Elections, Political Races, and Mortgage Credit Market *

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This Draft: May 2022

Abstract

In this paper, we study the effects of elections on the changes in the supply of mortgage credits around elections. According to the literature, politicians have incentives to change economic policies in order to attract voters. We consider a particular type of credit offered through financial institutions and a specific kind of election: mortgage credits supply and Gubernatorial elections. Using the outcomes of more than 400 million mortgage applications from 2000 to 2016, we conduct a spatial regression discontinuity design and explore the financial consequences of gubernatorial elections. We focus on census tracts adjacent to one another yet in two different states. We find that census tracts in states where gubernatorial elections are held and governors have full control over both chambers of state legislatures, lending growth rates increase dramatically. Our results are robust to different specifications.

Keywords: Gubernatorial Elections, Mortgage Credits, Banking Industry

JEL Classification: D72, G21, P16

*This paper is the third chapter of the Ph.D. dissertation of the author.

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1 Introduction

A large body of the literature documents that politicians interfere with the financial services industry to create favorable economic outcomes in their electorates. It can be done, for instance, by decreasing foreclosure rates (Agarwal et al., 2018), decreasing unemployment (Faccio and Hsu, 2017), increasing mortgage credits (Chu and Zhang, 2022), or increasing federal expenditure in certain states (Cohen et al., 2011).

In this regard, the relationship between the banking industry and politics is special. Regulations and licensing can be used by governments to limit the supply of banks. Moreover, the government plays a direct role in the establishment of institutions that provide the basis for a banking system. Banks are also regarded as a tool for political survival. There is a positive relationship between the supply of credit via the banking sector and the outcome of elections (e.g., Hall et al., 2021; Antoniades and Calomiris, 2020). Politicians are therefore encouraged to interfere in the banking sector. This study focuses on a particular type of credit that financial institutions offer and a certain type of election: mortgage credit supply and gubernatorial elections.

Building on the works of Chu and Zhang (2022) and Liu and Ngo (2014), we examine the effect of elections on changes in the supply of mortgage credits around gubernatorial elections by exploiting exogenous variation in the timing of elections. We hypothesize that politicians have enough incentive and power to affect the supply of credit in order to seek favorable electoral outcomes. More specifically, we explore if either mortgage approval rates or mortgage lending volume change during a year leading to a gubernatorial election. The timing of elections has been used in the literature frequently as a source of exogenous variation (e.g., Goodell and Vähämaa, 2013; Jens, 2017; Gao et al., 2019). In line with the literature, we make use of the timing of the U.S elections in this study to examine the financial consequences of gubernatorial elections. We believe the timing of the U.S gubernatorial elections provides enough exogenous variations for two reasons: first, the timing is determined by law exogenously, and second, not all states hold gubernatorial elections at the same time.

We collect data from several sources. Our loan-level data comes from the Home Mortgage Disclosure Act (HMDA). We obtain the outcomes of more than 400 million mortgage applications using the HMDA data. We also collect data on banks' performance from the Reports of Condition and Income (Call Reports). Using the bank identifier item in the Call Reports, we merge them with the HMDA data. We also collect data on local economic conditions from the Bureau of Economic Analysis and the Federal Housing Finance Agency. Our sample covers the years from 2000 to 2016.

In our baseline regression analysis, employing the identifier for Bank Holding Company in

Call Reports, we aggregate the data at the BHC-county-year level. Our baseline results indicate that gubernatorial elections have no effects on lending decisions measured by approval rates or lending growth rates, suggesting that mortgage credits do not change in the years leading to a gubernatorial election. We further explore the effects of gubernatorial elections on lending decisions when a governor has full control over a state legislature (i.e., when a governor shares the same party affiliation with the majority of seats in both chambers of a state legislature). Similar to our baseline findings, we do not find any significant relationship between gubernatorial elections and the supply of mortgage credits.

A wide range of studies focus on the incentives of incumbent politicians to change economic policies in order to attract voters for their next term (e.g., Carvalho, 2014; Drazen, 2000). In line with this strand of literature, we examine if incumbent governors who are up for re-election affect lending decisions. We find that mortgage approval rates increase by 30 basis points in years an incumbent governor is up for re-election. However, this effect does not depend on whether they have full control over state legislatures or not.

As mentioned above, the law establishes election dates exogenously. However, Jens (2017) notes that reverse causality still poses some concerns. A "quality challenger" is more likely to challenge an incumbent when local economic conditions are poor, according to Van Dunk (1997). To address this concern, we conduct a spatial regression discontinuity method and explore the financial consequences of gubernatorial elections. We focus on census tracts that are adjacent to one another yet in two different states. We find that census tracts in states where a gubernatorial election is held, lending growth rates increase dramatically. However, this effect is only present when a governor has full control over the state legislature.

As our results from the RD design estimations indicate that the supply of mortgage credits increases during the years leading to a gubernatorial election, there should be some costs for banks in the subsequent years since they make risky decisions. We test this hypothesis and find that banks temporarily benefit from their lending decisions. However, they finally pay for the costs of their decisions. More specifically, their performance metrics, including return on assets, return on equity, and capital ratio, first increase but subsequently drop.

Finally, we conduct a series of robustness checks to test the sensitivity of our results. First, our results are robust to outliers, and we find similar results when we drop regions whose total loan applications are less than 10. Second, we double-cluster all regressions, and the results do not change. Third, we drop midterm elections and find that those incumbent governors who have full control over state legislatures and are up for re-elections no longer affect lending decisions. However, we find similar results by focusing solely on mid-term elections. Our findings suggest that governors are more likely to intervene in the banking sector during midterm elections than during on-time elections. Finally, our finding are robust

to dropping elections held during the financial crisis of 2008-2009.

The rest of the paper is organized as follows. In section 2, we review the related literature. Section 3 gives an overview of elections in the U.S. Section 4 describes the data. In section 5, we present our methodology and estimation results. In section 6, the results of the robustness checks are presented. Section 7 concludes.

2 Literature Review

This work contributes to several strands of the literature. First, this paper is directly related to a large body of literature arguing that economic conditions are correlated with political outcomes. Studies in this regard can be divided into two parts. At the macro-level, the literature has focused on macroeconomic variables, including economic growth, inflation, government spending, and unemployment (for instance, MacRae, 1977; Alesina et al., 1993; Persson et al., 2000; Fair, 1978, 1996, 2009). With the availability of micro-level data, recent studies have focused on micro contexts such as foreclosure rates and mortgage approval rates (for example, Antoniades and Calomiris, 2020; Hall et al., 2021).

Second, our paper adds to the works on how politicians interfere with the financial sector in order to seek favorable outcomes. It is easier for politicians in developing countries where the level of corruption is generally high to intervene in the financial sector. Using a sample of developing countries, Brown and Dinc (2005) find that banking failure is less likely during election years. State-owned banks lend to farmers in India during election years more in competitive districts, according to Cole (2009). This behavior, however, is not limited to developing countries. Liu and Ngo (2014), as one of the few studies in the U.S, document that banking failure is less likely to occur during gubernatorial election years. This effect is more pronounced if a governor has full control over both state legislative chambers. In another study, Delatte et al. (2020), using corporate data in France, find that the credit supply of independent private banks changes in the constituency of contested political incumbents to help them get re-elected.

Finally, this paper also adds to the growing literature on the relationship between housing markets, especially the mortgage industry, and political outcomes. Mian et al. (2010) document that during the expansion years of the mortgage industry (i.e., from 2002 to 2007), campaign donations from this industry rapidly increased, which might have affected the U.S. government policy. Mabud (2016) finds that the increase in mortgage credits in post-2000 elections helped incumbents in low-income counties to win elections. Hall et al. (2021) find that an increase in foreclosure rates was associated with lower turnout in Ohio. In another work, Antoniades and Calomiris (2020) find that the contraction in mortgage credits during

the financial crisis of 2008 led the Republican Presidential candidate to lose the 2008 Presidential election. Finally, Chu and Zhang (2022) find that mortgage approval rates increase in the home state of the chairs of the Banking Committee of the U.S Senate.

3 Elections in the U.S.

In the U.S, the election time is determined exogenously by law. The first Tuesday after the first Monday in November has been the date of elections since 1845. Therefore, elections take place between November 2 and November 8. The most important elections, the presidential elections, are held every four years. Congress and the Senate hold their elections every two years. Generally, most states hold gubernatorial elections around the same time as federal elections (either the midterm election or the presidential election). Five states, however, hold their gubernatorial elections in different years. Except in New Hampshire and Vermont, governor elections are held every four years. As a result, a pattern emerges: Not every state holds gubernatorial elections in the same year. Governorship elections take place at varying times in contrast to presidential elections. These exogenous variations are used to examine whether electoral factors can explain changes in mortgage credit.

4 Data

In this paper, we collect data from various sources to explore the effects of gubernatorial elections on mortgage credits. The first part of our data comes from the Home Mortgage Disclosure Act (HMDA). HMDA requires all financial institutions to collect and report detailed data regarding applications for mortgage loans. Although the HMDA data is a loan-level dataset, the identifier of each loan is the financial agency via which the loan has been applied for or issued. HMDA is a very rich dataset that includes loan-level information about the status of mortgage applications, as well as information on the borrowers' personal characteristics, including gender, race, ethnicity, and income. It also reports information on loans' characteristics, including the location of the property and the purpose of the loan. We obtain data from HMDA from 2000 to 2016.

Pulling together, our loan-level dataset contains more than 400 million observations. Our final goal is to form a dataset at the BHC-county-year level. However, before aggregating our data, we drop around 50 percent of the loan-level observations. First, we drop withdrawn loans as well as loans purchased from other institutions. Second, we remove non-conventional loans as they do not follow traditional mortgage loan requirements. Third, we drop loans with missing information.

The second part of our data comes from the Reports of Condition and Income for commercial banks known as "Call Reports", which is a bank-level dataset. All financial institutions are required to file their financial information periodically. We obtain the Call Reports from 2000 to 2016 from the work by Drechsler et al. (2017). These data are also publicly available via the Federal Financial Institutions Examination Council.[1] We then merge Call Reports with the HMDA data using the procedure first employed by Loutskina and Strahan (2009). We make use of loan "respondent id" item as reported by HMDA and match it with the Call Reports using two different identifiers, depending on the regulator agency of banks. We consider two types of banks: those that are regulated either by the Federal Reserve (FR) or the Federal Deposit Insurance Corporation (FDIC). The former is matched using item RSSD9050 and the latter using RSSD9055 in Call Reports.

The third part of our data is election data. We collect the data on gubernatorial election years for all states from the CQ Voting and Elections Collection. We also collect the data on state legislative chambers, the party that holds the majority and governors' party affiliation from the National Conference of State Legislatures website.[2]

The fourth part of our data is the data on local economic conditions. In all of our regressions, we control for economic conditions at either the county level or state level, depending on the availability of data. We collect data on counties' personal income and its growth rate from the Bureau of Economic Analysis. We also obtain data on House Price Index (HPI) from the Federal Housing Financial Agency. These data are available at the state level.

Finally, we obtain data on adjacent census tracts for two decennial censuses done in 2000 and 2010 from Brown University. We use this dataset to determine if two census tracts are adjacent to each other.[3]

To construct our dataset, we aggregate the data in either BHC-county-year or BHC-census tract-year levels, depending on our specifications.

Table 2 provides a brief description of the variables we use in this paper. Table 1 presents the descriptive statistics of the variables.

In Panel A, the summary statistics of the HMDA, election, and county economic conditions data are shown at the BHC-county-year level. The mean of *Gubernatorial Election* is 0.26 indicating there was a gubernatorial election in around 25 percent of all data points. The variable *Incumbency* measures the percentage of instances in which a governor is up

[1] See https://cdr.ffiec.gov/public/ManageFacsimiles.aspx.
[2] See https://www.ncsl.org/research/about-state-legislatures/partisan-composition.aspx.
[3] See https://s4.ad.brown.edu/Projects/Diversity/Researcher/Pooling.html.

for re-election. This happens in 16 percent of observations.[4] The last variable regarding the election data is Full Control. It is a dummy variable equal to one if a governor has full control of both state legislative chambers and zero otherwise. The mean is equal to 0.59.

The next eight variables are from the HMDA data. Approval Rate is a dummy variable equal to one if a loan application has been approved and zero otherwise. This variable is one of the two outcome variables we use in this paper. On average, 79 percent of loans have been approved in our sample. Lending Growth Rate is the other outcome variable and is calculated by taking the difference between the natural logarithm of lending volume in year t and year $t-1$. We only consider approved loans in calculating this variable. We take the natural logarithm of applicants' income to calculate Log (Income) as reported by HMDA. Female is a dummy variable equal to one if an applicant is female and zero otherwise. 25 percent of all applicants in our sample have been female applicants. Finally, Minority reports the percentage of applicants with a minority background. As reported by HMDA, 9 percent of all applicants have a minority background. Starting 2004, HMDA reports ethnicity data. However, we do not use it as our sample starts in 2000.

Panel B of Table 1 reports banks' fundamentals at the BHC-year level. We employ these data to check if lending decisions are costly for banks. All metrics are in line with the literature.

5 Methodology and Main Results

5.1 Baseline Estimations

We closely follow the estimation strategy proposed by Chu and Zhang (2022) to investigate the effects of gubernatorial elections on mortgage lending. Gubernatorial elections are held at the state-level, but in line with literature (e.g., Favara and Imbs, 2015; Chavaz and Rose, 2019; Chu and Zhang, 2022), we estimate our baseline estimations at the county level. Specifically, we estimate the following equation:

$$Y_{ict} = \beta\, Gubernatorial\ Election_{st} + \gamma X_{ct} + \delta Z_{ict} + \theta_{ict} + \epsilon_{ict}, \tag{1}$$

where Y is either the lending growth rate or loan approval rate at bank i, state c, year t. Lending growth rate is calculated by taking the difference between the natural logarithm of lending volume in year t and year $t-1$. Loan approval rate, on the other hand, is measured

[4] We consider Gray Davis and Scott Walker as incumbents in the 2003 California gubernatorial recall election and the 2012 Wisconsin gubernatorial recall election, respectively as they faced a re-call. We also consider Earl Ray Tomblin and Kate Brown as incumbents in the in the 2003 West Virginia gubernatorial special election and the 2015 Oregon gubernatorial special election as they were the acting governors at the time of the election.

by dividing the number of approved loans by total number of loans.

Gubernatorial Election is a dummy variable that takes a value of one if there is a gubernatorial election in year t at state s and zero otherwise. The coefficient of interest is β that shows the effects of gubernatorial election on either mortgage approval rate or mortgage lending growth. X_{ct} is a vector of county level economic conditions, including personal income and personal income growth rate. We also include the Home Price Index here, but it is measured at the state level, so it is the same for all counties in a given state. Z_{ict} is a vector of borrowers' characteristics as reported by the HMDA. It includes borrowers' race, gender, income, and loan to income ratio aggregated at the county level. θ_{ict} is a vector of fixed effects. For the baseline regressions, we generally include BHC $\times$ year and BHC $\times$ state fixed effects. However, depending on the specification, we later add more fixed effects.[5]

As we include personal characteristics of applicants in our estimation, Equation (1) controls for variations in borrower attributes. As a result, all the demand-side shifts that are linked to the varying compositions of borrowers are removed. By including time-interacted state fixed effects, it also controls for differences in the economic environments of states. Moreover, it might remove some of the supply-side effects that are associated with the location of lenders. For instance, banks may treat borrowers differently according to their locations with regard to variations in location-specific risks.[6]

Table 3 presents the results of estimating equation (1). The dependent variable in the first two columns is mortgage approval rate, and lending growth rate in columns 3 and 4. In columns 2 and 4, we additionally add county $\times$ legislature fixed effects and county $\times$ governor fixed effect to control for the party that holds the majority in a state legislature and governors' party affiliation, respectively. In none of our specifications we find a significant impact of gubernatorial elections on mortgage lending decisions as the estimated coefficients are statistically insignificant. Although the directions of coefficients are negative, they are too small. All other estimated coefficients are in line with literature. For example, the estimated coefficients on *Female* and *Minority* are negative and statistically significant, suggesting that women and people with minority backgrounds are less likely to be approved for loan applications. Local economic conditions positively affect lending decisions as reported by estimated coefficients on *Personal Income* and *Growth of Personal Income*.

[5] In all regressions hereafter we drop regions with fewer than 10 loans in order to mitigate the effects of outliers.

[6] For instance, expected house price appreciation can vary based on location.

5.2 Full Control of State Legislature and Lending Decisions

Following Liu and Ngo (2014), we explore the effects of gubernatorial elections on lending decisions when a governor has full control of a state legislature. As reported in Table 1, governors' party affiliations are the same as both state legislative champers in 59 percent of all data points. This allows governors to intervene with the banking sector to a higher extent as they are less likely to be questioned by state representatives and senators. In order to investigate this effect, we add two more variables to equation (1): *Full Control* and *Gubernatorial Election* $\times$ *Full Control*. Specifically, we estimate the following equation:

$$\begin{aligned} Y_{ict} = {} & \beta \, Gubernatorial\ Election_{st} + \zeta \, Full\ Control_{st} \\ & + \eta \, Gubernatorial\ Election_{st} \times Full\ Control_{st} + \gamma X_{ct} + \delta Z_{ict} + \theta_{ict} + \epsilon_{ict}, \end{aligned} \tag{2}$$

where $FullControl$ is a dummy variable equal to one if a governor in year t at state s has full control on both state legislative chambers and zero otherwise. All other variables are the same as equation (1). Of particualr interest is *Gubernatorial Elections*, $\times$ *Full Control* capturing the effects of gubernatorial elections on lending decisions when governors have full control. Table 4 presents the results of estimating Equation (2). Our results are in line with the baseline estimation. The estimated coefficient on *Gubernatorial Elections* $\times$ *Full Control* is negative but statistically insignificant. Economically speaking, it is also near zero. All other variables are in line with what we find in Table 3.

5.3 Incumbency and Lending Decisions

A large body of literature focus on the incentives of incumbent politicians to change economic policies in order to attract voters for their next term (e.g., Carvalho, 2014; Drazen, 2000). We now explore if incumbent governors who are up for re-election have more incentives, and probably more power, to interfere with the banking sector. As shown in Table 1, in 16 percent of all observations, incumbent governors are up for re-election. That is about 60 percent of all gubernatorial elections in our sample. As a result, we alter equations (1) and (2) to add the incumbency status of governors. Specifically, we estimate the following equations (3) and (4):

$$Y_{ict} = \beta \, Incumbency_{st} + \gamma X_{ct} + \delta Z_{ict} + \theta_{ict} + \epsilon_{ict}, \tag{3}$$

$$\begin{aligned} Y_{ict} = {} & \beta \, Incumbency_{st} + \zeta \, Full\ Control_{st} + \eta Incumbency_{st} \times Full\ Control_{st} + \gamma X_{ct} \\ & + \delta Z_{ict} + \theta_{ict} + \epsilon_{ict}, \end{aligned} \tag{4}$$

where $Incumbency$ is a dummy variable equal to one a governor in year t at state s is up for re-election and zero otherwise. The variable of interest in equation (4) is *Incumbency* $\times$

Full Control capturing the effects the effects of gubernatorial elections in which a governor is up for re-election and have the full control on both state legislative chambers on lending decisions. The first two columns of table 5 presents the results of estimating Equation (3). The estimated coefficient on *Incumbency* is positive and statistically significant at the 90 percent level. It is also economically significant: in states where a governor is up for re-election, mortgage approval rate increases by 30 basis points. This is line with the studies of Carvalho (2014) and Drazen (2000). Turning to column 2, the estimated coefficient on *Lending Growth* is not statistically significant. As for the interaction terms, none of them are significant, suggesting incumbent governors who share the same party with both state legislative chambers do not interfere with lending decisions. All other estimated coefficients are close to what we find earlier.

5.4 Endogeneity Concerns and Spatial Regression Discontinuity Design

As discussed earlier, election dates are exogenously determined by law. However, as noted by Jens (2017), there might still be some concerns regarding reverse causality. According to Van Dunk (1997), quality challengers are more likely to challenge an incumbent when the local economy is performing poorly. This clearly affects lending decisions. In addition, Chu and Zhang (2022) argue that there might be some concerns regarding the omitted variable bias, as powerful politicians are more likely to increase government spending in their home states.

As mentioned above, not all states hold gubernatorial elections in the same years. Figure 1 illustrates this situation clearly. It shows the gubernatorial elections held in 2012. As shown on the map, most neighboring states do not hold elections in the same year. We make use of this pattern to conduct a spatial RD design. we focus on state borders and compare either mortgage approval rates or lending growth rate across borders by focusing on adjacent census tracts.[7] We aggregate the data at BHC-census tract-year level and run the following regressions:

$$Y_{ijt} = \beta\, Gubernatorial\ Election_{st} + \gamma X_{ijt} + \delta Z_{it} + \theta_{it} + \zeta_{jp} + \epsilon_{ijt}, \tag{5}$$

$$Y_{ijt} = \beta\, Incumbency_{st} + \gamma X_{ijt} + \delta Z_{it} + \theta_{it} + \zeta_{jp} + \epsilon_{ijt}, \tag{6}$$

where the dependent variable is either approval rate or lending growth rate in bank i, census tract j, year t. To ensure we compare census tracts that are immediately adjacent to one another, we include census tract pair fixed effects as shown by ζ_{jp}. All other variables are

[7] Using census tracts in RD designs have recently been popular in the literature. See, for example, Di Maggio and Kermani (2017) and Chavaz and Rose (2019) .

the same as equations (1) and (2). Figure 2 illustrates our analysis. Census tract 1 is in the state of Indiana where there was a gubernatorial election in 2012. Census tracts 2 and 3 are in the state of Illinois where there was no election at the same time.

Table 6 presents the results from estimating equations (5) and (6). In line with our baseline estimations, none of the estimated coefficients are significant. All other estimated coefficients are almost the same as our baseline results.

We also explore the effects of gubernatorial elections on lending decisions when governors hold the control of both state legislative chambers. Therefore, we add interaction terms to equation (5) and (6) to investigate this effect. The results are presented in Table 7. Of interest in column 1 is *Gubernatorial* $\times$ *Full Control*. The estimated coefficient on this interaction term is positive and statistically significant. Its effect is also economically large and significant: in states where a governor holds the control of both state legislative chambers, mortgage lending growth rate increases by 360 basis points. We find similar results for the situations in which a government is up for re-election while having full control over the state legislature. This effect is now even more pronounced, indicating lending growth rate increases by 440 basis points.

Turning into effects of gubernatorial elections on approval rate when governors have full control over state legislative chambers, we do not find any significant effects for any elections. As for elections in which an incumbent is up for re-election, we find that approval rates decrease by 80 basis points. While this effect is marginally significant and relatively small compare to what we find in the first two columns, it has important implications. It suggests that politicians might target nested interest groups as documented by the literature. Our results are in line with works by Chu and Zhang (2022), Liu and Ngo (2014), Bertrand et al. (2007), and Faccio and Hsu (2017) . They all find that favorable economic outcomes occur during election times.

5.5 The Costs for Banks

Together, our finding indicate that in states where governors, specially incumbent ones that hold the control of both state legislative chambers, lending decisions are generous in favor of certain groups. If banks make risky decisions, there should be some costs associated with their lending decisions. Following Chu and Zhang (2022), we make use banks' return on assets (ROA), return on equity (ROE), and capital ratio (CR) as metrics for banks' performance and explore the possibility of some losses until four years after a gubernatorial election. We limit the upper bound to four years in order not to coincide with the next

gubernatorial election. In particular, we estimate the following equation:

$$Performance_{i,t+\phi} = \beta\, Gubernatorial\ Election_{st} + \theta_i + \zeta_t + \epsilon_{ijt}, \tag{7}$$

where the dependent variable is one of the ROA, ROE, or CR. We also include year and bank fixed effects. Table 8 shows the results from estimating equation (7). Although other than three coefficients, the rest are statistically insignificant, there is a clear pattern in timing of banks' performance. For example, in Panel C, the estimated coefficient on *Gubernatorial Election* is positive and statically significant for year *t+1*, it becomes negative while insignificant for the following years. There is a similar pattern in all other panels. Together, these results indicate that banks enjoy an instant benefit from their lending decisions during election years and then incur some losses in subsequent years. It should also be noted that mortgage default rates peak around five years after their originations, but we limited our upper bound to 4 year as mentioned above.

6 Robustness Analysis

To check the robustness of our results, we conduct several sets of sensitivity checks. We focus on the robustness of our finding in Table 7 which present our benchmark findings. First, we add all loans to our sample and re-estimate equations (5) and (6) with interactions. [8] As mentioned above, we remove census tracts with less than 10 loans. Including all observations, we find almost similar results. More precisely, there results are more pronounced here.

Second, in all previous estimations we clustered standard errors at the state level. In column 2 of Table 9, we double cluster our estimations at both state and year levels and still find similar results.

Third, we differentiate between on-time and midterm elections. There might be a difference between our results depending on the type of the election. On-time elections are held at the same time as presidential elections and presidents also have some incentives to interfere with the financial sector. In column 3, we only include on-time elections and find interesting results. While the estimated coefficients on the interaction term for gubernatorial elections is statistically significant, it is not the case for our incumbency sample. Moreover, the interaction term for the gubernatorial sample is marginally significant. In column 4, we only include data points from midterm elections. The estimated coefficients are larger and the significance level increases. Together, our results indicate that governors are more likely to intervene with the banking sector in midterm elections than on-time elections. Although the channel is not clear, it might be because of the fact that governors decisions are highly

[8] In all specifications, we include a set of borrowers' characteristics, county controls, and fixed effects although we do not report them.

impacted by presidents' decisions.

Finally, we identify years 2008 and 2009 as crises years and exclude them from our sample. As presented in column 5 of Table 9, our results are robust to removing these two years,

7 Conclusion

The economic vote theory suggests that the condition of the economy impacts voter behavior. As such, politicians have incentives to create favorable economic conditions in order to attract voters. According to the literature, politicians might take different actions to benefit their electorate. In this paper, we examine if governors interfere with the mortgage industry in order to induce them to be more generous in their lending decisions.

To examine our question, we collect data on gubernatorial elections, mortgage application outcomes, and local economic conditions. We first make use of the exogenous variation in the timing of the U.S elections and find no significant effects from gubernatorial elections on mortgage lending decisions. We further argue that although elections are believed to be exogenous, there still might be some endogeneity concerns, including reverse casality. In order to address this issue, we conduct a regression discontinuity design and find that governors do intervene in the banking sector. In particular, we find that mortgage lending growth rates increase significantly during a year leading to a gubernatorial election.

We further identify that banks' lending decisions are associated with some costs. Although banks enjoy a temporary improvement in their performance, they later pay the costs of their generous lending decisions. Finally, we check the robustness of our results. Our results are robust to different specifications.

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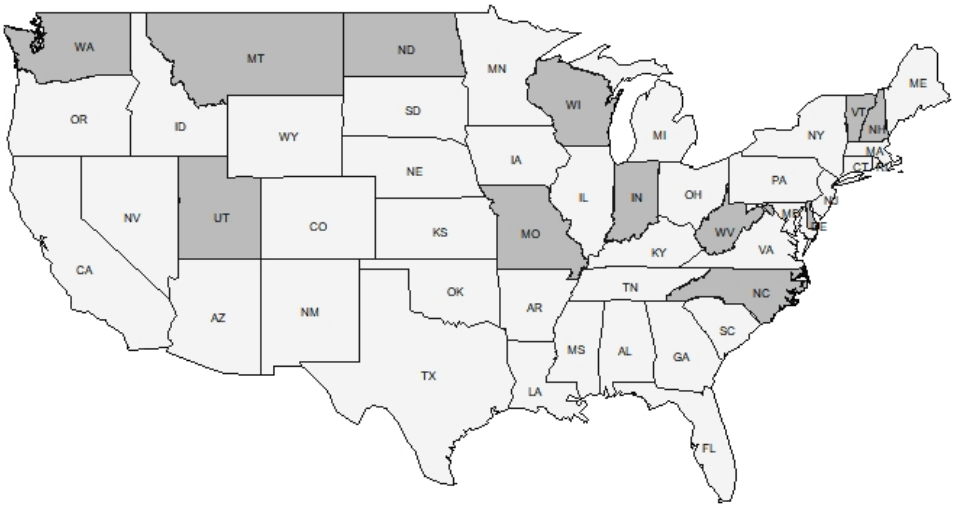
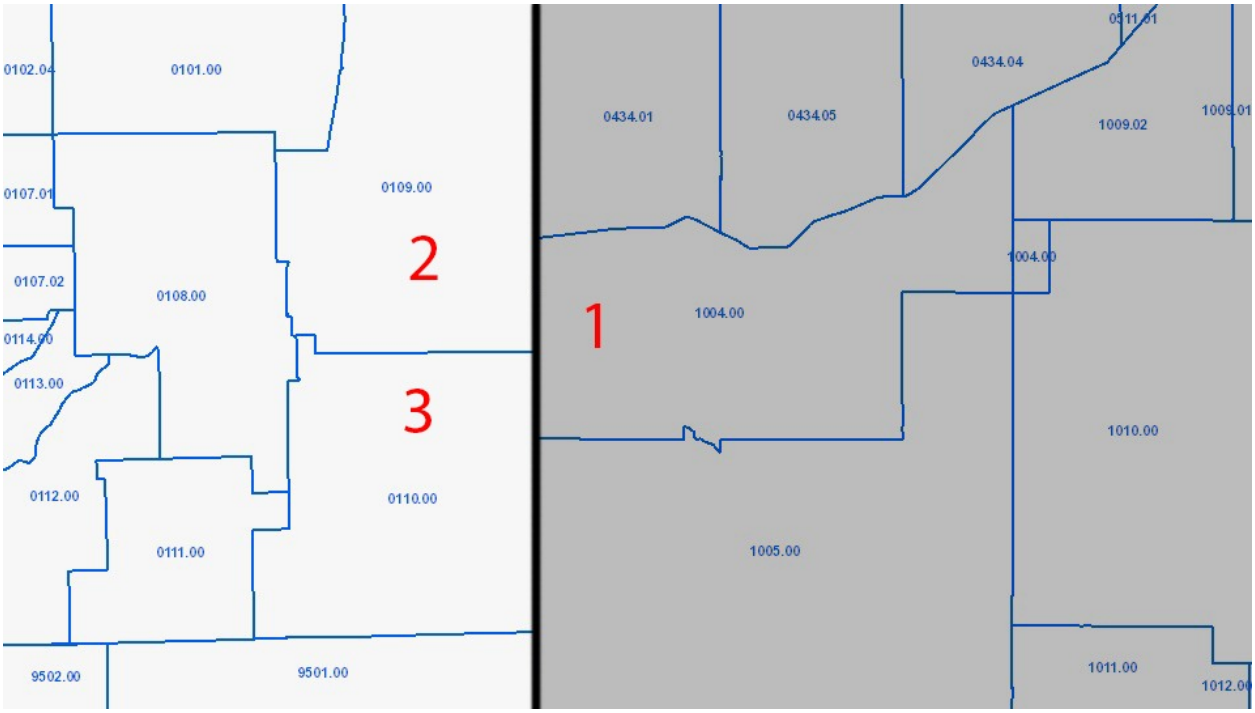
Figure 1: Gubernatorial Elections in 2012



Notes: The figure shows gubernatorial elections held in 2012 in the U.S. States in which a gubernatorial election was held are colored with grey. States include: Delaware, Indiana, Missouri, Montana, New Hampshire, North Carolina, Utah, Vermont, Washington, Wisconsin, and West Virginia.The election in Wisconsin was a special election as the incumbent governor faced a re-call. Source: The CQ Voting and Elections Collection and author's calculations.

Figure 2: An Example of Two Adjacent Census Tracts in the Gubernatorial Elections of 2012



Notes: This plot shows the adjacent census tracts at the border of Indiana and Illinois. Census tract 1 is in Indiana and 2 and 3 are in Illinois. Indiana is colored with grey as there was a gubernatorial election in the state in 2012. Source: Source: The FFIEC map and author's calculations.

Table 1: Descriptive Statistics

Panel A. BHC-County-Year level					
Variable	N	Mean	SD	P25	P75
Gubernatorial Election	329,206	0.26	0.44	0	1
Incumbency	329,206	0.16	0.36	0	0
Full Control	329,206	0.59	0.49	0	1
Approval Rate	329,206	0.79	0.19	0.676	0.942
Lending Growth Rate	329,206	0.03	0.61	-0.214	0.263
Total Loans	329,206	987.45	2,384.65	34	725
Log (Income)	293,384	4.49	0.51	4.171	4.742
Loan to Income Ratio	293,384	1.45	0.88	1.009	1.789
Female	329,206	0.25	0.17	0.143	0.33
Minority	329,128	0.09	0.15	0	0.105
Log (Personal Income)	329,206	14.98	1.59	13.761	16.073
Growth of Personal Income	329,206	0.04	0.04	.0167	.058
HPI Growth	329,206	0.03	0.05	-0.003	.052
Lag of HPI Growth	329,206	0.03	0.05	-0.005	0.053
Panel B. BHC-Year level					
Gubernatorial Election	30,389	0.24	0.41	0	0.341
Log (Assets)	30,389	12.57	1.33	11.673	13.210
Capital Ratio	30,389	10.00	2.62	8.421	11.095
ROA (%)	30,388	0.17	1.01	0.118	0.313
ROE (%)	30,388	1.22	15.39	1.162	3.239
Deposits/Assets	30,389	0.83	0.07	0.797	0.879
RE Loans/Assets	19,079	0.49	0.15	0.386	0.599
CI Loans/ Assets	30,179	0.09	0.06	0.049	0.124

Notes: Full description of variables are presented in Table 2

Table 2: Data Description

Panel A. **Election Data**	
Variable	Description
Gubernatorial Election	Dummy Variable – 1 if there is a gubernatorial election in a state, 0 otherwise.
Incumbency	Dummy Variable – 1 if the incumbent is up for re-election, 0 otherwise.
Full Control	Dummy Variable – 1 if a governor has the full control of both state legislative chambers, 0 otherwise.
Panel B. **HMDA Data**	
Race: Minority	Percentage of minority applicants
Female	Percentage of female applicants
Loan to Income	Requested loan amount over applicants' income (total income for application with co-applicant).
Log (Income)	Natural logarithm of Applicants' Income.
Log (Loan Amount)	Natural logarithm of requested loan amount.
Approval Rate	Percentage of approved loans.
Lending Growth Rate	Growth rate of total lending volume from previous year.
Panel C. **Banking Data**	
Log (Assets)	Natural logarithm of banks' total assets
Capital Ratio	Ratio of total equity to total assets
ROA (%)	Share of net income to total assets
ROE (%)	Share of net income to total equity
Deposits/Assets	Share of total banks' deposits to total assets
RE Loans/Assets	Share of total real state loans to to total assets
CI Loans/ Assets	Share of commercial and industrial loans to total assets
Panel D. **County Characteristics Data**	
Log (Personal Income)	Natural logarithm of counties' personal income
Growth of Personal Income	Growth rate of personal income from the previous year
HPI Growth	Growth rate of the housing price index
Lag of HPI Growth	Lag of growth rate of the housing price index

Table 3: Baseline Estimation Results

	(1) Approval Rate	(2) Approval Rate	(3) Lending Growth	(4) Lending Growth
Gubernatorial Election	-0.0006	-0.0003	-0.005	-0.006
	(0.001)	(0.001)	(0.005)	(0.005)
Log (Personal Income)	0.0001	0.028***	-0.034***	-0.147***
	(0.0007)	(0.007)	(0.003)	(0.024)
Growth of Personal Income	0.053***	-0.003	-0.246***	0.143**
	(0.015)	(0.014)	(0.067)	(0.056)
Log (Applicant Income)	0.045***	0.041***	0.370***	0.491***
	(0.002)	(0.002)	(0.017)	(0.027)
Female	-0.042***	-0.039***	-0.075***	-0.062***
	(0.003)	(0.003)	(0.01)	(0.011)
Minority	-0.132***	-0.123***	-0.058**	-0.114***
	(0.009)	(0.009)	(0.024)	(0.024)
HPI Growth	0.132***	0.124***	0.638***	0.614***
	(0.030)	(0.026)	(0.093)	(0.086)
Lag. HPI Growth	0.069**	0.070**	0.018	0.039
	(0.031)	(0.031)	(0.090)	(0.086)
Loan to Income	0.009***	0.007***	0.145***	0.169***
	(0.002)	(0.001)	(0.031)	(0.041)
Observations	284,977	281,500	284,977	281,500
F-stat	88.37	77.29	218.2	586.3
R2	0.516	0.548	0.181	0.216
BHC × Year FE	Yes	Yes	Yes	Yes
BHC × State FE	Yes	Yes	Yes	Yes
County × legislature FE	No	Yes	No	Yes
County × Governor FE	No	Yes	No	Yes

Notes: The dependent variable in columns 1 and 2 is the approval rate, and in columns 3 and 4 is the lending growth rate. A constants is included in all specifications, but we do not report it. Robust state clustered standard errors are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Table 4: The Role of Having the Full Control of the State Legislative Chambers

	(1) Approval Rate	(2) Approval Rate	(3) Lending Growth	(4) Lending Growth
Gubernatorial Election	0.0002	0.001	-0.0005	-0.005
	(0.002)	(0.002)	(0.006)	(0.006)
Full Control	0.002	0.001	0.004	0.005
	(0.003)	(0.003)	(0.006)	(0.012)
Gubernatorial * Full Control	-0.002	-0.003	-0.008	-0.002
	(0.003)	(0.003)	(0.010)	(0.009)
Log (Personal Income)	0.0001	0.027***	-0.034***	-0.147***
	(0.0007)	(0.007)	(0.003)	(0.025)
Growth of Personal Income	0.053***	-0.003	-0.246***	0.143**
	(0.015)	(0.014)	(0.067)	(0.056)
Log (Applicant Income)	0.045***	0.041***	0.370***	0.491***
	(0.002)	(0.002)	(0.017)	(0.027)
Female	-0.042***	-0.039***	-0.075***	-0.063***
	(0.003)	(0.003)	(0.012)	(0.011)
Minority	-0.132***	-0.123***	-0.058**	-0.114***
	(0.01)	(0.009)	(0.02)	(0.025)
HPI Growth	0.133***	0.124***	0.639***	0.614***
	(0.030)	(0.026)	(0.093)	(0.086)
Lag. HPI Growth	0.071**	0.071**	0.020	0.04
	(0.035)	(0.032)	(0.090)	(0.087)
Loan to Income	0.01***	0.008***	0.145***	0.169***
	(0.002)	(0.002)	(0.031)	(0.041)
Observations	284,977	281,500	28,4977	281,500
F	75.59	72.43	197.5	495.2
R2	0.516	0.548	0.181	0.216
BHC × Year FE	Yes	Yes	Yes	Yes
BHC × State FE	Yes	Yes	Yes	Yes
County × legislature FE	No	Yes	No	Yes
County × Governor FE	No	Yes	No	Yes

Notes: The dependent variable in columns 1 and 2 is the approval rate, and in columns 3 and 4 is the lending growth rate. A constants is included in all specifications, but we do not report it. Robust state clustered standard errors are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Table 5: The Role of Incumbency

	(1) Approval Rate	(2) Lending Growth	(3) Approval Rate	(4) Lending Growth
Incumbency	0.003*	-0.007	0.003	-0.015
	(0.002)	(0.008)	(0.002)	(0.011)
Full Control			0.002	0.001
			(0.003)	(0.006)
Incumbency * Full Control			-0.0003	0.012
			(0.003)	(0.015)
Log (Personal Income)	0.0002	-0.034***	0.0002	-0.034***
	(0.0008)	(0.003)	(0.0008)	(0.004)
Growth of Personal Income	0.053***	-0.247***	0.053***	-0.248***
	(0.017)	(0.067)	(0.016)	(0.0671)
Log (Applicant Income)	0.046***	0.370***	0.046***	0.370***
	(0.003)	(0.017)	(0.003)	(0.0171)
Female	-0.042***	-0.075***	-0.042***	-0.075***
	(0.0034)	(0.012)	(0.003)	(0.012)
Minority	-0.132***	-0.059**	-0.132***	-0.059**
	(0.01)	(0.025)	(0.01)	(0.025)
HPI Growth	0.132***	0.639***	0.132***	0.636***
	(0.031)	(0.093)	(0.031)	(0.094)
Lag. HPI Growth	0.068**	0.016	0.069**	0.020
	(0.036)	(0.091)	(0.032)	(0.090)
Loan to Income	0.01***	0.145***	0.01***	0.145***
	(0.002)	(0.032)	(0.002)	(0.032)
Observations	284,977	284,977	284,977	284,977
F-stat	87.16	218.1	72.11	205.0
R2	0.516	0.181	0.516	0.181
BHC × Year FE	Yes	Yes	Yes	Yes
BHC × State FE	Yes	Yes	Yes	Yes

Notes: The dependent variable in columns 1 and 2 is the approval rate, and in columns 3 and 4 is the lending growth rate. A constants is included in all specifications, but we do not report it. Robust state clustered standard errors are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Table 6: Spatial RD Design, Baseline Estimations

	(1) Approval Rate	(2) Lending Growth	(3) Approval Rate	(4) Lending Growth
Gubernatorial Election	-0.001	-0.009		
	(0.002)	(0.009)		
Incumbency			0.001	-0.001
			(0.002)	(0.009)
Log (Personal Income)	0.035**	-0.069	0.035**	-0.069
	(0.015)	(0.056)	(0.015)	(0.056)
Growth of Personal Income	-0.023	0.036	-0.022	0.037
	(0.024)	(0.117)	(0.023)	(0.117)
Log (Applicant Income)	0.0300***	0.469***	0.030***	0.469***
	(0.002)	(0.032)	(0.002)	(0.032)
Female	-0.023***	-0.087***	-0.023***	-0.087***
	(0.003)	(0.014)	(0.003)	(0.014)
Minority	-0.08***	-0.091**	-0.08***	-0.091**
	(0.01)	(0.037)	(0.01)	(0.037)
HPI Growth	0.066*	0.342***	0.064*	0.337***
	(0.033)	(0.098)	(0.033)	(0.099)
Loan to Income	0.0022*	0.055	0.002*	0.055
	(0.001)	(0.036)	(0.001)	(0.036)
Observations	370,115	370,115	370,115	370,115
F-stat	87.34	478.3	92.31	456.7
R2	0.305	0.186	0.305	0.186
BHC × Year FE	Yes	Yes	Yes	Yes
Census Tract-pair FE	Yes	Yes	Yes	Yes

Notes: The dependent variable in columns 1 and 3 is the approval rate, and in columns 2 and 4 is the lending growth rate. A constants is included in all specifications, but we do not report it. Robust state clustered standard errors are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Table 7: Spatial RD Design, Incumbency and Full Control

	(1) Lending Growth	(2) Lending Growth	(3) Approval Rate	(4) Approval Rate
Gubernatorial Election	-0.029**		-0.002	
	(0.013)		(0.003)	
Full Control	-0.004	-0.0003	0.001	0.003
	(0.009)	(0.008)	(0.002)	(0.002)
Gubernatorial * Full Control	0.036*		0.0009	
	(0.02)		(0.003)	
Incumbency		-0.028**		0.006*
		(0.014)		(0.003)
Incumbency * Full Control		0.044**		-0.008*
		(0.021)		(0.004)
Log (Personal Income)	-0.067	-0.068	0.035**	0.035**
	(0.056)	(0.056)	(0.015)	(0.015)
Growth of Personal Income	0.034	0.03	-0.022	-0.020
	(0.117)	(0.116)	(0.024)	(0.023)
Log (Applicant Income)	0.469***	0.469***	0.030***	0.030***
	(0.032)	(0.032)	(0.002)	(0.002)
Female	-0.087***	-0.087***	-0.023***	-0.023***
	(0.014)	(0.018)	(0.003)	(0.003)
Minority	-0.091**	-0.091**	-0.079***	-0.08***
	(0.037)	(0.037)	(0.009)	(0.009)
HPI Growth	0.339***	0.340***	0.068*	0.067*
	(0.103)	(0.102)	(0.034)	(0.034)
Loan to Income	0.055	0.055	0.002*	0.002*
	(0.036)	(0.036)	(0.001)	(0.001)
Observations	370,115	370,115	370,115	370,115
F-stat	381.4	374.3	74.12	75.66
R2	0.186	0.186	0.305	0.305
BHC × Year FE	Yes	Yes	Yes	Yes
Census Tract-pair FE	Yes	Yes	Yes	Yes

Notes: The dependent variable in columns 1 and 2 is the lending growth rate, and in columns 3 and 4 is the approval rate. A constants is included in all specifications, but we do not report it. Robust state clustered standard errors are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Table 8: The Costs for Banks

	(1) t+1	(2) t+2	(3) t+3	(4) t+4
Panel A: ROA and Gubernatorial Election				
Gubernatorial Election	-0.033	0.01	0.006	-0.015
	(0.034)	(0.009)	(0.007)	(0.008)
Observations	31,431	27,583	24,247	21,156
R2	0.209	0.271	0.356	0.365
Panel B: ROA and Incumbency				
Incumbency	-0.008	-0.006	-0.015	-0.017*
	(0.024)	(0.010)	(0.01)	(0.010)
Observations	31,431	27,583	24,247	21,156
R2	0.209	0.271	0.356	0.365
Panel C: ROE and Gubernatorial Election				
Gubernatorial Election	0.385*	0.086	-0.288	-0.187
	(0.206)	(0.221)	(0.215)	(0.265)
Observations	31,431	27,583	24,247	21,156
R2	0.215	0.233	0.265	0.305
Panel D: ROE and Incumbency				
Incumbency	0.354**	-0.293	-0.026	-0.310
	(0.177)	(0.312)	(0.338)	(0.368)
Observations	31,431	27,583	24,247	21,156
R2	0.215	0.233	0.265	0.305
Panel E: CR and Gubernatorial Election				
Gubernatorial Election	-0.016	0.012	-0.018	-0.003
	(0.02)	(0.017)	(0.019)	(0.019)
Observations	31,432	27,584	24,248	21,157
R2	0.743	0.754	0.785	0.793
Panel E: CR and Incumbency				
Incumbency	0.013	-0.024	-0.020	-0.03
	(0.028)	(0.026)	(0.029)	(0.030)
Observations	31,432	27,584	24,248	21,157
R2	0.743	0.754	0.785	0.793

Notes: The dependent variable in columns 1 to 4 is a measure of costs for banks from year t+1 to year t+4, respectively. A constants is included in all specifications, but we do not report it. Robust BHC clustered standard errors are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

Table 9: Robustness Checks

	(1) Full Sample	(2) Double Cluster	(3) On-time Elections	(4) Midterm Elections	(5) Non-crisis Years
Panel A. Gubernatorial Election					
Gubernatorial Election	-0.03**	-0.03**	-0.087	-0.018	-0.028**
	(0.012)	(0.012)	(0.069)	(0.014)	(0.013)
Full Control	-0.005	-0.005	-0.012	-0.013	-0.002
	(0.009)	(0.009)	(0.014)	(0.012)	(0.012)
Gubernatorial * Full Control	0.038**	0.038*	0.063*	0.049**	0.040**
	(0.018)	(0.018)	(0.034)	(0.021)	(0.02)
Observations	412,390	412,390	124,529	287,249	358,699
R2	0.197	0.197	0.276	0.210	0.196
Panel B. Incumbency					
Incumbency	-0.029**	-0.029**	-0.015	-0.029*	-0.028**
	(0.013)	(0.012)	(0.044)	(0.015)	(0.012)
Full Control	-0.0002	-0.0003	0.0016	-0.008	0.004
	(0.008)	(0.008)	(0.014)	(0.011)	(0.009)
Incumbency * Full Control	0.045**	0.045**	0.039	0.059***	0.047**
	(0.018)	(0.019)	(0.050)	(0.021)	(0.019)
Observations	412,390	412,390	124,529	287,249	358,699
R2	0.197	0.197	0.276	0.210	0.196

Notes: The dependent variable in columns is the lending growth rate. In all specifications, we control for borrows, loan, and county characteristic, but we do not report it. A constants is included in all specifications, but we do not report it. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively. The numbers in parentheses are robust standard errors clustered at the state level except for column 2 in which we additionally cluster at the year level.