Risk Sharing in a Political Union*

Ramona Dagostino *University of Rochester*

Anya Nakhmurina *Yale University*

Abstract

Using unique hand-collected data covering the political affiliation of 1,045 cities over the last two decades, we identify the effect of political alignment on municipal bond spreads. Cities with the same political affiliation as the state governor face 9 basis points lower borrowing costs, as compared to misaligned cities. These effects are stronger in states where governors are granted more powers and in Republican-led states. To explore the real effects of political alignment, we leverage new data on municipalities' flood risk adaptation efforts. Consistent with partisan alignment generating moral hazard implications, we show that local officials reduce their investment in costly resiliency projects when a same-party governor is elected.

Keywords: Partisanship; Flood Risk; Municipal Bonds.

* Ramona Dagostino (ramona.dagostino@simon.rochester.edu) is with Simon Business School, University of Rochester; Anya Nakhmurina (anya.nakhmurina@yale.edu) is with Yale SOM. For helpful discussions, we thank Caroline Pflueger, Bill Baber, Amanda Beck (discussant), Christine Cuny (discussant), Jim Naughton, Xiaoyun Yu (discussant), Eddie Watts, Luigi Zingales, and seminar participants at the University of Rochester, Yale University, the University of Chicago, the Stigler Fellows workshop, New Economic School, University of Virginia Darden, McGill Desautels, University of Miami, UBC Summer Conference, the New Finance Conference, the University of Connecticut, the Financial Accounting and Reporting Section conference, and the Four School Conference. Qianqian Li, Laiyi Yin, Sharon Kwinjo, Xuyeing Bi, and Ivan Belousov provided outstanding research assistance. We used ChatGPT to copyedit the paper. All errors are our own.

1 Introduction

Seminal papers on fiscal federalism have analyzed the benefits and inefficiencies that arise under a decentralized provision of public goods. Less is known about the politics of fiscal federalism. Does partisanship exacerbate or dampen agency frictions across tiers of government (Clemens and Veuger 2023)? Understanding the role of partisanship is relevant, as the U.S. has experienced a sharp increase in partisan antagonism over the last decade (Mason 2013, 2015; Mian et al. 2018; Azzimonti 2018). If partisanship can shape strategic interactions across government entities, it can potentially affect the quantity and quality of public goods provided. It is particularly important to understand the role of partisanship in the context of local governments that play a crucial role in providing public services, allocating over $2.2 trillion.[1]

In this paper, we examine the cost of capital and real investment decisions of cities to understand whether partisanship influences risk-sharing between states and local governments. The answer to this question is not trivial. Local governments have traditionally been seen as creatures of the state, possessing limited legal and fiscal authority (NLC 2020). This has long been viewed as implying limited scope for strategic interactions and partisanship to influence the supply of public goods. Consistent with this view, early research has concluded that the partisan affiliation of city mayors is irrelevant to government budgets, the allocation of spending, and even crime rates (Ferreira and Gyourko 2009; Glaser and Ward 2006).

The recent rise in partisan conflicts between U.S. states and local governments challenges these findings. Over the last decade, tensions between state and city governments, often rooted in political party differences, have emerged across a wide array of issues. These include disputes over labor legislation, anti-discrimination measures, and environmental policies.[2] Moreover, recent legal scholarship has highlighted the increased use

[1] Latest available Census data for the year 2021.

[2] "Tennessee's Political Divisions Deepen Between State and Its Cities", *The Wall Street Journal*, April 10, 2023, https://www.wsj.com/articles/tennessees-political-divisions-deepen-between-state-and-its-cities-6ac062e2
"Cities Clash With State Governments Over Social and Environmental Policies", *The Wall Street Journal*, July 7, 2016 https://www.wsj.com/articles/cities-clash-with-state-governments-over-social-and-environmental-policies-1467909041

of preemption by state governments. These preemption legislations are often directed at limiting the rule-making authority of cities governed by the opposing political party (e.g., Scharff 2018).

State-city conflicts, such as those involving preemptive legislation, can have wide-ranging fiscal implications. Cities have the option to challenge state intervention in court. Yet, even before a court case is adjudicated, states can withhold funding, limit cities' ability to raise taxes, change the organizational structure of essential services like water authorities and airports, and impose financial and legal penalties on cities that are found to be non-compliant with state laws (Phillips 2017).

Informal relationships between cities and states can help reduce these conflicts. Specifically, sharing the same political affiliation might influence the distribution of decision-making power and affect how state intervenes in city affairs.

To understand the role of partisanship in city-state relations, we hand-collected a unique dataset covering the political affiliation of local officers for a panel of 1,045 cities across 45 states, spanning the years 2005 to 2019. Our identification strategy relies on quasi-exogenous switches in partisan alignment due to gubernatorial elections to allow for a causal interpretation of our results. We achieve quasi-exogeneity of treatment by restricting our sample only to the cities that do not change political affiliation throughout our sample period. This method allows for attributing any changes in political alignment to shifts in the state governor's party rather than the cities' own socioeconomic changes. By excluding cities that change political affiliation, we make sure that our findings are not influenced by economic policies targeted at 'swing' cities.

We start by showing that, conditional on a similar fiscal profile, spreads on comparable municipal bond issuances are 9 basis points smaller when the city mayor and the governor share the same political affiliation. Our analyses track cities' borrowing costs over time and compare spreads on similar municipal bonds issued by the same city around party-switching governors' elections. The estimation incorporates a rich fixed effect structure and controls both for the time-varying city fiscal positions and the bond characteristics. Importantly, our regressions include city fixed effects that absorb time-invariant

differences between Democratic and Republican cities, such as partisan preferences over issues having a fiscal impact (e.g., taxes and redistribution) that might affect their cost of borrowing.

We conjecture that partisanship affects municipal bond spreads by shaping investors' expectations about state bailouts in the event of fiscal distress. State governors may be more willing to intervene and financially support aligned cities in distress, thereby favoring same-party voters.[3] Therefore, partisanship may influence the riskiness of municipal bonds, with aligned cities facing smaller default risk compared to misaligned cities with similar fundamentals. If partisanship affects the probability of state intervention in municipal finances, then riskier bonds should exhibit more pronounced effects. Indeed, we find that bonds with low ratings and those with insured—securities conventionally considered more riskier—have larger alignment gaps.

Governors may have a greater impact on aligned cities in distress when they have more discretion. Consistent with this insight, we find that the alignment gap is larger when governors are granted more powers and thus have a broader range of policy tools to assist distressed cities. We observe similar results when we explore cross-sectional heterogeneity in states' legal doctrines on municipal bankruptcy. Specifically, we compare municipal bond spreads of aligned cities in states with a proactive approach to bankruptcy to those in other states (Pew Center 2013, Gao et al. 2019a). Cities in proactive states have limited fiscal autonomy in bankruptcy, with governors exercising greater control over municipal financial decisions. Consistent with investors recognizing the importance of the governor's discretion, we find the partisan pricing gap is three times larger in states with proactive policies.

In a similar vein, we find larger effects for bonds issued by cities that are institutionally fiscally dependent on the state, meaning that they need to obtain formal approval from the state to increase revenue through taxes, fees, fines, or service charges. This is consistent with investors recognizing that greater fiscal control and increased state fiscal power

[3]Conversely, governors may be less likely to help a misaligned city during periods of fiscal distress. The city of Detroit (D) provides an example of state-city conflict during financial distress, with Michigan Gov. Snyder (R) taking control of city finances and appointing an emergency city manager following Detroit's failure to follow state deadlines.

benefit aligned cities while disadvantaging misaligned ones. Lastly, we observe more pronounced alignment gaps in cities that are governed by politicians instead of career city managers.

Evidence in political science and legal scholarship shows that Republican-led state legislatures exhibit more extensive use of preemptive legislation (e.g., Phillips 2017, Mason 2018). Preemptive legislature limits the scope of the municipal home rule and restricts, among others, the access to financial flexibility. We investigate differences between the two parties using an event-study approach and find that the gap between aligned and misaligned cities is over four times larger when Republican governors take office.

Our findings relating to alignment stability imply that cities in swing states, where the governors change more often, experience larger effects from alignment. This is consistent with differences in alignment mattering more in situations where the governors are incentivized to consolidate political support and might exert extra effort to aid cities from their own parties. We observe similar results when we examine close gubernatorial elections.

Having documented that partisan alignment is a new source of variation in municipal financing costs, we investigate whether aligned cities are more likely to raise capital. *Ex-ante*, the effect of political alignment on municipal bond issuances is not obvious. On the one hand, mayors may be more inclined to issue bonds when politically aligned, as they face lower borrowing costs. On the other hand, it may be costly or unfeasible for a misaligned mayor to delay bond issuance and infrastructure investments. Mayors may face re-election pressures and not be in office when the governor changes. Consistent with these trade-offs, our findings indicate that partisan alignment does not significantly impact either the decision to raise capital or the amount of financing raised.

Aligned cities may face a softer budget constraint, implying lower default risk and, consequently, lower borrowing costs. We test this hypothesis by examining whether cities receive larger intergovernmental transfers when politically aligned with the state governor. Across specifications, we do not find evidence that aligned cities benefit from larger transfers. Together, the bond pricing, issuance, and transfer results imply that the

bond market prices are the expectation of future bailouts rather than contemporaneous transfers.

Next, we examine whether alignment affects real investment decisions at the municipal level. While certain investment decisions are the sole responsibility of local governments, others are financed through a complex intergovernmental system involving cost-sharing between local and state entities. As partisanship affects the perceived probability of governor intervention, aligned cities may be more likely to under-invest in cost-sharing projects. One prominent example of such projects is hazard mitigation. The degree of state intervention in this context can considerably vary, with funds often allocated on a case-by-case basis (Pew Research, 2018).

We test whether partisan alignment influences local governments' decision to invest in flood-risk-adaptation projects. We explore flood risk-related investment because among climate-related hazards, floods stand out in both frequency and damage costs compared to other weather events (NOAA, 2022). We extract data on municipalities' investment in adaptation from municipal bond prospectuses. We follow the dictionary of flood risk adaptation developed in Lu and Nakhmurina (2023) and use textual analysis to parse bond prospectuses and identify the sentences in each document that contain keywords related to flood risk adaptation.

Consistent with partisan alignment generating moral hazard implications, we find that local officials reduce their investment in costly resiliency projects when a same-party governor is elected. Taken together, our results indicate that partisanship affects risk-sharing between state and local governments, which in turn shapes municipalities' cost of capital and real investment decisions.

Our paper adds to the growing literature on the determinants of municipal bond spreads, including credit risk (Schwert 2017), state policies and political uncertainty (Gao et al. 2019a; Gao et al. 2019b), clientele effects and ownership segmentation (Babina et al. 2019; Schultz 2013; Dagostino 2022), sea-level rise risk (Painter 2020; Goldsmith-Pinkham et al. 2022; Lu and Nakhmurina 2023), taxes (see e.g. Green 1993; Chalmers 1988; Longstaff 2011) and credit ratings (Cornaggia et al. 2018; Cunha et al. 2022). We

add to this literature by showing that partisan alignment affects municipalities' cost of capital.

Our work is related to the emerging literature that explores the impact of trifectas on municipal bonds and government spending (e.g., Beck et al. 2022; Basu et al. 2023). We complement and extend this body of work by focusing on the partisan alignment of states and local governments and its implications for municipal spreads and flood risk adaptation spending.

Our paper also contributes to a long-standing literature on fiscal federalism (see, e.g., Clemens and Veuger 2023 for a review of classic papers). Compared to states, local governments may have superior information, face stronger competition and be subject to higher accountability due to individuals' mobility across jurisdictions, leading to a more efficient supply of public goods. At the same time, decentralization may generate inefficiencies arising from externalities and strategic interactions among jurisdictions. Using a single audit setting, Cuny et al. (2020) find that local governments with ties to influential congress members exercise less oversight over public funds. We add to this literature by providing evidence consistent with that partisanship amplifying agency issues between states and local governments.

Close to this paper is the work of Carlino et al. 2023, who show that the partisan affiliation of state governors influences states' marginal propensity to consume and, in turn, the effectiveness of federal transfers. Our paper shows that political alignment affects the price of municipal securities and the type of real investments that local governments decide to undertake.

2 Institutional Background and Motivation

2.1 Political alignment of states and cities

The US Constitution mandates that cities derive their existence and authority from the state government.[4] States have the authority to create, dissolve, and alter their local

[4]Specifically, the constitutional foundation for federalism is formulated in the Tenth Amendment of the US Constitution, which states, "The powers not delegated to the United States by the Constitution,

governments and to delegate various responsibilities and powers to them. The federal government has limited scope over regulating states and municipalities, so states are also the main regulators of cities. Importantly, any legislation adopted by the state preempts the local legislation, meaning that if a city passes a law that conflicts with state legislation, the state law generally takes precedence. The actual powers and responsibilities of cities and municipalities are largely determined by state constitutions and laws. While some cities enjoy so-called "home rule" provisions, meaning they have greater freedom to pass laws and regulations, this independence is usually limited and can be overruled by the state across multiple regulatory dimensions (NLC 2020, Liu and Rezk, 2023).

Hence, the relationship between states and their cities can significantly affect their financial health, economic outlook, and real decisions. This highlights the potential importance of the informal connections between cities and their respective state governments. Indeed, states may apply discretion in crafting legislation, allocating state transfers, and providing state assistance during times of municipal financial distress to the benefit of the cities that they favor.

Political alignment is an important dimension of informal relationships between cities and their states. Being of the same political party as the governor can benefit the city, while being of a different party can pose risks. The significance of this alignment doesn't necessarily depend on a direct, explicit relationship between the city mayor and the governor, such as personal acquaintance or regular interactions. Rather, the mere fact of sharing party affiliation can influence the governor's disposition and incentives towards a city that is politically aligned with them.

There are several reasons why aligned cities can benefit from their relationship with the governor. First, when the city's leadership and the governor share similar political ideologies, they are more likely to have common policy goals and objectives. Such alignment can lead to smoother cooperation and collaboration on issues of mutual interest. Second, political alignment can impact the regulatory environment in which cities op-

nor prohibited by it to the States, are reserved to the States respectively, or to the people." The accepted interpretation of this amendment is that any powers not explicitly given to the federal government in the Constitution are reserved for the states and to the people. That is, the Constitution implies state sovereignty over cities and municipalities.

erate. Governors who share the political ideology of the city's leadership may be more inclined to enact policies and regulations that align with the city's interests. Finally, governors from the same political party as city leaders may be more willing to provide financial support and resources to cities from their own party. This incentive to do so is particularly pronounced when the aligned cities are financially distressed.

Conversely, the lack of a relationship with the governor can hurt the misaligned cities. Cities from opposing parties may naturally face friction due to differing policy views and preferences. This can lead to disagreements over issues like social policies, immigration, environmental regulations, and fiscal matters. These disputes can impede the efficient functioning of the city and hinder progress on important projects, especially if states adopt preemptive legislation that makes it difficult for the cities to execute their policy priorities. Over the past decade, almost all of the states passed legislation that preempts local law-making, making more difficult or even prohibiting local initiatives on a wide variety of issues (Liu and Rezk, 2023).[5] Misaligned cities may be less likely to be bailed out in the event of fiscal distress, especially if the state is financially constrained and has to help a number of cities.

A recent example of misalignment manifesting negatively in a state-city relationship is the case of the city of Jackson, Missouri. In February 2021, a severe winter storm caused significant damage to a city's already out-of-date and underfunded infrastructure, resulting in over 40,000 residents losing access to clean running water for more than a month. The mayor, Chokwe Antar Lumumba (Democrat), estimated that the city would need $2 billion to repair and upgrade the water-sewer system. This figure was well beyond the city's financial capacity, given its annual budget of $300 million and a substantial proportion of low-income residents. The following month, Mayor Lumumba, with the support of the city council, requested $47 million in state and federal aid from

[5]Those issues include hydraulic fracturing (fracking), tobacco usage, gun control, fiscal policies including taxation and spending limits, nutritional concerns, LGBTQ+ rights, and the minimum wage debate. More recently, legislation has extended to restrict local governance over highly specific areas. These include regulations pertaining to sprinkler systems, the development and management of municipal broadband networks, wireless alarm systems, the use of Styrofoam products, the production and sale of dairy products like milk and frozen desserts, and even the nuances of beekeeping practices (Liu and Rezk, 2023).

Mississippi Governor Tate Reeves (Republican).[6] This funding was needed to address the urgent repairs required at the city's water treatment facilities. However, the city received far less than was needed, just $4.6 million (Liu and Rezk, 2023).

2.2 Effect of Political Alignment on Municipal Bonds Pricing

We hypothesize that the municipal bond market prices the political alignment in. Investors anticipate that aligned cities benefit, and misaligned cities are disadvantaged by their political affiliation, which will be reflected in municipal bond spreads.

Importantly for bond investors, alignment may matter most when cities are facing financial difficulties. Because the bond investors' payoff is asymmetric, default risk is an important component of municipal bond spreads. Schwert (2017) finds that default risk explains up to 84% of municipal bond spreads. If state governors can execute their discretion and help aligned cities during times of financial distress, the investors will infer that the default risk for such cities is smaller than the default risk of misaligned cities with the same fundamentals. Additionally, bond investors may also recognize that governors who are granted more power by their state constitutions may exercise more discretion and, hence, may do more to aid their aligned cities.

2.3 Moral Hazard Implications

Cities that anticipate state government support during financial difficulties might demonstrate reduced fiscal responsibility, potentially indulging in excessive spending or pursuing high-risk projects. As a result, political alignment between city and state governments could cause cities to neglect long-term systemic issues in favor of short-term political gains. City officials might focus on policies that resonate with their political supporters and bolster their prospects for immediate re-election, even at the expense of addressing wider community needs and sustainability issues.

[6] https://www.clarionledger.com/story/news/2021/03/04/jackson-mayor-requests-millions-state-feds-amid-water-crisis/4584061001/.

2.4 Why Alignment with Governors?

We focus on the alignment with the governor and not with the state legislature for the following reasons. Governors are chief executives of their states and often lead the design of statewide efforts on a variety of issues, such as infrastructure, climate planning, and financial issues (Liu and Rezk, 2023). Because governors have flexibility in approaching such policies, they may construct them to favor the aligned municipalities. Unlike legislators who focus on their districts, governors focus on state-wide issues and hence can recognize which policies benefit aligned cities throughout the state. Governors can make quick and unilateral decisions, especially in emergency situations like financial crises. This ability to act swiftly and decisively can be crucial in determining immediate financial support or interventions for cities. Moreover, governors typically have veto power over legislation, giving them substantial influence over state policies, including financial and budgetary decisions. This power means that even if a city aligns with the majority in the state legislature, the governor can still block or modify legislative actions.

3 Data and Sample Construction

3.1 Partisan affiliation

We collect data on the political affiliations of local officers from several sources.[7] We start by scraping the website OurCampaigns.com, a crowd-sourced website where certified users can disclose and record information on local electoral races in the U.S. OurCampaigns reports the names of the mayoral candidates, their political affiliation, the election date, along with the number of votes received. We collect data on 280 cities from this website.

We complement this data by manually searching municipalities' current and archived websites to identify their mayors.[8] We collect data on the names of the elected city mayors, their political affiliations, and the election date. If the political affiliation is not

[7] Local officers can be city mayors, city managers or heads of city councils. In the text, we refer to them as mayors or officers.

[8] We retrieve archived websites using the Wayback Machine.

disclosed on the city webpage, we manually search for this information online on voter registration websites, Wikipedia, Google, and Facebook. We restrict our search to the universe of U.S. cities that have a population exceeding 10,000.[9]

Our search results in a sample of the political affiliation of 1,045 cities in 45 states, covering the period from 2005 to 2019. We exclude cities that have changed party affiliation during our sample period (28.7%), as this may reflect endogenous economic conditions that could confound our analysis. Next, we eliminate cities that hold non-partisan elections and where we could not otherwise identify the political affiliation of their mayors. After this step, our sample comprises of 567 cities, each consistently governed by either a Republican or a Democratic officer throughout our sample period.

3.2 Bond and City Variables

Cities' financial data, including revenues, debt outstanding, and intergovernmental transfers, comes from the Census's Annual Survey of State and Local Government Finances. We obtain data on municipal bond issuance from the Mergent Municipal database. Underlying credit rating data for municipal bonds comes from S&P and Moody's websites.[10] Whenever bonds are rated by more than one credit rating agency, we use the average rating as a measure of underlying credit quality.

We restrict our sample to cities that issue tax-exempt municipal bonds during our sample window of 2005 to 2019, and for which the cities' financial data are available. For our municipal bond spread analyses, we focus our attention on non-callable municipal bonds. We merge the information on the bonds issued by our sample cities with the political affiliation of the city at the time of issuance. After the merge, our final sample includes 396 cities across 38 states, collectively issuing 23,089 bonds. We obtain data on state governor elections from Ballotpedia. We define a city to be *Aligned* (*Misaligned*) if the mayor has the same (different) political affiliation as the governor.

[9] We choose these sampling criteria for two reasons. First, cities that have more than 10,000 people are more likely to be economically significant for the state. The second reason is the feasibility of hand collection. According to the 2020 US Census, there are 19,502 incorporated places in the U.S. Of those, over 84% have fewer than 10,000 inhabitants, 76% have fewer than 5,000 people, and around 42% have fewer than 500 people.

[10] We thank Ryan Israelsen for sharing credit rating data for the period up to 2012.

3.3 Flood Risk Data

Data on flood risk exposure comes from the 2020 National Flood Risk Assessment (NFRA) by First Street Foundation. NFRA reports the estimated percentage of properties at the zip code level that is at substantial risk of flooding events, including pluvial, tidal, and storm surges. The definition of a substantial risk is analogous to the Federal Emergency Management Agency ("FEMA") SFHA designation and is calculated as inundations of 1 cm or more in the 100-year return period (1% annual risk). Since our analysis is conducted at the city level, we aggregate the NFRA data at the municipality level and calculate the fraction of properties in each city that are exposed to substantial flooding risk.

3.4 Adaptation Data

We extract data on municipalities' adaptation from municipal bond prospectuses following Lu and Nakhmurina (2023). Adaptation is defined as the set of measures undertaken by local governments to reduce their exposure to flooding risk. There are two types of adaptation strategies: hard adaptation, referring to investment in physical infrastructure (e.g., a dyke or drainage system), and soft adaptation, capturing natural solutions (e.g., wetland restoration). These strategies are then retrieved from the text by using a carefully constructed dictionary that captures adaptation actions specific to flood risk. This dictionary contains a comprehensive list of 147 single-word unigrams and two-word bigrams spanning both soft and hard adaptation measures.[11]

For our adaptation tests, we restrict our sample to municipalities that issue bonds during the time period 2013 to 2019.[12] For the municipalities in our sample, we obtain their bond issuance prospectuses from MSRB EMMA. We use textual analysis to parse the

[11] This list is constructed by reading and manually extracting keywords related to flood risk adaptation strategies from a broad set of sources: the 2020 city reporting guidance in the Carbon Disclosure Project ("CDP"); the city climate hazard taxonomy issued by the C40 Cities Climate Leadership Group; the climate change summary for policymakers issued by the Intergovernmental Panel on Climate Change ("IPCC"); academic literature on climate change; financial disclosure documents for a sample of 16 high-risk cities. See Lu and Nakhmurina (2023) for a detailed list of keywords and methodology.

[12] We focus our data collection efforts on this time window since existing literature has shown that municipal investors start paying attention to sea level rise risk only starting in 2013 (eg., Goldsmith-Pinkham et al. 2022).

prospectuses and identify the sentences in each document that contain the keywords from our dictionary related to flood risk adaptation. We then construct a city-by-year panel. To do so, for each city, we calculate the total number of sentences across bonds issued any given year, as well as the total number of sentences related to flood risk adaptation. For each city-year, we define *Adaptation* as the fraction of sentences dedicated to adaptation.[13]

While the variable *Adaptation* does not capture the dollar investment in emergency preparedness, Lu and Nakhmurina (2023) conduct an extensive set of validation tests to show that this measure captures meaningful variation in adaptation investment. In particular, they show a positive correlation between textual measures of adaptation and cities' expenses from capital improvement and emergency-related funds. Additionally, they provide evidence that cities with higher textual adaptation measures benefit from reduced flood insurance premium rates through the Community Rating System program.[14] Alongside these tests, Lu and Nakhmurina (2023) conduct various robustness checks and falsification tests to rule out the possibility of detecting spurious variation. We corroborate these findings, and separately show that bond-prospectus-based textual measures of adaptation are meaningful. Specifically, we show that cities at higher risk of flooding, as estimated by the First Street Foundation, and States at high hurricane risk, as measured by past hurricane incidence, dedicate a larger fraction of their bond offering documents to discuss adaptation strategies.

4 Empirical Methodology

We begin by investigating the effect of partisan alignment with the state governor on municipalities' borrowing costs. Ideally, if cities were assigned political affiliations randomly, we could assess the impact of this political alignment by comparing the borrowing costs of cities aligned with the state governor to those not aligned. However, the assignment of political affiliations to cities is not random. Rather, various socioeconomic

[13]We calculate the variable *Adaptation* only for the years in which municipalities issue bonds. This is an unbalanced city-by-year panel since municipalities do not issue bonds every year.

[14]The Community Rating System is a voluntary program where communities are rewarded for proactive flood risk management practices.

factors often determine a city's governing party. For instance, cities with a dominant presence of certain industries might lean towards a party that advocates for policies favorable to those industries. City-specific local issues and policies can also shape a city's political leanings. For example, cities severely affected by environmental concerns may tend to support a party that places a higher priority on environmental policies.

Given this non-random matching, the observed average difference in borrowing costs between cities of different party affiliations may not accurately represent the impact of political alignment. Instead, these estimates might be reflecting underlying socioeconomic trends.

Our identification strategy addresses the concern described above in two ways. First, we confine our analysis to cities that haven't changed their political affiliation throughout our sample period. This step ensures that any observed changes in political alignment within these cities are not due to their own socioeconomic shifts but are instead a result of changes in the party of the State governor. Moreover, by focusing exclusively on cities that do not switch political affiliations, we address a related concern about cities' role in gubernatorial elections. Gubernatorial candidates often focus more on cities with fluctuating political loyalties, proposing economic policies that favor these 'swing' cities. Excluding swing cities from our sample ensures that we do not confound our inferences by picking up the effect of those targeted economic policies.

Second, our identification involves estimating a stringent specification that regresses the offering spread of bond i issued by municipality c in year t on the set of city- and year-fixed effects, as well as the comprehensive set of bond- and city-characteristics:

$$Spread_{i,c,t} = \beta \cdot Aligned_{c,t} + \psi \cdot BondChar_{i,t} + \xi \cdot CityChar_{c,t-1} + \alpha_c + \tau_t + \gamma_{p,t} + \epsilon_{i,c,t}. \quad (1)$$

We focus on the municipal bond offering yield spreads as using this variable allows us to capture the effect of partisan alignment on cities' cost of capital directly. Our main variable of interest is $Spread_{i,c,t}$, which is the spread on bond i issued by municipality c in year t. This is calculated as the difference between the offering yield-to-maturity on a tax-exempt municipal bond and the maturity-matched yield from the Municipal Market Advisors AAA-rated curve ("MMA curve") as of the dated date of issuance. In our

calculation of $Spread_{i,c,t}$, we directly account for cross-sectional and time-series variation in state marginal tax rates by using taxable-equivalent offering yields.[15] We restrict our sample to non-callable municipal bonds.

$Aligned_{c,t}$, our independent variable of interest, is an indicator that equals one when the city and the State governor share the same partisan affiliation. The coefficient of interest is β, which reflects the effect of partisan alignment on municipal bond spreads. If cities face reduced borrowing costs when their political affiliation aligns with their State governor, we should observe a negative β.

By including city fixed effects (α_c), we fix a city and compare its borrowing costs during periods of political alignment and misalignment. City fixed effects absorb intrinsic, time-invariant differences between Democratic and Republican cities that may affect their cost of capital, such as different preferences over taxation and redistribution.[16] Our estimation also includes year fixed effects (τ_t) to help control for macroeconomic conditions. This set of fixed effects allows us to compare aligned and misaligned cities issuing bonds in the same year. To further sharpen our identification, we include governor party (p) by year (t) fixed effects, $\gamma_{p,t}$. This allows us to fix the governor's party and compare aligned and misaligned cities issuing bonds in the same year in states with the same governor's party.

We include controls for a host of bond characteristics, including the logarithm of the amount issued ($Log(Amount)$), the logarithm of the time to maturity ($Log(Maturity)$), and indicators for whether the bond is a general obligation (GO), bank qualified (BQ), $Insured$, as well as the fixed effects for credit rating grids. We also control for city-specific characteristics, $CityChar_{c,t-1}$, that include lagged revenue per capita ($Revenues_{t-1}(p.c.)$), lagged debt outstanding per capita ($Debt\ Outstanding_{t-1}(p.c.)$), and the logarithm of the city population ($Log(Population)$). We double cluster standard errors by city and year.

[15] To do this, we follow Schwert 2017, and for each year, we use the top statutory income tax rate in each state as the marginal tax rate. This is also consistent with Longstaff 2011.

[16] City fixed effects also account for potential effects of home bias and different state tax deductibility.

5 Summary Statistics

Table 1 reports the distribution of cities across states and by political party. Cities in Ohio represent about 12.6% of our sample, followed by New Jersey (10%), New York (8%), Texas (8%), Michigan (6.8%), Massachusetts (6.5%), Pennsylvania (6.3%) and Florida (5.8%). The remaining cities are located in thirty other states.[17] Around 57.6% of cities are governed by the Democratic party, while the remaining cities are Republican.

Figure 1 displays the variation in political affiliation in our sample cities and states. Blue (red) circles represent Democratic (Republican) cities. The circle's size corresponds to the city's population, with larger circles representing cities with higher populations. States shaded in blue (red) are those where governors remained Democratic (Republican) during our sample period. Purple states experienced at least one party-switching governor election between 2005 and 2019. Twenty-four states switch governor parties, totaling 36 party-switching governor elections in our sample.

Table 2 Panel A reports summary statistics for the bonds in our sample. The average municipal bond yield is 202.8 basis points, corresponding to a mean spread over MMA of 35.6 basis points. The average maturity is just below 6 years.[18] The average bond size is \$2mln. Around 60% of the bonds are general obligation, while about 15% are bank qualified. 20% of bonds are insured. The average underlying rating is AA. Panel B summarizes city characteristics in our bond regressions sample. The average population is 304,000. The population distribution is highly skewed, with a median of 131,000. Financial characteristics, including *Revenues*, *Expenditures*, and *DebtOutstanding*, are also skewed, reflecting the distribution in city size. Panel C displays summary statistics for city characteristics at the city-year level.

Figure 2 reports the distribution of flood risk for the cities in our sample. The different colors represent the fraction of properties at substantial risk of flooding events as estimated by the 2020 National Flood Risk Assessment (NFRA) by First Street Founda-

[17] The remaining U.S. states are: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Georgia, Idaho, Illinois, Indiana, Louisiana, Maine, Maryland, Minnesota, Mississippi, Missouri, Nebraska, Nevada, North Carolina, North Dakota, Oklahoma, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Virginia, Washington, Wisconsin.

[18] Maturities are relatively short because we focus on non-callable municipal bonds.

tion. The average fraction of properties that face substantial flood risk in our sample is 11%. Cities in Florida have the highest flood risk exposure, with an average fraction of properties at risk of 27%, followed by Louisiana (21.6%) and South Carolina (16.2%).

6 Partisan alignment and Municipal Bond Spreads

6.1 Baseline results

We examine whether partisan alignment affects municipal bond spreads. We report the results for the estimated equation (1) in Table 3, with sequential layering of controls. Column 1 reports our simplest specification, only including issuer and year-fixed effects. Issuer fixed effects isolate the impact of political alignment on spreads, over and above any time-invariant city characteristic that may affect its borrowing costs. Using this specification, we find that politically aligned cities face 8.0 basis points lower primary offering spreads than misaligned cities. This corresponds to a 22.5 percent reduction in the cost of capital.[19] As we move from Column 1 to Column 5, we introduce more control variables that account for the bond characteristics, including the logarithm of bond size, the logarithm of the time to maturity, as well as the indicators for whether the bond is bank-qualified, general obligation, and insured. We also control for rating fixed effects, the logarithm of the city population, revenues per capita in the year prior to bond issuance, and debt per capita in the year prior to bond issuance. The gap in offering spreads between aligned and misaligned cities persists after introducing this detailed set of controls. Column 5 reports an estimated impact of the partisan gap on bond spreads of 9.3 basis points. This estimate suggests that municipalities that are politically aligned with the governor face 26.1 percent lower spreads on their municipal bond issuance.[20,21]

[19]The economic magnitudes are calculated by dividing the coefficient estimate by the mean of the offering spread, which is equal to 35.6 basis points.

[20]In untabulated analyses, we also confirm that our results remain robust if we include governor party by year fixed effects. Including these fixed effects allows us to control the party of the governor and compare aligned and misaligned municipalities issuing bonds in the same year under a Republican versus Democratic governor.

[21]To further elucidate the magnitude of the effect, we provide value-weighted regressions in Table OA1 in the Online Appendix. Running value-weighted regressions is meaningful in our setting because the cost to issuers may not be evenly distributed. Depending on the specification, these regressions indicate

To reinforce the causal interpretation that our evidence reflects the effect of political alignment, we perform event study analysis around gubernatorial elections. Figure 3 reports the dynamic effect of partisan alignment around governor elections. To isolate the effect of the party-switching gubernatorial elections, we stack the data across party-switching elections and regress bond spreads on the interaction terms between an indicator for *Aligned* and indicators for each of the six semesters before and after the elections. We continue to include the full set of controls, as in our specification in Column 5. To consistently track cities over time, we define *Aligned* to equal one if the city's political affiliation is the same as that of the *newly* elected governor. Our base period is 7 semesters prior to the election (omitted in Figure 3). The plotted coefficients show the spread differential across aligned and misaligned cities relative to the base period. The gap in the spread between aligned and misaligned cities stays similar in magnitude and statistically comparable during the pre-election period relative to the base period. However, the pricing gap increases in magnitude around the election, with aligned cities experiencing significant reductions in their cost of capital, which remains significantly lower than that of the misaligned cities for six semesters following the gubernatorial election.

To further confirm that our results are attributable to the political alignment, and are not spurious, we run a falsification test in which we randomize the political alignment of the cities in our sample. Table OA2 in the Appendix reports the results. Both economic and statistical significance are lost when we randomize alignment, suggesting that our baseline results pick up a meaningful connection between political alignment and municipal bond spreads.

Table OA3 in the Appendix investigates whether individual states drive our results. Specifically, we exclude non-switching states from our sample. Then, we drop states with gubernatorial party-switching elections one by one and rerun our main specification on the resulting sample. The results indicate that our results are not driven by any one individual state, suggesting that the effect of political alignment is present across our sample states.

that politically aligned cities incur 16.7 to 17.7 basis points lower borrowing costs for each dollar of debt issued.

We also empirically analyze the importance of alignment with the state governor by running regressions with alternative alignment definitions. Table OA4 in the Appendix reports the results. For ease of comparison, Column 1 repeats our baseline specification. In Column 2, we repeat our analyses with *Align Trifecta* as our main independent variable. *Align Trifecta* equals one if the city is governed by the party that simultaneously controls the governorship and both legislative chambers. Prior literature has documented municipal market prices in trifectas, showing that yields on bonds issued by municipalities from states controlled by trifectas are lower (Basu et. al 2023). In our setting, the coefficients on *Align* and on *Align Trifecta* are comparable. In Column 3, we explore alignment with a governor who shares the same party as the president, while Column 4 examines alignment with the president. These results collectively suggest that alignment with the state, and not the federal government, is priced in municipal bonds consistent with the institutional structure of city-state relationships.

7 Mechanisms

To better understand the mechanisms behind our documented results, we explore heterogeneities in the cross-section of cities and states. We begin by examining factors that are associated with the risk profile of the bonds. Then, we evaluate the proxies for the stronger opportunities for gubernatorial discretion, such as the amount of discretion that the governor is given by the state legislature and the extent of financial dependence of the issuer on the state. We also investigate the relative importance of political stability in the governing party of the governor, alongside other socio-economic characteristics that can affect the magnitude of the baseline result.

7.1 Risk profile of the issuer

We hypothesize that alignment is priced in municipal bonds because discretion in the state intervention could benefit aligned cities while adversely affecting misaligned ones. If this is indeed the case, then we should see more pronounced effects for issuers

that already have a higher risk profile and, hence, are closer to distress, making state intervention more likely. We consider whether the investors assign higher discounts to aligned issuers that have either low ratings or issue insured bonds, the standard proxies for high-risk municipal bonds. The results are presented in Table 4 and are consistent with investors assigning larger discounts to the aligned bonds that are considered riskier.

7.2 Opportunity for gubernatorial discretion

Next, we identify cases where the governor has more discretion with respect to the financial positions of the cities. We examine variation in the opportunity for gubernatorial discretion in four ways. First, we examine aligned bonds in states where the state constitution grants governors more powers. Second, we investigate the importance of the proactive approach to bankruptcy, which could be applied differentially to aligned and misaligned bonds (Gao et al. 2019a). Third, we examine bonds issued by cities that are institutionally set up to be fiscally dependent on the state. Fourth, we also examine the importance of having a city led by a career politician who is likely to forge stronger connections within their party. All four analyses provide further evidence that the differences in the bond spreads between aligned and misaligned cities are attributable to the market perceiving that more gubernatorial discretion is beneficial (costly) for aligned (misaligned) cities, as we directly connect heterogeneity in bond spreads to different measures that relate to gubernatorial discretion.

7.2.1 Gubernatorial powers

We begin by investigating heterogeneity in gubernatorial powers, i.e., the powers given to the governor by the state constitution, state statutes, and citizens when they vote on constitutions and referenda (Bernick, 2016; Gray et al., 2018). Governors with greater authority may encounter fewer challenges from the state legislature and bureaucratic machinery when they exhibit preferential treatment towards aligned cities or introduce policies that can hurt misaligned cities.

We rely on the political science literature and obtain the measures of gubernatorial

powers from a series of publications by Gray et al. 2018, who constructed an index of gubernatorial powers by tracking and quantifying state statutes over time.[22] The variation in the gubernatorial power index is visualized in Figure 4.

To empirically evaluate the relative strength of the effect in states with higher gubernatorial powers, we interact *Aligned* with *High Governor Powers*, an indicator that the state's gubernatorial power index is above the median. Column 1 of Table 5 shows that alignment gap is more pronounced in states where governors have more power. This finding suggests that municipal bond investors recognize that aligned cities are relatively better off (and misaligned cities are worse off) in states where governors have more powers and discretion. This is consistent with the municipal market expectation that in the event of cities' financial distress, governors with more powers will likely find ways to aid the aligned cities. Conversely, misaligned cities may not receive such help.

7.2.2 State intervention in distress

Next, we investigate the significance of another tool that the governor can use to aid politically aligned cities: the legal jurisdiction of state intervention in municipal fiscal matters. For municipal bond investors, perhaps the most important component of such regulations is fiscal distress-related policies (Gao et al. 2019a). When a municipality is facing fiscal issues and cannot meet its debt obligations, it can file for Chapter 9 bankruptcy in federal court. However, such filings require approval from the state government. Some states grant municipalities unconditional access to bankruptcy ("Chapter 9" states). These states prefer to allow their municipalities to manage their finances independently.

However, other states have a so-called proactive approach to bankruptcy. These

[22]Specifically, we use the data from Gray, Hanson, and Kousser, "Politics in the American states: A comparative analysis," published in 2002, 2005, 2010, 2016, and 2018. The index of gubernatorial power is a sum of five components. The first component is the proportion of separately elected state-level officials (as opposed to those appointed by the governor). The second component, $TenurePotential$, quantifies restrictions placed on the governor's term and the number of elections they may participate in. The third component, $AppointmentPower$, assesses gubernatorial power to appoint officials in six major areas: corrections, K-12 education, health, highway/transportation, public-utilities regulation, and welfare. The fourth component of the governor's power is $BudgetPower$, which indicates the governor's control over budgetary items. Lastly, $VetoPower$ accounts for the governor's authority to override decisions made by the state legislature.

states permit Chapter 9 access only as a last resort and attempt to address the financial problems of their distressed cities by mandating participation in state-administered assistance programs that can involve emergency loan provisions, revenue transfers, and technical support. Proactive states may appoint a board (or an individual) to evaluate the problem and advise the distressed city. In some cases, this appointee is granted the authority to take over the local finances and operations (Gao et al. 2019a). For these reasons, investors perceive bonds issued by municipalities from proactive states as more risky (Gao et al. 2019a). Figure 5 shows a map that indicates Proactive, Chapter 9, and states in between.

We hypothesize that governors in Proactive states might selectively implement proactive policies, thereby providing augmented assistance to distressed aligned cities. Since aligned cities likely share similar political leanings, it is politically advantageous for the governor to provide assistance to these cities to maintain or strengthen their support within their political constituency. Conversely, governors in Proactive states might be incentivized to not provide similar help to the distressed misaligned cities. For example, the governor might want to illustrate that the opposing party is not good at governing and expose the distress. Governors may also be concerned about potential political backlash from their own political base if they are perceived as diverting resources or providing assistance to misaligned cities. Proactive states may have limited resources to allocate to distressed cities, and the governor may prioritize directing those resources toward aligned cities or other critical state needs.

To empirically compare the effects in proactive and non-proactive states, we include an interaction of *Aligned* with *Proactive*, an indicator that equals one for proactive states, to our main specification. Column 2 of Table 5 reports the result. Consistent with our predictions, the coefficient estimate indicates that the effect is stronger in Proactive states, suggesting that investors recognize that in proactive states, aligned distressed cities are more likely to be aided by the state.

7.2.3 Fiscal dependency on the state

To further understand the importance of legal jurisdiction of state interventions in municipal finance, we directly examine cities that are institutionally fiscally dependent on the state. To illustrate fiscal dependence on the state, it is useful to explain the concept of fiscal home rule. Fiscal home rule allows cities that adopted the home rule charters to determine their own revenues and expenditures without excessive interference or control from the state government. These cities enjoy the freedom to adjust their revenue streams—through taxes, fees, fines, charges for services, and other financial activities—without needing state approval for each change. This autonomy provides them with greater flexibility in their financial operations.

In contrast, cities without fiscal home rule depend financially on their state. These cities are heavily reliant on and limited by the state government regarding their revenue sources, taxing authority, and budgetary decisions. This dependence can be beneficial for aligned cities but risky for misaligned ones. For example, imagine that a conflict between a misaligned city and the state results in a denial of the city's request to increase taxes. Such a misaligned city must make challenging budgetary decisions, which could further impact its financial risk profile.

We manually collect information on the cities that have fiscal home rule. To identify such cities, we first identify the states that grant fiscal home rule to their cities. Within these states, we then search for cities that have adopted home rule charters.[23] To do so, we review state-compiled lists of cities with home rule and examine individual city ordinances in states where such lists are unavailable. Of the 396 cities in our sample, 198 had or adopted fiscal home rule at some point before or during our sample period.[24]

To empirically compare the effects in cities that are fiscally dependent on the state and cities that have fiscal home rule, we include an interaction of *Aligned* with *Fiscal*

[23]Home rule refers to the authority granted to local governments to manage their own affairs without needing specific approval from the state or central government for every decision or policy. Home rule is typically established through a state constitution or legislative action, granting local governments a charter that outlines the extent of their powers. This charter functions somewhat like a local constitution, giving cities or counties the ability to pass laws and ordinances as long as they do not conflict with state or federal laws.

[24]Most states granted home rule to their local governments before our sample period. The only exception is Arkansas, which allowed its cities to adopt home rule charters in 2011.

Dependency on State, an indicator that equals one for cities that do not have fiscal home rule, to our main specification. Column 3 of Table 5 shows the result. The coefficient estimate indicates that the effect is stronger for cities that are fiscally dependent on the state. This implies that investors recognize that political misalignment poses greater risks for cities required to seek state approval each time they need to adjust their revenue sources.

7.2.4 Cities governed by strong mayors

The governor's incentive to assist aligned municipalities likely stems from political motivations to extend their tenure and support their party members. Consequently, the governor may be less inclined to help cities run by appointed city administrators, where an elected city council handles legislative matters, compared to cities managed by an elected mayor ("strong mayor" system). This is because city managers in manager-administered cities would be a step removed from the political process. Therefore, we anticipate the results to be stronger for cities governed by a strong mayor.

We manually collect information on the governance structures, create an indicator for *Strong Mayor*, and include an interaction *Aligned* $\times$ *Strong Mayor* in our main specification. The result in Column 4 of Table 5 shows that aligned cities governed by strong mayors face relatively smaller municipal bond spreads.

Together, the four cross-sectional tests outlined in Table 5 suggest that the municipal bond market recognizes the circumstances where the governors have more opportunities and stronger incentives to apply differential treatment to the aligned cities.

7.3 Alignment stability

In Table 6, we examine how the average alignment gap varies by the perceived stability of the political alignment. The municipal bond investors might differentiate between situations where the political alignment is switching frequently as governors from different parties come to power, and the situations where the party of the governor is changing less frequently.

Column 1 of Table 6 reports that the alignment gap is more pronounced in states where the party of the governor switches frequently. Specifically, we interact the *Aligned* variable with *Swing State*, an indicator that equals one if the gubernatorial party changed more than three times in the sixteen-year period leading up to the bond issuance.

Column 2 of Table 6 shows that the result is more pronounced for the cities that became aligned as a result of *Close Gubernatorial Election*, defined as average margins in the polls leading to the gubernatorial elections being less than one percent.[25] To make sure these analyses are clean, we ensure that this variable can only be equal to one during the year leading up to the gubernatorial election, where the polls are available, and during two years after the gubernatorial election.

Collectively, these results show that the alignment gap is more pronounced when political alignment is less stable, suggesting that the governors of swing states might exert extra effort to help cities from their party, possibly to further secure political support.

7.4 Heterogeneity

In Table 7, we explore how the average alignment gap varies with the demographic characteristics of cities and whether it changes across time periods. We find that the alignment gap's magnitude increases with the city's size, and is more pronounced for the Republican party. However, we do not find substantial effects during the financial crisis.

7.4.1 Larger cities

The alignment effect is more pronounced in cities with *High Population* (defined as having above-median population) as shown in Column 1, Table 7. The impact of political alignment may be greater in more populous cities as they constitute a significant portion of the voter base. Moreover, bonds issued by larger cities are often more closely watched by investors and rating agencies. This means that the benefits of political alignment could be more likely to be picked up by municipal investors.[26]

[25] We use the FiveThirtyEight polling data to compute this variable.
[26] Larger cities are depicted as larger circles in Figure 5.

7.4.2 Party of the Governor

To understand for which political party the alignment gap is more pronounced, we examine municipal bond yields around elections. To avoid any overlap between pre- and post-election periods and allow for clean comparisons, we restrict the sample for this analyses to two-year windows around gubernatorial elections. We then estimate our main specification, including an interaction *Aligned* × *Republican Governor*. The results are displayed in Column 2 Table 7. The gap between aligned and misaligned cities is over four times larger when Republican governors take office. This result is consistent with evidence across political science and legal scholarship that identity politics is stronger in the Republican party and that Republican-led state legislatures exhibit more extensive use of preemptive legislation (e.g., Phillips 2017, Mason 2018).

7.4.3 Financial crisis

Finally, we examine whether our estimated effects are driven by the financial crisis of 2007—2009. The financial crisis was characterized by several simultaneous events affecting municipal financial markets. If our results are concentrated in this period, this could suggest that we are not picking up a systematic property of political alignment but rather the outcome of a specific combination of events of 2007—2009. The financial crisis resulted in budget constraints at the state level, which reduced the ability of states to provide financial support to cities. Contemporaneously, many issuers were affected by the insurance industry collapse during the financial crisis, which could have exacerbated the investors' worry about the issuer's repayments (Cuny 2018). In this environment, aligned issuers could have been temporarily benefiting from their relationships with the governors.

We evaluate the effect of the financial crisis by interacting *Aligned* with a dummy for 2007-2009, *Financial Crisis*, in our main specification. We do not find a significant difference between the financial crisis years and other time periods (see Column 5 of Table 7). This result suggests the systematic presence of the effect of political alignment throughout our sample period, as opposed to it being confined to the period of a financial

crisis.

7.5 Propensity to issue bonds

Next, we analyze whether aligned cities are more likely to issue bonds to fund their projects. It is unclear whether political-alignment-connected lower borrowing costs would increase issuance. On the one hand, lower borrowing costs could encourage more bond issuance. For example, politically aligned cities might be more likely to embark on policy initiatives, such as infrastructure projects or social programs, especially if they have the support of the state government. On the other hand, it may be costly or unfeasible for a misaligned city to delay bond issuance and infrastructure investments. Local officials may face re-election pressures and could be out of office when a change in the governorship occurs. We test this hypothesis in Table 8 Panel A. We do not find that aligned cities are more likely to issue bonds than misaligned cities.

We also explore whether aligned cities raise more capital than misaligned cities. On the one hand, aligned governments may be willing to issue larger bond amounts because of the reduced borrowing costs associated with partisan alignment. On the other hand, increasing the size of bond issuances could lead to higher levels of debt for local governments. This, in turn, might elevate their overall financial risk. This may offset the reduction in spreads due to partisan alignment. Results are reported in Table 8 Panel B. In Column (1)-(2), $Log(Amount)$ is the logarithm of one plus the total size of bond issuance by a city in year t. In Columns (3)-(4), we restrict the sample to the years in which a municipality has issued bonds. Across specifications, we do not find evidence of aligned municipalities having larger debt issuances compared to misaligned cities.

8 Real effects of Partisan Alignment

Our evidence so far shows that partisan alignment is priced in municipal bonds. This effect cannot be explained by city fundamentals, but is consistent with partisanship shaping the probability of intervention of governors into municipal finances. In this section, we

explore whether partisan alignment shapes real investment decisions of cities and states.

8.1 State Transfers

We examine whether partisanship modulates the allocation of funds distributed by the state. An aligned city may be more likely to receive state support through direct financial transfers or indirect assistance such as state-sponsored projects or initiatives. This could improve the city's fiscal position and subsequently lower its borrowing costs. However, while states are in charge of allocating both state and federal grants, the most significant amounts come from federal grants, which tend to be formula-based and are generally not at the state's discretion. While states have some discretion in allocating so-called block grants, significant limitations and conditions are imposed, especially when it involves federal funds.[27]

We investigate how political alignment affects a city's intergovernmental revenues in Table 9, Panel A. We focus on the state-specific transfers to a city (Column 1) and total intergovernmental revenue from federal and state funds (Column 2). The results indicate that the per capita amounts of intergovernmental revenue do not differ significantly between politically aligned and misaligned cities, accounting for city-specific factors and adjusting for the time-varying city characteristics and time trends. This evidence suggests that municipal bond prices reflect expected risk-sharing between state and local governments and not the realized transfers.

However, one circumstance when the states may have more discretion is when the cities are hit with unexpected economic shocks. One example of such shock is natural disasters, such as floods. If the economic damage imposed by the flood is significant, the aligned cities might receive more relief from the state in terms of intergovernmental transfers. To investigate whether this is the case, we collected information on the flood damages from the NOAA website.[28] We then examine whether the aligned cities that had significant flood damage receive more transfers by including the interaction of *Align* with lagged pre capita flood damages, $\textit{Flood damage}_{t-1}$ *(p.c.)* into the specification used

[27] For more details, see, for example, https://www.everycrsreport.com/reports/R44797.html.
[28] See https://www.ncdc.noaa.gov/stormevents/.

in Table 9 Panel A. The results, reported in Table 9 Panel B, indicate that aligned cities receive higher per capita intergovernmental revenues.

8.2 City-specific Flood Risk Adaptation

Because cities aligned with the state government are more likely to receive financial support in response to flood-related damages, their decisions regarding investments in adaptation measures could be influenced by political partisanship. If aligned cities expect more favorable treatment in periods of distress, partisanship may generate moral hazard implications for aligned local governments and reduce their incentives to invest in long-term projects.

All cities may underinvest in climate resilience and adaptation measures if they assume that the state will step in and provide financial assistance in case of a climate disaster. This reliance on external funds can lead to a lack of proactive measures at the city level. However, this moral hazard problem may be particularly acute when cities align politically with their state governor. The state cannot credibly commit not to support its voter base in the event of a disaster, further reducing the incentives for aligned cities to invest in preventative measures.

Understanding whether political alignment shapes emergency preparedness to climate risk is especially important. Long-term risks posed by climate change are among the most salient currently faced by cities. Among climate risks, flood risk is especially prominent. Natural disasters related to flood risk dominate other weather events in numbers and damage costs (NOAA 2022).

In Table 10, we report summary statistics for *Adaptation*, broken across the city- and state-specific characteristics. As detailed in Section 3.4, *Adaptation* is a measure of cities' investment in adaptation from municipal bond prospectuses. Republican cities in our sample have a marginally higher fraction of adaptation sentences in their bond prospectuses than Democratic cities. However, the difference between Republican and Democratic cities is not statistically significant. We also present the differences between states that experienced $1bln dollar hurricanes during our sample period and those that

did not. Notably, cities in states that were exposed to $1bln dollar hurricanes exhibit significantly higher *Adaptation* measures. Finally, we report the sample differences in flood risk exposure across cities. Cities with higher fractions of properties at risk have significantly higher *Adaptation*.

We estimate our main specification from Section 4, with *Adaptation* as our main dependent variables, and present the results in Table 11. The unit of observation in these analyses is the city-year. We sequentially add time- and city-specific controls to ensure the robustness of our estimates. In Columns (1) through (3), the dependent variable, *Adapt*, is our main definition of adaptation, the share of adaptation sentences in the bond prospectuses issued by our sample cities. The results show that politically aligned cities are less likely to discuss adaptation in their bond prospectuses. Compared to the sample average of 0.151, these estimates suggest that politically aligned cities are 14% to 16% less likely to consider funding adaptation by issuing municipal bonds.

The non-standardized nature of municipal bond prospectuses may raise concerns that the quantity of adaptation sentences may reflect the heterogeneous reporting styles of different governments and not the differences in adaptation investment. To investigate whether it is the case empirically, in Columns (4) through (6), we use as dependent variable *Is Adapt*. This variable is an indicator variable equal to one if the bond prospectus includes language pertaining to flood risk adaptation. The results in Columns (4)—(6) confirm our previous findings. Aligned cities are 15 percentage points less likely to talk about adaptation, corresponding to 19% of the mean likelihood (0.76).

9 Conclusion

A large body of theoretical and empirical work in political economy indicates that, while political parties do matter for state and federal policies, the political party that governs the city is irrelevant to government budgets and the allocation of spending. In this paper, we show that contrary to existing views, partisanship does, in fact, matter at the local level. In particular, using a unique hand-collected dataset covering the

political affiliation of U.S. cities, we show that, by affecting risk-sharing between local and state authorities, the political affiliation of mayors influences local government's ability to borrow and their cost of financing. We further show that partisan alignment generates moral hazard by reducing municipalities' incentives to invest in long-term costly resiliency projects. Taken together, our results indicate that partisanship affects risk-sharing between state and local governments, which in turn shapes municipalities' cost of capital and real investment decisions. Different from models of federal political cycles, our findings are not due to Democratic or Republican cities holding partisan preferences over issues having fiscal impact, such as taxes and redistribution. Instead, our results are consistent with partisan alignment in a multi-tiered government system affecting the scope of municipal independence and the probability of state intervention.

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Figure 1. Political affiliation of cities and states
This figure maps the political affiliation of sample cities and states. Democratic (Republican) cities are depicted as blue (red) dots, with the size of the dot corresponding to the city size in terms of population. States that switched governor party during our sample period are shaded in purple, states that remain Democratic (Republican) are in blue (red).

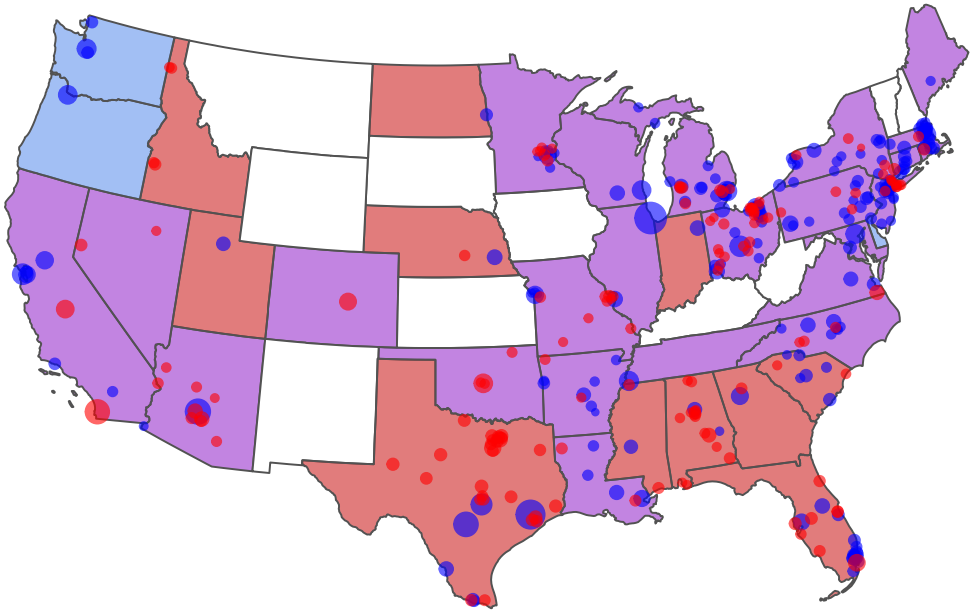

Figure 2. Flood risk
This figure depicts flood risk in our sample cities. Warmer colors indicate a higher percentage of properties at risk in a city, as assessed by the First Street Foundation.

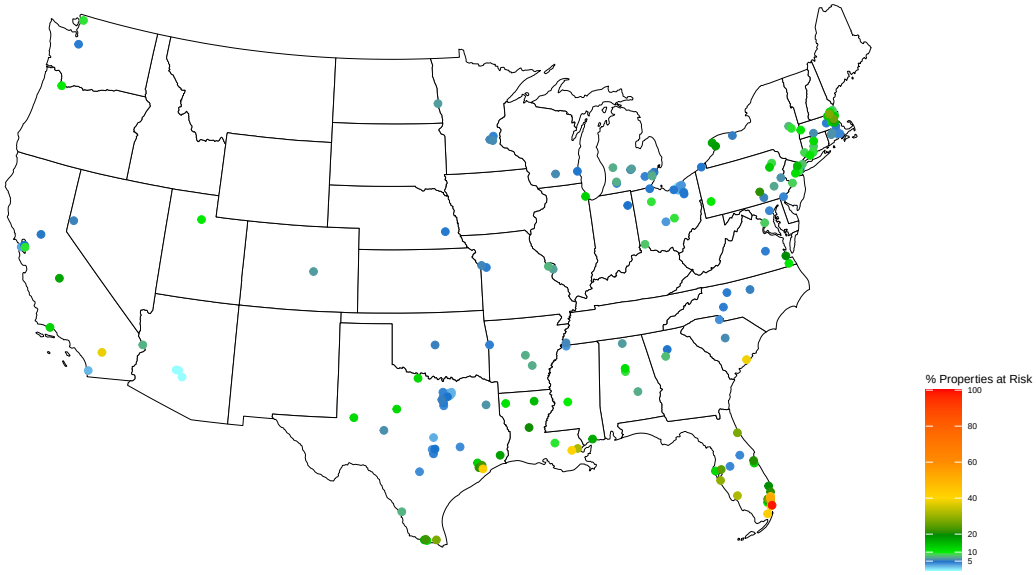

Figure 3. Partisanship and bond spreads
This figure displays the dynamic effect of partisan alignment around party-switching governor elections. The reported coefficients show the spread differential across aligned and misaligned cities relative to the base period (-7, omitted).

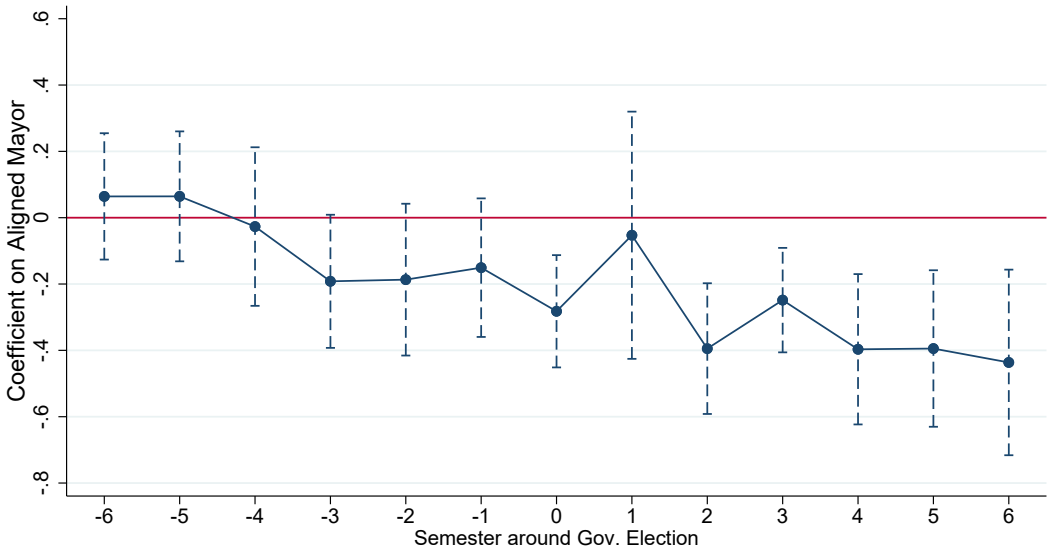

Figure 4. Gubernatorial powers
This figure displays the strength of governors' powers across states. Darker colors indicate stronger gubernatorial powers.

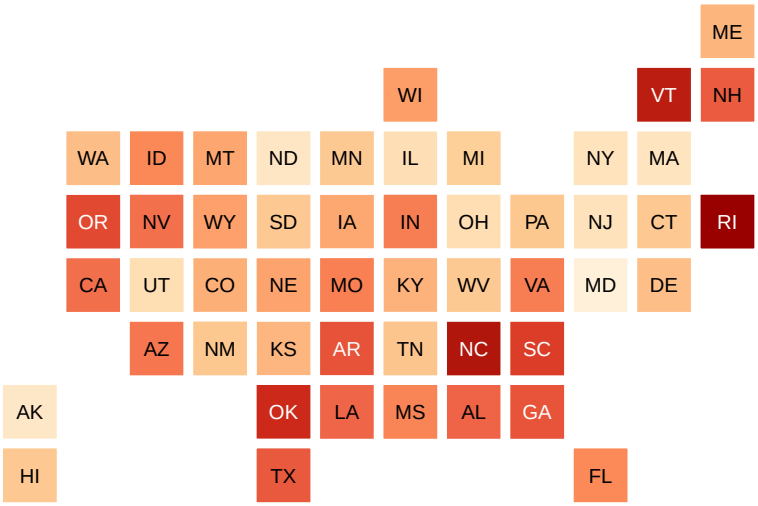

Figure 5. States attitudes towards bankruptcy
This figure plots state attitudes to bankruptcy, following Gaoo et. al. 2019a. Proactive states are indicated in dark green, Chapter 9 states are bright green, and Other states are grey.

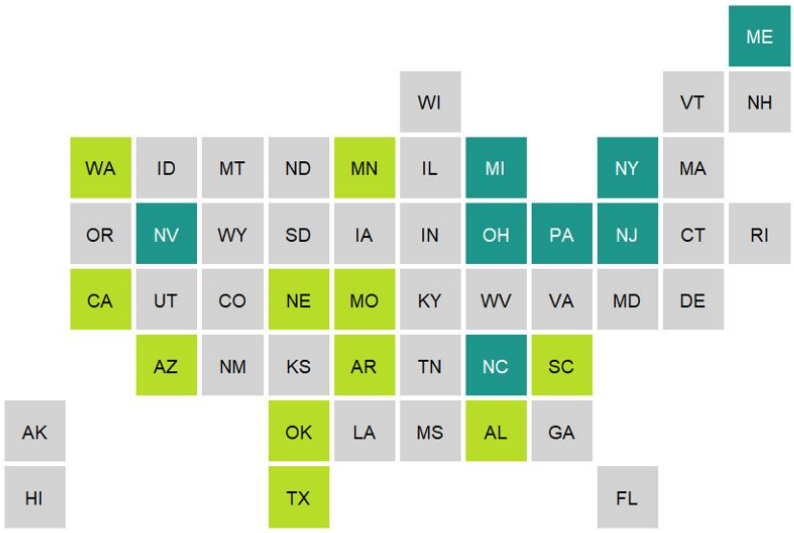

Table 1
Summary statistics for cities' political affiliation
This table presents summary statistics for the partisan affiliation of the cities in our sample that never switch party. *Cities (#)* is the total number of sample cities in a state. *Cities (%)* is the percent of cities in the state as compared to total cities in our sample. *Rep(#)* and *Dem(#)* are respectively the number of cities in the state with a Republican and Democratic mayor throughout our sample. *Rep(%)* and *Dem(%)* are the percent of Republican and Democratic cities in the state.

State	Cities (#)	Cities (%)	Dem (#)	Dem (%)	Rep (#)	Rep (%)
Alabama	18	4.5%	2	11.1%	16	88.89%
Arizona	10	2.5%	2	20%	8	80%
Arkansas	9	2.3%	7	77.8%	2	22.22%
California	8	2.0%	6	75%	2	25%
Colorado	1	0.3%	0	0	1	100%
Connecticut	7	1.8%	6	85.7%	1	14.29%
Delaware	1	0.3%	1	100%	0	0
Florida	23	5.8%	16	69.6%	7	30.43%
Georgia	2	0.5%	1	50%	1	50%
Idaho	4	1.0%	0	0	4	100%
Illinois	1	0.3%	1	100%	0	0
Indiana	1	0.3%	1	100%	0	0
Louisiana	6	1.5%	4	66.7%	2	33.33%
Maine	1	0.3%	1	100%	0	0
Maryland	1	0.3%	1	100%	0	0
Massachusetts	25	6.3%	24	96%	1	4%
Michigan	27	6.8%	19	70.4%	8	29.63%
Minnesota	13	3.3%	7	53.8%	6	46.15%
Mississippi	3	0.8%	1	33.3%	2	66.67%
Missouri	14	3.5%	5	35.7%	9	64.29%
Nebraska	2	0.5%	1	50%	1	50%
Nevada	2	0.5%	0	0	2	100%
New Jersey	40	10.1%	31	77.5%	9	22.5%
New York	32	8.1%	17	53.1%	15	46.88%
North Carolina	10	2.5%	7	70%	3	30%
North Dakota	1	0.3%	1	100%	0	0
Ohio	50	12.6%	25	50%	25	50%
Oklahoma	4	1.0%	0	0	4	100%
Oregon	1	0.3%	1	100.0%	0	0
Pennsylvania	26	6.6%	17	65.4%	9	34.62%
Rhode Island	2	0.5%	1	50%	1	50%
South Carolina	8	2.0%	6	75%	2	25%
Tennessee	1	0.3%	1	100%	0	0
Texas	32	8.1%	6	18.8%	26	81.25%
Utah	1	0.3%	1	100%	0	0
Virginia	4	1.0%	3	75%	1	25%
Washington	3	0.8%	3	100%	0	0
Wisconsin	2	0.5%	2	100%	0	0

Table 2
Summary statistics

Panel A: Bond characteristics
This table reports summary statistics at the bond level. *Yield, bps* is the offering bond yield, reported in basis points. *Spread over MMA, bps* is tax-adjusted spread. *Amount* is the total issuance size of the bond, in USD millions. *Maturity* is the maturity at the offering, in years. *Insured* is an indicator equal to one if the bond is insured. *BQ* is an indicator equal to one if the bond is bank qualified. *GO* is an indicator equal to one if the bond is a general obligation. *Rating* is the bond's average numerical rating across Moody's, S&P and Fitch (where available).

	Obs.	Mean	St.Dev.	Median
Yield (bps)	23,089	202.8	103.3	190
Spread over MMA (bps)	23,089	35.57	44.85	28.45
Amount ($ million)	23,089	2.301	5.018	0.900
Log(Amount)	23,089	0.839	0.702	0.642
Maturity	23,089	5.594	2.850	5.468
Log(Maturity)	23,089	1.781	0.480	1.867
Insured	23,089	0.201	0.401	0
BQ	23,089	0.154	0.361	0
GO	23,089	0.598	0.490	1
Rating	19,862	14.52	1.956	15

Panel B: City characteristics (bond sample)
This table presents city-level financial and socio-economic characteristics. *Population* is the total population of a city, in thousands. *Revenue* is the total city-level revenues in a given year, in USD millions. *Taxes* is the total tax collections. *Expenditures* is the total city-level expenditures, in USD millions. *Debt Outstanding* is the aggregate city-level debt outstanding, in USD million. *IG Revenue* is the aggregate intergovernmental revenue (transfer), received by a city, in USD millions.

	Obs.	Mean	St.Dev.	Median
Population (ths)	23,089	304.5	431.1	131.9
Log(Population)	23,089	11.90	1.214	11.79
Revenue ($ million)	23,089	1,023	1,768	343.0
Revenue (Per Capita, $ ths)	23,089	2.899	1.923	2.310
Expenditures ($ million)	23,089	1,051	1,799	350.7
Expenditures (Per Capita, $ ths)	23,089	2.967	1.913	2.375
Debt Outstanding ($ million)	23,089	1,647	3,256	383.2
Debt Outstanding (Per Capita, $ ths)	23,089	3.599	2.807	2.751
IG Revenue ($ million)	23,089	198.9	447.9	56.73
IG Revenue (Per Capita, $ ths)	23,089	0.668	0.961	0.294

Panel C: City characteristics (collapsed sample)
This table presents city-level financial and socio-economic characteristics for the collapsed sample with unit of observation the city-year. *Population* is the total population of a city, in thousands. *Revenue* is the total city-level revenues in a given year, in USD millions. *Taxes* is the total tax collections. *Expenditures* is the total city-level expenditures, in USD millions. *Debt Outstanding* is the aggregate city-level debt outstanding, in USD million. *IG Revenue* is the aggregate intergovernmental revenue (transfer), received by a city, in USD millions.

	Obs.	Mean	St.Dev.	Median
Population ($ thousand)	1,813	180.0	326.4	70.87
Log(Population)	1,813	11.34	1.134	11.17
Revenue ($ million)	1,813	553.5	1,202	165.9
Revenue (Per Capita, $ ths)	1,813	2.608	1.640	2.062
Expenditures ($ million)	1,813	566.6	1,224	168.1
Expenditures (Per Capita, $ ths)	1,813	2.673	1.656	2.158
Debt Outstanding ($ million)	1,813	830.3	2,355	139.2
Debt Outstanding (Per Capita, $ ths)	1,813	2.724	2.313	2.089
IG Revenue ($ million)	1,813	120.4	295.5	24.64
IG Revenue (Per Capita, $ ths)	1,813	0.647	0.916	0.296

Table 3
Partisanship and municipal bond spreads
This table shows the impact of partisan alignment on municipal bond offering spreads. The dependent variable, *Spread*, represents the offering yield spread over the MMA AAA curve. *Aligned* is an indicator variable equal to one if the mayor of the city is of the same political party as the governor of the state. Controls include *Log(Amount)*, *Log(Maturity)*, *BQ*, *GO*, *Insured*, *Log(Population)*, *Revenues (p.c.)*$_{t-1}$, and *Debt Outstanding (p.c.)*$_{t-1}$. Standard errors are clustered by city and year. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

	Spread				
	(1)	(2)	(3)	(4)	(5)
Align	-0.080**	-0.082**	-0.089**	-0.092***	-0.093***
	(0.033)	(0.033)	(0.032)	(0.030)	(0.031)
Log(Amount)		0.019	0.019	0.018	0.018
		(0.020)	(0.018)	(0.019)	(0.019)
Log(Maturity)		0.115***	0.112***	0.112***	0.112***
		(0.026)	(0.026)	(0.026)	(0.026)
BQ			-0.064**	-0.062**	-0.063**
			(0.029)	(0.029)	(0.029)
GO			-0.004	-0.003	-0.003
			(0.030)	(0.030)	(0.030)
Insured			-0.081*	-0.082*	-0.083*
			(0.045)	(0.045)	(0.045)
Log(Population)				0.225	0.216
				(0.230)	(0.235)
Revenues$_{t-1}$ (p.c.)					-0.007
					(0.019)
Debt Outstanding$_{t-1}$ (p.c.)					0.009
					(0.016)
Issuer fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Rating Grid fixed effects			Yes	Yes	Yes
Adjusted R^2	0.477	0.492	0.539	0.539	0.539
Observations	23,084	23,084	23,083	23,083	23,083

Table 4
Riskier bonds

This table shows the impact of partisan alignment on municipal bond offering spreads based on the riskiness of the bonds. The dependent variable, *Spread*, represents the offering yield spread over the MMA AAA curve. *Aligned* is an indicator variable equal to one if the city's mayor is of the same political party as the state's governor. *Low Rating* equals one for bonds rated below the bottom quartile of the sample and zero otherwise. *Insured* equals one for insured bonds. City Controls include *Log(Population)*, *Revenues (p.c.)*$_{t-1}$, and *Debt Outstanding (p.c.)*$_{t-1}$. Bond Controls include *Log(Amount)*, *Log(Maturity)*, *BQ*, and *GO*. Standard errors are clustered by city and year. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

	Spread	
	(1)	(2)
Aligned × Low Rating	-0.143**	
	(0.059)	
Aligned × Insured		-0.152***
		(0.048)
Aligned	-0.056*	-0.061*
	(0.026)	(0.029)
Insured	-0.081*	-0.019
	(0.044)	(0.050)
City Controls	Yes	Yes
Bond Controls	Yes	Yes
Issuer fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Rating Grid fixed effects	Yes	Yes
Adjusted R^2	0.543	0.542
Observations	23,083	23,083

Table 5
Opportunity for gubernatorial discretion
This table shows the impact of partisan alignment on municipal bond offering spreads based on the riskiness of the bonds. The dependent variable, *Spread*, represents the offering yield spread over the MMA AAA curve. *Aligned* is an indicator variable equal to one if the city's mayor is of the same political party as the state's governor. *High Governor Powers* represents states with above median gubernatorial powers. *Proactive* indicates states with proactive policies in periods of fiscal distress. *Fiscal Dependency on State*, an indicator that equals one for cities that do not have fiscal home rule. *Strong Mayor* is an indicator that the city is governed under a strong mayor system. City Controls include *Log(Population)*, *Revenues (p.c.)*$_{t-1}$, and *Debt Outstanding (p.c.)*$_{t-1}$. Bond Controls include *Log(Amount)*, *Log(Maturity)*, *BQ*, *GO*, and *Insured*. Standard errors are clustered by city and year. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

	Spread			
	(1)	(2)	(3)	(4)
Aligned × High Governor Power	-0.098***			
	(0.033)			
High Governor Power	0.071			
	(0.042)			
Aligned × Proactive		-0.099**		
		(0.036)		
Aligned × Fiscal Dependency on State			-0.095*	
			(0.047)	
Fiscal Dependency on State			0.177	
			(0.101)	
Aligned × Strong Mayor				-0.113**
				(0.040)
Aligned	-0.036	-0.045*	-0.046	-0.028
	(0.026)	(0.024)	(0.036)	(0.032)
City Controls	Yes	Yes	Yes	Yes
Bond Controls	Yes	Yes	Yes	Yes
Issuer fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Rating Grid fixed effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.541	0.540	0.541	0.541
Observations	23,083	23,083	23,083	23,083

Table 6
Alignment stability
This table shows the impact of partisan alignment on municipal bond offering spreads based on the riskiness of the bonds. The dependent variable, *Spread*, represents the offering yield spread over the MMA AAA curve. *Aligned* is an indicator variable equal to one if the city's mayor is of the same political party as the state's governor. *Proactive* indicates states with proactive policies in periods of fiscal distress. City Controls include *Log(Population)*, *Revenues (p.c.)*$_{t-1}$, and *Debt Outstanding (p.c.)*$_{t-1}$. Bond Controls include *Log(Amount)*, *Log(Maturity)*, *BQ*, *GO*, and *Insured*. Standard errors are clustered by city and year. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

	Spread	
	(1)	(2)
Aligned × Swing State	-0.139**	
	(0.060)	
Swing State	0.022	
	(0.049)	
Aligned × Close Gubernatorial Election		-0.262*
		(0.125)
Close Gubernatorial Election		0.173
		(0.106)
Aligned	-0.078**	-0.085***
	(0.029)	(0.027)
City Controls	Yes	Yes
Bond Controls	Yes	Yes
Issuer fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Rating Grid fixed effects	Yes	Yes
Adjusted R^2	0.541	0.542
Observations	23,083	23,083

Table 7
Heterogeneity

This table reports cross-sectional heterogeneity in the impact of partisan alignment on municipal bond offering spreads. The dependent variable, *Spread*, represents the offering yield spread over the MMA AAA curve. *Aligned* is an indicator variable equal to one if the mayor of the city is of the same political party as the governor of the state. *High Population* are cities with above-median population size. *Republican Governor* is a dummy that indicates a Republican governor takes office in a party-switching election. *Financial Crisis* is a dummy for the period 2007-2009. City Controls include *Log(Population)*, *Revenues (p.c.)*$_{t-1}$, and *Debt Outstanding (p.c.)*$_{t-1}$. Bond Controls include *Log(Amount)*, *Log(Maturity)*, *BQ*, *GO*, and *Insured*. Standard errors are clustered by city and year. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

	Spread		
	(1)	(2)	(3)
Aligned × High Population	-0.071*		
	(0.040)		
High Population	0.049		
	(0.048)		
Aligned × Republican Governor		-0.125**	
		(0.049)	
Republican Governor		-0.054	
		(0.054)	
Aligned × Financial Crisis			0.075
			(0.093)
Aligned	-0.044*	0.024	-0.107***
	(0.024)	(0.047)	(0.032)
City Controls	Yes	Yes	Yes
Bond Controls	Yes	Yes	Yes
Issuer fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Rating Grid fixed effects	Yes	Yes	Yes
Obs.	23,083	7,585	23,083
Adj. R^2	0.540	0.634	0.541

Table 8
Partisanship and cities' decision to issue bonds
This table reports the effect of partisan alignment on municipalities' decision to issue bonds. In Panel A, the dependent variable, *Has Issued*, is equal to one if the city has issued bonds in that year. In Panel B, Column (1)-(2) the dependent variable, *Log(Amount)*, is the logarithm of 1 + the size of bond issuance of a municipality in any given year. In Panel B, Column (3)-(4) the dependent variable, *Log(Amount)*, is the logarithm of 1 + the size of bond issuance of a municipality, conditional on having issued in year t. *Aligned* is an indicator variable equal to one if the city is governed by the same political party as the governor of the state. Controls include *Log(Population)*, *Revenues (p.c.)*$_{t-1}$, and *Debt Outstanding (p.c.)*$_{t-1}$. Standard errors are clustered by city and year. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Panel A

Dep. Var.:	(1) Has Issued	(2) Has Issued	(3) Has Issued	(4) Has Issued
Aligned	-0.008	-0.010	-0.006	0.004
	(0.000)	(0.021)	(0.020)	(0.021)
Log(Population)		0.213	0.198	0.183
		(0.126)	(0.129)	(0.128)
Revenues$_{t-1}$(*p.c.*)			0.023	0.025
			(0.025)	(0.025)
Debt Outstanding $_{t-1}$(*p.c.*)			0.001	-0.000
			(0.007)	(0.007)
Issuer FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Governor Party by Year FE				Yes
Obs.	3,332	3,332	3,129	3,129
Adj. R^2	0.387	0.387	0.383	0.380

Panel B

Dep. Var.:	(1) Log(Amount)	(2) Log(Amount)	(3) Log(Amount)	(4) Log(Amount)
Aligned	-0.122	0.051	-0.003	0.001
	(0.323)	(0.323)	(0.060)	(0.099)
Log(Population)	4.202	3.915	1.745***	1.769***
	(2.524)	(2.515)	(0.565)	(0.564)
Revenues$_{t-1}$(*p.c.*)	0.412	0.445	0.070	0.078
	(0.416)	(0.407)	(0.067)	(0.069)
Debt Outstanding $_{t-1}$(*p.c.*)	-0.015	-0.030	-0.034	-0.035
	(0.129)	(0.128)	(0.033)	(0.034)
Issuer FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Governor Party by Year FE		Yes		Yes
Sample	All	All	If Issued	If Issued
Obs.	3,129	3,129	1,926	1,922
Adj. R^2	0.426	0.423	0.742	0.739

Table 9
Partisanship and transfers
This table shows the effect of partisan alignment on the amount of intergovernmental revenue received by the city. In Column (1), the dependent variable, *State IG Revenue (p.c.)* is the per capita amount of State intergovernmental transfers to the city (this variable is multiplied by 1,000 for intrepretability). In Column (2), the dependent variable, *IG Revenue (p.c.)* represents the per capita amount of total intergovernmental revenue the city receives. Both dependent variables are multiplied by 1,000 for interpretability. *Aligned* is an indicator variable equal to one if the city's leader is of the same political party as the state's governor. Controls include *Log(Population)*, *Revenues (p.c.)*$_{t-1}$, and *Debt Outstanding (p.c.)*$_{t-1}$. The sample includes all sample cities, as described in Section 3. Standard errors are clustered by city and year. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Panel A: Transfers

	State IG Rev. (p.c) (1)	IG Rev. (p.c) (2)
Align	0.949	4.233
	(16.469)	(15.630)
Log(Population)	-95.738	-105.617
	(127.781)	(118.628)
Revenues$_{t-1}$ (p.c.)	53.744**	73.205**
	(22.625)	(30.065)
Debt Outstanding$_{t-1}$ (p.c.)	-6.106	-2.286
	(4.923)	(5.682)
Issuer fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Adjusted R^2	0.969	0.965
Observations	3,129	3,129

Panel B: Transfers and Flood Damages

	State IG Rev. (p.c) (1)	IG Rev. (p.c) (2)
Align	1.327	4.247
	(16.556)	(15.647)
Align × Flood damage$_{t-1}$ (p.c.)	0.004***	0.009***
	(0.001)	(0.001)
City Controls	Yes	Yes
Issuer fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Adjusted R^2	0.968	0.965
Observations	3,129	3,129

Table 10
Flood risk adaptation

This table reports summary statistics for our main variable *Adaptation*, representing the percentage of sentences in a bond prospectus dedicated to flood risk adaptation any given year a city issues a bond. $HasHurricaneState$ is a dummy that takes value one if a state has experienced $1bln dollar hurricanes during our sample period. $High(Low)PropertiesatRisk$ takes value one for cities in the upper (lower two) tercile of risk of flooding, as estimated by the First Street Foundation.

	Obs.	*Mean*	*St.Dev.*	*Median*	*Diff (s.e.)*
Adaptation (% sentences)	949	0.151	0.256	0.0719	
Republican City	263	0.167	0.165	0.132	0.0219 (1.18)
Democratic City	686	0.145	0.283	0.0606	
Has Hurricane State	363	0.203	0.310	0.136	0.108*** (8.15)
No Hurricane State	586	0.119	0.210	0.0555	
High Properties at Risk	280	0.184	0.345	0.0892	0.0470** (4.27)
Low Properties at Risk	669	0.137	0.207	0.0681	

Table 11
Partisan alignment and adaptation
This table shows the effect of partisan alignment on cities' investment in flood risk adaptation. In Column (1)-(3), the dependent variable, *Adapt*, is the share of adaptation sentences in the bond prospectuses issued by our sample cities. In Column (4)-(6), the dependent variable *Is Adapt*, is an indicator variable equal to one if the bond prospectus includes language related to flood risk adaptation. *Aligned* is an indicator variable equal to one if the mayor of the city is of the same political party as the governor of the state. Controls include *Log(Population)*, *Revenues (p.c.)*$_{t-1}$, and *Debt Outstanding (p.c.)*$_{t-1}$. The sample includes all sample cities, as described in Section 3. The sample period for this analysis spans the years 2013-2019. Standard errors are clustered by city and year. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

Dep. Var.:	(1) Adapt	(2) Adapt	(3) Adapt	(4) Is Adapt	(5) Is Adapt	(6) Is Adapt
Aligned	-0.022**	-0.021**	-0.023**	-0.158**	-0.157**	-0.151***
	(0.009)	(0.008)	(0.011)	(0.051)	(0.051)	(0.048)
Log(Population)		-0.269	-0.273		-0.357	-0.533
		(0.248)	(0.259)		(0.614)	(0.824)
Revenues$_{t-1}$(*p.c.*)			-0.025			0.052
			(0.031)			(0.035)
Debt Outstanding $_{t-1}$(*p.c.*)			0.002			0.015
			(0.008)			(0.013)
Issuer FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	937	913	905	937	913	905
Adj. R^2	0.508	0.503	0.504	0.602	0.609	0.613

Online Appendix to

Risk Sharing in a Political Union

Table OA1
Value-weighted regressions

This table provides value-weighted estimates of the partisan alignment. We present the results of weighted least squares (WLS) regressions, weighting each observation by bond size. The dependent variable, *Spread*, represents the offering yield spread over the MMA AAA curve. *Aligned* is an indicator variable equal to one if the mayor of the city is of the same political party as the governor of the state. Controls include *Log(Size)*, *Log(Maturity)*, *BQ*, *GO*, *Insured*, *Log(Population)*, and lagged *Revenues (p.c.)* and *Debt Outstand (p.c.)*. The sample includes all sample cities, as described in Section 3. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

	Spread				
	(1)	(2)	(3)	(4)	(5)
Align	-0.173**	-0.167**	-0.171**	-0.177**	-0.176**
	(0.071)	(0.069)	(0.070)	(0.068)	(0.068)
Log(Amount)		0.036	0.023	0.022	0.022
		(0.027)	(0.024)	(0.024)	(0.024)
Log(Maturity)		0.156***	0.166***	0.166***	0.166***
		(0.033)	(0.031)	(0.031)	(0.031)
BQ			0.000	-0.001	-0.003
			(0.054)	(0.054)	(0.054)
GO			0.081	0.083	0.083
			(0.072)	(0.071)	(0.072)
Insured			-0.133*	-0.135*	-0.138*
			(0.073)	(0.074)	(0.073)
Log(Population)				0.414	0.405
				(0.304)	(0.329)
Revenues_{t-1} (p.c.)					0.005
					(0.018)
$\text{Debt Outstanding}_{t-1}$ (p.c.)					0.015
					(0.015)
Issuer fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Rating Grid fixed effects			Yes	Yes	Yes
Adjusted R^2	0.476	0.500	0.558	0.559	0.559
Observations	23,084	23,084	23,083	23,083	23,083

Table OA2
Falsification: Primary offering yields and political alignment
This table provides a falsification test for our main result. The dependent variable, *Spread*, represents the offering yield spread over the MMA AAA curve. *Random Aligned* takes value one if the city is politically aligned with the governor, where alignment is randomized. Controls include *Log(Size)*, *Log(Maturity)*, *BQ*, *GO*, *Insured*, *Log(Population)*, and lagged *Revenues (p.c.)* and *Debt Outstand (p.c.)*. The sample includes all sample cities, as described in Section 3. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

	Spread			
	(1)	(2)	(3)	(4)
Random Aligned	-0.002	-0.001	-0.002	-0.002
	(0.004)	(0.004)	(0.004)	(0.003)
Log(Amount)		0.019	0.018	0.018
		(0.020)	(0.019)	(0.019)
Log(Maturity)		0.115***	0.111***	0.111***
		(0.026)	(0.027)	(0.026)
BQ			-0.065**	-0.065**
			(0.029)	(0.030)
GO			-0.005	-0.004
			(0.031)	(0.030)
Insured			-0.080*	-0.081*
			(0.046)	(0.045)
Log(Population)				0.121
				(0.226)
Revenues (p.c.)				-0.003
				(0.020)
Debt Outstanding (p.c.)				0.007
Issuer FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Rating Grid FE			Yes	Yes
Clustering	City & Year	City & Year	City & Year	City & Year
Observations	23,084	23,084	23,083	23,083
Adjusted R-squared	0.473	0.488	0.535	0.535

Table OA3
Robustness: Primary offering yields and political alignment
This table reports the sensitivity of our main result to excluding individual states from our main regressions. We run specification in Column (5) of Table 3 on 24 subsamples that drop individual states and report coefficient estimate at *Aligned*. For these analyses, we restrict our sample only to the states that switched party of the governor in our sample. Standard errors are clustered by city and year, and are reported in parentheses. Levels of significance are presented as follows: *p<0.1; **p<0.05;

Excluded state	Estimate	N
Arizona	-0.092***	14,973
	(0.028)	
Arkansas	-0.092***	15,159
	(0.03)	
California	-0.086**	14,889
	(0.031)	
Colorado	-0.089***	15,299
	(0.029)	
Connecticut	-0.089***	14,902
	(0.029)	
Illinois	-0.081**	15,314
	(0.028)	
Louisiana	-0.086**	15,255
	(0.03)	
Maine	-0.089***	15,437
	(0.029)	
Maryland	-0.087**	15,238
	(0.03)	
Massachusetts	-0.105***	13,767
	(0.035)	
Michigan	-0.089**	13,799
	(0.031)	
Minnesota	-0.099***	14,548
	(0.028)	
Missouri	-0.086**	14,556
	(0.031)	
Nevada	-0.088***	15,408
	(0.029)	
New Jersey	-0.055**	14,081
	(0.022)	
New York	-0.087**	14,499
	(0.03)	
North Carolina	-0.097***	14,763
	(0.03)	
Ohio	-0.11***	12,343
	(0.034)	
Oklahoma	-0.089**	15,143
	(0.03)	
Pennsylvania	-0.076**	14,952
	(0.026)	
Rhode Island	-0.088***	15,368
	(0.029)	
Tennessee	-0.089***	15,295
	(0.029)	
Virginia	-0.092***	15,143
	(0.03)	
Wisconsin	-0.088***	15,171
	(0.03)	

Table OA4
Alternative alignment definitions
This table provides a falsification test for our main result. The dependent variable, *Spread*, represents the offering yield spread over the MMA AAA curve. *Aligned* takes value one if the city is politically aligned with the governor. *Aligned* takes value one if the city is politically aligned with the governor. *Align Trifecta* equals one if the city is governed by the party that simultaneously controls the governorship and both legislative chambers. *Align Governor President* equals one if the city is governed by the party that simultaneously controls the governorship and the US presidency. *Align President* equals one if the city is governed by the party that the US presidency. Controls include *Log(Size)*, *Log(Maturity)*, *BQ*, *GO*, *Insured*, *Log(Population)*, and lagged *Revenues (p.c.)* and *Debt Outstand (p.c.)*. The sample includes all sample cities, as described in Section 3. Levels of significance are presented as follows: *p<0.1; **p<0.05; ***p<0.01.

	Spread			
	(1)	(2)	(3)	(4)
Align	-0.093***			
	(0.031)			
Align Trifecta		-0.089**		
		(0.033)		
Align Governor President			-0.047**	
			(0.020)	
Align President				0.001
				(0.018)
BQ	-0.063**	-0.059*	-0.063**	-0.064**
	(0.029)	(0.028)	(0.029)	(0.030)
GO	-0.003	-0.004	-0.005	-0.004
	(0.030)	(0.030)	(0.030)	(0.030)
Insured	-0.083*	-0.083*	-0.078	-0.081*
	(0.045)	(0.045)	(0.045)	(0.045)
Log(Amount)	0.018	0.017	0.018	0.018
	(0.019)	(0.019)	(0.019)	(0.019)
Log(Maturity)	0.112***	0.112***	0.111***	0.111***
	(0.026)	(0.026)	(0.026)	(0.026)
Log(Population)	0.216	0.141	0.165	0.121
	(0.235)	(0.242)	(0.224)	(0.226)
Revenues$_{t-1}$ (p.c.)	-0.007	-0.007	-0.004	-0.003
	(0.019)	(0.021)	(0.020)	(0.020)
Debt Outstanding$_{t-1}$ (p.c.)	0.009	0.009	0.006	0.007
	(0.016)	(0.015)	(0.015)	(0.015)
Issuer fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Rating Grid fixed effects	Yes	Yes	Yes	Yes
R^2	0.547	0.545	0.544	0.543
Observations	23,083	23,083	23,083	23,083