# How Partisanship in Cities Influences Housing Policy

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**Abstract**

Housing policy is one of the most important areas of local politics. Yet little is known about how local legislatures and executives make housing policy decisions and how their elections shape policy in this important realm. We leverage housing policy data and a new data source of 15,573 city council elections and 3,248 mayoral elections in large cities in the United States and a regression discontinuity design to examine partisan divides in housing policy among the mass public as well as the impact of local leaders' partisanship on housing policy. We provide robust evidence that electing mayors from different political parties shapes cities' housing stock. Electing a Democrat as mayor leads to increased multifamily housing production. These effects are concentrated in cities where councils have less power over land use changes. Overall, our paper shows that politics influences local housing policy, and it contributes to a larger literature on local political economy.

The data and materials required to verify the computational reproducibility of the results, procedures and analyses in this article are available on the American Journal of Political Science Dataverse within the Harvard Dataverse Network, at `https://doi.org/10.7910/DVN/TEPRY2`

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Political opposition to new higher density housing and restrictive local land use policy have combined to block residential housing construction in many metropolitan areas where it is most needed (Einstein, 2021; Einstein, Glick, and Palmer, 2019; Trounstine, 2020). This has important consequences. Across a number of metrics, a housing affordability crisis has not only reached higher peaks in recent years, but has also spread to parts of the country previously less affected – no longer impacting only very large and coastal cities (Corinth and Dante, 2022; Kingsella and MacArthur, 2022). Median home price-to-income ratios in the early 2020's are 30% higher than they were in the 2000's. Both the supply of new homes on the market and the stock of lower-rent rental units are at all time lows.[1] Substantial evidence exists that restrictions on supply contribute to higher housing prices (Gyourko and Molloy, 2015). Beyond direct impacts on affordability, an undersupply of affordable housing may negatively impact local economies as well as more generally exacerbate economic inequality within and across cities (Hsieh and Moretti, 2019; Saks, 2008).

As a result of the housing crisis, some of the most contentious policymaking debates in large cities are now focused on residential housing development. Because these large cities tend to be more liberal and Democratic, many in the popular media have suggested that Democrats — both elites and members of the mass public — have caused this housing crisis (e.g. McArdle, 2018). On the other hand, there is evidence from surveys of both the mass public and city leaders that Democrats are more likely than Republicans to support dense, multifamily housing (e.g., Jones, 2020; Einstein, Glick, and Palmer, 2017; Einstein et al., 2018). This suggests that the partisanship of elected officials in city governments should affect housing policy, and the election of Democrats should lead to more multifamily housing.

While it may seem obvious that partisanship should affect local housing policy, as it does most other aspects of American politics, a variety of previous literature has argued that housing policy differs from more traditionally-ideological fiscal policy. A number of scholars

[1]These figures drawn from the Harvard Joint Center for Housing Studies' 2022 reports on the State of the Nation's Housing and Rental Markets.

have argued that while partisan polarization may exist on abstract housing policies, such divisions might not exist for concrete housing policy decisions and outcomes (Anzia, 2021; Hankinson, 2018). Others have argued that divisions – both at the elite level and among the mass public – on local policy issues like housing may correspond not with partisanship but with other factors such as homeownership (Einstein, Glick, and Palmer, 2019), self-interest (de Benedictis-Kessner and Hankinson, 2019; Marble and Nall, 2021), race and class (Hajnal and Trounstine, 2014; Schaffner, Rhodes, and La Raja, 2020), preferences for privatization (Bucchianeri et al., 2021), or membership in other groups (e.g. Anzia, 2011). Thus the election of politicians from different parties might lead to little changes in the policy preferences of officials in power or policy outcomes. Finally, there is a large literature on the constraints on local officials' influence over policy due to state control, which may limit the ability of local politicians to change policy even if they wished to do so (Peterson, 1981, 1995). Alongside state-imposed constraints, there are also numerous layers of local approval needed for increases in housing development – ranging from appointed planning and zoning commissions, to boards of zoning appeals, to judicial review (Anderson and Sass, 2004). Together, this work suggests that the partisanship of local political leaders may not influence housing policy.

In this paper, we leverage a bevy of data sources to test these competing ideas and holistically assess the degree to which the election of city leaders from different parties delivers different housing policy to constituents. Using a new data source of elections in large cities in the United States and a regression discontinuity design, we examine the causal impact of city councilors' and mayors' partisanship on housing policy. We examine 15,573 individual city council elections and 3,248 mayoral elections in 398 large cities between 1990 and 2022. Reflecting previous work on the limits to the role of partisanship in local politics, we provide evidence that electing city councilors from different political parties has no detectable effect on cities' housing policy outcomes. However, we provide robust evidence that mayoral partisanship has large and significant effects on housing outcomes. Electing

a Democrat as mayor leads to increases in the supply of multifamily housing units. These effects are larger in places where the city council has no veto power over new development.

Overall, our results indicate that partisan selection has an important influence on city housing policy. Previous work has indicated the *fiscal* policy consequences of local officials' partisanship (de Benedictis-Kessner and Warshaw, 2016, 2020). But it has been unclear whether partisanship in local governments extends to other areas of policy. Here, we show that mayoral partisanship affects contentious multifamily housing production. Thus our results reinforce longstanding wisdom in the urban politics literature on the power of mayors relative to other local officials (e.g. Svara, 1990). They also echo arguments made by Presidency scholars that executives have unique incentives and ability to make policy (e.g., Moe, 1985; Moe and Howell, 1999). Together, our results examining both city councilors and mayors help to provide an updated and holistic assessment of the consequences of partisanship in cities for a policy area of contentious contemporary debate – and contribute to a larger literature on democratic representation in local governments (Trounstine, 2010; Warshaw, 2019).

## Theoretical Framework

In this section, we discuss our theoretical framework. We begin by examining the role of partisanship in local governments. We then examine partisan preferences on housing policy. We show that Democrats are more likely to favor dense, multifamily housing than Republicans. We then show that mayors and, to a lesser degree, city councils have the power to influence housing policy in cities. This leads to the expectation that electing Democratic officials will lead to the development of more multifamily housing.

## Partisanship in Local Governments

An older literature on urban politics argued that urban policy issues such as paving streets and repairing street lights are inherently apartisan. But a variety of recent studies have found that partisan cleavages in local politics increasingly echo partisan splits in national politics (Hopkins, 2018; Martin and McCrain, 2019). Einstein and Glick (2018) show that Democratic mayors tend to have more liberal preferences on fiscal issues. Bucchianeri et al. (2021) find that partisanship is one of the key factors structuring the ideological preferences of local elected officials. And Lee, Landgrave, and Bansak (2022) find that there are large partisan divisions among local elected officials even after controlling for the voting behavior of their constituents in presidential elections.

Electing individual politicians from one party or another therefore may have the potential to both change the ideology of the mayor as well as the ideological position of the median voter in local legislatures. This could be especially true in policy areas where the ideological preferences of Democratic legislators are far from the preferences of Republican legislators (Lee, Landgrave, and Bansak, 2022). Several recent studies have found that the partisanship of mayors and county legislators affects local policy outputs (de Benedictis-Kessner and Warshaw, 2016, 2020). The influence of partisanship on policy outcomes might naturally extend to city councils as well. Previous research has found that legislators tend to form ideological coalitions even within nominally nonpartisan city councils (Burnett, 2019).[2]

## Partisan Preferences on Housing Policy

Like many other issues, housing policy, and especially multifamily housing production, has increasingly become associated with the two major political parties in the United States, especially as a response to housing supply shortages and the associated impact on local inequality. The Pew Research Center finds that "Republicans and Democrats express sharply different preferences about their ideal communities and house sizes" (Jones, 2020). In a 2019

[2]Though, see Bucchianeri (2020).

survey, they found that 58% of Democrats preferred to live in a community where the houses are "smaller and closer to each other" rather than "larger and farther apart." In contrast, only 34% of Republicans share this view.[3] This partisan polarization on housing preferences is similar in magnitude in previous versions of this Pew survey from 2014 and 2017. Marble and Nall (2021) also find large partisan gaps in Americans' housing policy preferences. They find that roughly 70% of Democrats believe that the Federal government should ensure all Americans have housing, compared to 33% of Republicans. Finally, Einstein, Palmer, and Glick (2019) find that Democrats are more likely than Republicans to support new housing in local zoning meetings in Massachusetts.[4]

The partisan splits on policy concerning multifamily housing development, in particular, are further supported by an original survey we ran measuring policy preferences at the individual level.[5] In Figure 1 we show the percentage of respondents, broken down by their partisanship, who supported more multifamily housing development everywhere in their city or town. We find that Democratic respondents are more supportive of multifamily housing development than Republican respondents by 21 percentage points.[6]

There are a variety of theoretical factors that could lead Democrats to be more likely to favor multifamily housing than Republicans. Democratic voters are more likely than Republicans to be renters rather than homeowners (Yoder, 2020; Marble and Nall, 2021). They are also more likely to live in dense areas. According to Brown and Enos (2021, p.

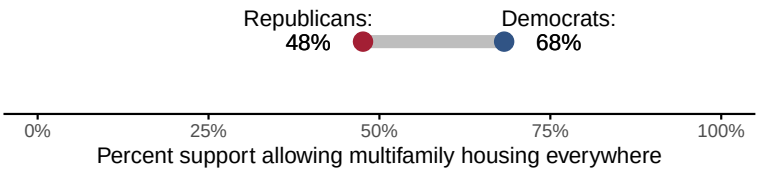
[3]One concern is that Democrats are more likely to live in cities, and these results could simply reflect where people live. However, when we reanalyzed the Pew survey data, we continued to find a large partisan split in multivariate regression models that control for whether people live in a rural areas.

[4]There is also some evidence, especially from studies of the 1990s and early 2000s, that Republicans are more likely than Democrats to support single family housing development in California (Gerber and Phillips, 2003; Kahn, 2011). Gerber and Phillips (2003) argues this reflects Democrats' environmental preferences in favor of retaining open space.

[5]We ran an original survey in November 2021 on a diverse, national sample of US respondents recruited via the firm PureSpectrum, which pays respondents from a marketplace of other survey sample panel companies. We fielded this survey of 2,212 respondents using quotas to match the demographics of the United States as a whole. Among other questions, we asked respondents a question on the development of multifamily housing. Specifically, we asked whether respondents support allowing multifamily housing everywhere in their city or town rather than in specific downtown neighborhoods to gauge public opinion on this contentious policy issue. The full wording of questions used in the survey are in Appendix A.

[6]A two-sample t-test for the difference in proportions indicates that this difference is statistically significant, $p < 0.01$.

Figure 1: Partisan Differences in Housing Policy Opinions




Notes: Partisan differences in support for multifamily housing based on original national survey.

1003), 61% of Democrats live in medium or high density Census tracts compared to 39% of Republicans. This could make Democratic voters more sympathetic to multifamily housing. Mass attitudes could also be influenced by the fact that, due in part to decades of racial segregation in real estate, racial minorities are more likely to live in multifamily housing (Anacker, 2018; Trounstine, 2018, 2020). This could make more racially conservative voters, who tend to be Republicans, less likely to support multifamily housing (see Trounstine, 2020). Along similar lines, Pew Research argues that one explanation for partisan splits on housing density is that "partisans diverge on whether it is important that a community is racially and ethnically diverse" (Jones, 2020). Finally, Democrats could be more likely to support multifamily housing due to its environmental benefits over single-family housing (Berrill, Gillingham, and Hertwich, 2021).

The partisan splits on housing policy are also reflected among municipal elected officials. According to a recent report from the *Menino Surveys of Mayors* conducted by Boston University's Initiative on Cities, Democratic and Republican mayors in large cities have different views on housing policy (Einstein, Glick, and Palmer, 2017; Einstein et al., 2018). The 2018 Menino Survey, for example, reports that 68 percent of Democratic mayors supported increasing housing density in established neighborhoods compared to 32 percent of Republicans. In a similar vein, the 2017 Menino Survey indicated that Democratic mayors were more likely to favor "housing stability for renters" and the development of "affordable multi-bedroom units," while Republicans were slightly more likely to favor increasing home

ownership rates. One reason that Democratic elected officials are more likely to support multifamily housing could be that re-election oriented officials are aware that people in multifamily housing are more likely to be Democrats (Brown and Enos, 2021). Thus, building more multifamily housing could lead to an increase in the number of Democratic voters, thereby improving Democratic candidates' future electoral prospects.[7]

Finally, there is evidence from the behavior of Democrats and Republicans at the state and national levels of partisan splits on housing. At the national-level, former President Donald Trump argued in 2020 that Democrats would "destroy" suburbs and criticized Democratic attempts to increase multifamily housing.[8] And in California, Democratic state legislators were much more likely than Republicans to support a recent landmark bill to expand housing production.[9]

## The Influence of Local Politicians on Housing Policy

Of course, these partisan splits would not necessarily matter if local elected officials had no levers to influence housing policy. But there are a variety of ways that local elected officials are able to influence housing policy. Mayors often set policy goals more broadly for cities using their budget and political leadership. In addition, alongside their local housing authorities, mayors often control the disbursement of federal housing subsidies to local residents and property developers. Mayors also ordinarily appoint members of zoning boards of appeal that control variances to existing zoning regulations.

City councilors may also play an especially important role in housing development given that zoning boards must sometimes seek approval for their decisions from the city council (Anderson, Brees, and Reninger, 2008). City councilors may have incentives to influence

[7]Along similar lines, Schmutz and Verdugo (2021) show that left-leaning local elected officials strategically increase the number of left-leaning voters, largely by building more public housing.

[8]For examples of these claims, see Trump, Donald J., and Ben Carson. 2020. "We'll Protect America's Suburbs." *Wall Street Journal* (August 16), online: `https://www.wsj.com/articles/well-protect-americas-suburbs-11597608133`, and Keith, Tamara. 2020. "Down in the Polls, Trump Pitches Fear: 'They Want To Destroy Our Suburbs.'" *NPR* (July 22), online: `https://www.npr.org/2020/07/22/893899254/down-in-the-polls-trump-pitches-fear-they-want-to-destroy-our-suburbs`.

[9]See `https://legiscan.com/CA/votes/SB9/2021`.

development specifically in their geographic districts due to concentrated constituent pressure (Hankinson and Magazinnik, 2022; Mast, 2020).[10] We therefore anticipate that the election to city councils and mayors' offices of a Democrat, rather than Republican, will increase new housing production, especially for multifamily units.

Local officials' ability to influence housing policy is shaped by the local regulatory environment, which varies substantially across the country (Gyourko, Saiz, and Summers, 2008; Gyourko and Krimmel, 2021). The regulatory environment governing housing policy is multidimensional. Zoning plans dictate the types of structures (number of units, height, etc.) that can be built in various parts of a city. But, more pertinent to our study, cities also vary in which local officials are involved in approving new development. In most cities, and certainly in the higher-population cities in our study, city council, commission, or manager approval is required to approve new development in an area where a zoning variance is required – e.g., multifamily housing in a single-family zoned area or a six-story building in an area that only allows three-stories. But, per the Wharton Index, roughly half of cities *also* require approval from one or more of these entities for new "by right" development; that is, development that conforms to local zoning regulations. This type of rule contributes to the stringent regulatory regimes that limit the permitting of multifamily housing and increase the price of land and housing in cities (Kok, Monkkonen, and Quigley, 2014; Gyourko and Krimmel, 2021).

We expect that mayors will be less able to influence housing policy in cities with this added layer of review for by-right development. The effect of this type of rule on the influence of city councilors, on the other hand, is less clear. If the city council's approval power is the singular hindrance to development, an additional member in favor of development would result in more approval under this rule. However, even in cities without this type of council veto power, councils are only one of several bodies with the power to block approval of by-right projects; as such their influence may be limited even in places without stringent council

[10]Though see Gabbe and Kahn (2021) for evidence that this kind of political influence does not happen among Los Angeles city council districts.

majority approval requirements.

# Data and Research Design

To assess the effects of partisanship on local housing policy, we leverage a variety of sources of original data. We collect data on city mayoral and legislative elections and housing policy based on permits for private housing development.

## City Election Data

To examine the effect of partisan control of local governments on housing policy, we gather data on elections from 1990-2022 in medium and large cities with a population of more than 75,000 people in 2020. We focus on medium and large cities because these cities are likely to have more flexibility to change policy than smaller ones, in part because multifamily housing is more prevalent in medium and larger cities.[11] Our dataset consists of 15,573 individual city council elections and 3,248 mayoral elections in 398 cities from 1990 to 2022. The cities in which we have elections data encompass 99% of the population in our target universe of cities over 75,000 in population.[12]

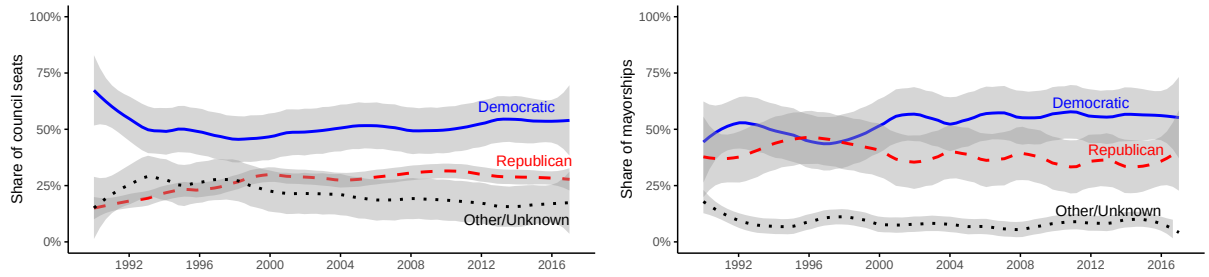
While many big cities have predominantly Democratic populations (Rodden, 2018), their representatives on city councils and in mayors' offices are not uniformly Democratic. In Figure 2 we plot the proportion of council seats held by each party (on the left) and the proportion of mayors from each party (on the right) in the cities in our data over time. While Democrats consistently hold a larger proportion of seats on city councils than Republicans on average, Republicans do hold a nonzero share of the seats on city councils – and close to

[11] We use a combination of data from previous papers (Ferreira and Gyourko, 2009; Gerber and Hopkins, 2011; de Benedictis-Kessner and Warshaw, 2016), administrative records, and the crowd-sourced OurCampaigns website to assemble election returns. For officially nonpartisan elections, we estimate candidates' partisanship based on information in OurCampaigns, matches to the voter files from the firms L2 and TargetSmart, candidates' campaign-finance-based (CF) ideology scores (Bonica, 2014), and candidates' partisanship in elections for other offices.

[12] Appendix B describes our sample of elections data in more detail.

a quarter of seats on average in the last ten years. Meanwhile, only slightly more than half of the mayors' offices in our data are occupied by Democrats, while around a quarter are occupied by Republicans.

Figure 2: Partisan Composition of City Governments Over-time




Notes: Changes in partisan composition of city councils (left panel) and mayors (right panel) from 1990-2018

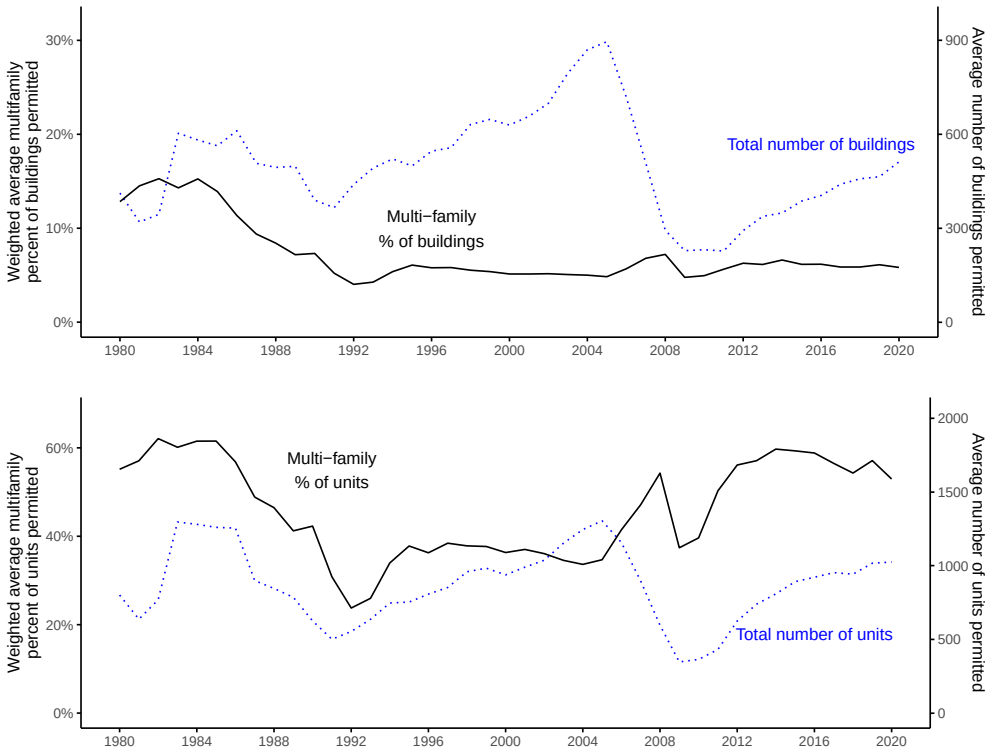
## City Housing Permits Data

To study the impact of the partisanship of city leaders on housing policy, we use data on the housing development permits issued by each city in each year from the Census Bureau's Building Permits Survey. The Building Permits Survey is sent to local building permit officials via a mail or online survey and compiled into datasets by the Census Bureau's Manufacturing and Construction Division.[13] These data contain statistics on new privately-owned residential construction at the level of individual permit-issuing jurisdictions by year.

We use the city-level annual summary data files that contain total numbers of buildings and units permitted by the type of housing structure — either single-family detached homes or multifamily buildings of two or more housing units — as well as the multifamily proportion of buildings and units that are permitted. We show the over-time variation in these key outcomes variables for all large cities in our target universe in Figure 3.

[13]These data are inherently limited to new construction for which there was a building permit issued by a government authority. However, the Census Bureau estimates that less than 3% of all privately owned housing units in permit-issuing jurisdictions are built without a permit (U.S. Census Bureau, 2011).

Figure 3: Over-Time Changes in Cities' Housing Stock




Notes: Over-time changes in cities' housing stock, with the total number of buildings permitted and multifamily percent of buildings (top panel), and the total number of units permitted and multifamily percent of units (bottom panel). Both panels use the full dataset of building permits from all cities with a population over 75,000 in 2020.

It is important to note that permitting of multifamily units is not necessarily equivalent to an expansion in the availability of rental units or affordable housing. Multifamily buildings can, of course, be condominiums or market-rate apartments. It is also important to note that permitting of multifamily units is not the only housing policy lever available to a city (e.g., housing subsidy programs, creation of housing trust funds, and creation of inclusionary zoning programs). However, the permitting of multifamily units is an important measure for us for multiple reasons. First, restrictions on building multifamily units have been a key tool of exclusion in housing policy of American cities (Sahn, 2021; Whittemore, 2021). Second, while we cannot observe the share of multifamily units in our data that are market-rate vs. affordable, recent evidence documents that increasing the supply of multifamily

units increases a city's housing affordability, even when the newly constructed units are market-rate (Asquith, Mast, and Reed, 2021; Mast, 2021; Li, 2021).

## Land Use Regulation

In order to assess the impact of land use regulatory institutions at the city level, we use data on the power of local councils to veto new development. These data are from the Wharton Land Use Regulatory Index (Gyourko, Saiz, and Summers, 2008), a dataset compiled from responses to a survey mailed by researchers in collaboration with the International City/County Management Association's (ICMA). These data were first collected in 2008 and updated in 2018 (Gyourko, Hartley, and Krimmel, 2021), and contain an array of information on the regulatory landscape in cities with regard to land use. Specifically, we use information from this dataset in the most recent year available about whether a city requires the approval of a majority of local councilors, managers, or commissioners in order for any residential land use changes that do not require re-zoning (i.e. "by-right" development). We use this source of data to assess the differential impact of city leaders' partisanship under different regulatory regimes.

## Regression Discontinuity Design

We use a regression discontinuity (RD) design to identify the effect of electing city leaders of different parties on housing policy.[14] We exploit the fact that a sharp electoral threshold, 50% of the two-party vote share, determines which party wins the election.[15] This strategy restricts our estimand to a *local* average treatment effect (LATE) of partisanship in close

[14]Previous studies in the urban politics literature have similarly used the regression discontinuity design to examine the local incumbency advantage (de Benedictis-Kessner, 2018; Ferreira and Gyourko, 2009; Trounstine, 2011; Warshaw, 2019), and the effects of politicians' characteristics on other policy issues (e.g. Beach and Jones, 2016; Ferreira and Gyourko, 2009; Gerber and Hopkins, 2011; Hopkins and McCabe, 2012; Kirkland, 2021; Kogan, Lavertu, and Peskowitz, 2021; McBrayer and Williams, 2022).

[15]In multimember district elections, we compare the bare-winners and bare-losers for the last seat in the race (e.g., in a district with three seats up for election, we compare the votes of the 3rd and 4th placed candidates).

elections, rather than the effect of partisanship *overall*. Yet this strategy also enables us to isolate the causal effect of electing a Democratic city councilor or mayor, rather than a Republican, on local housing policy. This design harnesses knowledge from the cities that had a close council or mayoral race between a Democrat and a Republican, which constitutes the vast majority of the cities in our dataset with elections contested by candidates from both parties.[16] This includes places in the Sun Belt like Jacksonville, FL, and Tucson, AZ, but also places in the Northeast like Lynn, MA, and in the West like Fresno, CA.

The validity of the RD design depends on the assumption that only the winning candidate — and not the distribution of units' potential outcomes — changes discontinuously at the threshold (Hahn, Todd, and Klaauw, 2001; Lee and Lemieux, 2010). One way to check the validity of this assumption is to examine the density of observations across the threshold with a McCrary test (McCrary, 2008). We conduct this diagnostic test and find a null result for both council and mayoral elections. We also conduct a nonparametric test (Cattaneo, Jansson, and Ma, 2019) and an equivalence test (Hartman, 2021) for the density of observations. All of these tests suggest that the assumption of continuity of potential outcomes is unlikely to be violated, though we cannot rule out some degree of differences in the density of observations across the threshold for mayoral elections.[17] We also do not find any significant discontinuities in lagged values of the running variable or lagged housing outcomes.[18] In order to account for the lag in time between a politician taking office and their ability to influence policy outcomes, our main analyses focus on the difference between housing outcomes in the election year and the average of outcomes measured two and three years after the election.[19]

[16] See Appendix B.

[17] The full results from these tests and histograms showing the density of observations across the threshold are presented in Appendix C.

[18] These placebo results are shown in Appendix D. Our results here are similar to the more general validation of electoral regression discontinuity (RD) design studies in Eggers et al. (2015).

[19] Focusing on deltas in outcomes rather than on the raw levels increases our statistical efficiency (Lee and Lemieux, 2010). Moreover, this strategy enables us to increase statistical power over a strategy using changes in outcomes between the election year and two years after the election by reducing noise in outcomes from individual years (de Benedictis-Kessner and Warshaw, 2016, 2020; Gerber and Hopkins, 2011).

We estimate the effect of electing a Democratic city councilor (or mayor) rather than a Republican councilor (or mayor) based on the change in outcome variables at the threshold. We model the relationship between the assignment and outcome variables using a local linear regression, with the default optimal bandwidth options in the `rdrobust` package in `R` (Calonico, Cattaneo, and Titiunik, 2014*a*).[20] Since there is often more than one council seat elected in a particular year in a city, we cluster standard errors by city-year in our analyses of councilors, and by city in our analyses of mayors.[21]

# Results

We now turn to the effects of mayoral and city council partisanship on housing policy using this analytical framework. We assess the effects of political partisanship on both the amount of housing permitted and the composition of that housing (single-family vs. multifamily).

## Regression Discontinuity Estimates

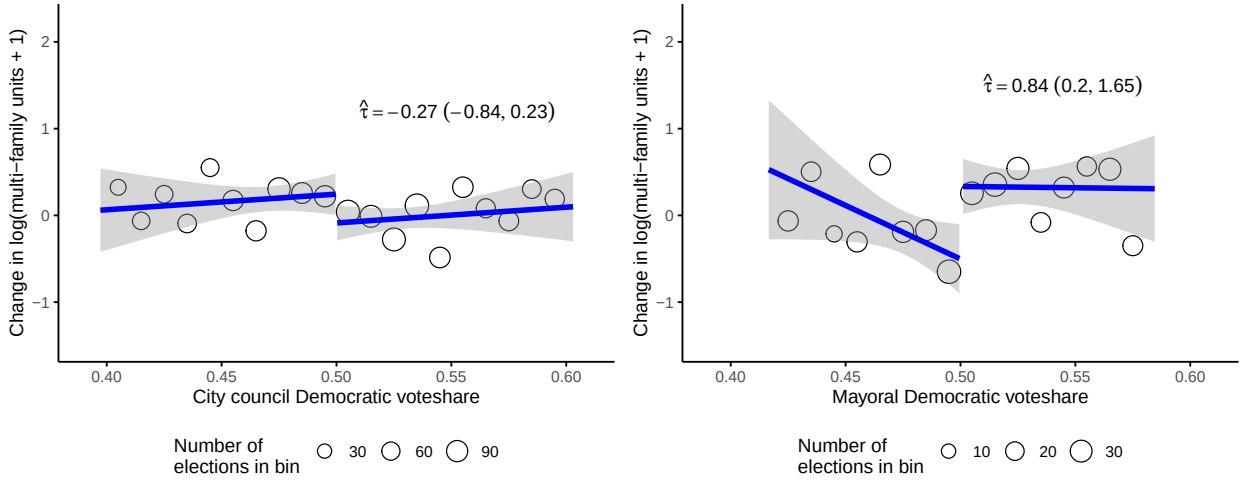
We begin by plotting the effect of city council and mayoral partisanship on the number of multifamily housing units permitted in Figure 4. The Democratic margin in the election is shown along the horizontal axis. The vertical axis plots the change in the natural log of the number of multifamily housing units plus one between the election year and the average of two and three years after the election. The trend lines show local linear regressions weighted using the triangular kernel within the optimal bandwidth (Calonico, Cattaneo, and Titiunik,

[20] The optimal bandwidth is selected to minimize mean-square-error (MSE) and we use bias-corrected confidence intervals (Calonico, Cattaneo, and Titiunik, 2014*b*; Cattaneo, Idrobo, and Titiunik, 2019). Our results are robust to this choice of bandwidth, however. We replicate our main results for a wide range of other bandwidths in Appendix J.

[21] We use the 'cluster' option in `rdrobust`. Finally, while most city councils have ten or fewer members (see Figure A2), our dataset includes a small number of cities with larger councils. We weight our analyses of the effects of councilor partisanship based on the number of councilors in each city council relative to the average number of councilors such that elections for larger councils are weighted less heavily than ones for smaller councils. This enables us to interpret our estimates as the effect of elections in the average *city* rather than the average *election*, and avoids the bias that might result from a handful of cities with very large councils driving our results. However, the results using unweighted analyses are very similar.

2014*b*). The difference between the two lines at the threshold value of 50% along the x-axis indicates the effect of electing a Democrat rather than a Republican on housing policy.

Figure 4: Effect of Partisanship on Changes in the Logged Number of Multifamily Units




(a) City Council Elections

(b) Mayoral Elections

Notes: The effect of city councilor (left panel) and mayoral (right panel) partisanship on changes in the logged number of multifamily units permitted between the election year and the average of two and three years after the election

The left panel shows that in the average city, electing a Democratic councilor has no statistically significant effect on the number of multifamily units permitted in the years after an election.[22] In contrast, electing a Democratic candidate rather than a Republican as mayor leads to an increase in the change in the logged number of multifamily housing units permitted of approximately 0.84 several years after their election, as shown in the right panel of Figure 4. In other words, Democratic mayors increase multifamily housing production by over 80%. This equates to an increase of approximately 114 multifamily housing units per 100,000 capita, as we show in Appendix K. One reason that mayoral partisanship, but not city council partisanship, affects multifamily housing development could be that mayors are typically the ones that appoint members of planning commissions and zoning boards of appeal, which usually control variances to existing zoning regulations as well as rezoning.

[22]These results, as well as the others presented in visual format in this section, are displayed in tabular form in Appendix E.

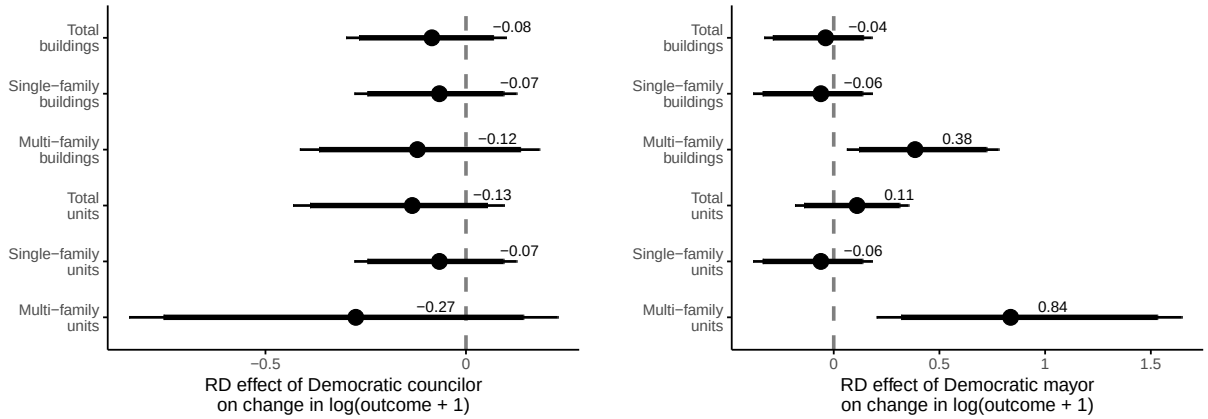
To further contextualize the magnitude of our estimates, we note that the estimated effect size is small relative to the overall existing housing stock in the typical city. The average city has roughly 15,000 units in multifamily structures per 100,000 in the population.[23] But, as captured in the logged outcome estimates, the effect is large relative to the typical numbers of new units permitted in a given year: in the cities in our mayoral elections data, only 190 multifamily units are permitted per year per 100,000 in the population on average.

How do these effects on multifamily housing production compare to the same effects of city leaders' partisanship on single-family housing production and total housing production? We display the effects of partisanship on these other outcomes in Figure 5. Each point displays the coefficient from the regression discontinuity analysis of partisanship's effect on that outcome, along with its 90% (thick lines) and 95% (thin lines) robust confidence intervals. While the election of Democratic mayors leads to increases in multifamily housing production, it has null or negative effects on the total number and number of single-family buildings and units permitted. The largest effects on multifamily housing production appear for the number of housing units, rather than buildings – suggesting that while Democratic politicians do somewhat increase the *number* of developments in their city, they have larger effects on the *size* of those developments, which leads to increases in the number of units without necessarily increasing the number of buildings. This may reflect the fact that development of new buildings is more dependent on supply-side factors such as the availability of vacant parcels, while the size of those developments is more easily influenced by the political process.

This increase in multifamily housing units alongside a much smaller increase in the total housing units is a compositional change that can also be represented by the proportion of total housing permitted that is multifamily. We plot the effect of electing a Democrat on the composition of housing permitted – that is, the proportion of total housing permits that are multifamily – in Figure 6. There are large positive effects of mayoral partisanship on

[23] Authors' calculation of 2020 American Community Survey data.

Figure 5: Effect of Partisanship on Changes in Housing Permitting by Type

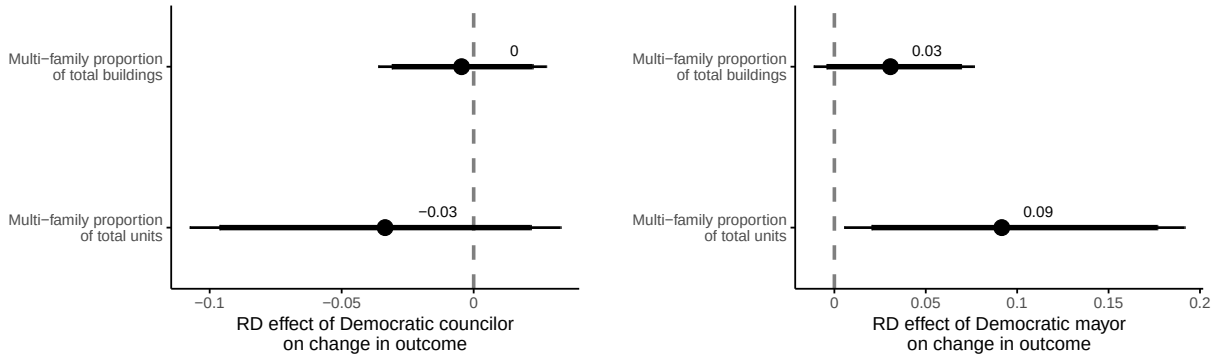



(a) City Council Elections (b) Mayoral Elections

Notes: The effect of partisanship on changes in housing permitting between the election year and the average of two and three years after the election. Thick bars show 90% confidence intervals and thin bars show 95% robust confidence intervals.

the composition of housing units permitted. Electing a Democrat as mayor rather than a Republican leads to a 9 percentage point larger increase in the multifamily proportion of units 2-3 years after their election.[24]

Figure 6: Effect of Partisanship on Changes in the Composition of Housing Permitting




(a) City Council Elections (b) Mayoral Elections

Notes: The effect of partisanship on changes in the composition of housing permitted between the election year and the average of two and three years after the election. Thick bars show 90% robust confidence intervals and thin bars show 95% robust confidence intervals.

[24]These effects also appear to be enduring for the years 2-4 after the election, which we show in Appendix F, alongside analyses using different time horizon averaging of the outcome variable.

Given that we identify effects of mayoral partisanship on housing production, we also examined one downstream consequence of increased housing permits: housing prices. This analysis builds on research on housing across the disciplines of economics and urban planning that has consistently identified the effect of building more housing (and more multifamily housing) on the affordability of housing in cities (e.g. Glaeser, Gyourko, and Saks, 2005; Glaeser and Gyourko, 2018). Some recent work finds that a newly constructed residential project, with an average number of units of 165, reduces rent by 6 percent in the surrounding area (Asquith, Mast, and Reed, 2021). This may be driven both by an immediate supply effect and a broader "ripple effect" resulting from the construction of new market-rate units; households move into the new units from other – often older – units within the city, expanding the availability of lower-rent units within the city by roughly 45-70 additional units for each 100 newly constructed units, further increasing supply (Mast, 2021). We might therefore expect that our results documenting changes in multi-family housing units would also affect prices.

To assess this, we incorporated data from the Zillow Housing Value Index, a dataset constructed for researchers by Zillow. The index provides a monthly, smoothed, seasonally-adjusted measure of home values (single-family residences and condominiums) at the city level. For our purposes, we collapse the index to the city-by-year level. We then analyzed the effects of city councilors' and mayors' partisanship on the overall housing affordability of cities using these data and the same regression discontinuity design as described earlier. Our analyses in Appendix G provide suggestive, though statistically insignificant, evidence that electing a Democrat leads to a modest decrease in growth in housing prices, relative to the counterfactual of electing a Republican. However, this analysis is under-powered and should be further examined in future work. Our analyses in Appendix H also assess several potential causes of decreases in housing prices. Our results in that section suggest that electing a Democrat as mayor may lead to small increases in new LIHTC-subsidized units developed, which combined with the effects of market-rate multifamily development may

lead to decreases in housing prices.

To better understand the conditions under which partisan selection in government influences housing policy, we also examined potential institutional moderators of the effects of city councilors' and mayors' partisanship on policy in Appendix I. We assess the different effects of partisanship under strong mayor versus council-manager systems of government, the effects in cities that use district- or ward-based elections for city councilors versus those that use at-large elections, and the effects in cities that use partisan versus nonpartisan ballots in their local elections. We also assess the effects of city councilors' partisanship in cities that have larger or smaller city councils, and in places with closely-divided councils as opposed to councils with larger partisan majorities. In all these cases we observe only small differences in the size of the effects of partisanship.[25]

## Robustness of Main Regression Discontinuity Estimates

Our main result thus far is that the election of a Democratic mayor – but not city council members – leads to an increase in multifamily housing production. In the Appendix, we demonstrate the robustness of this result to different modeling choices. We briefly discuss some of those tests here and summarize them in Table 1.

Table 1: Summary of Robustness Checks in Appendix for Mayoral Results

| **Appendix** | **Robustness Check** |
|---|---|
| Appendix F | Different time periods for outcomes |
| Appendix J | Different bandwidths for RDD |
| Appendix K | Alternative transformations of non-proportion outcomes |
| Appendix L | Variety of higher order polynomials for RDD |
| Appendix M | Randomization inference, 2% bandwidth |
| Appendix N | Nonparametric Difference-in-Difference Models (PanelMatch) |

Notes: A summary of various robustness checks for our main results on the impact of partisanship on housing permits.

[25]It is important to note that we cannot identify the causal effect of institutions on the size of our main effects due to the few over-time changes in institutional configurations. But the lack of large cross-sectional differences in the main effects implies that institutional variation probably does not affect the impact of mayoral partisanship on housing policy.

First, we show that the result is robust to different time horizons (though the effects peak two to three years after the election) and different averaging over subsequent years to construct both the baseline levels and change measures we use as our outcome in Appendix F. Our main results are robust to different bandwidths for the RD model, which we document in Appendix J. As in results reported thus far, we find that Democratic mayors have an impact on the logged number of multifamily units and the proportion of multifamily units for a wide array of bandwidths, whereas all outcomes are unresponsive to Democratic councilmembers, regardless of bandwidth. We also present results using alternative transformations of the outcome variables that are not proportions in Appendix K, and find similar results. We also obtain similar results using higher order polynomials for our RD models as well as a simple difference in averages within the optimally-selected bandwidth (i.e., a 0-order polynomial) between cities that elected a Democrat versus those that did not in Appendix L; results are similar, indicating that our main results are not simply an artifact of functional form. In Appendix M, we show that we obtain similar results using local randomization inference in a narrow 2% bandwidth on either side of the discontinuity with 10,000 simulations using the `rdlocrand` package in `R` (Cattaneo, Titiunik, and Vazquez-Bare, 2016).

Finally, in Appendix N, we present results using a different research design altogether. Namely, we estimate non-parametric difference-in-differences models using the PanelMatch method (Imai, Kim, and Wang, 2021), which compares units with similar treatment histories (i.e. party control) and similar pre-treatment outcomes (i.e. housing permits) that are "treated" with a Democrat taking control of the mayoral office vs. those that are not treated (i.e. a Republican takes control).[26] We prefer the regression discontinuity approach presented in the main text, as it better deals with the endogeneity in the likelihood of electing a Democrat. Despite that, we do ultimately find substantively similar, albeit somewhat smaller, results using the difference-in-differences approach.[27]

[26] Specifically, we match using Mahalanobis distance on lagged outcomes in the four years prior to treatment.

[27] Appendix N also presents results from PanelMatch models assessing the effect of Democratic majority control of city councils.

## Regulatory Institutions and Veto Power

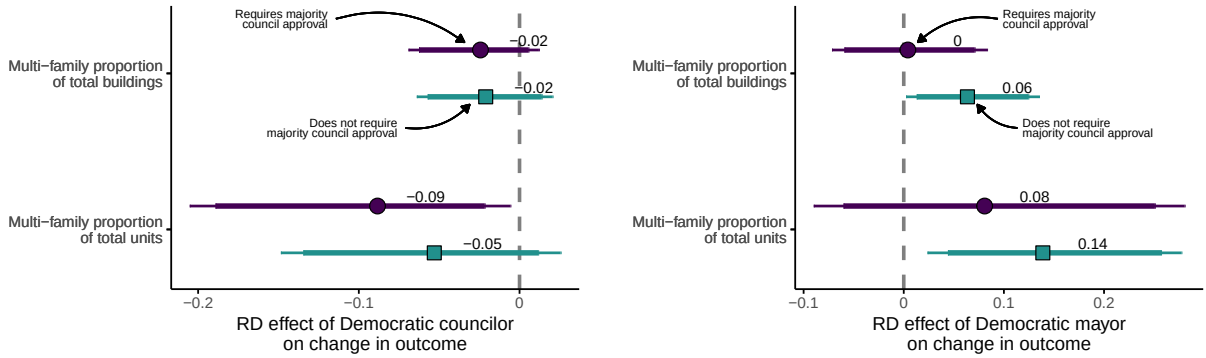
We next assess the role of regulatory regimes — that is, the limits on development imposed by allowing city councilors and commissioners to prevent new residential development even when it is allowed under existing zoning laws. Specifically, we use data from the Wharton Land Use Regulatory Index (WLURI) on whether a city requires the approval of a majority of local councilors or commissioners, or of the city manager, in order for any residential projects that do not require re-zoning (i.e. "by-right" development).[28] Of the 398 large cities in our elections data, 38% have this rule that requires a majority or supermajority of councilors to approve "by-right" land use changes, essentially limiting new development. This type of rule contributes to the stringent regulatory regimes that increase the price of housing in cities (Gyourko and Krimmel, 2021). We note that this institutional regime is primarily a constraint, and not a positive power: it denotes the ability of city councilors to veto new residential development. We therefore would expect weaker partisan differences on housing outcomes in municipalities with this type of regulation.

In Figure 7 we plot the effects of city councilors' and mayors' partisanship on the composition of housing permitted under each type of this regulatory regime. These results suggest that when local councilors have veto power over land use changes, this may limit the degree to which partisanship influences the housing permits that are issued. The effect of electing a Democrat rather than a Republican as mayor on multifamily housing is statistically significant only when city councils do not have the ability to veto new development.[29] These differences, alongside our results in Appendix I assessing moderation by other institutional differences, point to the importance of the balance of power between different actors within city government in conditioning the influence of mayors. However, we note two limitations that prevent us from interpreting these results as definitive. First, many cities in our elections

[28] The Wharton Index also reports whether cities require the approval a majority of local councilors or commissioners for development that *would* deviate from relevant zoning code, but that is true of almost all cities in our sample.

[29] We see similar moderation in the effect of partisanship on the number of multifamily units permitted, as Figure A22 in Appendix I shows.

Figure 7: Heterogeneity in Effect of Partisanship on Changes in the Composition of Housing Permitting by Regulatory Power Afforded to City Councils




(a) City Council Elections

(b) Mayoral Elections

Notes: The effect of partisanship on changes in the composition of housing permitted between the election year and the average of two and three years after the election, divided by the regulatory power afforded to city councils. Thick bars show 90% robust confidence intervals and thin bars show 95% robust confidence intervals.

data do not appear in the WLURI data on regulatory institutions, which leads to subgroup effects that differ from our full-sample effects. Second, the lack of data on over-time variation in institutional regimes prevents us from rigorously assessing whether this moderation is causal (Bansak and Nowacki, 2022). Yet these results suggest a fruitful path for future research on the role of institutional configurations in the processes behind public policy.

# Conclusion

Large cities in the United States face a housing affordability crisis. Municipal governments are a crucial thread in the fabric of American democracy and in particularly expensive cities, they may have played some role in the development of this crisis. Furthermore, in cities that are experiencing rapid population growth and are just now seeing the beginnings of the housing crisis, municipal governments may play a role in expanding housing supply and potentially ameliorating increases in housing prices. Investigating the impact of political leaders on housing policy — and how elections influence policy — can help explain contemporary

and future housing policy crises.

Assessing the degree to which partisan selection functions in city governments is also critical for a broader understanding of democratic functioning in the United States as a whole. While there is a growing body of evidence that the partisan composition of local governments can affect fiscal policy (de Benedictis-Kessner and Warshaw, 2016, 2020; Gerber and Hopkins, 2011), recent work has suggested limits to the influence of partisanship in local politics (Anzia, 2021, 2022). Some policy arenas may simply not generate disagreement among members of the public or among local politicians (e.g. Thompson, 2020). However, there is no previous study that examines the effects of partisan selection in city councils, and few that assess the role of partisanship in many of the more contentious policy debates that occupy municipal politics. In this paper, we provide a comprehensive assessment of partisanship's effects on the permitting of housing.

We show a variety of evidence that partisanship influences housing policy. Using public opinion data, we show that there are partisan divides in policy views on multifamily housing. Democrats are more supportive of multifamily housing construction. Moreover, we demonstrate that partisan selection in city governments influences housing policy. We find that the partisanship of mayors has large effects on housing policy. When a Democrat is barely elected as mayor rather than a Republican, cities permit more multifamily housing. The partisanship of local politicians can shape subsequent housing outcomes — indicating that partisan divisions among the public in housing policy opinions can translate into differences in local housing policy outcomes due to mayoral elections.

We also examine whether the size of these effects varies by the institutional constraints under which local politicians operate. In particular, we find that both the council-manager municipal form of government and nonpartisan ballots, which were instituted as part of the reform movement to insulate city politics from the mores of partisan national politics, do not prevent mayors' partisanship from influencing policy. On the other hand, the city-level rules that give city councilors veto power over land use changes do appear to moderate the

effects of mayoral partisanship on housing. When these powers are strong – and allocate more power to city councilors – mayors have less influence over housing policy.

Overall, we demonstrate that city councilors play a nuanced role in the local policy landscape around housing. Despite the fact that housing development is a contentious issue that is often debated in council meetings and over which city councilors are often thought to have control (Einstein, Glick, and Palmer, 2019; Hankinson, 2018; Hankinson and Magazinnik, 2022), the partisanship of councilors has no detectable impact on housing policy. City councilors may have few levers by which to influence housing policy. Alternatively, partisanship – while an important feature of politics for other local politicians and on other policy issues – may not structure city councilors' decisions on housing. Instead, city councilors' housing policy decisions may be influenced more by the activity of growth and development interest groups in their cities (Anzia, 2022) rather than their partisanship. Mayors' partisanship, on the other hand, can shift local policy in their ideological direction by a substantively large amount. Yet our analyses show that mayoral partisan influence is conditioned by the presence of city councilor veto power. Thus city legislators maintain some ability to affect housing production due to intra-city institutional arrangements. These results suggest that policymaking in cities depends on the distribution of power not just between city and state governments (Palmer et al., 2019), but also *within* city governments.

Our findings extend theories of partisan selection and representation to the most common municipal elected office of the city councilor. Moreover, our results extend theories of mayoral partisanship to housing policy, arguably the most contentious local policy issue of the current era. Together, these results suggest that theories about the role of partisanship and political representation at the local policy should take note of the complex institutional context in each policy area. Housing involves an amalgam of different zoning policies across cities, which combines with different institutional rules surrounding the balance of power among elected and unelected officials in local government. Our findings place the role of these institutions in conversation with theories of representation, and help develop a more holistic

understanding of the role of partisanship in local policy.

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# Supplementary Appendix for "How Partisanship in Cities Influences Housing Policy"

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## Contents



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# A Housing Policy Survey

Upon entrance to our survey, potential respondents were given information about the survey and asked for their informed consent. The explanation of the study provided to research participants, with relevant identifying portions of the information redacted, is shown below.

> You are invited to participate in a survey about politics and public affairs that is being conducted by [names and universities]. You will be asked to answer a number of questions about national and community affairs. The survey should take approximately 10 minutes to complete. You may be invited to participate in additional follow-up surveys.
>
> Your participation is voluntary. You must be 18 years or older to participate. The only potential risk of this study is a loss of confidentiality, but this is a very small risk. No identifying information other than very general demographic information will be included along with your responses. Taking part in this study will not benefit you directly, but this research may benefit society by improving our understanding of politics and government. If you have read this form and have decided to participate in this study, please understand your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty or the loss of benefits to which you are otherwise entitled. The alternative is not to participate. We will not ask for your name or other identifying information. Your individual privacy will be maintained in all published work or public presentations resulting from the study.
>
> If you have any questions, concerns or complaints about this research, its procedures, risks and benefits, please contact [name] at [email]. The [office name] at [university name], at [phone number], can provide further information on your rights as a research participant.
>
> If you consent to take the survey, please click the arrow below to begin.

Participants then were asked a number of policy questions, political questions, and demographic questions, among which was our main question of interest on housing policy, which is shown below.

1. Which of the following statements about multifamily housing, such as apartment buildings, comes closer to your view, even if neither is exactly right?

    - Multifamily housing should be allowed everywhere in my city to revitalize neighborhoods and local economies
    - Multifamily housing should be allowed only in dense areas of my city to preserve the character of less populated neighborhoods

# B Elections Data Sample

In this section, we provide further details on our elections data. Tables A1 and A2 provide further details on the total elections data gathered as well as those elections used in our descriptive and RDD analyses. The cities in our council and mayoral elections dataset encompass 93% and 100%, respectively, of the population in our target universe of medium and large cities with that type of elections. Moreover, the elections that have a Democratic vote share between 40% and 60%, which roughly approximates the effective sample in many of our RDD analyses, covers 80% (for council elections) and 67% (for mayoral elections) of the population in our target universe overall.

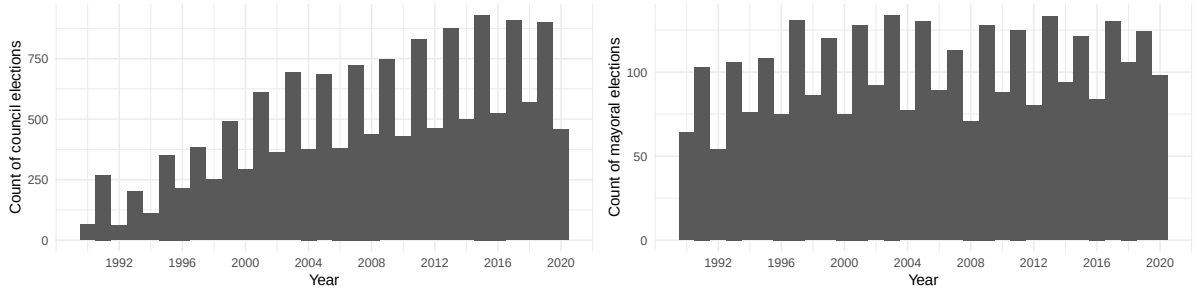
Table A1: Summary of City Council Elections Data Coverage

| Subset | N Cities | N Elections | Min Pop. | Max Pop. | Avg. Pop. | Total Pop. | % of Target Uni. Pop. |
|---|---|---|---|---|---|---|---|
| All cities | 19,481 | | 0 | 8,804,190 | 10,526 | 205,058,014 | |
| Medium and large cities (target universe) | 476 | | 75,102 | 8,804,190 | 224,297 | 106,765,546 | 100 |
| Medium and large cities in elections dataset | 380 | 15,573 | 75,102 | 8,804,190 | 260,005 | 98,801,728 | 93 |
| Two-party contested elections in dataset | 348 | 3,557 | 75,604 | 8,804,190 | 269,940 | 93,939,172 | 88 |
| Two-party close elections in dataset | 309 | 1,583 | 75,781 | 8,804,190 | 277,879 | 85,864,674 | 80 |

Table A2: Summary of Mayoral Elections Data Coverage

| Subset | N Cities | N Elections | Min Pop. | Max Pop. | Avg. Pop. | Total Pop. | % of Target Uni. Pop. |
|---|---|---|---|---|---|---|---|
| All cities | 19,481 | | 0 | 8,804,190 | 10,526 | 205,058,014 | |
| Medium and large cities | 476 | | 75,102 | 8,804,190 | 224,297 | 106,765,546 | |
| Medium and large cities w/ mayoral elections (target universe) | 419 | | 75,102 | 8,804,190 | 240,204 | 100,645,272 | 100 |
| Medium and large cities in elections dataset | 398 | 3,248 | 75,102 | 8,804,190 | 252,124 | 100,345,436 | 100 |
| Two-party contested elections in dataset | 296 | 1,087 | 75,604 | 8,804,190 | 278,411 | 82,409,729 | 82 |
| Two-party close elections in dataset | 226 | 518 | 75,644 | 8,804,190 | 296,707 | 67,055,841 | 67 |

Figure A1 displays the temporal coverage of these data for both city council (left panel) and mayoral elections (right panel).




(a) City Council Elections (b) Mayoral Elections

Figure A1: Temporal Coverage of Elections Data

Furthermore, Figure A2 shows the size of the legislatures in the cities in our dataset. Typical city councils are fairly small, and the median city in our data has 8 councilors. While councils with fewer than 10 members are typical, some cities — such as New York City — have councils with up to 51 members.

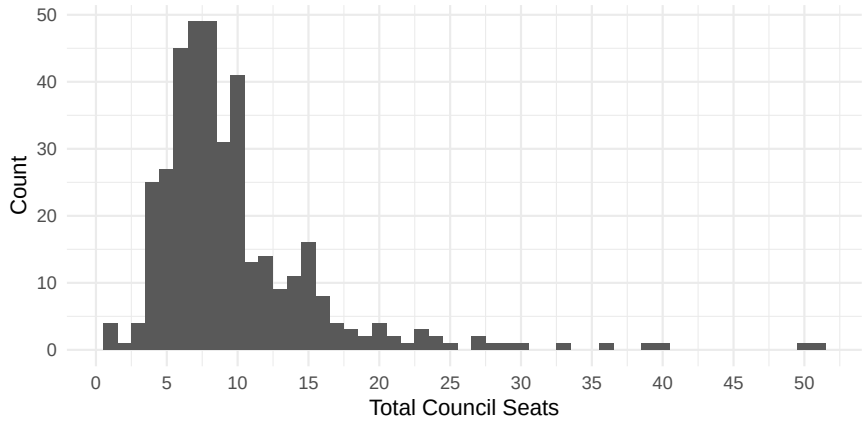



Figure A2: Size of City Legislatures in our Dataset

# C McCrary Tests on the Density of Observations

In this appendix we present the results of the McCrary test for the continuity of the density of observations across the 50% vote threshold. These tests replicate the RDD framework but using the density of observations as the outcome. If the density of observations were to have a "jump" in numbers across the threshold, it would suggest a potential violation of the assumption that potential outcomes are continuous at the threshold.

In Table A3 below we present the results of these tests using the number of observations within half-percentage-point bins of voteshare. The coefficient in the second line, indicating the change in the number of observations at the threshold, represents the RDD effect on this outcome. We find a null effect for both city council elections and mayoral elections, suggesting that the continuity assumption is likely to hold in both council and mayoral races.

Table A3: McCrary Tests

(a) City Council Elections

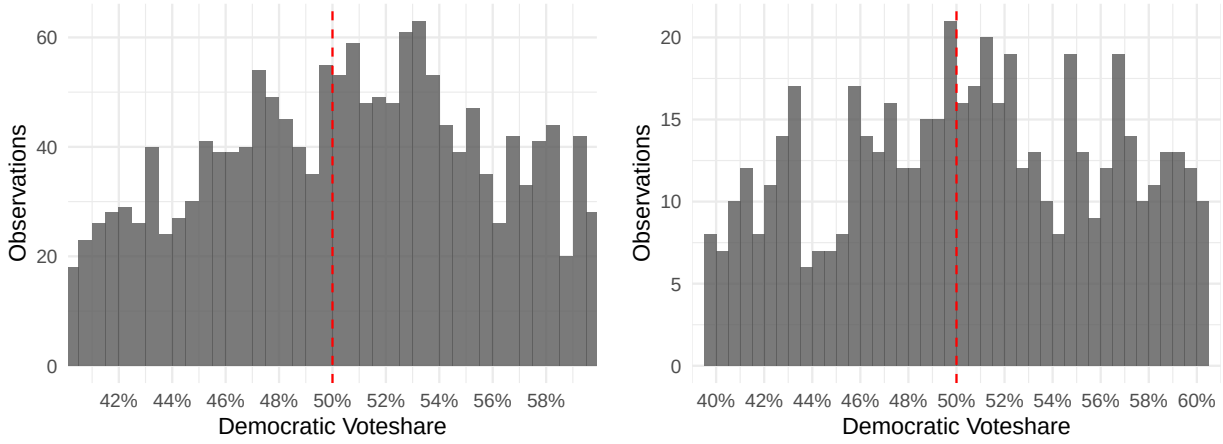
| | *Dependent variable:* |
|---|---|
| | Number of observations in bin |
| Voteshare bin | 261.353*** |
| | (52.252) |
| Voteshare $\geq 0.5$ | 6.710 |
| | (4.265) |
| Voteshare bin $\times$ Voteshare $\geq 0.5$ | −503.910*** |
| | (73.895) |
| Constant | 44.468*** |
| | (3.016) |
| Observations | 40 |
| $R^2$ | 0.623 |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |

(b) Mayoral Elections

| | *Dependent variable:* |
|---|---|
| | Number of observations in bin |
| Voteshare bin | 80.068*** |
| | (15.833) |
| Voteshare $\geq 0.5$ | 0.350 |
| | (1.680) |
| Voteshare bin $\times$ Voteshare $\geq 0.5$ | −139.487*** |
| | (22.392) |
| Constant | 14.935*** |
| | (1.188) |
| Observations | 52 |
| $R^2$ | 0.477 |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |

We also present these results visually in Figure A3, which shows the binned number of

observations both below and above the 50% vote threshold. Visual inspection supports the more formal results shown in Table A3: that there is no discernable effect on the density of observations at the threshold for council elections but a noticeable increase in the density of observations above the threshold for mayoral elections.




(a) City Council Elections

(b) Mayoral Elections

Figure A3: Histograms of the number of observations within half percentage-point bins.

However, these tests are subject to a variety of researcher degrees of freedom – in particular, the choice of the size of bin within which to group observations. An alternative check suggested by Cattaneo, Jansson, and Ma (2019) involves conducting a nonparametric test for a discontinuity in the density of the running variable that does not require binning. We present the results from these nonparametric tests, estimated using the `R` package `rddensity`, in Table A4 below. Similar to the tests discussed earlier, they indicate no evidence of sorting across the threshold for council elections. However, this nonparametric test does indicate that the difference in the density of observations for mayoral races is statistically distinguishable from zero at the 95% significance threshold, suggesting some evidence of sorting in mayoral elections.

Table A4: Nonparametric Density Tests

(a) City Council Elections

| t.statistic | p.value | Effective.N |
|---|---|---|
| 0.97 | 0.33 | 1587 |

(b) Mayoral Elections

| t.statistic | p.value | Effective.N |
|---|---|---|
| 0.61 | 0.54 | 536 |

Finally, others have recently suggested constructing an equivalence test (Hartman and Hidalgo, 2018) based on the density of the forcing variable and calculating inverted $p$-values based on the null hypothesis of a difference in the density to the left and the right of the cutpoint (Hartman, 2021). We present results using this method in Table A5 below, which show the observed ratio between the density to the left and right of the threshold as well as the equivalence confidence interval and the $p$-value for the null hypothesis of a jump of greater than 50% in the density across the threshold. This test indicates that the null hypothesis of a substantively important difference in densities can be rejected for council

elections at the 90% confidence level but cannot be rejected for mayoral elections. In both cases, the equivalence confidence interval suggests that the range of differences in density is fairly small in size as well.

Table A5: Density Equivalence Tests

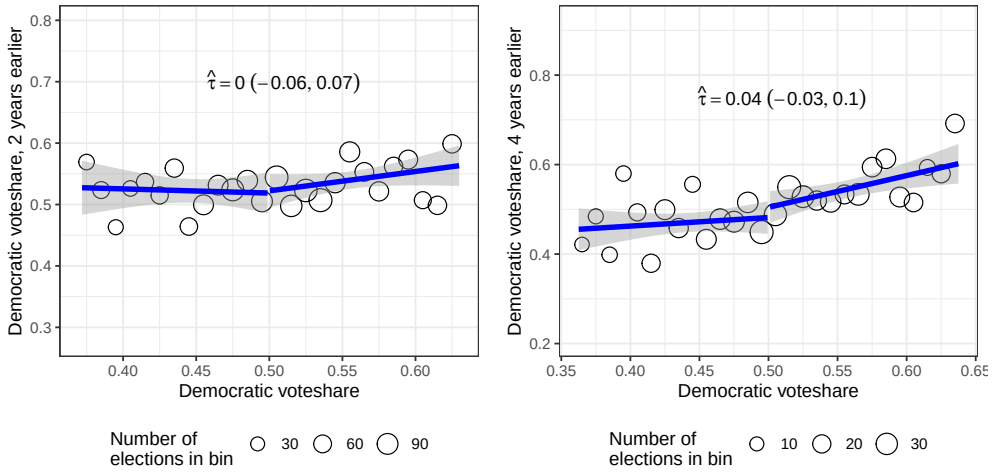
(a) City Council Elections

| Observed.Ratio | Equivalence.Confidence.Interval | p.value |
|---|---|---|
| 0.86 | (0.66, 1.52) | 0.06 |

(b) Mayoral Elections

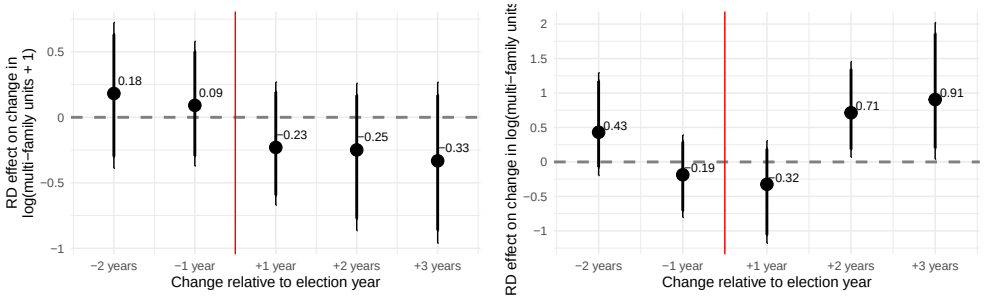
| Observed.Ratio | Equivalence.Confidence.Interval | p.value |
|---|---|---|
| 0.86 | (0.58, 1.73) | 0.14 |

# D Placebo Tests



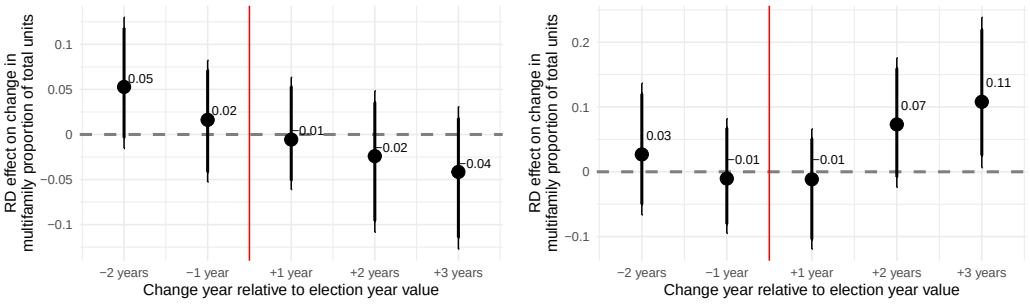

(a) City Council Elections (b) Mayoral Elections

Figure A4: Placebo effect of partisanship on lagged democratic voteshare.




(a) City Council Elections (b) Mayoral Elections

Figure A5: Placebo effect of partisanship on pre-treatment # of multifamily units permitted.




(a) City Council Elections (b) Mayoral Elections

Figure A6: Placebo effect of partisanship on pre-treatment ratio of multifamily units.

# E Housing Policy RDD Results in Tabular Format

Table A6: Effect of Councilor Partisanship on $\Delta$ log(Outcome + 1)

| DV | Coef | p-value | BW | Obs |
|---|---|---|---|---|
| Total buildings, T+2/3 Avg | -0.08 | 0.33 | 12.01 | 1595 |
| | (-0.3, 0.1) | | | |
| Single-family buildings, T+2/3 Avg | -0.07 | 0.46 | 13.48 | 1726 |
| | (-0.28, 0.13) | | | |
| Multi-family buildings, T+2/3 Avg | -0.12 | 0.45 | 14.52 | 1806 |
| | (-0.41, 0.18) | | | |
| Total units, T+2/3 Avg | -0.13 | 0.21 | 9.17 | 1334 |
| | (-0.43, 0.09) | | | |
| Single-family units, T+2/3 Avg | -0.07 | 0.46 | 13.48 | 1726 |
| | (-0.28, 0.13) | | | |
| Multi-family units, T+2/3 Avg | -0.27 | 0.26 | 10.31 | 1432 |
| | (-0.84, 0.23) | | | |

Table A7: Effect of Councilor Partisanship on $\Delta$ Housing Composition

| DV | Coef | p-value | BW | Obs |
|---|---|---|---|---|
| Multi-family proportion of buildings, T+2/3 Avg | 0 | 0.79 | 13.55 | 1721 |
| | (-0.04, 0.03) | | | |
| Multi-family proportion of units, T+2/3 Avg | -0.03 | 0.3 | 10.08 | 1412 |
| | (-0.11, 0.03) | | | |

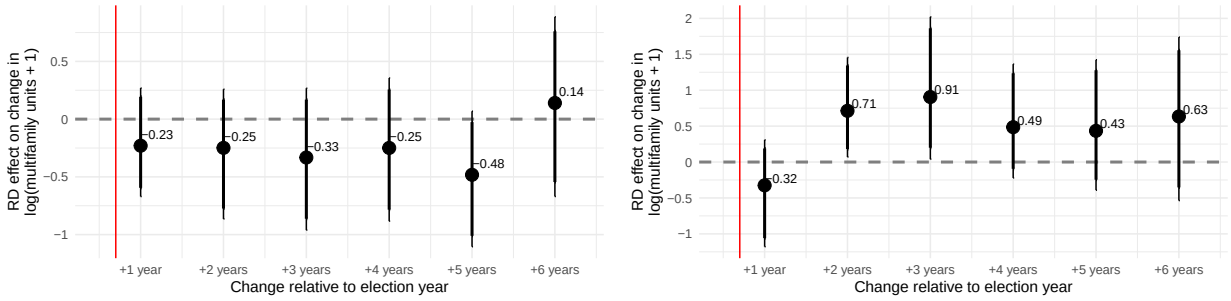
Table A8: Effect of Mayoral Partisanship on $\Delta$ log(Outcome + 1)

| DV | Coef | p-value | BW | Obs |
|---|---|---|---|---|
| Total buildings, T+2/3 Avg | -0.04 | 0.57 | 8.96 | 437 |
| | (-0.33, 0.18) | | | |
| Single-family buildings, T+2/3 Avg | -0.06 | 0.48 | 10.14 | 480 |
| | (-0.38, 0.18) | | | |
| Multi-family buildings, T+2/3 Avg | 0.38 | 0.02 | 12.89 | 553 |
| | (0.06, 0.78) | | | |
| Total units, T+2/3 Avg | 0.11 | 0.53 | 8.45 | 411 |
| | (-0.18, 0.35) | | | |
| Single-family units, T+2/3 Avg | -0.06 | 0.48 | 10.14 | 480 |
| | (-0.38, 0.18) | | | |
| Multi-family units, T+2/3 Avg | 0.84 | 0.01 | 8.46 | 412 |
| | (0.2, 1.65) | | | |

Table A9: Effect of Mayoral Partisanship on $\Delta$ Housing Composition

| DV | Coef | p-value | BW | Obs |
|---|---|---|---|---|
| Multifamily proportion of buildings, T+2/3 Avg | 0.03 | 0.15 | 13.06 | 551 |
| | (-0.01, 0.08) | | | |
| Multifamily proportion of units, T+2/3 Avg | 0.09 | 0.04 | 10.54 | 488 |
| | (0.01, 0.19) | | | |

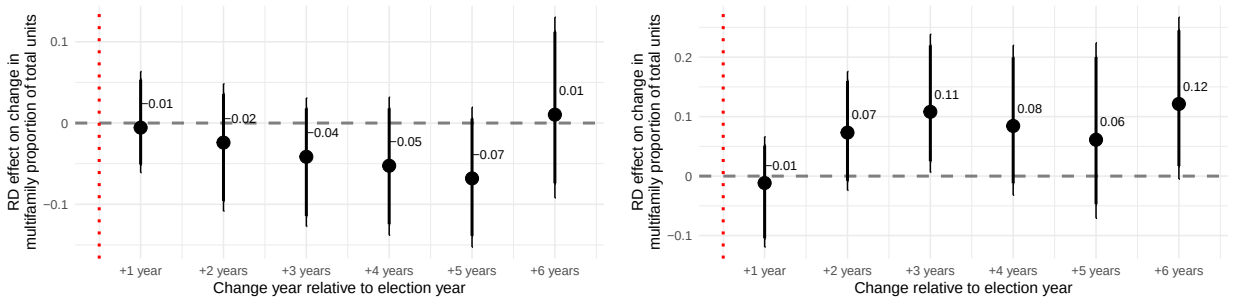
# F Long-Run Effects of Partisanship




(a) City Council Elections

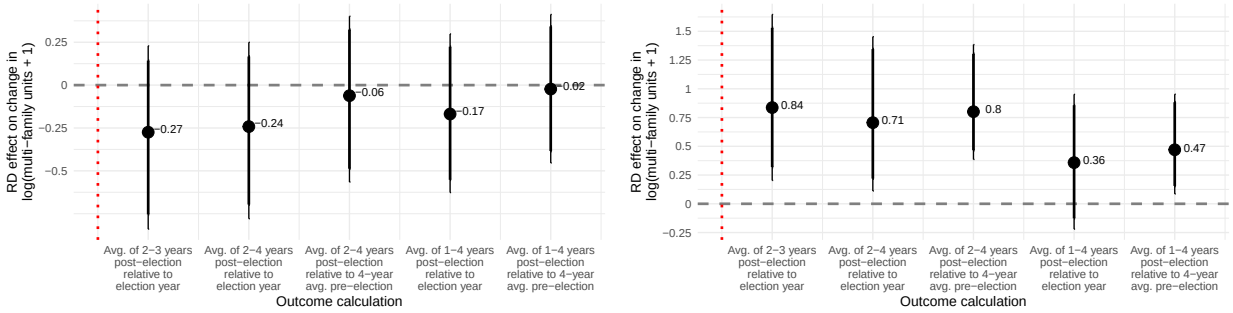
(b) Mayoral Elections

Figure A7: Long-term effect of partisanship on $\Delta$ in logged # of multifamily units permitted.




(a) City Council Elections (b) Mayoral Elections

Figure A8: Long-term effect of partisanship on $\Delta$ in multifamily prop. of units permitted.



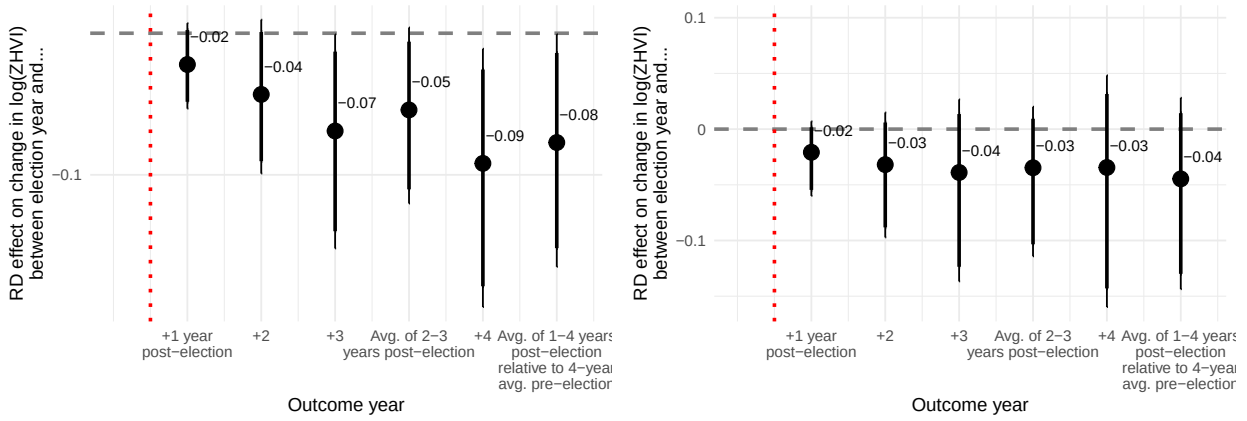

(a) City Council Elections (b) Mayoral Elections

Figure A9: Effect of partisanship on $\Delta$ in logged # of multifamily units permitted averaged over different time horizons.

# G Consequences for Affordability

Research on housing across the disciplines of economics and urban planning has consistently identified the effect of building more housing (and more multifamily housing) on the affordability of housing in cities (e.g. Glaeser, Gyourko, and Saks, 2005; Glaeser and Gyourko, 2018). Given that we identify effects of mayoral partisanship on housing production, we also examined this downstream consequence of increased housing permits. To do so, we incorporated data from the Zillow Housing Value Index, a dataset constructed for researchers by Zillow. The index provides a monthly, smoothed, seasonally-adjusted measure of home values (single-family residences and condominiums) at the city level. For our purposes, we collapse the index to the city-by-year level. We then analyzed the effects of city councilors' and mayors' partisanship on the overall housing affordability of cities using these data and the same regression discontinuity design as described earlier. Our analyses provide suggestive evidence that electing Democrats as mayor or councilor may lead to a decrease in housing prices, as shown in Figure A10. Electing a Democrat rather than a Republican as mayor appears to lead to approximately 3% lower housing values in the 2-3 years following their election. It is important to note, however, that these analyses are underpowered.

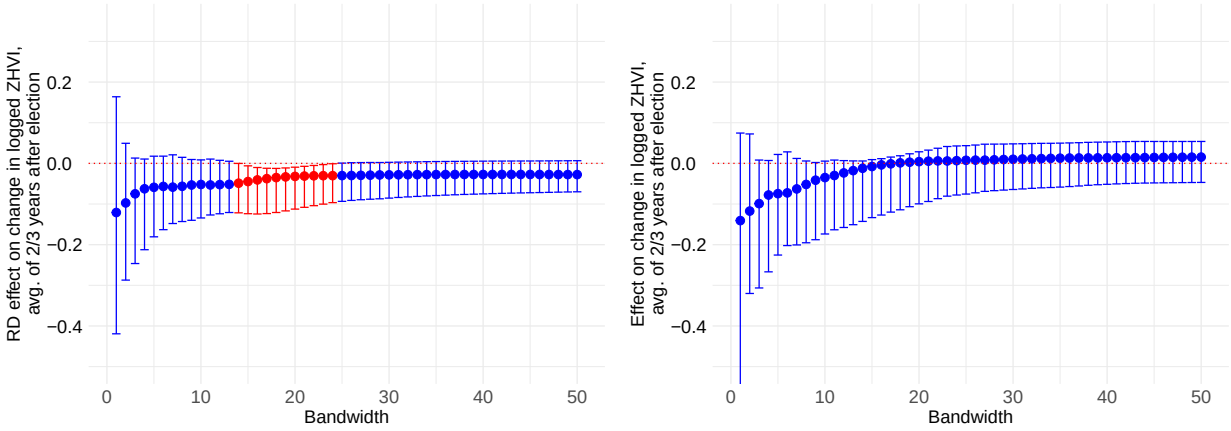
Furthermore, we analyze the robustness of these results on housing prices by varying both the bandwidth and the order of the polynomial used in the RDD. The results of these




(a) City Council Elections (b) Mayoral Elections

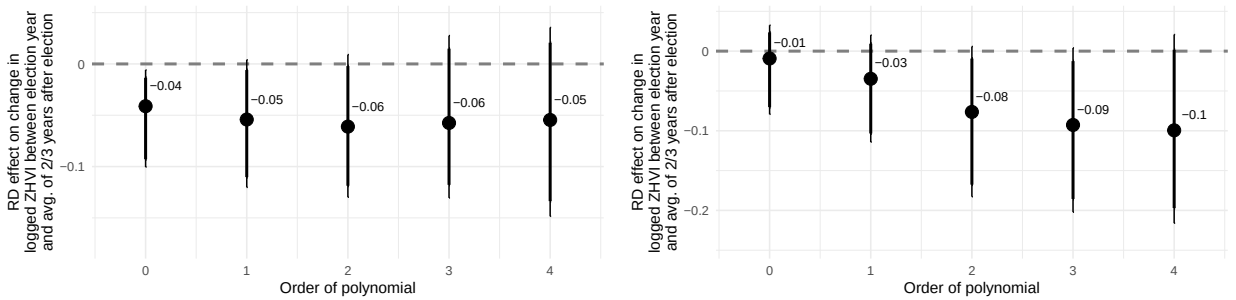
Figure A10: Effects of partisanship on the value of residential housing, as measured by the Zillow Housing Value Index (ZHVI). The ZHVI represents the average value of homes sold in each city in each year. Bars show 90% (thick lines) and 95% (thin lines) robust confidence intervals.

robustness checks are presented in Figure A11 and Figure A12.




(a) City Council Elections (b) Mayoral Elections

Figure A11: Effect of partisanship on logged ZHVI using alternative bandwidths. Bars show 95% robust confidence intervals, which are colored blue if they overlap with zero and red if they do not.

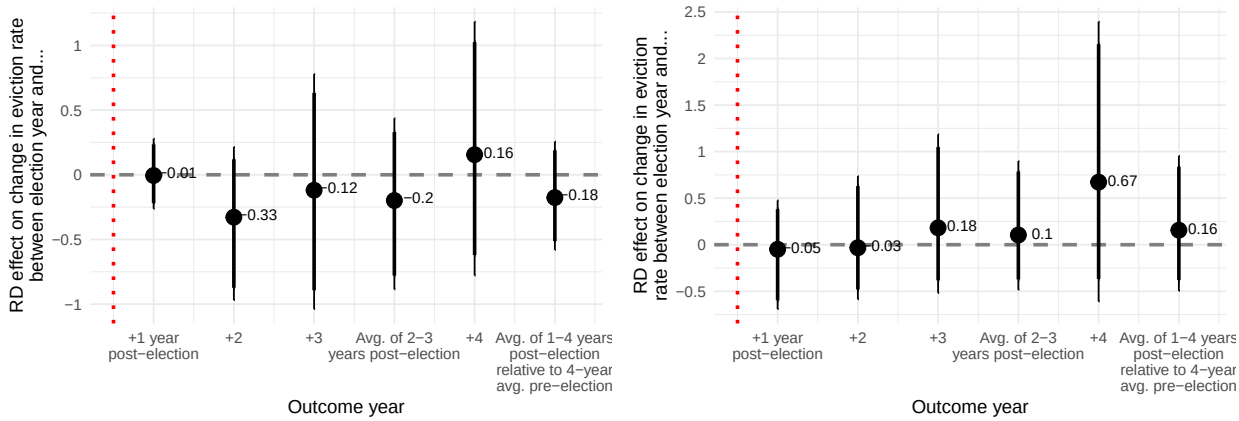



(a) City Council Elections (b) Mayoral Elections

Figure A12: Effect of partisanship on the change in ZHVI between the election year and the average of the years two and three years after the election using alternative polynomials. Bars show 95% robust confidence intervals.

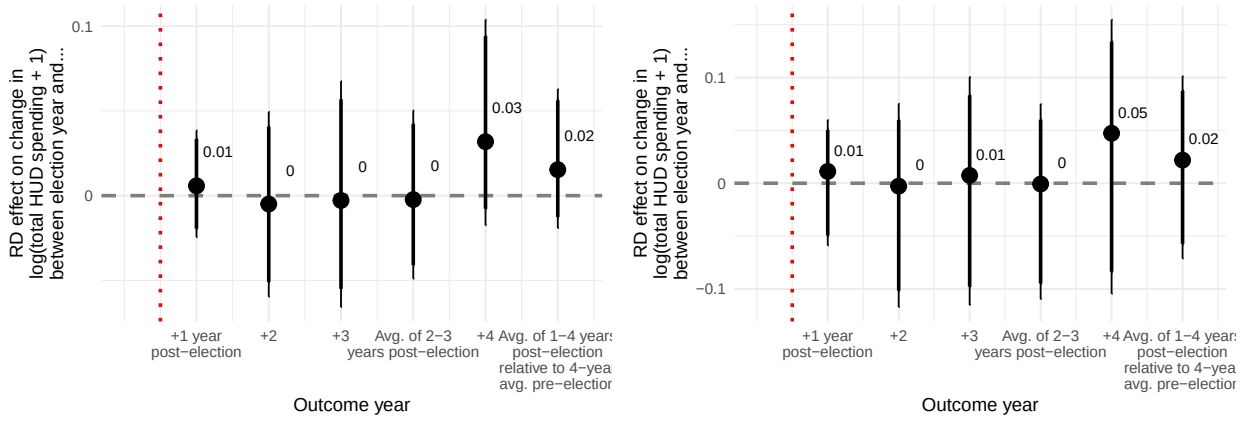
# H Effects of Partisanship on Alternative Housing Outcomes

In this section, we assess the effects of politicians' partisanship on several alternative housing policy-related outcomes: the eviction rate, spending by local governments of HUD funds (used for affordable housing), and the number of new low-income housing tax credit (LIHTC)-subsidized housing units developed. Our results indicate no consistent effects of city councilor or mayoral partisanship on eviction rates or HUD spending, but they do show suggestive effects of mayoral partisanship on the number of subsidized units developed via low income housing tax credits.



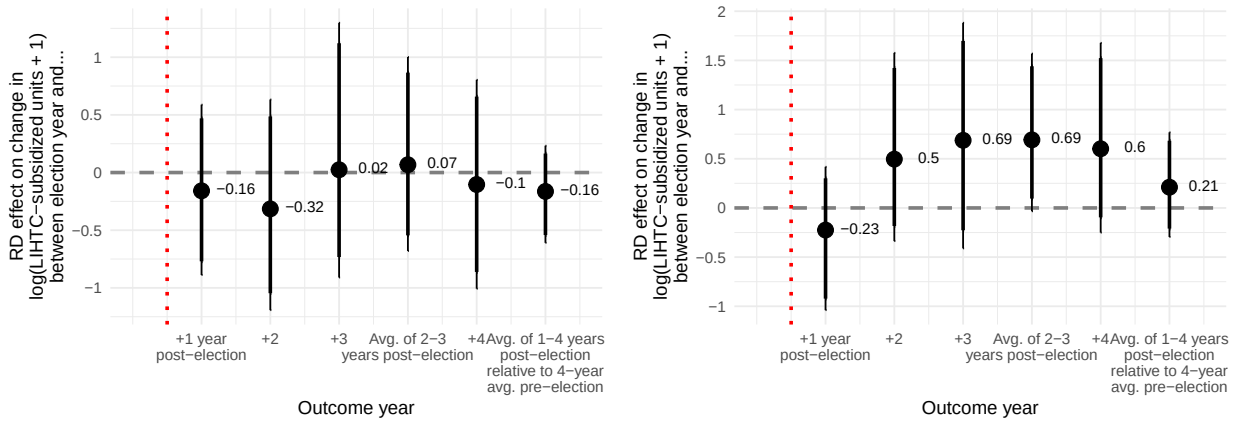

(a) City Council Elections (b) Mayoral Elections

Figure A13: Effects of partisanship on the eviction rate.




(a) City Council Elections (b) Mayoral Elections

Figure A14: Effects of partisanship on total HUD spending.




(a) City Council Elections (b) Mayoral Elections

Figure A15: Effects of partisanship on number of units of LIHTC-subsidized housing units built.

# I Moderators

Here, we examine three potential institutional moderators of the effects of city councilors' partisanship on policy: the presence of a strong mayor system (rather than a city manager), the use of at-large versus district elections to elect city councilors, and the use of partisan versus nonpartisan ballots in local elections. Though we cannot identify the causal effect of any of these institutional configurations on the effects we observe, the cross-sectional differences (and lack of differences that we observe) are still interesting.

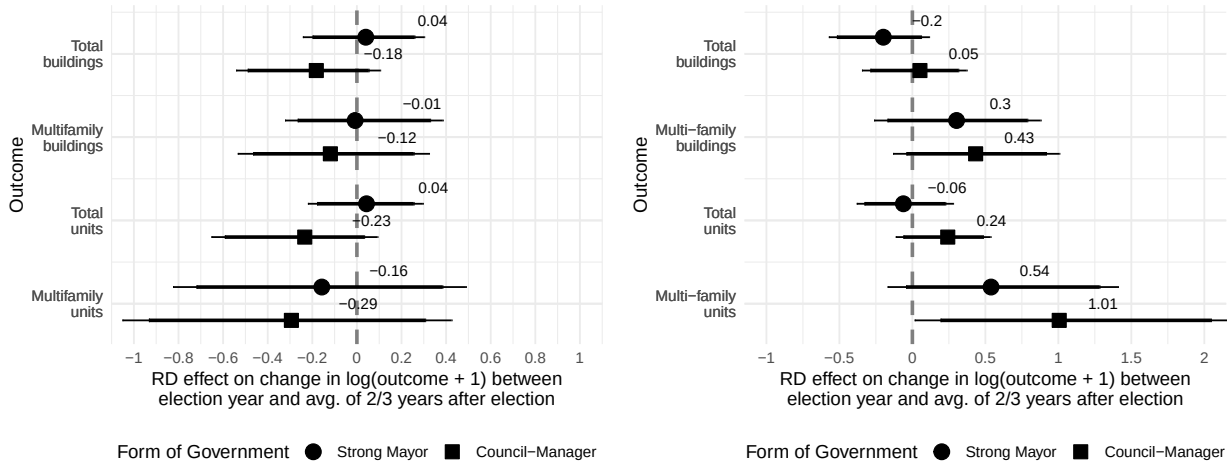
In order to assess the impact of different institutions at the city level, we use records of the form of government of cities in our data, their councilor election methods, and whether they use partisan ballots for their elections. These data are from the International City/County Management Association's (ICMA) Form of Government surveys.[1] We use this source of

[1]The ICMA collected these data via a survey sent to city and county government officials every few years

data to assess the differential impact of electing a Democrat or a Republican on policy in cities with different institutions.

## Form of Government

We display the effects of electing a Democrat on types of housing permitted in Figure A16 and on the composition of housing permitted in Figure A17, divided up by form of government.

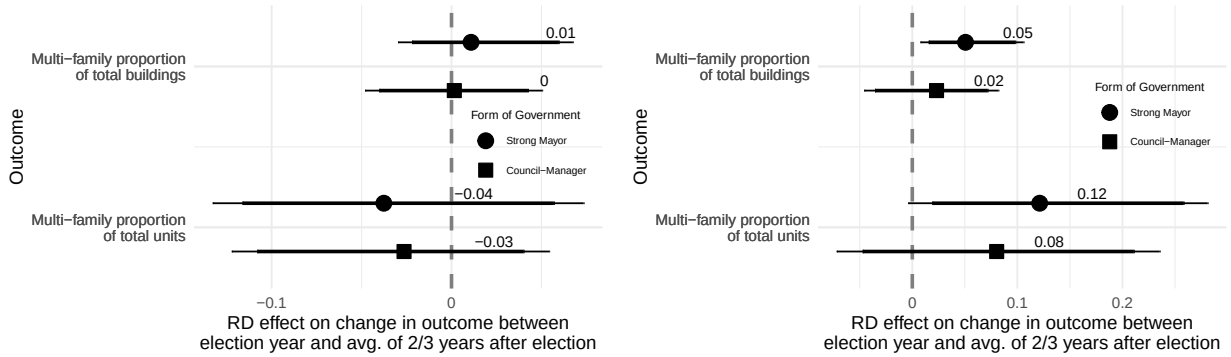



(a) City Council Elections (b) Mayoral Elections

Figure A16: The effect of partisanship on changes in housing permitting in the fiscal years two and three years after an election, by form of government.

For both councilors and mayors, the effects of partisanship on housing outcomes appear to be relatively similar in cities with strong mayor and council-manager systems. This suggests that the influence of mayors on housing policy is not confined to cities where they operate as a "strong mayor," and that the lack of influence by city councilors is not only due to their operation in the shadow of "strong" mayors.

from 1974 to 2011 (in 1974, 1981, 1986, 1991, 1996, 2001, 2006, and 2011).



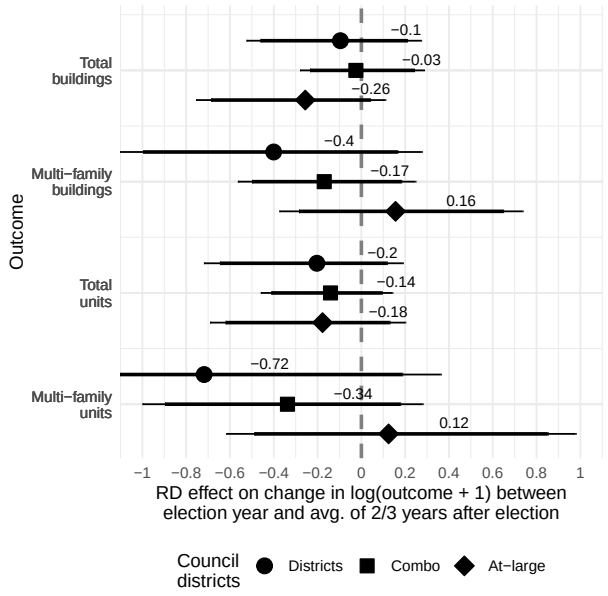

(a) City Council Elections

(b) Mayoral Elections

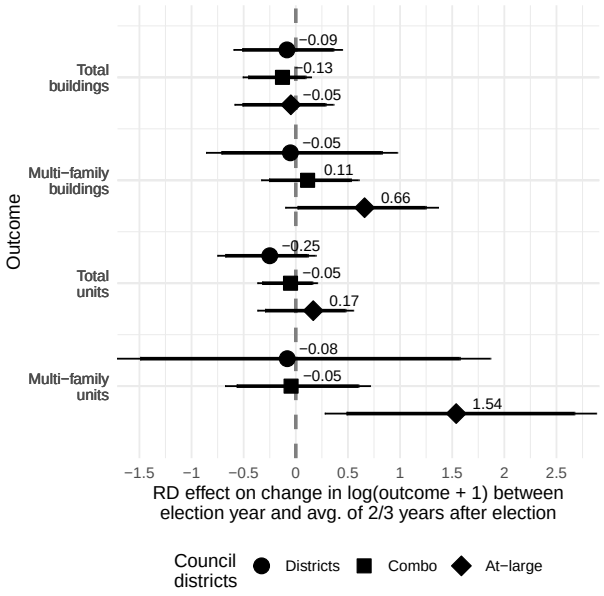
Figure A17: The effect of partisanship on changes in the composition of housing permitting in the fiscal years two and three years after an election, by form of government.

## District and At-Large Elections

We display the effects of electing a Democrat on the type of housing permitted in Figure A18 and on the proportion of housing permitted that is multifamily in Figure A19, divided up by the method by which city councilors in the city are elected. As Hankinson and Magazinnik (2022) argue, district elections (rather than at-large elections) may incentivize city councilors to try and block new housing development in their district, leading to overall decreases in the supply of housing. The effects of partisanship on housing outcomes appear to vary only slightly between cities with different types of councilor elections. City councilors appear to have little influence on housing policy regardless of the method by which the city elects its councilors. Mayors are able to influence the number of multifamily housing units to a larger degree in cities with at-large city council elections, lending suggestive evidence to support the theory that districted council elections may help stymie housing development and the influence of mayors. However, the difference in the sizes of effects is not significant by election method, nor are the results for the multifamily proportion of units in line with these. In addition, very few cities change their method of electing city councilors over the course of our dataset, so we cannot make conclusions about whether this institution has any *causal* effect on the influence of partisanship.

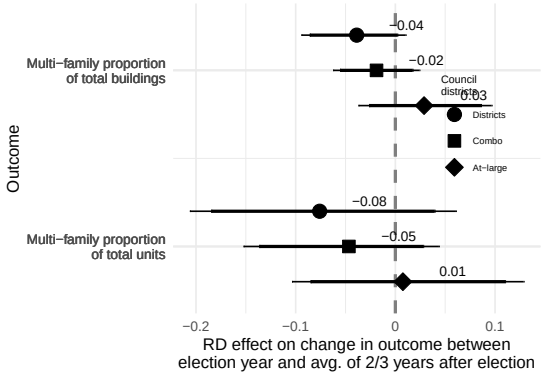



(a) City Council Elections

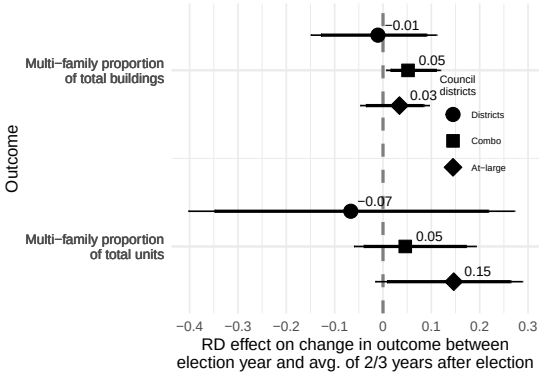



(b) Mayoral Elections

Figure A18: The effect of partisanship on changes in housing permitting in the fiscal years two and three years after an election, by type of councilor elections.




(a) City Council Elections



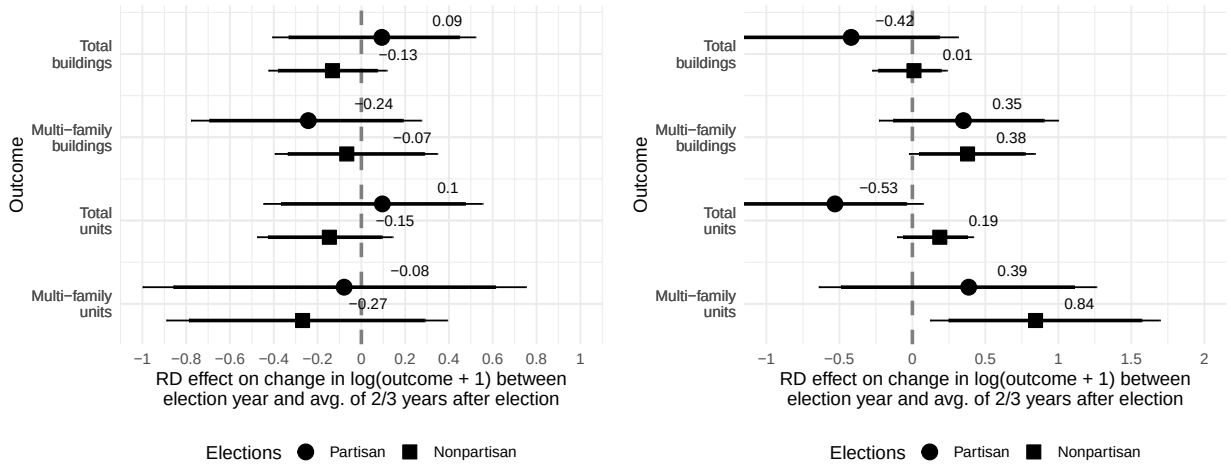

(b) Mayoral Elections

Figure A19: The effect of partisanship on changes in housing permitting in the fiscal years two and three years after an election, by type of councilor elections.

## Partisan Ballots

We display the effects of electing a Democrat on the type of housing permitted in Figure A20 and on the proportion of housing permitted that is multifamily in Figure A21, divided up by the type of ballot used in that city.

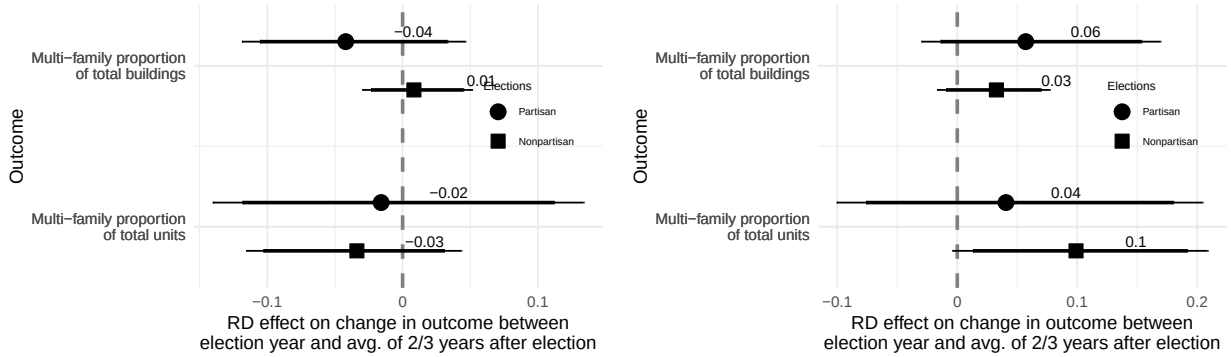
The effects of partisanship on housing outcomes do not appear to only occur in cities with officially partisan election ballots — and in fact, the effects appear larger in places with nonpartisan ballots. Of course, the majority of cities (70% of elections in our data) hold nonpartisan elections, and very few cities change their ballot form over the course of our




(a) City Council Elections (b) Mayoral Elections

Figure A20: The effect of partisanship on changes in housing permitting in the fiscal years two and three years after an election, by type of election ballot.

dataset, so we cannot make conclusions about whether this institution has any *causal* effect on the influence of partisanship. But these results indicate that officially partisan ballots are not necessary for the partisanship of city leaders to have an effect on policy outcomes.

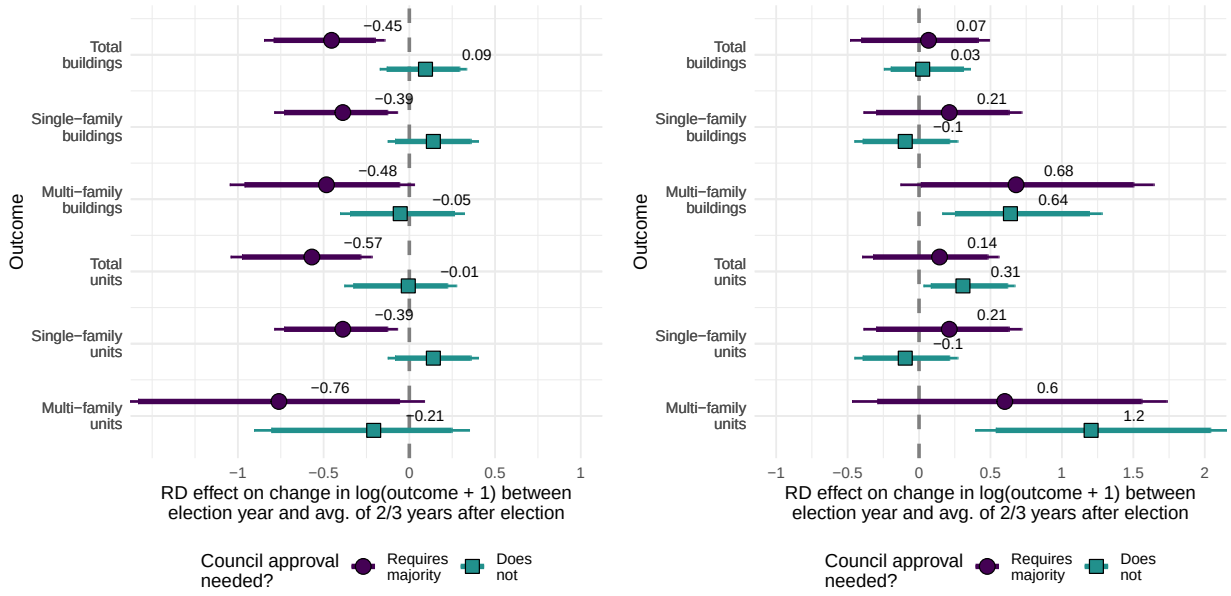



(a) City Council Elections (b) Mayoral Elections

Figure A21: The effect of partisanship on changes in housing permitting in the fiscal years two and three years after an election, by type of election ballot.

## Regulatory Regime

As we show in the main paper, the regulatory regime of cities – the veto powers afforded to city councils over land use development – moderates the effect of partisanship on the multi-family composition of housing permitted. In Figure A22 we show the effects of partisanship on the types of housing permitted by whether or not cities give councils this veto power.




(a) City Council Elections

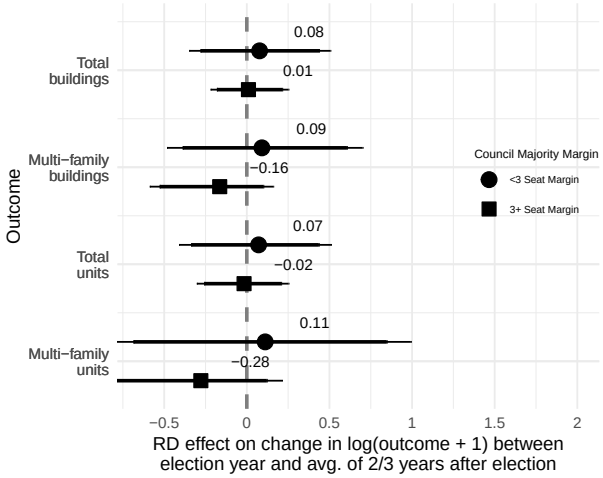
(b) Mayoral Elections

Figure A22: The effect of partisanship on changes in type of housing permitted in the fiscal years two-three years after an election, divided by the regulatory power of city councils.

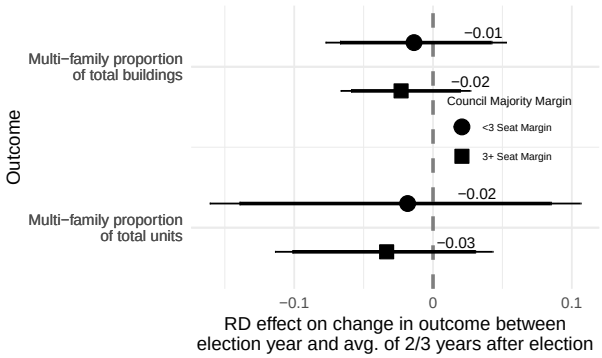
## Partisan Control of Council

In this section, we examine whether the effect of individual legislators is larger when they have the potential to influence partisan control of the city council. Specifically, we analyze whether the effect of partisan selection in city councils on housing is larger in legislatures where, at the time of the election, the partisan majority is small compared to the effect when one party controls a large proportion of the legislature.In closely divided city councils, an additional Democratic legislator could influence majority control of the body, while in more extreme legislatures the partisan majority is unlikely to change. We might therefore expect to observe a larger effect of electing a Democratic legislator rather than a Republican legislator in these more evenly split legislatures.

The top line in Figure A23 indicates the effect of electing a Democratic legislator rather than a Republican legislator in these closely-split legislatures (i.e., where a swing of 1 or 2 seats determines majority control), while the second line indicates this effect in legislatures with three or more seats majority. In the left-panel, we find suggestive evidence that the election of partisan legislators may have a larger influence on housing policy when the legislature is closer to evenly split between parties. But none of the results are statistically significant, nor are the differences between elections with closely-split and more lopsided councils. Moreover, the right-panel shows that this suggestive effect totally disappears when we focus on the share of housing that is multifamily.




(a) Housing types

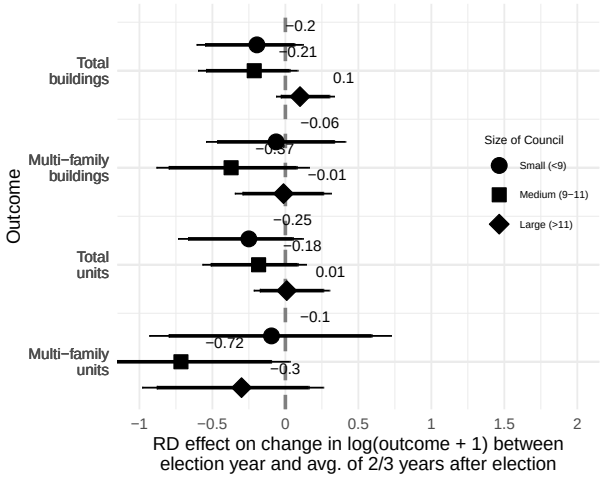



(b) Housing composition

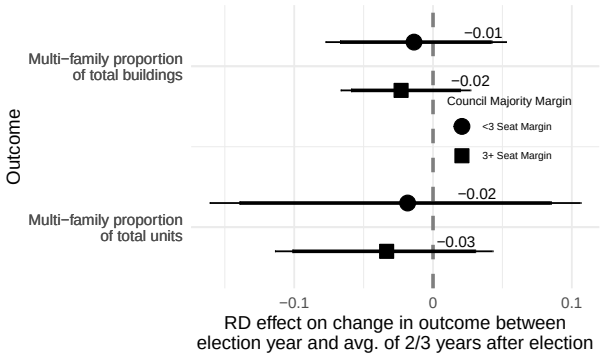
Figure A23: The effect of legislative partisanship on changes in housing by the partisan majority's margin. Thick bars show 90% confidence intervals and thin bars show 95% confidence intervals.

## Council Size

Here, we present analyses of the effect of city councilors' partisanship on housing by the size of the city council in that city (Figure A24). We find suggestive evidence that electing a Democratic councilor may influence the number of multifamily housing units when those councilors are elected to smaller councils, but these differences are not definitive.



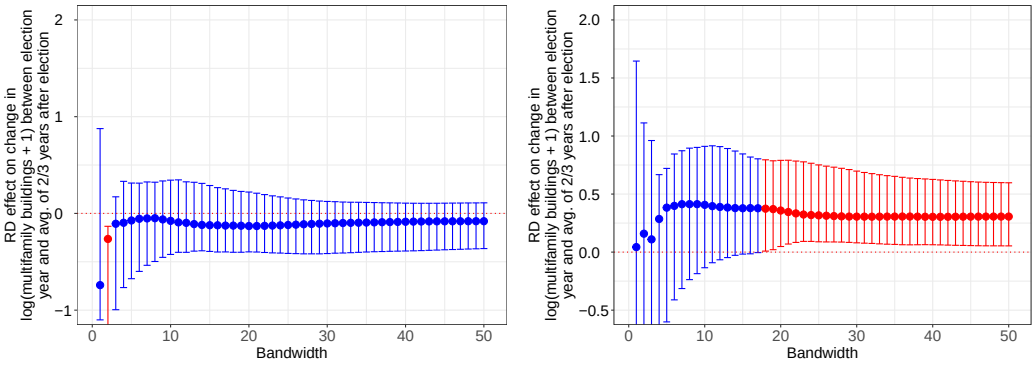

(a) Housing types




(b) Housing composition

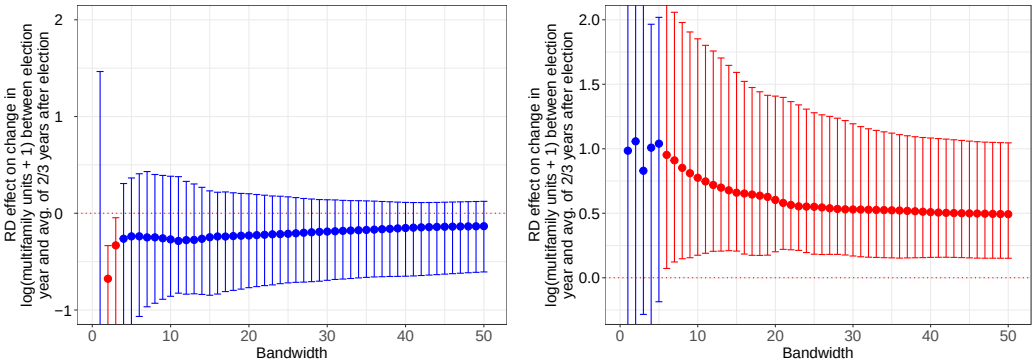
Figure A24: The effect of city councilors' partisanship on changes in housing by the size of the city council.

# J Results with Alternative Bandwidths



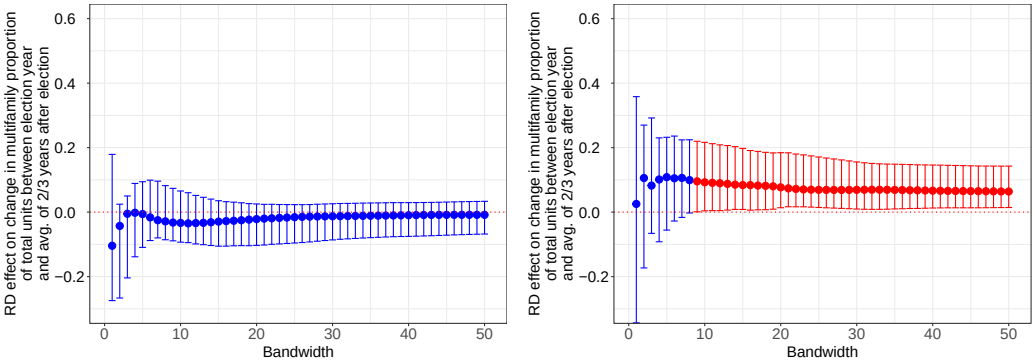

(a) City Council Elections (b) Mayoral Elections

Figure A25: Effect of partisanship on multi-fam. buildings w/ alternative bandwidths.




(a) City Council Elections (b) Mayoral Elections

Figure A26: Effect of partisanship on multi-fam. units with alternative bandwidths.



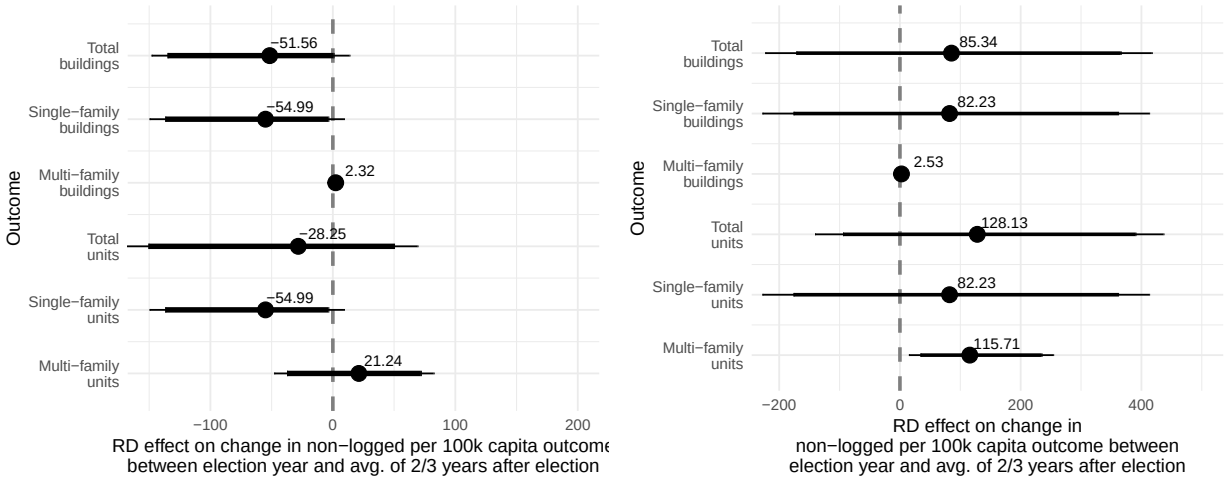

(a) City Council Elections (b) Mayoral Elections

Figure A27: Effect of partisanship on prop. of units permitted that are multifamily.

# K Analyses Using Alternative Transformations of Outcome Variables

A number of our main analyses use the outcome of the natural log of the number of housing units/buildings permitted plus one in order to reduce the influence of large outliers in our outcome variable on our results. The tradeoff of this choice, of course, is that our results using logged outcomes give more influence to data points with smaller values. Though this does not affect our results using proportions (e.g. the multifamily proportion of housing units or buildings), in this section we replicate our main results using two alternative transformations of the outcome variables to test the robustness of our results to the choice of outcome transformation: a non-logged per 100,000 capita measure, and the natural log of the number of housing units/buildings plus 0.1 (rather than +1). The results from these alternative transformations largely corroborate the results presented in the main paper.

In Figure A28 we present the results removing the 5 cities with the largest absolute values of the change in per 100,000 capita multifamily units.[2] In Figure A29 we also provide the results using the full dataset of non-logged outcome variables. Finally, in Figure A30 we present results of analyses using outcomes measured as the natural log of the outcome + 0.1 rather than the natural log of the outcome + 1, as used in the main manuscript.

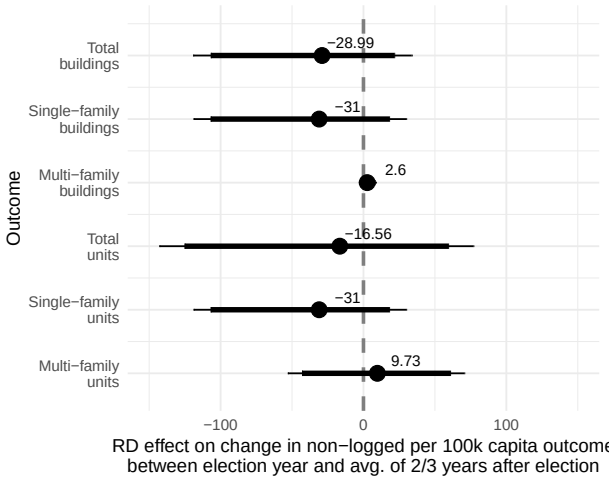



(a) City Council Elections

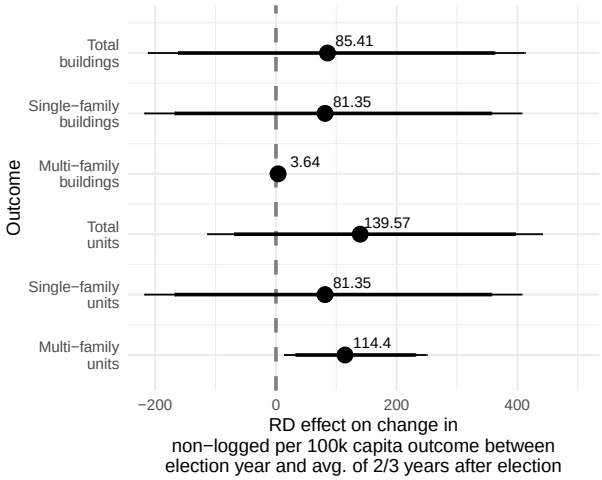
(b) Mayoral Elections

Figure A28: The effect of partisanship on changes in type of housing permitted.

[2]These cities are Irvine, CA, Nashville, TN, Orlando, FL, Henderson, NV, and Raleigh, NC.

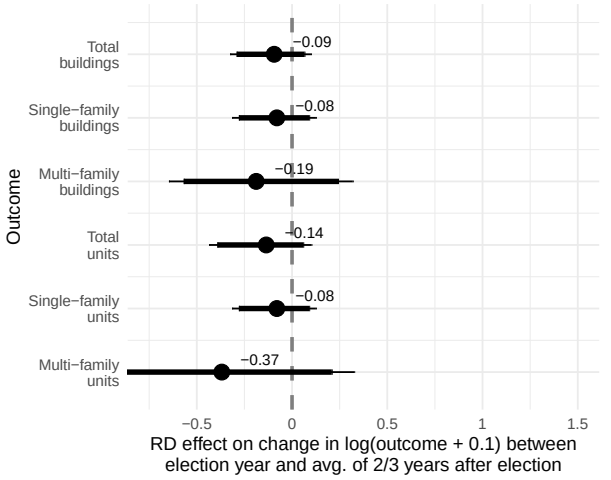



(a) City Council Elections

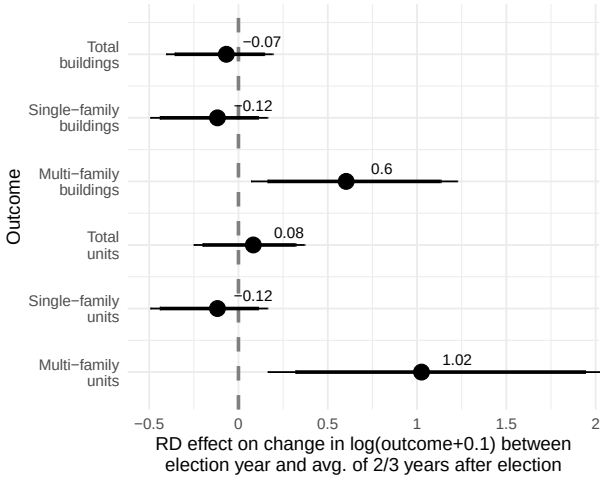



(b) Mayoral Elections

Figure A29: The effect of partisanship on changes in type of housing permitted, including outliers.




(a) City Council Elections

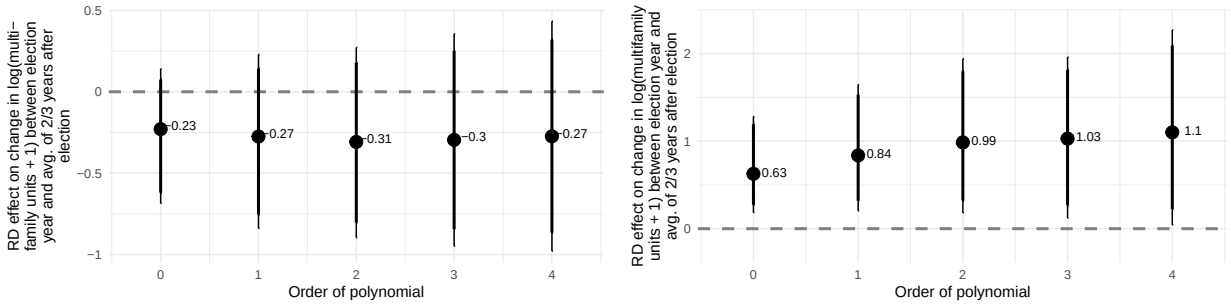



(b) Mayoral Elections

Figure A30: The effect of partisanship on changes in type of housing permitted using alternative log(outcome+0.1) transformation.

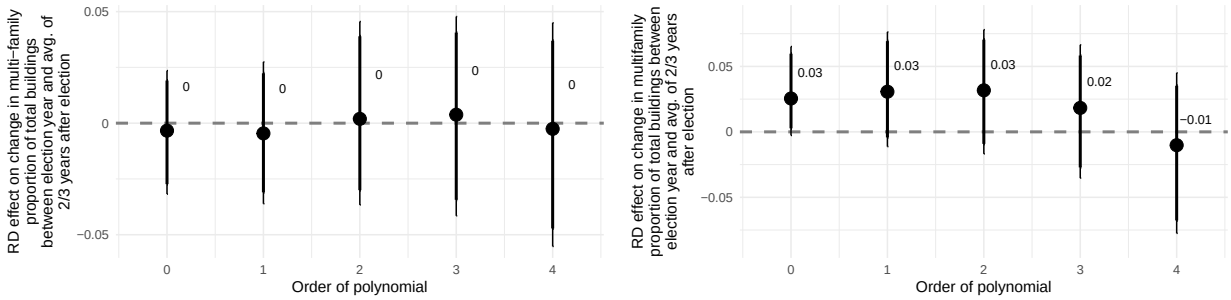
# L Results with Alternative Polynomials

This section shows results using alternative polynomials for the RDD models.



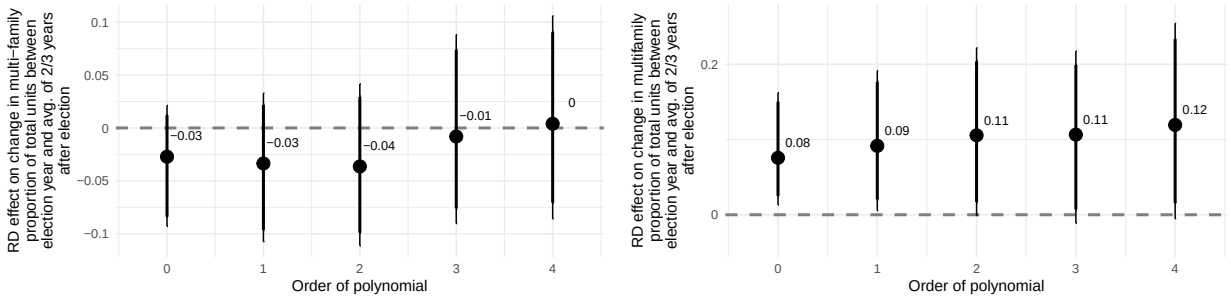

(a) City Council Elections (b) Mayoral Elections

Figure A31: Effect of partisanship on the change in logged multifamily units between the election year and the average of the years two and three years after the election.




(a) City Council Elections (b) Mayoral Elections

Figure A32: Effect of partisanship on the change in the multifamily proportion of buildings between the election year and the average of the years two and three years after the election.




(a) City Council Elections (b) Mayoral Elections

Figure A33: Effect of partisanship on the change in the multifamily proportion of units between the election year and the average of the years two and three years after the election.

# M Results Using Randomization Inference

Table A10: RI Effect of Councilor Partisanship on $\Delta$ CBPS Outcomes

| DV | Diff. in means | Asymptotic p-value | Obs. | BW |
|---|---|---|---|---|
| Multi-family units, T+2/3 Avg | -0.22 | 0.25 | 348 | 2 |
| | (-0.6, 0.1) | | | |
| Multi-family units, T+2-4 Avg | -0.18 | 0.34 | 348 | 2 |
| | (-0.47, 0.16) | | | |
| Multi-family units, Avg. of 2-4 years post-election - 4-yr avg. pre-election | 0.07 | 0.65 | 348 | 2 |
| | (-0.25, 0.35) | | | |
| Multi-family units, Avg. of 1-4 years post-election - 4-yr avg. pre-election | 0.15 | 0.32 | 360 | 2 |
| | (-0.14, 0.4) | | | |

Table A11: RI Effect of Mayoral Partisanship on $\Delta$ CBPS Outcomes

| DV | Diff. in means | Asymptotic p-value | Obs. | BW |
|---|---|---|---|---|
| Multi-family units, T+2/3 Avg | 0.76 | 0 | 119 | 2 |
| | (0.36, 1.26) | | | |
| Multi-family units, T+2-4 Avg | 0.68 | 0.01 | 119 | 2 |
| | (0.27, 1.17) | | | |
| Multi-family units, Avg. of 2-4 years post-election - 4-yr avg. pre-election | 0.7 | 0 | 119 | 2 |
| | (0.29, 1.09) | | | |
| Multi-family units, Avg. of 1-4 years post-election - 4-yr avg. pre-election | 0.34 | 0.08 | 121 | 2 |
| | (-0.04, 0.68) | | | |

# N Difference-in-Differences Effect of Partisanship on Housing Permits

In the main manuscript, we present RDD results for the effect of city councilor and mayoral partisanship on housing permits. Below, we present results from the PanelMatch method (Imai, Kim, and Wang, 2021), which compares units with similar treatment histories (i.e. party control) that are "treated" with a Democrat taking control of the mayoral office vs. those that are not treated (i.e. a Republican takes control). Figure A34 shows the effect of Democratic mayoral control on several of our primary housing outcome measures. Consistent with our main results, these analyses suggest that the election of a Democratic mayor increases the logged number of multifamily housing units permitted, as well as the multifamily proportion of total units permitted in the years after they take power.

In addition, we assess the effect of majority partisan control of city councils on housing using a similar DID framework. These results are displayed below in Figure A35, and indicate that there is little effect of Democratic majority control of city councils on housing outcomes.

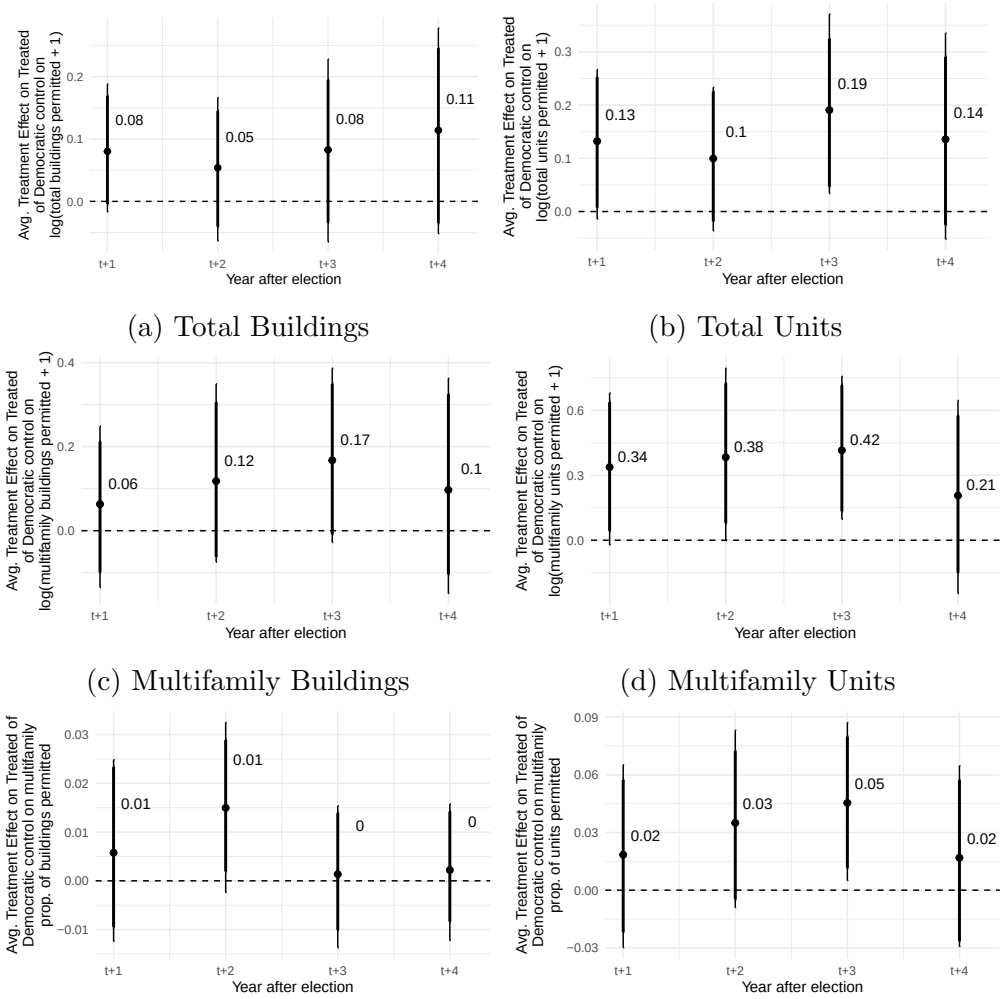
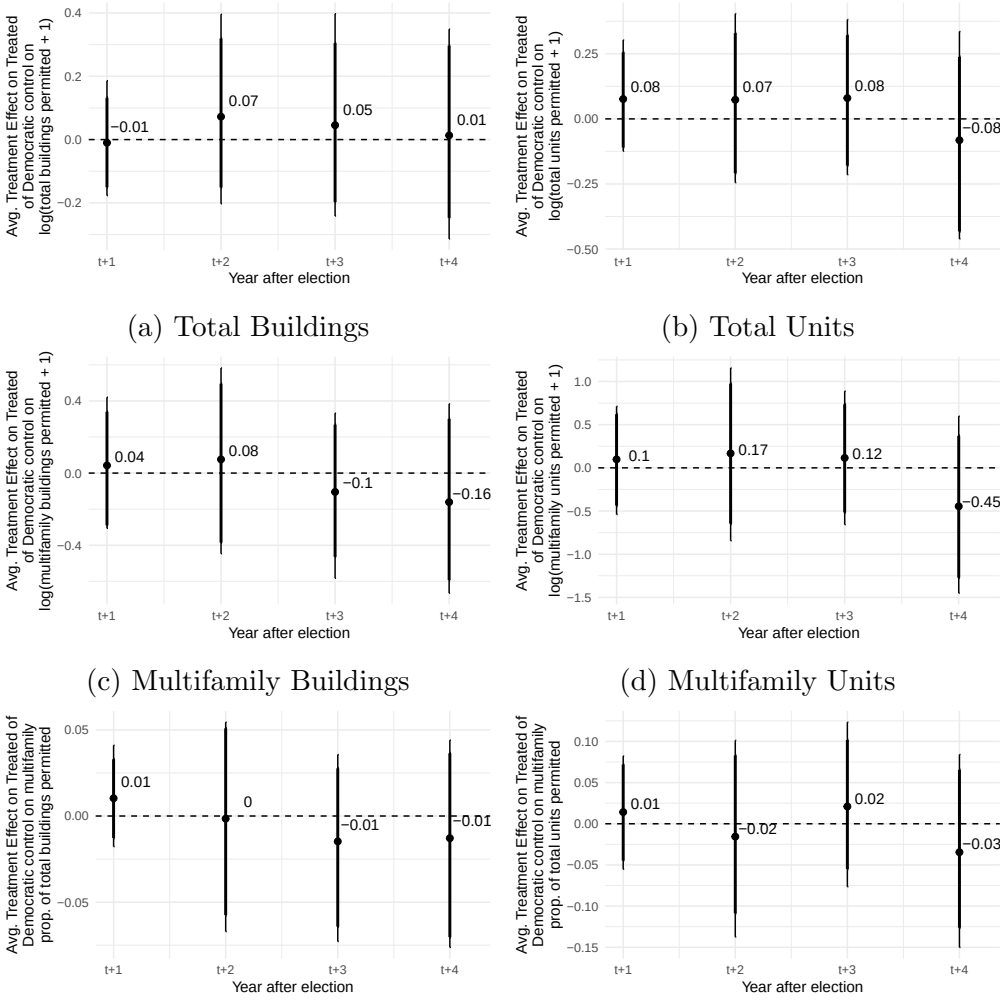



Figure A34: Effects of mayoral partisanship on housing outcomes using PanelMatch. Thick bars show 90% confidence intervals and thin bars show 95% confidence intervals.




(a) Total Buildings

(b) Total Units

(c) Multifamily Buildings

(d) Multifamily Units

(e) Multifamily Prop. of Buildings

(f) Multifamily Prop. of Units

Figure A35: Effects of city council Democratic control on housing outcomes using PanelMatch. Thick bars show 90% confidence intervals and thin bars show 95% confidence intervals.

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Imai, Kosuke, In Song Kim, and Erik Wang. 2021. "Matching Methods for Causal Inference with Time-Series Cross-Sectional Data." *American Journal of Political Science* (forthcoming).