits, by taking away

the incentives to make longer-term investments in the district, appear to be causing legislators to underinvest in this important aspect of representation.

Groups in the District

Many of our insights into how legislators perceive their district come from Fenno's seminal work *Homestyle* (1978). Fenno extensively interviewed and followed several members of Congress while they traveled around their district. During those travels, the MCs shared their thoughts on how they thought of their district. One thing that is clear from his interviews is that many of the MCs described their district in terms of demographic groups. Here are a few example quotes from MCs about how they viewed their district:

> "It is far-flung and culturally rural – not blue collar like Dayton or Akron or Gary. It has very few blacks…" (Page 4)

> "It's all white. There are few blacks, maybe 2 percent. Spanish surnamed make up about 10 percent. Traditionally, it's be a district with a high percentage of home ownership… Economically, it's above the national average in employment… The people of the district are employed. It's not that it's very high income. Oh, I suppose that there are a few places of some wealth, but nothing very wealthy. And no great pockets of poverty either. And it's not dominated by any one industry." (Pages 4-5)

"We have every kind of Jew. We have every kind of Catholic from the

most parochial Italians to the most highly sophisticated Irish. Eighteen

percent of the district and 25 percent of the vote is black. They didn't

used to have leadership; now they are getting some. Next to them live the

blue-collar Italians…" (Page 5)

These quotes illustrate that legislators viewed their district as collections of

various groups. These groups included religious groups, racial groups, types of workers

(e.g., blue collar workers), and indications of socio-economic status (e.g., levels of home

ownership and levels of poverty). Not only did the legislators identify these groups as

they talked about the district, but in several cases they volunteered estimates of these

groups' size.

Politicians' desire to be reelected provides two strong reasons to invest in learning

the size of the various groups in their district. First, such information can help legislators

carry out an effective homestyle strategy. Homestyle involves being able to talk to the

voters in a way that connects with them (Fenno 1978, p. 58). Legislators want to convey

a sense of identification with the district; they want voters to feel like their representative

is "one of us." Knowing the groups in the district is one tool that helps legislators

achieve this goal. If blue-collar workers are an important group in the district, then the

legislator might spend more time on learning about the issues that are important to blue-

collar workers. They are also likely to invest in serving on committees that deal with

labor issues (Adler and Lapinski 1997) and taking other actions that allow them to

effectively position take on labor issues. Legislators who know the groups of voters in

their district are in a better position to succeed in winning support through their homestyle.

Second, information about the groups in the district can be used to help the legislators make inferences about what voters in the district want. Politicians want to know what voters think on important issues of the day. Druckman and Jacobs (2015) show that presidents of the United States have frequently carried out extensive polling in order to learn what voters think about issues on the agenda. There is also evidence that legislators respond to information when they receive it. Butler and Nickerson (2011) found that when legislators receive polling information, the legislators were more likely to vote in line with constituents' preferences on the issue.

Although legislators want to know what constituents think about specific issues, they do not have the resources to constantly conduct public opinion polls. When legislators do not have the resources to survey on specific issues, they can use district demographic information to help them make an informed guess as to what constituents might want. This same logic is part of what undergirds the recent uses of MRP models in political science to estimate district opinion (e.g., Lax and Phillips 2009a, 2009b; Tausanovitch and Warshaw 2013). Researchers use the information about the district demographics to estimate what the voters in the district want.

We expect politicians to invest resources first into learning about the groups in the district because this provides information that is generally more useful. If it were costless to learn about every issue, politicians would also invest in learning about those issues. However, doing so is costly and politicians have incentives to use their scarce resources wisely. If politicians learn about a specific issue, that knowledge cannot necessarily be

used to guide their decisions on other issues that will arise later. In contrast, if politicians keep track of the size of important groups in their district, they may be able to use that information to draw inferences about public opinion on multiple issues. In particular, they can figure out what each group feels about the new issue that arises and then use that to make an inference about the district as a whole.

Term Limits and Knowledge about Groups in the District

Term limits should impact legislators by leading them to invest less in district-specific knowledge and activities. In states with term limits, legislators who enter the chamber know with surety that they will eventually have to leave. This sure knowledge gives them fewer incentives to invest in skills and information that will not be useful for their next position.

Term limits shorten the time horizon for state legislators serving in chambers with limits. Prior to the introduction of term limits it was unclear if term limits would actually have an impact on how long legislators served. When term limits were first introduced, Moncrief et al. (1992) looked at the legislative careers of legislators who had served in term limited states. They found that most of the legislators in states serving in term limits served for fewer years than the term limits allowed. In other words, it looked like very few legislators would actually be kicked out because of the term limits.

Further, term limits actually make elections safer for incumbents. Rogers (2014) shows that incumbents are less likely to face quality challengers the longer they serve. Instead, strong challengers appear to be waiting for the legislator to be termed out of office before putting their hat into the ring.

Despite the fact that term limits make the legislature safer for incumbents and that few legislators serve long enough to be termed out of office, we see that term limits had a very large impact on legislators' likelihood of leaving office early. A decade after the term limits were introduced, Moncrief, Niemi, and Powell (2004) showed that legislators in term limited states had much higher levels of turnover. In the analysis, Moncrief, Niemi, and Powell looked at the turnover rates both before and after the introduction of term limits. Prior to the introduction of term limits, legislators in both groups were turning over at similar rates. However, after the introduction of term limits, the term limited states saw a large increase in the level of turnover (a 20 percent increase, going from 25 percentage points to 30 percentage points). In contrast, the turnover rates in non-term limited states remained about the same.

While Moncrief, Niemi, and Powell (2004) do not look at why the turnover rate increases, the patterns they find are consistent with legislators acting as if they had a shorter time horizon. When legislators are not term limited they can leave the chamber at a time that is convenient for them. However, when legislators are term limited they know that they cannot stay as long as they wish. As a result, term limited legislators may be more likely to be looking around for an exit option. When they see a sufficiently good option, even if it is not there preferred option, they may be more likely to take.

By shortening legislators' time horizon, term limits have the effect of causing legislators to invest less in district-specific activities. Carey, Niemi, and Powell (1998), surveyed legislators to find how they spend their time. They found that term limited legislators spend less time getting money for projects in their district. They also find that term limited legislators report worrying more about the state interests than district-

specific interests. In their next survey, carried out several years later, Carey et al. (2006)

found that term limited legislators feel less constrained by the need to represent their

district; instead choosing policy that they think is best. These findings show how term

limits lead legislators to invest less in their districts.

 We test whether term limits also have a negative impact on how much legislators

learn about their constituents. As we discussed in the previous section, learning about the

groups in the district is an important part of how they carry out their duties. Our

expectation is that legislators in term limited states will be more likely to make errors

about the size of groups in their district. We test this hypothesis by using data from a

survey of state legislators that we conducted in 2012.

Measuring State Legislators' Knowledge

 In March 2012 we invited the roughly 7,000 state legislators in the United States,

via email, to take a survey. In administering the survey, some of the longer questions

were presented to a randomly selected subset of legislators in order to minimize the time

burden placed on respondents. Thus although the overall response rate for the survey

was about 15 percent[1] (a total of over 1,000 responses), only about half of those

respondents were asked the questions. In anticipation that legislative staff might take the

survey, the first question in the survey asked respondents whether they were a state

legislator or a staff member. We present the results using the self-identified state

legislator sub-sample. Additional details about the survey are presented in the

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[1] A response rate of 15 percent is actually higher than recent Internet surveys that have

been shown to help produce representative samples (Fisher and Herrick 2013).

supplementary appendix.

In the survey we asked the legislators to identify the size of five groups in the district: blue-collar workers, the poor, Latinos, blacks, and home owners. We asked about these groups for two main reasons. First, these are politically relevant groups. These are many of the groups that were mentioned by the legislators that Fenno interviewed (see the quotes at the beginning of the paper). Second, we have information about these groups in the census. We can use the census data to get the true size of each group in each district.

Figure 1. Question about Legislators' Perceptions of District Characteristics
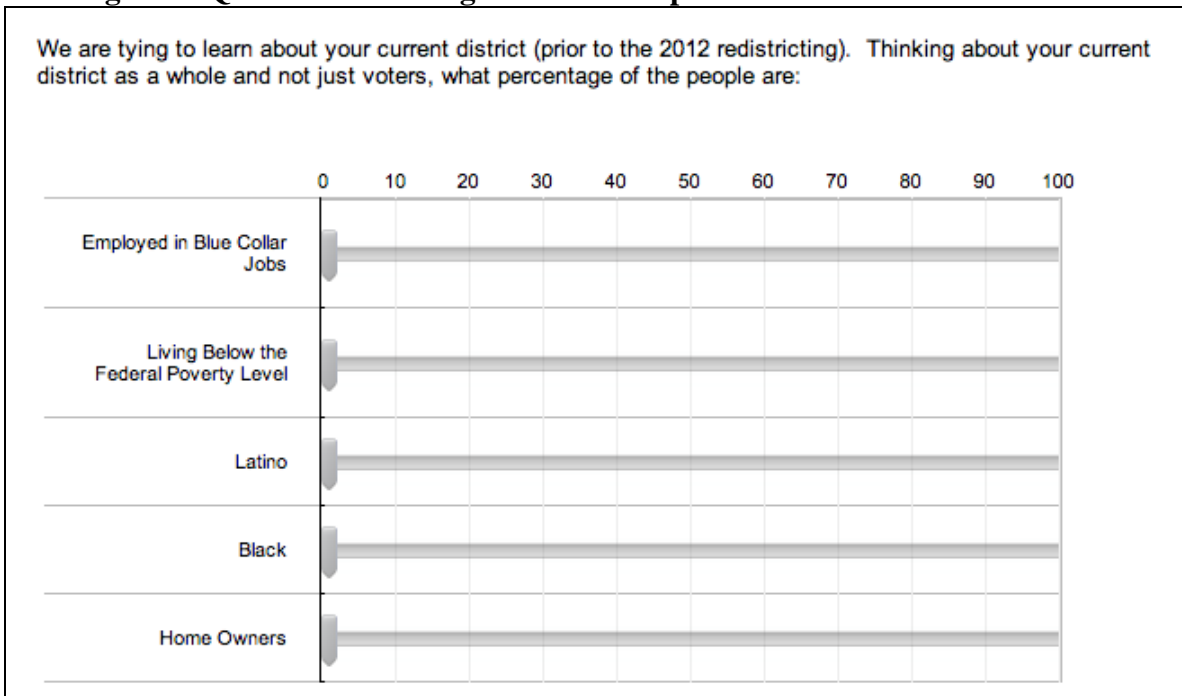
Notes: This is a screen shot of the question presented to legislators to elicit their perceptions about the demographics of their district.

Figure 1 is a screen shot of the question shown to legislators. Because the survey was administered during the spring of 2012, the question emphasized that they were being asked about the district they had been representing (i.e., the district prior to any

changes occurring as a result of redistricting). The question also stressed that they should

think about their current district "as a whole and not just voters." This wording was used

to help ensure that legislators were thinking about the same benchmark

Figure 2. Legislator's Estimate versus Census Information: The Percent of Blue Collar Workers in the District
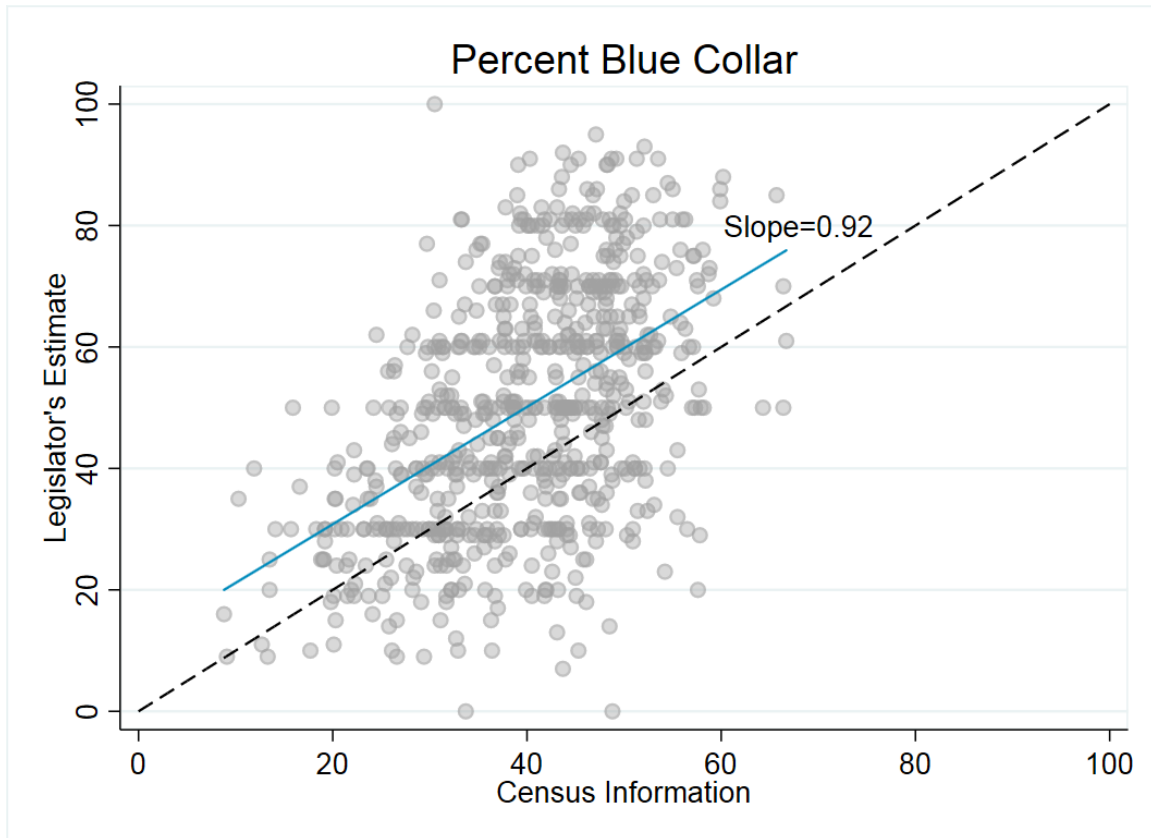
Note: The y-axis is the legislator's estimate of the percent of workers who toil in blue-collar positions. The x-axis gives the census information for this statistic based on the American Community Survey. The dashed line is the 45-degree line and the solid line gives the relationship between the legislator's estimate and the census data (with the slope of that line given in the figure).

Using the responses to the question in Figure 1, we can compare legislators'

responses about the percentage of their district in each of these five different

demographic groups with the census estimates for their district (which comes from the

five-year samples of the American Community Household Survey).[2]

Figure 2 plots the relationship between the legislators' estimates of the percentage

of blue-collar workers in their district (the y-axis) against the percentage of blue-collar

workers in the district based on the census data (the x-axis). The solid line gives the

regression line for the relationship between these two variables. The slope is close to

one, indicating that increases are accompanied by similar increases (on average) in

legislators' perceptions. However, legislators are frequently wrong. If legislators'

perceptions were perfectly accurate, then all of the observations would rest on the 45-

degree line (the thin dashed black line). Instead, there is a wide spread around the 45-

degree line. Many legislators are off by 20 or more percentage points. One interesting

pattern is that the bulk of the observations lie above the 45-degree line. The majority of

legislators overestimate the number of blue-collar workers in their district.

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[2] We measure homeownership by using the percent of homes that are owner occupied and

the percent living in poverty by using the estimated poverty rate for families. The percent

black and the percent Latino come from the comparable measures in the census. Finally,

the percent of blue collars is calculated by using the percent of the district employed in

the following industries: (1) service occupations, (2) natural resources, construction, and

maintenance occupations, and (3) production, transportation, and material moving

occupations (white-collar workers are coded as: sales and office occupations, and

management, business, science, and arts occupations).

Figure 3. Legislator's Estimate versus Census Information: Race and Ethnicity, Poverty, and Home Ownership Rates
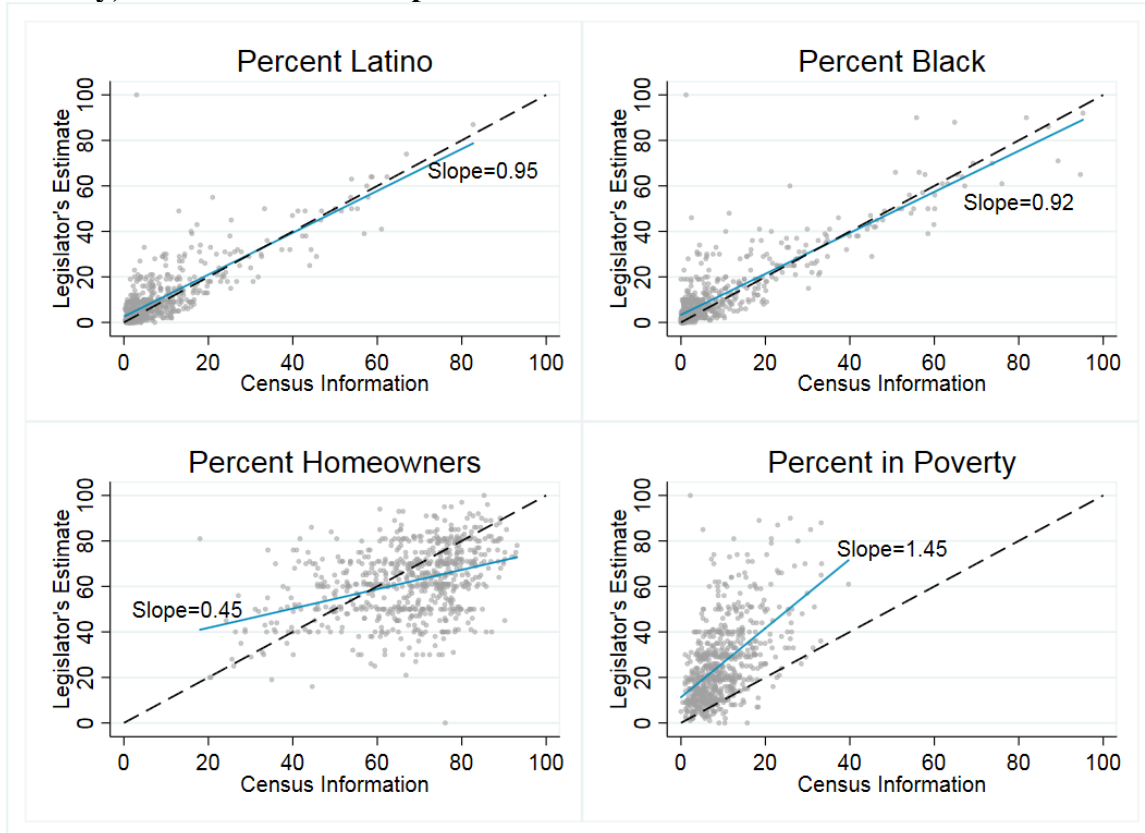
Note: In each graph, the y-axis is the legislator's estimate and the x-axis gives the census information based on the American Community Survey. The dashed line is the 45-degree line while the solid line gives the relationship between the legislator's estimate and the census data (with the slope of that line given in the figure).

Figure 3 looks at the accuracy of legislators' perceptions regarding the other features of their district that we asked about (see Figure 1 for question wording). As with the number of blue-collar works, legislators overestimated the amount of poverty in their district. More than 90 percent of the legislators surveyed overestimated the percentage of families in their district who were below the poverty line. In contrast, there was no systematic bias when it came to estimating the percent of the district that was Latino and black. The regression lines for these two characteristics were close to 1 (0.95 and 0.92 respectively) and were close to the 45-degree line. There was still noise, but legislators

were on average correct about the racial and ethnic composition of their district. Finally,

legislators' perceptions regarding home ownership rates exhibited a regression to the

mean pattern. In districts where levels of homeownership are low, legislators

overestimated the levels of home ownership. However, in districts where the

homeownership is high, legislators underestimated the homeownership rates. This can be

seen in the solid regression line given in the graph. Most significantly, Figures 2 and 3

show that for all five characteristics we asked about, there were significant levels of

misperception. We turn now to seeing whether term limited legislators are more likely to

get the information wrong.

Regression Model and Results

For the analysis, we compare legislators' responses about the percentage of their

district in each of these five different demographic groups with the census data for their

district. The dependent variable is the legislator's *average knowledge gap*. We calculate

the *average knowledge gap* by taking the average of the absolute difference between the

legislator's response and the census information for the items they answered.

Our primary variable of interest is whether the legislator serves in a state with

term limits. The variable for term limits is just a binary variable coded as 1 for term

limited states and 0 otherwise. We estimate the model both without any controls and then

again with controls. [3] The two models are estimated using OLS regressions. In the

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[3] In the supplementary appendix we run models with additional control variables.

regressions, we cluster the standard errors by state to help account for the fact that the main variable of interest varies at the state level.

In the model with controls, we include both institutional and individual control variables. On the institutions side, we control for majority status and for the state's level of legislative professionalism. We controlled for majority status because this can affect how much time the legislators put into the district. If the legislator is in the majority, they may have less time for their district.

Legislative professionalism may also affect how much legislators invest into learning about their district. Theoretically, professionalism describes the resources that are available to state legislators. In practice, the Squire Index is the most commonly used way of measuring professionalism. Squire Index weights each of the three legislative components- salary, legislative staff, and days in session- equally (Squire 2007).

Legislative professionalism is important because it determines the degree to which legislators are able to focus on learning as a legislator. Having a higher salary, for instance, means that the legislator does not need a second job to financially support themselves, they can simply focus on legislating and working on behalf of their constituents (Fiorina 1994). Similarly, professionalized legislatures spend more time on the job. The more time on the job should allow them to spend more time learning about their constituents. Further, having more staff to whom they can delegate to, means that they can spend more time with their constituents. The ability to be more focused on the job, should provide legislators in more professionalized legislatures with more time and resources to learn about their constituents.

At the individual level we include controls for the following: female, black, Latino, partisanship, and years in office. Of these variables, years in office is the most important. The longer that legislators serve, the more they can learn about their district. Further, legislator's time in office should be correlated with term limits. Term limited legislators have higher turnover rates, leading them to serve for fewer years than legislators without term limits (Moncrief, Niemi, and Powell 2004).

The other individual-level controls – female, black, Latino, and partisanship – are all indicator variables. For partisanship, the indicator variable for *partisanship=other* is a indicator variable that takes a value of 1 if the legislators is anything other than a Democrat or a Republican. Democrats are the omitted category for the partisanship variables.

The results are given in Table 1. Column 1 presents the binary results and Column 2 presents the results with controls. Legislators in term limited states make more errors about the size of various groups in their state. The intercept in column 1 gives the average knowledge gap for legislators in states without term limits. In the non-term limited states, legislators were off by about 11 percentage points on average (see the coefficient on the intercept). The coefficient on the variable *term limited* gives the difference between the term limited states relative to those not facing term limits. Thus the 1.11 coefficient means that legislators in are off by about 10 percent more than legislators in non-term limited states. Column 2 shows that this result holds even when including the control variables.

Table 1. Term limited Legislators have a higher Knowledge Gap

Independent Variables	DV = Average Knowledge Gap	
	(1)	(2)
Term limited State	1.11	1.19
	(0.45)	(0.43)
In Majority in Chamber		-0.98
		(0.51)
Legislative Professionalism (Squire Index)		-4.13
		(1.50)
Female		0.50
		(0.46)
Black		2.99
		(0.71)
Latino		2.73
		(1.07)
Republican		0.15
		(0.57)
Party = Other		-0.51
		(0.76)
Years in Office		0.03
		(0.04)
Constant	10.95	11.66
	(0.27)	(0.55)
Observations	720	720
Clusters (States	46	46

Notes: Clustered standard errors (clustered by states) are shown in parentheses.

Among the control variables, one strong predictor is legislative professionalism. The negative coefficient on this variable means that legislators in more professional states are less likely to make errors about the size of the groups in their district. The coefficient is also reasonably large in size. To put the magnitude of the coefficient in context, it is helpful to note that the Squire index runs from 0.033 (New Hampshire) to 0.675 (California). This means that going from the least professional state to the most

professional state is correlated with a 2.6-point reduction in the knowledge gap.[4]

Substantively that is a drop that is twice the size of the coefficient on being from a term

limited state.

Kousser (2005) shows that term limits and legislative professionalism often work

at cross-purposes. Legislative professionalism generally gives legislators more resources

to carry out their jobs. Term limits, by shortening legislators time-horizons give

legislators less incentives to invest in their state. As a result, many of the gains that come

from increasing professionalism are negated when term limits are introduced. We find

that these two institutions work at cross-purposes when it comes to legislators learning

about the groups in their district. Legislative professionalism promotes learning about

the groups in the district while term limits work in the opposite direction.

Analyzing Non-Responses

One potential issue is that about 10 percent of the legislators did not answer the

question for all 5 groups shown in Figure 1. Overall, 5 percent of the sample answered 4

of the questions, 3.5 percent of the sample answered 3 of the questions, and the final 1.5

percent answered either 1 or 2 of the questions. The questions regarding race were the

ones that were most frequently skipped. A total of 51 legislators skipped the question

about the size of the Latino population in the district (and 41 skipped the question

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[4] This reduction is calculated by taking the difference in the professionalism score and

multiplying that by the coefficient on the legislative professionalism:

$$-4.13 * (0.675 - 0.033) = -2.65$$

regarding blacks). By contrast only 6 legislators skipped the question about poverty in

the district. Similarly, 9 and 10 legislators skipped the questions about home owners and

blue-collar workers respectively.

One issue is that this nonresponse might be related to levels of knowledge.

Perhaps the least knowledgeable are simply skipping more questions. Table 2 provides

some evidence that there may be some non-response bias. A more complete discussion of

this bias can be found in in Angrist and Pischke (2009: page 94) and McConnell, Stuart,

and Devaney (2008) (see also Montgomery, Nyhan, and Torres 2018).

Table 2. Knowledge by Completion of Survey

Independent Variables	DV = Average Knowledge Gap (1)
Answered all 5 Questions	-3.24
	(0.87)
Constant	14.20
	(0.83)
Observations	720
Clusters (States)	46

Note: Clustered standard errors (clustered by states) are shown in parentheses.

Table 2 presents the results from regressing the average knowledge gap

(calculated based on the questions that were answered) on a indicator variable for those

who answered all 5 questions. The negative coefficient on the variable indicates that

those who answered all 5 questions (i.e., those who did not skip) made fewer errors. This

is likely to be an underestimate of the effect. The legislators who skipped questions were

probably most likely to skip the questions that they were even more uncertain about. Had

they answered those questions they probably would have made even greater errors. These

results suggest that not completing the survey itself might be a good indicator of knowledge about the district.

Table 3 explores whether term limited legislators were less likely to complete the survey. Columns 1 and 2 of Table 3 run regressions where the dependent variable is a indicator variable for whether the legislator answered all 5 questions in Figure 1. Columns 3 and 4 uses the number of questions answered as the dependent variable. The models are estimated using OLS regressions.

Table 3. Term limited Legislators Less Likely to Answer all 5 Questions

Dependent Variable:	Answered all Qs		Number Qs Answered	
	(1)	(2)	(3)	(4)
Independent Variables				
Term Limited State	-0.07	-0.06	-0.12	-0.11
	(0.04)	(0.03)	(0.07)	(0.06)
In Majority in Chamber		0.00		0.01
		(0.02)		(0.04)
Legislative Professionalism		0.31		0.55
(Squire Index)		(0.08)		(0.14)
Female		-0.01		-0.02
		(0.02)		(0.03)
Black		-0.07		-0.09
		(0.07)		(0.12)
Latino		0.04		0.10
		(0.05)		(0.06)
Republican		0.02		0.01
		(0.02)		(0.04)
Party = Other		-0.07		-0.06
		(0.06)		(0.10)
Years in Office		0.00		-0.00
		(0.00)		(0.01)
Constant	0.92	0.86	4.87	4.78
	(0.01)	(0.03)	(0.02)	(0.05)
Observations	720	720	720	720
Clusters (States	46	46	46	46

Notes: Clustered standard errors (clustered by states) are shown in parentheses.

Table 3 reinforces the conclusion that term limited legislators know less about their districts. The negative coefficient on *Term limited State* in columns 1 and 2 indicates that legislators from these states were less likely to answer all 5 survey items. Because the dependent variable is binary and the regression models are OLS, the coefficients can be interpreted in percentage point terms. Thus the -0.07 coefficient indicates that legislators who were from these states were 7 percentage points less likely to answer all 5 questions regarding group sizes. Similarly, the variable term limited also has a negative coefficient in columns 3 and 4 of Table 3, showing that these legislators answered fewer questions overall. In other words, term limited legislators were less likely to answer the questions (Table 3) and were more likely to make bigger errors when they did answer (Table 1). Term limited legislators know less about their districts.

Table 3 also shows that professionalized legislators were more likely to answer all of the questions about groups in their district. Legislators in high professionalism states were more likely to answer the questions (Table 3) and were closer to identifying the correct group sizes when they did answer (Table 1). Professionalism is related to knowing more about the district.

Finally, we can deal with the potential bias that comes from some legislators not providing a response by creating a dependent variable that groups non-responses together with low-quality responses (Coppock Forthcoming). In this case, we can do that by creating the number of responses that are within a given threshold. We decided to use the 90 percentile threshold. Thus we measure for each response whether the legislator gave a response that was closer to the correct answer than the 90th percentile. If they were closer, they got 1 point for that response. The legislators who were either off by more

than that amount, or who did not answer are coded as 0 for the given response. We then

added up the score for the number they could have gotten correct, with the resulting

variable ranging from 0 to 5. Table 4 gives the results for that regression and shows, yet

again, that the legislators who are term limited were less knowledgeable.

Table 4. Term limited Legislators and Getting Close to the Correct Answers

Dependent Variable:	Number of Answers with 90th percentile	
	(1)	(2)
Independent Variables		
Term Limited State	-0.16	-0.16
	(0.07)	(0.08)
Legislative Professionalism (Squire Index)		0.40
		(0.24)
In Majority in Chamber		-0.02
		(0.07)
Female		-0.10
		(0.06)
Black		-0.57
		(0.18)
Latino		-0.28
		(0.18)
Republican		-0.08
		(0.07)
Party = Other		0.03
		(0.16)
Years in Office		0.00
		(0.01)
Constant	4.40	4.44
	(0.04)	(0.09)
Observations	720	720
Clusters (States	46	46

Notes: Clustered standard errors (clustered by states) are shown in parentheses.

Discussion

Term limits allow us to study how time horizons affect legislators. When term

limits are in place, legislators know that they will have to eventually leave the office.

Consistent with that claim, Moncrief, Niemi and Powell (2004) show that the introduction of term limits lead legislators in those states to turn over at higher rates. As such, term limits provide a great place to learn about how time-horizons affect behavior (Mooney 2009).

Our research suggests that time-horizons matter for legislative behavior. The introduction of term limits causes legislators to underinvest in district specific information and knowledge (Carey, Niemi, and Powell 1998). We find that among other things, this means investing less in getting to know the groups that compose the district. We find that legislators in term limited states simply know less about the size of the groups in their district. Knowing the groups in the district is important information that allows legislators to provide better representation for the district. This includes adopting a better homestyle and also better representation on policy matters.

Term limits are not the only institution that affects legislators' knowledge about their district. Legislative professionalism has a positive impact on legislators' knowledge about the groups in the district. Legislators from more professionalized states were more likely to estimate the number of groups in the district and their estimates were significantly closer than those of legislators from less professionalized states. Kousser (2005) found that term limits and legislative professionalism work at cross-purposes. While legislative professionalism gives legislators the tools to more effectively carry out their jobs, term limits incentivize them to invest less in district specific activities.

References

Adler, E. Scott, and John S. Lapinski. 1997. "Demand-Side Theory and Congressional Committee Composition: A Constituency Characteristics Approach." *American Journal of Political Science* 41 (3): 895-918.

Angrist, Joshua D., and Jorn-Steffen Pischke. 2009. *Mostly Harmless Econometrics: An Empiricists Companion*. Princeton, NJ: Princeton University Press.

Broockman, David E., and Christopher Skovron. 2018. "Bias in Perceptions of Public Opinion among Political Elites." *American Political Science Review*, 1-22.

Butler, Daniel M., and David W. Nickerson. 2011. "Can Learning Constituency Opinion Affect how Legislators Vote? Results from a Field Experiment." *Quarterly Journal of Political Science* 6 (1): 55-83.

Carey, John M., Richard G. Niemi and Lynda W. Powell. 1998. "The Effects of Term Limits on State Legislatures." *Legislative Studies Quarterly* 23 (2): 271-300.

Carey, John M., Richard G. Niemi, Lynda W. Powell, And Gary F. Moncrief. 2006. "The Effects of Term Limits on State Legislatures: A New Survey of the 50 States" *Legislative Studies Quarterly* 31 (1): 105-134.

Coppock, Alexander. Forthcoming. "Avoiding Post-Treatment Bias in Audit Experiments" *Journal of Experimental Political Science*

Druckman, James N., and Lawrence R. Jacobs. 2015. *Who Governs? Presidents, Public Opinion, and Manipulation*. Chicago: The University of Chicago Press.

Fenno, Richard E, Jr. 1978. *Home Style: House Members in their Districts*. Boston: Little, Brown.

Fiorina, M. 1994. "Divided Government in the American States: A Byproduct of Legislative Professionalism?" *American Political Science Review* 88: 304-316.

Kousser, Thad. 2005. *Term Limits and the Dismantling of State Legislative Professionalism*. Cambridge, UK: Cambridge University Press.

Lax, Jeffrey R., and Justin H. Phillips. 2009a. "Gay Rights in the States: Public Opinion and Policy Responsiveness." *American Political Science Review* 103 (3): 367–385.

Lax, Jeffrey R., and Justin H. Phillips. 2009b. "How Should We Estimate Public Opinion in the States?" *American Journal of Political Science* 53 (1): 107–121.

McConnell, Sheena, Elizabeth A. Stuart, and Barbara Devaney. 2008. "The Truncation-by-Death Problem: What to do in an Experimental Evaluation When the Outcome is Not Always Defined." *Evaluation Review* 32 (2): 157-186.

Moncrief, Gary F., Richard G. Niemi and Lynda W. Powell. 2004. "Time, Term Limits, and Turnover: Trends in Membership Stability in U.S. State Legislatures." *Legislative Studies Quarterly* 29 (3): 357-381.

Moncrief, Gary F., Joel A. Thompson, Michael Haddon and Robert Hoyer. 1992. "For Whom the Bell Tolls: Term Limits and State Legislatures." *Legislative Studies Quarterly* 17 (1): 37-47.

Montgomery, J. M., B. Nyhan, and M. Torres. Forthcoming. "How Conditioning on Post-treatment Variables Can Ruin Your Experiment and What to Do About It." *American Journal of Political Science*

Mooney, Christopher Z. 2009. "Term Limits as a Boon to Legislative Scholarship: A Review." *State Politics and Policy Quarterly* 9 (2): 204-228.

Parker, Glenn R. 2008. *Capitol Investments: The Marketability of Political Skills*. Ann Arbor: University of Michigan Press.

Rogers, Steven. 2014. "Term Limits: Keeping Incumbents in Office." Paper prepared for the 2014 State Politics and Policy Conference.

Squire, Peverill. 2007. "A Squire Index Update." *State Politics and Policy Quarterly* 7(2), 211-227.

Tausanovitch, Christopher, and Christopher Warshaw. 2013. "Measuring Constituent Policy Preferences in Congress, State Legislatures and Cities." *Journal of Politics* 75(2): 330-342.

Supplementary Appendix (Online)

In Table A1 below, we rerun the analysis presented in Table 1 with additional control variables. These include the component parts of the Squire Index (*Total Length of Session*, *Expenditures per Legislator*, and *# of Permanent Legislative Staff*) in line with Bowen and Greene (2014). We also control for legislators' electoral vulnerability under the theory that these officials will have a great incentive to pay attention to their district. It may also be the case that legislators who are less attentive to their district perform more poorly in their elections. We measure legislators' electoral vulnerability with their vote margin (relative to the first loser in the race) in their previous election. We also run a model with an indicator variable that equals 1 if a legislator's vote margin in the previous election was less than 5% points. The variable *# of Seats in Chamber* accounts for the possibility that districts in states with fewer seats may more closely resemble their state's demographic characteristics, making it easier for legislators from these states to know or guess their district's characteristics. *Majority Party's Seat Margin* accounts for the possibility that legislators in states with close majorities may have additional incentives to know their districts better as part of their electoral strategy to maintain or gain the majority. Finally, *District Population* accounts for the possibility that legislators from smaller districts may face a lower cost to become familiar with their district.

Table A1. Replication of Table 1 with Additional Controls

VARIABLES	(1)	(2)	(3)	(4)
Term Limited State	1.24**	1.16*	1.11*	1.17*
	(0.42)	(0.48)	(0.49)	(0.47)
Legislative Professionalism (Squire)	-4.39*	-4.47^	-4.24^	
	(1.65)	(2.28)	(2.21)	
Total Length of Session				-0.01^
				(0.00)
Expenditures per Legislator (in 1k)				-0.00
				(0.00)
# of Permanent Legislative Staff				-0.00
				(0.00)
In Majority in Chamber	-1.02^	-0.92^	-0.91^	-0.94^
	(0.52)	(0.52)	(0.52)	(0.51)
Female	0.49	0.49	0.49	0.51
	(0.46)	(0.48)	(0.48)	(0.48)
Black	2.82**	2.74**	2.90**	2.69**
	(0.75)	(0.76)	(0.72)	(0.76)
Latino	2.61*	2.61*	2.71*	2.52*
	(1.08)	(1.04)	(1.02)	(1.03)
Republican	0.07	0.11	0.16	0.11
	(0.58)	(0.59)	(0.58)	(0.59)
Party = Other	-0.65	-0.46	-0.42	-0.45
	(0.75)	(1.33)	(1.38)	(1.30)
Years in Office	0.03	0.03	0.03	0.03
	(0.04)	(0.04)	(0.04)	(0.04)
Vote Margin in Prev. Election	0.52	0.59		0.63
	(0.53)	(0.56)		(0.55)
Won Prev. Election by Less than 5% pts.			-0.20	
			(0.37)	
# of Seats in Chamber		0.00	0.00	0.00
		(0.00)	(0.00)	(0.00)
Majority Party's Seat Margin		-1.26	-1.20	-1.51
		(1.22)	(1.22)	(1.28)
District Population (in 10k)		-0.00	-0.01	-0.01
		(0.05)	(0.05)	(0.06)
Constant	11.60**	11.83**	12.03**	12.20**
	(0.57)	(0.95)	(0.96)	(1.12)
Observations	718	711	711	711
R-squared	0.04	0.04	0.04	0.04

Notes: Clustered standard errors (clustered by states) are shown in parentheses.
^ p-value<0.1, * p-value<0.05, ** p-value<0.01

Appendix References

Bowen, Daniel C., and Zachary Greene. 2014. "Should We Measure Professionalism with an Index? A Note on Theory and Practice in State Legislative Professionalism Research." *State Politics & Policy Quarterly* 14(3): 277-296.