Term Limits and Municipal Borrowing Costs

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Abstract

Gubernatorial term limits constrain the number of terms the state governor can serve in office. Models with imperfect information where both voters and incumbents behave rationally show that Governors will spend responsibly in the first term to build political capital. In contrast, the last term of the Governor is associated with higher spending possibly on riskier long lived capital projects. In a sample of states with pre-existing gubernatorial term limits and state fixed effects, we find that municipal bonds issued when the Governor is serving his last term are associated with higher yields over the period 1990 to 2010. The reduced spending in the first term and increased spending in the last term induce greater fiscal volatility in states with Governor term limits. This is reflected in higher yields for all bonds issued from states when they have gubernatorial term limits. House term limits that constrain the number of terms served by state legislators are more recent and have been shown to be associated with higher government spending. We find higher yields for municipal bonds issued from states with house term limits. The difference in yield of municipal bond issues from states with both term limits and states with neither term limits could be as high as 16.37 basis points. The results point to the importance of political institutions in municipal financing costs.

1. Introduction

State and local governments issue debt to finance development projects, fund emergency services, public schools, and utilities among others. In June 2013, there were $3.72 trillion in municipal securities outstanding. Municipal debt is backed by taxes of some kind: revenue bonds are backed by a specific revenue source while general obligation bonds can be paid by any tax revenue raised by the issuing government. The amount of government spending as well as the willingness to tax therefore have direct bearing on municipal debt.

Political institutions provide the framework under which states and municipalities operate. They create the rules governing economic actions and influence the economic performance of state and local governments. One important political institution is the existence or lack thereof of gubernatorial and legislative term limits. A term limit is a legal restriction that limits the number of terms an office holder may serve in a particular elected office. US states vary in whether they hold elected officials to term limits and this paper examines the impact of term limits on municipal borrowing costs.

The proponents of term limit argue that it limits veteran governors and legislators who might have become used to a "culture of spending". Limiting "career" politicians allows for the infusion of a fresh breed of office holders that are likely to bring new solutions to old problems, along with an energy and vigor that is good for the government. Opponents argue that there are natural term limits in place as the voters have the right to remove elected officials from office. It has been argued that a term limited legislator could have higher incentives to shirk, that is behave in a manner inconsistent with the constituents preferences as he faces no fear of punishment in an upcoming election. If term limits affect state fiscal policy, they are also likely to impact municipal borrowing. Increased spending by the state competes with promised interest payouts on municipal

bonds and increased taxation constrains the ability of the government to increase taxes in the future to cover interest payments on municipal bonds.

Besley and Case (1995) examine the effect of gubernatorial term limits in a model with imperfect information where both voters and incumbents behave rationally. Incumbents with higher first term payoffs to voters are more likely to be re-elected for a second term. Governors in their last term will put in less effort and have lower payoffs to voters compared to their first term. As incumbents place less value on reputation building and fiscal performance in their last term, government spending increases. Further, Crain and Oakley (1995) argue that with term limits current voters cannot make contracts with next period voters, and may limit future policy options by constructing a long lived capital project. If Governor's last term is associated with increased government spending possibly on risky long lived capital projects, then municipal bonds issued to finance these projects are likely to have higher yields.

We examine the effect of gubernatorial term limits on yields of new municipal debt issued over the period 1990 to 2010. There are a myriad of fiscal and political institutions that potentially impact fiscal policy and municipal offerings. To isolate the effect of gubernatorial term limits we include state fixed effects in all our estimations. State fixed effects are possible as there is significant variation across the different states in the US. Over the sample period, there are 10 states that had no Governor term limits, 29 states that had some term limits, and 11 states that changed from having no gubernatorial term limits to having some term limits or vice versa.

One concern is that gubernatorial term limits are not exogenous and fiscal conditions that prompt states to adopt term limits are likely to also impact municipal borrowing costs. To identify the potential effect of term limits we use the sample of bonds from 29 states that had term limits in existence prior to the sample period. The existence of gubernatorial term limits can be traced

back to as early as 1790 and fiscal conditions in the past that were related to choice of having term limits or not, are unlikely to be related to current municipal debt offered. These states with pre-existing gubernatorial term limits have years in which the governor is eligible to run again for office and years when the term limit binds. In this sample, with the inclusion of state fixed effects we can isolate the difference in the municipal yield of bonds issued in the last term from the yield of bonds issued from the same state but in the first term of Governors.

In estimating the effect of Governor's last term on offering yields of municipal bonds, we control for a host of bond characteristics like proceeds, maturity, bond rating, general obligation bonds, negotiated contracts, credit enhancements among other bond characteristics and for macroeconomic variables we include matching treasury yield, term slope, and t-note. We also control for state economic characteristics like the ratio of state debt to state GDP, the ratio of state revenue to expenditure, state unemployment rate, marginal tax rate as well as state demographic characteristics like education, age, gender and race. Lastly, we include state and year fixed effects. We find that the offering yield on municipal bonds issued in the Governor's last term is significantly higher than that on bonds from the same states issued in periods where the gubernatorial term limit does not bind.

Municipal bonds issued in the last term are larger in size and are likely to be sold through negotiated contracts. The greater likelihood that last term spending involves large capital projects that are riskier, is reflected in the fact that the higher yields of last term issues are increasing in maturity and confined to revenue bonds and those sold through negotiated contracts. The evidence suggests that the higher yield of bonds issued in the last term of the governor reflect the riskier nature of the projects undertaken in the last term.

The higher and riskier spending in the last term of Governor arises from a diminished concern for reputation building in his last term.   However, many governors have future political aspirations like running for the US presidency or the Senate. These continued political aspirations of governors should mitigate the effect of gubernatorial term limits on spending and municipal debt.   To shed light on this we collect data on Governor's careers after they leave office and find that Governors that run for elected office subsequent to their Governorship are associated with lower municipal yields in their last term relative to those that do not display further political ambitions. This provides evidence in support of the channel that governors use fiscal policy to build political reputation that has a significant bearing on the cost of municipal debt.

Besley and Case (1995) show that another implication of their model is the greater fiscal volatility that arises from the higher spending in the last term and the lower spending in the first term of the Governor. Crain and Tollison (1993) also document that gubernatorial term limits lead to greater volatility in state fiscal activity. This greater fiscal volatility in the presence of gubernatorial term limits increases the risk of municipal debt and should be associated with higher yields. We test for this and find that after controlling for bond characteristics, state characteristics, state and time fixed effects, the offering yield for bonds issued when the states had gubernatorial term limits is significantly higher than the yield of bonds from the same states but in years with no term limits.

In contrast to gubernatorial term limits, there have been historically no term limits on state legislators.[2]   By mid to late 1980's there was growing cynicism about government in general and legislatures in particular.   In response to this public unease, citizen initiatives limiting the terms

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[2] All 50 states, except Nebraska, have bicameral legislature made up of a smaller upper house and a larger lower house. The legislature approves the state's budget and initiates tax legislation among other duties.

of legislators were passed by voters in California, Colorado and Oklahoma in early 1990. Subsequently, 18 other states adopted term limits, but in four - Massachusetts, Oregon, Washington and Wyoming - term limits were thrown out by the state supreme courts, and they have been repealed by the legislatures in Idaho and Utah. As of 2010, there were 15 states with legislative term limits.

Moncreif, Neimi and Powell (2004) study legislative term limits and find, not unsurprisingly, that they are associated with significant increase in turnover for legislators. Cummins (2012) argues that higher turnover among legislators lead to short term fiscal outlooks and loss of experience and policy expertise. As myopic legislators avoid tough fiscal decisions and loss of experience hinders sound fiscal policy, legislative term limits are likely to be associated with poorer fiscal conditions relative to states with no legislative term limits. This is confirmed by Erler (2007) who examines legislative term limits and finds that they are associated with higher state spending. If legislative term limits are associated with greater state spending this is likely to be reflected in a higher cost of municipal financing.

Unlike gubernatorial term limits, legislative term limits have been more recent and heavily debated, raising concerns that changes in these term limits are not exogenous. Erler (2007) argues that (legislative) term limits are exogenous as their adoption is not correlated with the state's economic conditions but rather to the presence of the initiative process. The initiative process refers to the fact that in 23 states, citizens can propose and pass state laws directly-without recourse to their elected representatives-by means of initiatives. In the other 27 states and at the federal level, laws can originate only from the elected legislature. In every state with the initiative process, except one, voters have passed some form of legislative term limits. The presence of initiative process is uncorrelated with the present fiscal preferences of voters (Matsusaka (1995)).

Most direct democracy procedures such as the initiative process were adopted by states in the early 1900s, well before the start of the sample period under consideration. If the adoption of legislative term limits is related to the existence of the initiative process rather than to state fiscal conditions, it can be considered somewhat exogenous to municipal financings.

We examine the effect of legislative term limits on municipal borrowing costs, and find that bonds issued in the presence of legislative term limits are associated with higher yields. As we include state fixed effects, we can estimate the difference in yields of bond issued in years with legislative term limits from bonds issued by the same states in years without legislative term limits. The difference in borrowing costs between states that have both term limits and states that have neither term limits is 12.87 basis points. For an average municipal bond issue of $35.5 million this entails a difference of $45,688 in interest per bond per year. This difference between the bonds yields from states with both term limits and states with no term limits can increase to 16.37 basis points in years when the governor serves his last term.

We examine whether party affiliation has any impact on the higher municipal yields associated with gubernatorial and legislative term limits. We find that the party of the Governor has no impact on the effect of Governor's last term or the presence of gubernatorial term limits on municipal borrowing costs. We also find that whether one or both houses of legislature are controlled by the Democratic party or not does not have any impact on the role of legislative term limits on municipal borrowing costs. Lastly, there is no differential effect of term limits on municipal bonds when the party of the Governor also controls the legislature.

We contribute to the emerging literature on municipal debt by documenting the effect of term limits on the cost of municipal borrowing. Though budgetary and fiscal institutions are known to impact municipal borrowing, the finding in this paper is among the first to show that

political institutions, specifically term limits also impact municipal borrowing costs. The findings reported here should also interest state officials, and a broader policy community especially as state fiscal problems intensify and access to and cost of municipal debt become important.

2. Literature Review and Hypothesis Development

The paper is related to several strands of literature. To begin with, there is a prior literature that looks at the effect of budgetary institutions on municipal bond markets. Poterba (1994) documents a link between tax policy and bond yields. Poterba and Rueben (1999) in a sample constructed from survey data on the current yields of general obligation bonds, available every six months from 1973 to 1995, document that stringent balanced budget restrictions are associated with lower municipal yields.[3] Capeci (1994) examines the effect of municipal fiscal policies, especially, its debt burden on municipal borrowing costs. In contrast to these budgetary institutions, term limits are part of a broader political structure that provides the framework for fiscal decisions. We also contribute to this literature by examining a substantially larger sample of municipal debt offering that spans the recent decade.

The paper builds on the finding of some recent papers that examine determinants of municipal bond offering yield. Butler, Fauver and Mortal (2009) examine municipal bond issues over the period 1990 to 2004 and find that bonds issued from states with higher corruption have higher yields. Bergstresser, Cohen and Shenai (2013) document that counties with greater ethnic

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[3] Poterba and Rueben (1999) also examine tax or expenditure limits and document that states with expenditure limitation law face lower borrowing costs, and states with tax limitation laws face a higher borrowing cost. See Also Poterba and Pueben (2001). There is a large literature that examine the effect of fiscal institutions on fiscal policy (See Besley and Case (2003) for a survey)). Others have examined the effect of line-item veto (See Holtz-Eakin (1988), Bohn and Inman (1996)) on budgetary deficits. Zycher (2013) examines Tax and Expenditure Limits (TELS) and argues that they are not effective in reducing spending.

and religious fractionalization are associated with higher offering yields on their municipal debt. We control for state economic and demographic characteristics in our estimations. State fixed effects are included in all specifications to control for state corruption and ethnic composition as these change slowly over time. In robustness tests, we collect data to capture the time varying corruption for states, in line with Butler, Fauver and Mortal (2009) and find that it does not qualitatively change our results. [4]

Lastly, the paper is related to the literature on Term Limits. As discussed earlier, Besley and Case (1995) examine the effect of gubernatorial term limits in a model with imperfect information where both voters and incumbents behave rationally. In their model, incumbents with higher first term payoffs to voters are more likely to be re-elected for a second term. Further, Governors in their last term will put in less effort and have lower payoffs to voters compared to their first term.[5] Consistent with their model, Besley and Case (1995) find that the governors' last term is associated with increased state expenditures and taxes. Crain and Oakley (1995) find that gubernatorial term limits are associated with a greater likelihood of long term capital projects. They argue that the existence of term limits prevents current period voters from contracting with next period's voters and one strategy is to limit future policy options by constructing a long lived capital project. Municipal bonds issued to finance these long term capital projects that are not necessary needed, are likely to reflect the nature of these projects. As the nature of the projects they finance and the

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[4] Other papers relevant to municipal finance are Green, Hollifield, Schurhoff (2007a) that document large price differences between trades on the same day potentially due to the opaqueness of the municipal bond market. Green, Hollifield and Schurhoff (2007b) construct measures of dealer cost and market power in the municipal bond market and examine its determinants. Harris and Piwowar (2006) study transaction costs in municipal debt markets and document that they are substantially higher than equity markets and decease with trade size. Shultz (2012) finds that post trade transparency in municipal bond trading reduced the dispersion of prices. Schwert (2015) decomposes the credit spread into liquidity and default components and examines the characteristics of default risk

[5] This prediction does not take into account that party of the governor may not want him to slacken in the second term, he may not want to slacken in the second term if he wants to run for further political office (in which case he wants to preserve political capital) and if there is too little discretion the governor has in setting policy

associated bond characteristics make the bond riskier, the bond issued is likely to be associated with higher yields. This leads us to our first hypothesis

H1: Municipal debt issued in the last term of the Governor has characteristics that are different from debt issued in other terms. Consequently, the municipal debt issued in the last term is likely to be associated with higher yields.

This higher taxation and spending in the last term of the governor suggests that states with term limits should have increasing higher taxation and spending in comparison to states without term limits. Besley and Case (1995) examine this and find that it is not the case: Gubernatorial term limits generate a fiscal cycle rather than higher aggregate spending. Incumbents in states with term limits spend less in their first term in office and more in their second term. Thus states with term limits have more volatile spending and taxation patterns than states without term limits. Crain and Tollison (1993) also document that the presence of gubernatorial term limits leads to greater volatility of fiscal activity. Though Besley and Case (1995) find no evidence of higher aggregate spending in states with term limits, Johnson and Crain (2004) examine term limits in an international setting and report an impact on aggregate spending. Johnson and Crain (2004) find that countries with one-term limits have higher levels of government spending over time relative to countries with no-term limits and countries with two-term limits. This prior evidence suggests that states with term limits are likely to have higher fiscal volatility and possibly higher spending over time. Consequently, the debt issued by these states will be riskier and associated with higher yields. This gives us the next hypothesis

H2: Municipal bonds from states with gubernatorial term limits are likely to have higher yields.

Note that this risk from increased fiscal volatility impacts all municipal debt issued by states with term limits irrespective of whether it is the last term of the Governor. In other words, the effect of Gubernatorial Term Limits is quite distinct from the effect of the Governor's last term discussed earlier.

As opposed to gubernatorial term limits, legislative term limits are relatively more recent. Popular wisdom that ushered in legislative term limits was of the view that these term limits would curb wasteful government spending and reduce the size of government. One fairly obvious effect of legislative term limits is increased turnover among legislators as shown by Moncreif, Neimi and Powell (2007). Though the proponents of legislative term limits were of the view that this increased turnover of "career" politicians will have a positive effect on fiscal policy, Cummins (2012) argues that higher turnover among legislator's leads to a short term fiscal outlook and loss of experience and policy expertise. Legislators subject to term limits are myopic and avoid tough fiscal decisions. Further, the turnover leads to loss of experienced legislators that hinders sound fiscal policy (See also Garri (2009)).

That legislative term limits may be associated with poorer fiscal conditions is confirmed by Erler (2007) who examines fiscal data from 47 states over the period 1977 to 2001, and finds that states have higher level of spending after the passage of term limits relative to what they had before. Erler (2007) discusses that possible changes in the power of committees and party leaders that arise due to term limits may account for the increase in spending. Legislative term limits reduces the power of party leaders to discipline rank and file members and reduces the gatekeeping role of committees due to increased turnover and inexperienced committee chairs (See Carey, Neimi, Powell and Moncreif (2006)). If legislative term limits are associated with poor fiscal

conditions and increased spending, then municipal debt from these states will be associated with higher yields. This gives rise to our last hypothesis

H3: Municipal bonds from states with legislative term limits should have higher yields.

3. Data

The data on municipal bonds is from the Securities Data Company's (SDC Platinum) Global Public Finance database. We collect data on all new U.S. issues from 1990 through 2010. The initial data consists of 302,754 new tax-exempt municipal bond issues. We exclude bond issues with a maturity of less than a year, those that are taxable, and issues that are missing state name as well as issues from District of Columbia, Virgin Island, and Puerto Rico. This gives us a total of 255,617 bond issues. Requiring data on bond yields, bond rating and other characteristics restricts the number of bond issues to 99,325, the sample for this study.[6]

As seen in Table 1, the average bond issue in our sample raised about 35.56 million and had a maturity of 18.26 years and a yield of 4.84%. The bond ratings are numerical values of S&P ratings.[7] We use Moody's ratings when S&P ratings are unavailable. The average bond rating for our sample is 2.27, which is equivalent to an S&P rating between AA+ and AA. The worst bond rating in our sample is 9, which is equivalent to an S&P rating of BBB. Not surprisingly, the bond

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[6] Municipal bonds are usually issued in series. A municipal offering will consist of the simultaneous offering of many bonds with a range of maturities and with separate CUSIPs. As these multiple bonds by the same issuer trade independently these have been analyzed individually in the papers that examine transaction costs in municipal bond market (See for example Green, Hollified and Schuruff (2007), Schultz (2012)). As we are interested in issuer state characteristics, we treat the municipal offering as one observation and bond characteristics included as controls are weighed averages of the individual series as reported by SDC.

[7] Following prior literature, we assign a numerical value to each rating on a notch basis, with 1, 2, 3, 4, ………. denoting AAA or Aaa, AA+ or Aa1 and so on respectively. Butler (2008) argues that Moody ratings are more likely to be unsolicited and hence likely to be downward biased (also see Butler and Rogers, 2012; Woolley, Schroeder and Yang, 1996). Therefore, we use S&P ratings.

ratings are investment grade and reflect the state's ability to increase taxation to cover the interest and principal payments on municipal bonds.

Many of the bonds have third party insurance referred to as credit enhancements. Nanda and Singh (2004) report that about 50% of municipal issuance in 2001 had these credit enhancements. We find that about 59.7% of the bonds in our sample have credit enhancements.[8] Revenue bonds are secured by a specific revenue source, for e.g. tolls, charges or rents from the facility built with the proceeds of the bond issue. In contrast, General Obligation or GO bonds are secured by the full faith and credit of the issuer and are usually supported by either the issuer's unlimited or limited taxing power. About 62.5% of our sample consists of GO bonds with the remaining being revenue bonds. As repayment for revenue bonds depends on the success or failure of the project they support, they are riskier than general obligation bonds and are expected to have higher yields.

Municipal bonds can be issued either through a competitive bid or a negotiated contract. In a negotiated contract, the issuer issues a Request for Proposal and potential underwriters submit written proposals. The underwriter is chosen based on these proposals and the terms of the bonds are generally tailored to meet the demands of the underwriter's investor clients, as well as the needs of the issuer. In a competitive bid, bonds are advertised for sale and include both the terms of the sale and the bond issue. Potential underwriters submit a sealed bid for purchasing the bonds with the winning bidder being the lowest bid received. About 57.1% of our sample is issued through a negotiated contract.

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[8] As many of the third party insurers faced financial difficulties during the financial crisis, the incidence of municipal bonds with credit enhancement has declined significantly since 2008.

We also tabulate and control for the characteristics of the underwriters. In line with Butler, Fauver and Mortal (2009) we control for minority underwriters who account for 1.7% of the deals in our sample. Consistent with Megginson and Weiss (1991), we construct a measure for underwriter reputation. Underwriter reputation is captured by its market share, which is the fraction of total municipal bond issuance that are managed by the underwriter. The average market share of the underwriter for our sample is 2.5%.

States vary in the number of bonds and proceeds that are raised through municipal debt. Texas has the most bond issues over the sample period, about 12,683. California is second with 8,439 bond issues though the total proceeds raised by California is much larger (See Table 2).[9] We match the bond data with state level demographic data from U.S Census. As can be seen in Table 3, the average Debt/ GDP for states that issued our sample bonds is 5.5% with an unemployment rate of 5.86%.

4. Governor Last Term

We obtain gubernatorial term limits for all states over the time period of the study, 1990 to 2010 from Council of State Governments' Book of the States, and the National Governors Association. As can be seen in Panel A of Table 4, there are 10 states that had no term limits over the entire sample period. Among the 29 states with term limits over the entire sample period, 21 states did not change while 8 states made changes to the stringency of the term limits. In line with definitions used by Escaleras and Calcagno (2005), Gubernatorial term limits are classified as Weak if the candidate can serve two consecutive terms and then must wait for 4 years to run again,

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[9] The states with less than 500 issues are not tabulated and include North Dakota, Rhode Island, New Hampshire, Maine, Idaho, Nebraska, Alaska, South Dakota, West Virginia, Montana, Vermont, Delaware, Hawaii and Wyoming.

as Moderate if candidates can serve two term limits and then never run again and as Strong if candidates cannot serve successive terms and states where candidates are barred from ever holding more than two terms. Only two states have a strong term limit over the sample period.[10] As seen in Table 4, there are eight states that had term limits over the entire period but changed between the different types. The remaining 11 states changed from having no gubernatorial term limits to having some term limits or vice versa.

To examine the effect of Governor's last term on municipal borrowing costs we estimate a multivariate model where the dependent variable is the yield on new bonds issued. The variable Last Term is a dummy that takes the value of one if bond was issued when the Governor of the state was in his second term and not eligible to run for re-election. About 23.2% of the bonds issued were in periods that corresponded to the last term of the Governor.

In estimating the effect of Last Term on municipal borrowing costs we control for several bond and state level characteristics. We include the natural logarithm of the size of the issue, bond maturity, bond rating and indicator variables for whether the bond has credit enhancements, is GO bond, a callable bond, and whether it was issued through a negotiated contract. We also control for underwriter characteristics by including the Underwriter Reputation and the Minority Underwriter dummy.

In line with prior literature in corporate bonds, we include three macroeconomic variables associated with yields on corporate bonds (See Collin-Dufresne et al. (2001), Longstaff and Schwartz (1995), Campbell and Taksler (2003), and Chen, Lesmond and Wei (2007)). First, we include the yield on the maturity matched treasury, referred to as Matching Treasury. Secondly,

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[10] Missouri's Senate passed a bill in 2015 to extend Governor's Term Limit to two terms.

we include the difference between 10-year and 2-year Treasury bills, referred to as Term Slope, which captures the slope of the yield curve. Lastly, we include the one year Treasury bill rate, referred to as T-Note.

We also control for time varying characteristics of the states. Specifically, we control for the state's indebtedness by including the ratio of state debt to state GDP and state's fiscal profile by including the ratio of state revenue to state expenditure. The higher the state's level of debt and the lower its revenue the higher will be the yield on the municipal bonds. We also include log of state population and the state's unemployment rate.[11] Lastly, we control for demographic characteristics of the state. As the nature of the state's expenditures as well as the ability to finance them through taxes depends on the needs and income of the state citizens, their characteristics are likely to influence the cost of municipal debt. Specifically, as older populations provide a higher tax base, we include the median age in the state. A higher fraction of educated and male citizens with greater personal income and a higher ability to pay taxes reduces the risk on the municipal debt. We include the Education rate and male/female ratio to control for this. The details of the construction of all variables are provided in Appendix A.

4.1 Identification Issues

There are several characteristics like tax and expenditure limits[12] that differ across states and have an important bearing on the state's fiscal condition and the cost of its municipal debt. To

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[11] Larger states have a broader revenue base and likely to be less risky. States with high unemployment rate are likely to have lower revenues and limited ability to increase taxation to support bond payments and hence associated with higher yields.

[12] Broadly, revenue limits link allowable yearly increase in revenue to personal income or some type of index such as inflation or population. Expenditure limits, is the most common type of state TEL, and are typically tied to personal income or growth index. 30 states have passed legislation to put in place some kind of TELs. For 16 states the TELs were put in place prior to 1990 the beginning of our sample period. 7 states passed legislation prior to 1995 and 7 states had legislation subsequent to 2000. For more information see http://www.ncsl.org/research/fiscal-policy/state-tax-and-expenditure-limits-2010.aspx.

control for these state characteristics, other than term limits, we include state fixed effects in all our estimation. We also include time fixed effects to control for shocks to the macro economy or national politics that have a bearing on the cost of municipal borrowing.

The second issue in identifying the causal effect of term limits arises from the fact that term limits are endogenous. States choose to have gubernatorial term limits. If gubernatorial term limits are put in place at times when the fiscal performance of the state is worsening then the passage of term limits will coincide with increase in municipal yields. To address this issue we employ the strategy used by Besley and Case (1995). We estimate our model in a sample of bonds issued from states with term limits over the entire sample period.[13] As these states experienced no change in their term limits endogeneity is likely not to be a concern. Fiscal conditions in the past that might have given rise to term limits are unlikely to impact current yields on municipal bonds. In this sample, as the state fixed effects are included, the coefficient of Last Term captures the difference in the yield of bonds issued when the governor is ineligible to run again for office from the yield of bonds issued from the same state but in years when the governor is eligible to run again for office.

4.2 Empirical Results

The sample of bonds issued by states that had term limits over the entire sample period consists of 47,564 bond issues and account for 47.9% of the full sample. In this sample, the estimated coefficient of Last Term is a significant 0.0341 (See Model 1 of Table 5). Bonds issued

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[13] We include states that had term limits over the sample period but changed the type of term limits within the sample period. We have also estimated the model in a sample of bonds issued from states with term limits over the entire sample period and with no change in the stringency of these term limit, with similar results. We have not tabulated these results for brevity.

during the last term of the Governor carry about 3.4 basis points higher yield than bonds issued by the same state but in years when the term limits do not bind.

As seen in Table 4, there are ten states that had no term limits over the entire sample period. Next we include bonds issued from these states. As they did not change term limits they are not subject to endogeneity concerns and their inclusion helps in the estimation of the municipal yield model. In this sample of 83,605 bonds from 39 states we continue to find a significant positive coefficient of 0.0446 for Last Term (See Model 2).

In Model 3, we restrict the sample to bonds issued by 11 states that changed their gubernatorial term limits within the sample period and are subject to endogeneity concerns. The coefficient of Last Term in this sample is estimated to be a positive significant 0.0311. As the coefficient continues to be significant and estimated with roughly the same magnitude it suggests that endogeneity is unlikely to account for the results. Finally, in Model 4 we estimate the model in the full sample, and the estimated coefficient of Last Term is a significant 0.0416. Bonds issued during the last term of the governor have to pay from 3 to 4.5 basis points higher yields relative to bonds issued from the same state but when the governor's term limit is not binding in line with Hypothesis 1.[14]

With respect to control variables, we find as expected that bonds characteristics are significant in determining offering yields. Bonds with better rating and credit enhancements have lower yields. Larger bond issues, bonds with higher maturity and those that are callable are all

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[14] The state fixed effects capture the time invariant corruption levels in the state. However, for robustness, we control for corruption as captured by Butler, Fauver and Mortal (2009). Specifically, the dummy variable, Corruption, takes the value of one if the number of per capital convictions of local, state and federal official is in the top quartile for all states in that year. In untabulated results we find that including this corruption variable does not impact our results. As corruption in the state is unlikely to change substantially over time, these are captured by the state fixed effects and it is not surprising that the coefficient of Corruption is not significant.

associated with higher yields. General obligation bonds have lower yields while those issued through negotiated contract have higher yields. Not surprisingly, all the macroeconomic variables are significant. Several state level variables are also significant in explaining municipal bond yields. Bonds from states with higher debt level and higher unemployment carry a significantly higher yield. States with larger populations that are older, with a higher fraction of males and non-Hispanic whites have lower yields.

4.3 Nature of bonds issued in the Last Term

As discussed earlier, Crain and Oakley (1995) find that the last term of Governors' is associated with a greater likelihood of long term capital projects. Municipal bonds issued in the last term to finance these long term capital projects are likely to have characteristics that differ from bonds issued in other periods for operational budgets and other needs. We hypothesize that as these capital projects undertaken in the last period are large and long lived, the municipal issue is likely to be larger and with higher maturity. As seen in Table 6, the average proceeds raised from bond issues in the first term of Governors' is 37.74 million and significantly smaller than the 42.3 million raised in the last term. Note that as the sample for Table 6 only includes bond issues from states that had term limits over the entire sample period, this compares the proceeds of issues from the same states based on whether the term limits binds. To see whether larger size of the issues is one of the reasons why bonds issued in the Last Term have higher yields, we include the interaction of *Last Term Dummy* with *Proceeds* in the yield estimation model. As seen in Model 1 of Table 7, the coefficient of the interaction term is positive but not significant at conventional levels. Large bond issues in the last term are perceived to be more risky though the effect is not significant.

There is no difference in the average maturity of bonds issued in the first or last term of the Governor. The interaction of *Last Term* with *Maturity* is positive and significant (See Column 2 of Table 7). Though longer maturity bonds are always associated with higher yields (the coefficient of maturity is positive and significant), longer maturity bonds issued in the Last Term are perceived to be riskier and have significantly higher yields.

As the projects initiated in the Governor's last term are not undertaken for political reputation they may have relatively less support from the voters and citizens of the state. As payments to Revenue Bonds are tied to the specific project being financed, rather than paid by general tax revenues, they are likely to be more palatable to detractors of the capital project. Therefore, bonds issued in the Governor's last term are more likely to be revenue bonds. As seen in Table 6, there is no difference in the propensity with which revenue bonds are issued in the last term. Though not more frequent, revenue bond issues in the last term are perceived to have greater risk and are associated with higher yields. The coefficient of the interaction of *Last Term* and *Revenue Bonds* is positive and significant (See Column 3 of Table 7).

Lastly, selling municipal bonds through the negotiated contract offers more flexibility though it is more expensive. As the last term is not characterized by fiscal restraint, it is more likely to be associated with the use of negotiated contracts. We find that bonds issued in the last term are more likely to be sold through *Negotiated Contracts*. Whereas negotiated contracts account for 65% of issues in the last term they account for only 61% of bonds issued in the first term of Governors. As seen in Table 7, the higher yields in last term issues are confined to those sold through negotiated contracts. The coefficient of the interaction of *Last Term* and *Negotiated Contracts* is positive and significant.

We also check the incidence of credit enhancement. Though the use of *Credit Enhancement* is higher for bond issues during the last term, there is no difference in how it impacts bonds issued in the last term of the Governor. This is not surprising as once the third party insurance is purchased, the yields reflect the higher credit quality of the insurer that does not differ whether the bond was issued in the first or last term. In summary, the nature of the spending in the last term of the Governor causes the bond issues to be larger and more likely to be sold through negotiated contracts. The greater likelihood that last term spending involves large capital projects that are riskier, is reflected in the fact that the higher yields of last term issues are increasing in maturity and confined to revenue bonds and those sold through negotiated contracts. The evidence suggests that the higher yield of bonds issued in the last term of the governor reflects the riskier nature of the projects undertaken in the last term.

5. Gubernatorial Term Limits

The higher yield in the last term of the Governor, documented above, relative to bonds issued in the first term of the governor from the same state captures the variation in yields over time within the same state. However, as discussed in Hypothesis 2, bonds issued by states that have term limits are likely to be associated with higher yields. This captures the cross sectional differences in the yields of bonds issued in the presence of Gubernatorial term limits and those issued without term limits, irrespective of whether the term limits bind i.e., whether it is the last term of the governor.

In this section, we examine whether the presence of gubernatorial term limits has an impact on municipal borrowing in line with Hypothesis 2. Specifically, we create a dummy variable *Governor Term Limit* that takes the value of one for bonds issued if the state had gubernatorial term limits in place that year and zero otherwise. *Governor Term Limit* takes the value of one for

all bonds issued from states that had term limits over the entire sample period as well as for years with term limits for states that changed gubernatorial term limit. In our sample, about 58.7% of the bonds were issued in state-years with Governor Term Limits.

We include *Governor Term Limit* in the yield estimation model with all the bond characteristics, macroeconomic, as well as state characteristics and time and state fixed effects as discussed above. The estimated coefficient of *Governor Term Limit* is positive (0.0816) and significant (See Column 1 of Table 8). In line with Hypothesis 2, bond issues from states with gubernatorial term limits are associated with higher yields. Next, we also include the *Last Term* dummy and find that it is significant and its inclusion does not affect the coefficient of *Governor Term Limits* (See Column 2). This suggests that the two effects are independent. Bonds issued in years when states have gubernatorial term limits are perceived to be risky due to the higher fiscal volatility associated with gubernatorial term limits. Further if the bond was issued in the last term of the Governor, there is an additional increase in yield that reflects the risk of the projects undertaken in the last term.

The above two estimations were in the full sample of bonds. However, as we include state fixed effects the coefficient of Governor Term Limits is largely identified of the states that changed term limits over the sample period. In column 3, for robustness, we also estimate the model in a subsample that includes only states with changes to their gubernatorial term limits and we continue to find a significant positive coefficient for *Governor Term Limit* though its magnitude is much smaller.

Though the Governor in the last term cannot run for office again, he may have aspirations for a continued political career. These may involve running for the US Presidency, senate or congress. In these cases, career concerns may mitigate the excess spending seen in the Governor's

last term. Last Term of these Governors with ongoing political career should see continued efforts to build political reputation and not be associated with higher or riskier spending.   To examine this, we search through newspaper archives and find that of the 81 Governors that had a last term in our sample period, 30 ran for another elected office after their term. We create an indicator variable, *Post Governor* that takes the value of one in the last term of Governors that run for another elected office. Another 9 governors, were appointed by the President as a cabinet member, ambassador or as a head of a federal agency.[15]   The indicator variable, *Post Governor Plus*, includes these extended set of post governorship career goals.

The coefficient of *Post Governor* is negative and significant and suggests that aspirations for another elected office limits the overspending of these Governors in their last term (See Model 4).   The coefficient of *Post Governor Plus* is also negative and significant (See Model 5). The estimated coefficient of *Post Governor Plus* is -0.078 and almost the same as that for *Last Term* (0.0735). This suggests that when the Governor has further political career aspirations there is no *Last Term* effect, i.e., no riskier or excess spending in the last term. However, bonds issued in the last term of Governors that do not have future aspirations for a political career are associated with a 7.35 basis point higher yield.

Lastly, we examine whether the stringency of the term limits makes a difference. Instead of *Governor Term Limit*, we include three separate indicators for Weak, Moderate and Strong Term Limits to capture the difference in the stringency of the term limits. As seen in Model 6, the coefficients for all three types of term limits are positive and significant. There is some evidence that the effect of Weak Term limits is higher - the estimated coefficient for the Weak form is higher

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[15] Two of these governors were not appointed by the president but declared their intention to stand for elected office and then withdrew.   Paul Patton announced that he has dropped out of the 2004 US Senate race, and Carroll Campbell announced his intention to run for US Presidency in 1996.

at the 10% level than that for moderate term limits, but it is not different from that of Strong term limits.[16] This is consistent with the findings of Escaleras and Calcagno (2005). The estimated coefficient for moderate and strong term limit are not statistically different from each other. Overall, the results suggest that the presence of gubernatorial term limit are associated with higher borrowing costs for municipalities from these states.

6. Legislative Term limits

The data on legislative term limits is from the National Council of State Legislatures.   As seen in Panel A of Table 9, there are 29 states that had no legislative term limits over the sample period of 1990 to 2010.   There were three states that had term limits over the entire period.   Panel B lists the 18 states that enacted legislative term limits over the sample period of 1990 to 2010. To capture the existence of house term limits we create a dummy variable, referred to as *House Term Limit* that takes the value of one if the bond issued was from a state with legislative term limits in place in that year.

As pointed out earlier, Erler (2007) argues that legislative term limits are exogenous as their adoption is not correlated with the state's economic conditions but rather to the presence of the initiative process which have been in place in states since the early 1900s.   In every state with the initiative process, except one, voters have passed some form of legislative term limits.   If the adoption of legislative term limits is related to the existence of the initiative process rather than to state fiscal conditions, it can be considered exogenous to municipal financing.

To estimate the effect of legislative term limits on municipal borrowing costs, we control for bond issue characteristics, macroeconomic variables, state characteristics and time and state fixed

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[16] The test of the coefficients are not tabulated for brevity.

effects as before. As seen in Column 1 of Table 10, the coefficient of *House Term Limit* is positive and significant. The estimated coefficient suggests that bonds from states with legislative term limits have yields that are 7 basis points higher than that of bonds from the same states when they did not have legislative term limits.

Erler (2007) argues that legislators are forward looking and will change behavior when the term limits are put in place, even though they may not be immediately binding. Yakovlev, Tosun and Lewis (2012) argue that given that legislative term limits have been repealed, they would have a credible behavioral effect on the legislators only when they become binding, i.e., when the first cohort of legislators cannot run for office again. The dummy variable *Impact Years* takes the value of one for years when the legislative term limits are binding. Three states which passed legislative term limits prior to our sample period had their first years where term limits become binding that are in our sample period. Note that the three states that repealed the legislative term limits did not have any binding years. About 29.2% of the bonds issued were from states in years when they had legislative term limits, with 18.6% of these being *Impact Years*. As seen in Column 2, the coefficient of *Impact Years* is positive and significant. The estimated coefficient of *Impact Years* is qualitatively similar to that of *House Term Limits*, and suggests little difference between the two with respect to municipal borrowing costs.[17]

These estimations include state fixed effects and the coefficient of *House Term Limits* is identified from states that have a change in legislative term limits over the sample period. For robustness, we also estimate the model in a subsample of bonds from states that experience changes in legislative term limits. As this sample includes bonds from the 18 states with changes in

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[17] As bond mature over a long time, bonds issued in years where legislative term limits are not binding nevertheless anticipate the increased government spending that is likely to arise as term limits begin to bind

legislative term limits, the estimated coefficient of some state characteristics are different though the estimated coefficients for bond characteristics are qualitatively similar. We continue to find a significant effect of *House Term Limits* in this subsample as well (See Column 3).

Lastly, we include both gubernatorial and legislative term limits. As seen in Column 4 of Table 10, the coefficients on both *Governor Term Limit* and *Last Term* are significant as before, and the coefficient on *House Term Limit* is also positive and significant at the 1% level. The results suggests that the effect arising from gubernatorial term limits and house term limits are independent of each other and are both significant in impacting municipal borrowing costs.

To shed light on the economic significance of the effect of term limits, we create a variable referred to as *Both Term Limits* that takes the value of one when the state has both gubernatorial and legislative term limits in place. About 28.2% of bonds in our sample were issued when both term limits are in place. The variable, *No Term Limits* is an indicator variable that takes the value of one when the state has no term limits of either kind. About 40.3% of bonds in the sample were issued when neither term limit is present. We find that the coefficient of *Both Term Limits* has a positive and significant value of 0.0653 while the coefficient of *No Term Limits* has a negative and significant value of -0.0634 (see Model 5, Table 10). The difference in borrowing costs between states that have both term limits and states that have neither term limits is 12.87 basis points. For an average municipal bond issue of $35.5 million this entails a difference of $45,688 in interest per bond per year. This difference between the bonds yields from states with both term limits and states with no term limits can increase to 16.37 basis points in years when the governor serves his last term (column 5).

7. Interaction with Party Affiliation

Besley and Case (1995) in their study of gubernatorial term limits and fiscal policy report that states with term limits are significantly more likely to be governed by democrats.[18] They examine and report that the higher taxes and spending in last term of the governor is seen only in states with democratic governors. To understand the potential impact of party affiliation, we create a dummy variable *Democratic Governor* that takes the value of one if the Governor is democratic. We include this variable and its interaction with *Last Term*. As seen in Table 11 column 1, the interaction effect is not significant. We also include the interaction of *Democratic Governor* with *Governor Term limit* and find that it is not significant (Column 2).

To examine the effect of party affiliation on House Term Limit, we create a variable referred to as *Democratic Legislature* that takes a value of one if the Democrats control both the lower and the upper houses of the legislative body. We include this and its interaction with *House Term Limits* (Column 3) and find no significant impact of party affiliation for house term limits as well. In unreported tests, we also find no significant effects if we control for democratic lower or upper house of the legislature. Lastly, we examine the effect of party control. The dummy variable *Same Party* takes the value of one if the same party controls the Governor's office, and both the upper and lower legislatures. As can be seen in Model 4, this does not have a significant effect on municipal yields.

8. Conclusions

We examine and document that both gubernatorial and legislative term limits are associated with higher offering yields on municipal debt. The results hold after controlling for bond characteristics, state economic and demographic characteristics, and state and time fixed effects.

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[18] They report that governors are democrats for 61% of all years in states with term limits as opposed to 51% of all years for states with no term limits in their sample.

The results point to the importance of political institutions that provide a framework for state fiscal decisions on municipal borrowing.   We hope that the results will inform the discussion on state access to municipal markets and the underlying risks in the municipal debt.

References

Bergstresser, D., R. Cohen and S. Shenai, 2013, Demographic Fractionalization and the Municipal Bond Market, Municipal Finance Journal

Besley, T and A. Case, 1995, Does Electoral Accountability Affect Economic Policy Choices? Evidence from Gubernatorial Term Limits, Quarterly Journal of Economics

Besley, T and A. Case, 2003, Political Institutions and Policy Choices: Evidence from the United States, Journal of Economic Literature

Butler, A. L. Fauver and S. Mortal, 2009, Corruption, Political Connections, and Municipal Finance, Review of Financial Studies.

Capeci, J., 1991, Credit Risk, Credit Ratings and Municipal Bond Yield: A Panel Study, National Tax Journal

Capeci, J, 1994, Local Fiscal Policies, Default Risk, and Municipal Borrowing Costs, Journal of Public Economics

Carey, J., R. Neimi, L. Powell and G. Moncreif, 2006, The effects of term limits on state legislatures: A new survey of the 50 states, Legislative Studies Quarterly

Crain, W.M and R. Tollison, 1993, Time inconsistency and Fiscal Policy, Journal of Public Economics.

Crain, W.M and L. Oakley, 1995, The Politics of Infrastructure, Journal of Law and Economics.

Cummins, J., 2012, The effect of Legislative Term Limits on State Fiscal Condition, American Politics Research.

Erler, H., 2007, Legislative Term Limits and State Spending, Public Choice.

Escaleras, M., and P. Calcagno, 2009, Does Gubernatorial Term Limit Type Affect State Government Expenditures, Public Finance Review

Garri, I., 2009, Political Short-termism: A possible Explanation, Public Choice.

Harris, L. and M. Piwowar, 2006, Secondary Trading Costs in the Municipal Bond Market, Journal of Finance

Herron, M and K. Shotts, 2006. Term Limits and Pork, Legislative Studies Quarterly.

Johnson, J and W.M. Crain, 2004, The Effects of term limits on fiscal performance: Evidence from democratic nations, Public Choice.

Ladd, Helen and N. Tideman, eds. 1981, Tax and Expenditure Limitations, Washington DC: Urban Institute.

Matsusaka, J., 1995, Fiscal Effects of the Voter Initiative: Evidence from the Last 30 Years, Journal of Political Economy

Moncreif, G. R. neimi and L. Powell, 2004, Time, Term Limits, and Turnover: Trends in Membership Stability in US State Legislatures, Legislative Studies Quarterly

Nanda, V. and R. Singh, 2004, Bond Insurance: What is Special about Munis? Journal of Finance.

Pirinsky, C. and Q. Wang, 2011, Market Segmentation and the Cost of Capital in a Domestic Market: Evidence from Municipal Bonds, Financial Management

Poterba, J. 1994, State Responses of Financial Crises: The effect of Budgetary institutions and Politics, Journal of Political Economy.

Poterba, J and K Rueben, 1999, State fiscal Institutions and the US Municipal Bond Market, NBER Working Paper 6237

Poterba, J and K Rueben, 2001, Fiscal News, State Budget Rules and Tax Exempt Bond Yields, Journal of Urban Economics

Schultz, P, 2012, The Market for new issues of Municipal Bonds: The roles of Transparency and Limited Access to Retail Investors, Journal of Financial Economics

Schwert, M., 2015, Municipal Bond Liquidity and Default Risk, Working Paper, Stanford Business School.

Yakovlev, P., M. Tosun, W. Lewis, 2012, Legislative Term Limits and State Aid to Local governments, IZA working paper.

Zycher, B., 2013, State and Local Spending: Do Tax and Expenditure Limits Work? American Enterprise Institute

Appendix: Variable Definition and Data Source

This appendix reports the definition of the variables used in this study and the source of the data. In addition, we describe how various variables are constructed. BEA denotes the Bureau of Economic Analysis; FRED denotes Federal Reserve Economic Data; NBER denotes the National Bureau of Economic Research; SFG denotes the State Government Finance Data from U.S. Census; SDC denotes the Securities Data Company; BLS denotes the U.S. Bureau of Labor Statistics; CSG/BOS denotes the Council of State Government/Book of the States; NGA denotes National Governors Association; NCSL denotes the National Conference of State Legislatures.

Bond Rating: Is the numerical value of S&P ratings (or Moody's ratings if S&P ratings are not available). The highest quality bonds are assigned the value 1, and we add 1 for each increment in credit rating for a maximum of 19 – Source: SDC

Bond Yield: The bond yield to maturity at issuance – Source: SDC

Callable: A dummy variable that takes a value of one if the bond is callable – Source: SDC

Credit Enhancement: A dummy variable that takes the value of one if the bond issue is associated with a credit enhancement – Source: SDC

Debt/GDP: Ratio of state's total outstanding debts to its GDP – Source: SGF, and BEA

Education Rate: Measures the state's level of education (which is the percentage of state population above age 25 that has completed a bachelor's degree or higher) – Source: U.S. Census

General Obligation (GO) Bond: A dummy variable that takes the value of one if the bond is a general obligation bond – Source: SDC

Governor Last Term: A dummy variable that takes the value of one if the serving governor is serving his/her last term and is not eligible for re-election – Source: CSG/NGA

Governor Term Limit: A dummy variable that takes the value of one if the state has gubernatorial term limit –Source: CSG/BOS, and NGA

House Term Limit: A dummy variable that takes the value of one if the state legislature has a term limit – Source: NCSL

Impact Years: A dummy variable that takes the value of one in both the year that state legislators became ineligible to run again, and years beyond – Source: NCSL

Male/Female Ratio: Is the state's male population divided by female population – Source: U.S. Census

Marginal Tax Rates: Is the highest marginal personal state income tax rate – Source: NBER

Matching Treasury Rate: Is the nominal rate on a Treasury bond of similar maturity – Source: FRED.

Maturity: The time to maturity of the bond (measured in years). We used the natural logarithm of this value in our regressions – Source: SDC

Median Age: Is the median age (measured in years) of the state population – Source: U.S. Census

Minority Underwriter: A dummy variable that takes the value of one for bonds for which the lead underwriter is owned by minorities – Source: SDC

*Moderate Term Limit: A dummy variable that takes the value of one if state allows candidates to serve two consecutive terms and then a lifetime ban thereafter

Negotiated (Nego) Bond: A dummy variable that takes the value of one if the bond was issued through a negotiated deal – Source: SDC

Non-Hispanic White Ratio: Is the fraction of state's population that is non-Hispanic Whites – Source: U.S. Census.

Population: Is the state's total population (in thousands). We use the natural logarithm of this value in our regressions – Source: U.S. Census, and SGF

Proceeds: Offering size, measured in millions of dollars. We use the natural logarithm of this value in our regressions – Source: SDC

Revenue/Expenditure: Ratio of state's total revenue to its total expenditure – Source: SGF

*Strong Term Limit: A dummy variable that takes the value of one if state does not allow candidates to serve successive terms, and candidates serve a two-term limit over a lifetime

Term Slope: Is the difference between 10-year, and 2-year Treasury rates - Source: FRED

T-note: Is 1-year Treasury note rate – Source: FRED

Underwriter Market Share: Is the percentage of total municipal bond value underwritten by a particular underwriter during the year. We use the natural logarithm of underwriter market share (Underwriter Reputation) in our regressions – Source: SDC

Unemployment Rate: Is the state's unemployment rate – Source: BLS

*Weak Term Limit: A dummy variable that takes the value of one if state allows candidates to serve two consecutive terms and then must wait four years to be eligible to run again

*Source: "Does the Gubernatorial Term Limit Type Affect State Government Expenditures?", Public Finance Review, Volume 37 Number 5, 2009 pp 572-595.

Table 1: Summary of Municipal Bond Data

The sample consists of all new municipal bond issues in the US over the period 1990 to 2010 with available data. *Proceeds* is the offering size measured in millions of dollars. *Maturity* is the time to maturity and measured in years. *Bond Yield* is the yield to maturity at issuance. *Bond Ratings* is the numerical value of S&P rating at issuance. *Credit enhancement* is a dummy variable that takes the value of one if the issue has credit enhancement. *Go (Callable) Bond* is an indicator variable that takes the value of one if it is general obligation (callable) bond. *Negotiated Bond* is a dummy variable that takes the value of one if the bond was issued through a negotiated contract. *Underwriter Market Share* is the share of the underwriter in municipal issuance in the year. *Minority Underwriter* is a dummy variable that takes the value of one is the lead underwriter is a minority. *Matching Treasury Rate* is the nominal rate on a Treasury bond of similar maturity. *T-note* is the 1-year Treasury note rate. *Term Slope* is the difference between 10-year and 2-year Treasury rates.

	Mean	Std. Dev.	p50	p25	p75	Min	Max	Obs.
Proceeds	35.559	71.000	9.900	4.390	29.470	0.090	400.000	99325
Maturity	18.286	7.208	19.364	13.058	22.485	1	99	99325
Bond Yield	4.842	1.016	4.825	4.240	5.450	1.230	7.400	99325
Bond Rating	2.273	2.010	1	1	3	1	9	99325
Credit Enhancement	0.597	0.490	1	0	1	0	1	99325
Go Bond	0.625	0.484	1	0	1	0	1	99325
Negotiated Bond	0.571	0.495	1	0	1	0	1	99325
Callable Bond	0.807	0.395	1	1	1	0	1	99325
Underwriter Market Share	2.502	3.523	0.702	0.211	3.116	0.000	12.136	99325
Minority Underwriter	0.017	0.131	0	0	0	0	1	99325
Matching Treasury Rate	5.320	1.238	5.170	4.560	6.290	0.960	8.550	99325
T-note	3.572	1.914	3.620	1.890	5.080	0.320	7.890	99325
Term Slope	1.178	0.904	1.190	0.360	1.970	-0.230	2.520	99325

Table 2: Distribution of Municipal Issuance across States

Table 2 reports the average bond characteristics across states. The sample consists of all municipal bonds issued over the period 1990 to 2010 with adequate data. The states have been arranged in decreasing order by the number of bond issues over the period. Only states with more than 500 bond issues in the sample have been tabulated.

State	Number of Bonds	Maturity (years)	Proceeds ($million)	Yield (%)	Credit Enhancement (%)	Bond Rating
Texas	12,683	19.367	26.527	4.954	49.483	1.725
California	8,439	23.516	52.359	5.175	51.401	2.234
New York	5,946	18.25	62.67	4.974	32.057	2.624
Pennsylvania	5,175	18.691	27.953	4.853	75.535	1.757
Illinois	5,034	15.682	27.236	4.67	39.044	2.057
New Jersey	4,416	16.823	28.316	4.803	39.819	1.963
Michigan	4,063	18.652	20.878	5.007	43.566	2.177
Wisconsin	4,042	12.841	13.174	4.396	27.716	2.506
Minnesota	4,013	15.431	15.997	4.438	19.222	2.87
Florida	2,964	21.4	65.429	5.076	62.184	1.733
Washington	2,744	17.344	44.061	4.844	45.061	2.07
Ohio	2,652	19.268	42.245	4.799	26.269	2.196
Massachusetts	2,584	18.647	45.582	4.789	34.218	2.314
Kentucky	2,118	17.33	16.913	4.798	24.94	3.875
Arizona	1,929	16.106	37.01	4.902	57.514	2.122
Indiana	1,811	17.503	26.066	4.999	38.176	2.628
Missouri	1,751	16.81	22.436	4.591	26.797	2.218
Tennessee	1,723	17.416	29.768	4.869	48.273	2.609
Colorado	1,722	18.518	34.883	4.701	50.824	2.368
Iowa	1,682	14.938	12.369	4.624	16.189	2.976
Connecticut	1,652	17.277	77.911	4.691	35.133	2.328
North Carolina	1,514	18.936	48.056	4.914	43.409	2.375
Alabama	1,510	20.739	24.969	4.919	53.381	1.915
Kansas	1,414	16.636	22.865	4.635	19.699	2.373
Georgia	1,363	18.125	62.764	4.744	48.971	2.332
South Carolina	1,331	16.508	37.021	4.736	42.44	2.38
Oregon	1,322	18.09	30.177	4.796	34.514	2.321
Virginia	1,240	20.59	62.96	4.968	31.131	2.596
Louisiana	1,150	18.784	32.318	5.012	41.788	2.512
Arkansas	865	21.936	14.14	4.648	17.258	3.563
Maryland	854	20.335	70.401	4.964	35.924	2.615
New Mexico	853	14.081	24.786	4.596	37.978	2.739
Mississippi	811	16.771	19.268	4.764	30.484	3.318
Utah	779	16.429	31.763	4.56	42.644	1.653
Oklahoma	756	15.799	33.207	4.575	13.769	2.796
Nevada	699	17.684	68.443	4.9	52.377	2.021

Table 3: Summary of State Characteristics

The table summarizes characteristics for states that issued municipal bonds over the period 1990 to 2010 with adequate data. *Population* is the state's total population in thousands. *Unemployment Rate* is the state's unemployment rate. *Debt/GDP* is the ratio of the state's total outstanding debts to its GDP. *Revenue/Expenditure* is the ratio of the state's total revenue to its total expenditure. *Education Rate* is the percentage of state population above age 25 that has completed a bachelor's degree or higher. *Median Age* is the median age (measured in years) of the state population. *Male/Female Ratio* is the state's male population divided by female population. *Non-Hispanic White Ratio* is the fraction of state population that is Non-Hispanic white. Marginal Tax Rate is the highest marginal personal state income tax rate.

	Mean	Std. Dev.	p50	p25	p75	Min	Max	Obs.
Population	11866	9327	8601	4983	18375	658	36250	99325
Unemployment Rate	5.859	1.729	5.400	4.700	6.700	2.700	11.100	99325
Debt/GDP	0.055	0.030	0.048	0.033	0.072	0.015	0.159	99325
Revenue/Expenditure	0.986	0.082	1.000	0.966	1.035	0.711	1.735	99325
Education Rate	24.665	4.309	24.300	21.640	27.700	15.300	35.040	99325
Median Age	35.358	2.109	35.400	33.680	36.930	30.950	39.890	99325
Male/Female Ratio	0.966	0.024	0.965	0.945	0.988	0.922	1.016	99325
Non-Hispanic White Ratio	0.691	0.149	0.693	0.593	0.826	0.414	0.946	99325
Marginal Tax Rate	4.910	3.283	5.630	2.800	7.080	0.000	11.660	99325

Table 4: State Governor Term Limit by Category
The data is from the Council of State Governments/Book of the States (CSG/BOS), and the National Governors Association (NGA). Gubernatorial term limits are classified as weak if the candidate can serve two consecutive terms and then must wait for 4 years to run again. Moderate term limits states are states where candidates can serve two term limits and then never run again. Strong term limits states are states where candidates cannot serve successive terms and states where candidates are barred from ever holding more than two terms.

Panel A: States with No Change in Gubernatorial term limits over 1990 to 2010

Type of Term Limit	States
No Term Limits	Connecticut, Illinois, Iowa, Minnesota, New Hampshire, New York, North Dakota, Texas, Wisconsin, Vermont
Weak Term Limits	Alabama, Alaska, Indiana, Maine, Nebraska, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, West Virginia
Moderate Term Limits	California, Delaware, Florida, Hawaii, Kansas, Nevada,
Strong Term Limits	Missouri, Virginia
With changes within Term Limit type	Georgia (Weak 1994-2010, Moderate 1990-1993)
	Kentucky (Moderate 1994-2010, Strong 1990-1994)
	Louisiana (Moderate 2007-2010, Strong 1990-2006)
	Maryland (Moderate 1994-2010, Strong 1990-1993)
	Mississippi (Moderate 1994-2010, Strong 1990-1993)
	New Jersey (Weak 1994-2010, Moderate 1990-1993)
	New Mexico (Weak 1992-2010, Strong 1990-1991)
	North Carolina (Weak 1994-2010, Moderate 1990-1993)

Panel B: States with changes in Gubernatorial Term limits from 1990 to 2010

	No Term Limits	Weak	Moderate
Arizona	1990-1993		1994-2010
Arkansas	1990-1991		1992-2010
Colorado	1990		1991-2010
Idaho	1990-1999, and 2002-2010		2000-2001
Massachusetts	1990-1997, 2000-2001, and 2004-2010		1998-1999, 2002-2003
Michigan	1990-1992		1993-2010
Montana	1990-1992		1993-2010
Rhode Island	1990-1995	1996-2010	
Utah	1990-1993, 2006-2010		1994-2005
Washington	1990-1993, 2004-2010	1994-2003	
Wyoming	1990-1993	1994-2010	

Table 5:   Municipal Bond Yields and Governor's Last Term

The table reports OLS regressions where the dependent variable is the offering yield on the municipal bond. We include all municipal debt issued with adequate data requirements over the period 1990 to 2010. *Last Term* is a dummy variable that takes the value of one if the bond issued was affiliated with a state where the governor was serving the last term. Model 1 includes bonds from states that had term limits over the entire sample period. Model 2 includes bonds from states that had no change in gubernatorial term limits over the sample period, i.e., also include bonds that did not have gubernatorial term limits and did not change them. Model 3 includes all bonds from states that had a change in term limits. Model 4 includes all bonds issued over the sample period. All other variables are defined in the Appendix. The t statistics adjusted for state-year clustering are reported in parenthesis below. *,**,*** represent significance at the 10%, 5% and 1% level, respectively.

	Model 1	Model 2	Model 3	Model 4
Last Term	0.0341**	0.0446**	0.0311**	0.0416***
	(2.18)	(2.42)	(2.15)	(2.62)
Bond Characteristics				
Ln(Proceeds)	-0.0000172	0.00396	0.0110**	0.00515*
	(-0.00)	(1.26)	(2.35)	(1.86)
Ln(Maturity)	0.649***	0.641y	0.656***	0.643***
	(23.57)	(28.44)	(20.21)	(32.10)
Bond Rating	0.0687***	0.0620***	0.0700***	0.0633***
	(15.98)	(18.83)	(14.00)	(21.77)
Credit Enhancement	-0.0815***	-0.0782***	-0.0831***	-0.0798***
	(-5.74)	(-8.65)	(-5.36)	(-9.92)
Callable Bond	0.0977***	0.0903***	0.149***	0.0986***
	(5.47)	(7.24)	(9.05)	(8.82)
Go Bond	-0.0104	-0.0229**	-0.0497***	-0.0264***
	(-0.71)	(-2.17)	(-4.56)	(-2.91)
Negotiated Bond	0.0962***	0.0689***	0.0481***	0.0672***
	(9.78)	(8.47)	(3.83)	(9.29)
Minority Underwriter	0.0393**	0.00449	0.161y	0.0126
	(2.18)	(0.35)	(3.14)	(0.96)
Underwriter Reputation	0.00486***	0.00234*	-0.00196	0.00189
	(3.03)	(1.80)	(-0.82)	(1.61)
Macro-Economic Variables				
Matching Treasury	0.359***	0.372***	0.319***	0.365***
	(13.09)	(15.81)	(8.58)	(17.48)
T-note	0.162***	0.203***	0.447***	0.256***
	(2.99)	(4.13)	(8.61)	(6.03)
Term Slope	0.107	0.151	0.582***	0.243***
	(1.25)	(1.87)	(7.39)	(3.49)
State Characteristics				
Debt/GDP	1.585**	1.066**	-0.157	0.839**
	(2.40)	(2.36)	(-0.18)	(2.04)
Revenue/Expenditure	-0.0768	-0.0995	-0.0262	-0.119
	(-0.52)	(-0.79)	(-0.12)	(-0.96)
Ln(Population)	-0.390	-0.519**	0.173	-0.321**
	(-1.50)	(-2.54)	(0.82)	(-1.97)
Unemployment Rate	0.0389***	0.0323***	0.00932	0.0260***
	(3.37)	(2.66)	(1.13)	(2.66)
Marginal Tax Rate	-0.00643	-0.0105	0.00927	-0.00766
	(-0.52)	(-1.24)	(0.52)	(-1.01)

Education Rate	-0.0145	-0.0176	0.0441**	-0.00635
	(-0.94)	(-1.40)	(2.33)	(-0.61)
Median Age	-0.129***	-0.0744***	0.0316	-0.0487**
	(-4.07)	(-3.34)	(1.46)	(-2.39)
Male/Female Ratio	-7.195**	-8.025***	-5.175**	-6.828***
	(-2.41)	(-3.09)	(-2.14)	(-2.99)
Non-Hispanic White Ratio	-0.914	-1.519***	3.061***	-0.651
	(-1.19)	(-3.13)	(2.67)	(-1.51)
Constant	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES
State dummies	YES	YES	YES	YES
Adjusted R-Squared	0.801	0.822	0.847	0.825
Observations	47564	83605	15720	99325

Table 6:   Univariate Test for Bonds Issued in the Last Term

The table displays summary statistics for bonds issued when Governor Term Limits bind and when they do not bind. The sample consists of bonds issued from states that had gubernatorial term limits over the entire sample period of 1990 to 2010. The table reports average values of the variables. *Proceeds* is the offering size in millions of dollars. *Maturity* is years to maturity. *Revenue Bond* is an indicator variable that takes the value of one if it is revenue bond. *Negotiated Bond* is a dummy variable that takes the value of one if the bond was issued through a negotiated contract. *Credit Enhancement* is a dummy variable that takes the value of one if the issue has third party credit enhancement. *Bond Ratings* is the numerical value of S&P rating at issuance.   There are 28,682 bonds issued when Last Term is zero i.e. term limits do not bind. There are 18,882 bonds issued when Last Term is one, i.e., governor term limit binds. The Column, Test for Difference reports the absolute value of the T statistics for difference in the means of the two groups. . *,**,*** represent significance at the 10%, 5% and 1% level, respectively.

	Last Term = 0	Last Term = 1	Test for Difference
Proceeds	37.74	42.30	6.91***
Maturity	19.16	19.25	1.24
Revenue Bond	0.507	0.502	1.07
Negotiated Bond	0.61	0.65	8.88***
Credit Enhancement	0.36	0.41	11.87***
Bond Rating	2.25	2.36	5.91***

Table 7: Bond Characteristics and Term Limits

The table reports partial results of the yield model estimation that allows bond characteristics to vary with term limits.   Each column examines the effect of a different bond characteristic that is displayed on top of the column. Bond Characteristic reports the coefficient of the bond characteristics that is displayed on the top of the column. The estimation included control variables that were not displayed for brevity. The control variables included were *Ln(Proceeds), Ln(Maturity), Bond Rating, Credit Enhancement, Callable Bond, Go Bond, Negotiated Bond, Minority Underwriter, Underwriter Reputation, Matching Treasury, T-note, Term Slope, Debt/ GDP, Revenue/ Expenditure, Ln (Population), Unemployment Rate, Marginal Tax Rate, Education Rate, Median Age, Male/Female Ratio,* and *Non-Hispanic White Ratio*.   Year and state fixed effects were also included. The t statistics adjusted for state-year clustering are reported in parenthesis below. *,**,*** represent significance at the 10%, 5% and 1% level, respectively

	Proceeds	**Maturity**	**Revenue Bonds**	**Negotiated Bonds**	**Credit Enhancement**
Last Term	-0.00246	-0.335***	0.0119	-0.0049	0.0436**
	(-0.09)	(-2.79)	(0.57)	(0.36)	(2.39)
Last Term x Bond Characteristics	0.0133	0.129***	0.0434*	0.061***	-0.0148
	(1.63)	(2.91)	(1.87)	(2.89)	(-0.88)
Bond Characteristics	-0.00532	0.600***	-0.007	0.0726***	-0.088***
	(-0.93)	(22.81)	(-0.43)	(6.32)	(-5.34)
Constant	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES
State dummies	YES	YES	YES	YES	YES
Adjusted R-Squared	0.801	0.802	0.801	0.801	0.801
Observations	47564	47564	47564	47564	47564

Table 8: Municipal Bond Yields and Gubernatorial Term Limits

The table reports partial results of an OLS regressions where the dependent variable is the offering yield on the municipal bond. We include all municipal debt issued with adequate data requirements over the period 1990 to 2010. *Governor Term Limit* takes the value of one if the state had gubernatorial term limits when the bond was issued. *Last Term* is a dummy variable that takes the value of one if the bond issued when the governor was serving the last term. Model 3 includes bonds from states that changed gubernatorial term limits over the sample period. *Post Governor* (*Post Governor Plus*) takes the value of one for Governor who after their last term run for another elected office (or had political appointments). Gubernatorial term limits are classified as *Weak* if the candidate can serve two consecutive terms and then must wait for 4 years to run again. *Moderate term limits* states are states where candidates can serve two term limits and then never run again. *Strong term limits* states are states where candidates cannot serve successive terms and states where candidates are barred from ever holding more than two terms. The control variables included *were Ln(Proceeds), Ln(Maturity), Bond Rating, Credit Enhancement, Callable Bond, Go Bond, Negotiated Bond, Minority Underwriter, Underwriter Reputation, Matching Treasury, T-note, Term Slope, Debt/ GDP, Revenue/ Expenditure, Ln (Population), Unemployment Rate, Marginal Tax Rate, Education Rate, Median Age, Male/Female Ratio,* and *Non-Hispanic White Ratio*. Year and state fixed effects were also included. . The t statistics adjusted for state-year clustering are reported in parenthesis below. *,**,*** represent significance at the 10%, 5% and 1% level, respectively

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Last Term		0.0394**	0.0314**	0.0510**	0.0735***	0.0393**
		(2.54)	(2.13)	(2.54)	(3.06)	(2.53)
Governor Term Limit	0.0816***	0.0739***	0.0385**	0.0677***	0.0682***	
	(3.57)	(3.38)	(2.01)	(3.21)	(3.45)	
Post Governor				-0.0434*		
				(-1.70)		
Post Governor Plus					-0.0780***	
					(-3.14)	
Weak Limit						0.0895***
						(3.41)
Moderate Limit						0.0525**
						(2.21)
Strong limit						0.0793**
						(2.12)
Constant	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES
State dummies	YES	YES	YES	YES	YES	YES
Adjusted R-Squared	0.825	0.825	0.847	0.825	0.826	0.825
Observations	99325	99325	15720	99325	99325	99325

Table 9: State House Term Limit

The data on state house term limit is obtain from the National Council of State Legislature (NCSL). House Term Limit is a dummy variable that takes the value of one if the state legislature has a term limit. Impact Years information or data is also obtain from NCSL. We define impact years as a dummy variable that takes the value of one in both the year that state legislators became ineligible to run again, and years beyond.

Panel A: States with No Change in Legislative Term limits over 1990 to 2010

No Term Limits	Alabama, Alaska, Connecticut, Delaware, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Minnesota, Mississippi, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, West Virginia, Wisconsin,
Term Limits	California, Colorado, Oklahoma

Panel B: States with Changes in Legislative Term Limits over 1990 to 2010

	No Term Limit Years	Term Limit Years	Impact Years
Arizona	1990-1991	1992-2010	2000-2010
Arkansas	1990-1991	1992-2010	1998-2010
Florida	1990-1991	1993-2010	2000-2010
Idaho	1990-1993, 2002-2010	1994-2001	
Louisiana	1990-1994	1995-2010	2007-2010
Maine	1990-1992	1993-2010	1996-2010
Massachusetts	1990-1993, 1997-2010	1994-1996	
Michigan	1990-1991	1992-2010	1998-2010
Missouri	1990-1991	1992-2010	2002-2010
Montana	1990-1991	1992-2010	2000-2010
Nebraska	1990-1999	2000-2010	
Nevada	1990-1995	1996-2010	
Ohio	1990-1991	1992-2010	2000-2010
Oregon	1990-1991, 2002-2010	1992-2001	
South Dakota	1990-1991	1992-2010	2000-2010
Utah	1990-1993, 2004-2010	1994-2003	
Washington	1990-1991, 1998-2010	1992-1997	
Wyoming	1990-1991, 2004-2010	1992-2003	

Table 10: Legislative Term Limits and Municipal Yields

The table reports partial results from an OLS regressions where the dependent variable is the offering yield on the municipal bond. *House Term Limit* is an indicator variable that takes the value of one if the bond was issued when the state had house term limits in place. *Governor Term limit* takes the value of one if the bond issued when the state with governor term limits in place. *Governor Last Term* is a dummy variable that takes the value of one if the bond was issued when the governor was serving the last term. *Both Term Limits* (*Neither Term Limit*) takes the value one for bond issues when both (neither) house and governor term limits are in place. The control variables included were *Ln(Proceeds), Ln(Maturity), Bond Rating, Credit Enhancement, Callable Bond, Go Bond, Negotiated Bond, Minority Underwriter, Underwriter Reputation, Matching Treasury, T-note, Term Slope, Debt/ GDP, Revenue/ Expenditure, Ln (Population), Unemployment Rate, Marginal Tax Rate, Education Rate, Median Age, Male/Female Ratio,* and *Non-Hispanic White Ratio*. Column 3 includes bonds from states that had some change in legislative term limits over the sample period 1990 to 2010. All other variables are defined in the Appendix. The t statistics adjusted for state-year clustering are reported in parenthesis below. *,**,*** represent significance at the 10%, 5% and 1% level, respectively

	Model 1	Model 2	Model 3	Model 4	Model 5
House Term Limit	0.0721***		0.0657***	0.0624***	
	(3.43)		(3.06)	(3.03)	
Impact Years		0.0689***			
		(3.71)			
Governor Term Limit				0.0613***	
				(2.99)	
Governor Last Term				0.0401***	0.0402***
				(2.58)	(2.59)
Both Term Limits					0.0655***
					(2.95)
Neither Term Limits					-0.0580***
					(-2.86)
Constant	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES
State dummies	YES	YES	YES	YES	YES
Adjusted R-Squared	0.825	0.825	0.829	0.825	0.825
Observations	99325	99325	25045	99325	99325

Table 11: Party Affiliation, Term Limits and Municipal Yields

The table reports partial results from an OLS regression where the dependent variable is yield to maturity at offering. The sample includes all municipal bonds issued over the period of 1990 to 2010 with adequate data. *Last Term* takes the value of one bond was issued in the last term of the Governor. *Governor* (*House*) *Term Limits* takes the value of one if the bond was issued when the state had gubernatorial (legislative) term limits. *Democratic Governor* takes the value of one for bond issues when the state governor was a democrat. *Democratic Legislature* takes the value of one if democrat party controls both houses of the legislature. *Same Party Dummy* takes the value of one if the party of the Governor, and the Party in control of both the upper and lower houses is the same. Control variables included but not displayed are *Bond Rating*, dummy for *Credit Enhancement*, *ln(proceeds), Ln(maturity), GO dummy, Negotiated bond Dummy, Callable bond dummy, Minority Underwriter, underwriter reputation, matching treasury, T-note, Term slope, unemployment rate, Debt/GDP, Revenue/ Expenditure, marginal tax rate, Education rate, median age, Male/Female Ratio, Non-Hispanic White Ratio* and *ln(population)*. The t statistics adjusted for state-year clustering are reported in parenthesis below. *,**,*** represent significance at the 10%, 5% and 1% level, respectively

	Model 1	Model 2	Model 3	Model 4
Last Term	0.0517**			0.0396***
	(1.98)			(2.61)
Democratic Governor x Last Term	-0.0260			
	(-0.91)			
Governor Term Limit		0.0910***		0.0558***
		(3.68)		(2.74)
Governor Term Limit x Democratic Gov.		-0.0174		
		(-1.01)		
Democratic Governor	-0.0149	-0.0131		
	(-1.47)	(-0.82)		
House Term Limit			0.0711***	0.0624***
			(3.39)	(3.01)
Democratic legislature			-0.0125	
			(-0.90)	
House Term Limit x Dem. Legislature			0.00526	
			(0.23)	
Same Party Dummy				-0.0159
				(-1.58)
Controls	Yes	Yes	Yes	Yes
Year & State dummies	Yes, Yes	Yes, Yes	Yes, Yes	Yes, Yes
Adjusted R-Squared	0.825	0.825	0.825	0.825
Observations	99325	99325	99325	99325