Surplus Reduction and Personal Incentives in the Government Sector

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Abstract:

We investigate the relationship between agency problems and local governments' accounting discretion. Specifically, we examine whether bureaucrats use accounting discretion opportunistically to garner citizen support for raising property taxes. Our findings reveal that local governments with budget surpluses employ negative accruals to counteract the positive impact of rising real estate prices on their financial statements. This practice is more pronounced in jurisdictions with lower reporting quality, higher tax sensitivity to reported surpluses, and weaker legal restrictions on tax increases. The reduced surplus correlates with future growth in property taxes and non-core expenditures (but not core expenditures). Executive compensation increases while rank-and-file employees' pay remains stagnant. Financial preparers who produce bespoke financial statements enjoy higher compensation increases from their current employer and a greater likelihood of external promotions. These findings underscore how accounting manipulation can obscure agency issues, distort managerial incentives, and result in real economic costs in the public sector.

Keywords: Earnings Management, Governmental Accounting, Empire Building, Fiscal Policy

Surplus Reduction and Bureaucratic Incentives in the Government Sector

We examine whether local governments employ accounting discretion to avoid opposition to raising taxes. Citizens prefer minimal tax burdens, all else equal. However, when additional tax revenue is generated, it provides local financial managers with more resources that can be used for personal gain. This tension creates an agency conflict between taxpayers and those who manage local entities. We hypothesize that financial managers may resolve this tension by manipulating reported surplus to conceal this excessive taxation. Decisions to increase taxes cannot generally be made unilaterally and require a degree of public discourse. We postulate that many citizens (and some politicians tapping on this sentiment) may be even more reluctant to accept a high level of taxation when the government is already running a significant surplus. For example, State Senator Paul Bettencourt recently stated, in support of a proposal to decrease property taxes in Texas following a surplus, "It's (citizens') money coming back to them. That's what should happen when the government has a surplus," (Fecher, 2023).

In this context, one way to neutralize opposition to higher taxes is to hide, or at least minimize, the surplus through various accounting strategies. For example, Zimmerman (1977, 125) notes that managers need citizen support to increase taxes while minimizing negative political ramifications and can "reduce the [political] costs…by justifying these decisions using financial statements which document the [government's] lack of resources". Consistent with this view, the editor of one local newspaper observed, "Some cities have tried to explain the surplus away. Redwood City, on the other hand, simply denies it has a surplus" (Price, 2023). Niskanen (1971) and Giroux (1989) note that the bureaucracy has an information advantage over the other participants in the political process and considerable incentives for misinformation or nondisclosure.

Prior research supports the idea that governments window-dress financial disclosures and suggests that government officials respond to political incentives by using accounting discretion. For example, managers may use accounting flexibility to shield resources from powerful unions (Gore et al., 2023) or to avoid state budget shortfalls (Costello et al., 2017). While public opinion restrains elected officials from raising taxes in pursuit of wealth or influence, most local government managers are bureaucrats. These unelected administrators have incentives to maximize budgets to increase the scope of their influence and provide resources to support greater compensation, perquisite consumption, and professional advancement (Niskanen, 1968). For example, Gore (2009) shows that accumulating "rainy day" funds, although often considered prudent, are associated with higher administration and compensation expenditures that benefit government officials. This highlights that agency problems in the government setting manifest as resource accumulation. Such "empire-building" tendencies are well-documented in the corporate setting but are less understood in the government setting. In essence, we posit that government managers maximize their utility by increasing taxation and expenditure levels beyond the optimal level for their constituents, thus increasing their own influence and, ultimately, their compensation. We expect government managers to use accounting discretion to conceal surpluses, thus facilitating growth in tax revenues. This idea is consistent with anecdotal evidence. For example, the local newspaper editor quoted above explicitly links the municipal strategy to downplay its surplus to civil servants' compensation.[1]

We focus on property taxes to explore this framework. Taxes comprise roughly half of local government revenues (Urban Institute, 2024),[2] with property taxes constituting up to 80% of this

[1] Price (2023), ibid, "I guess $58 million [surplus] isn't large to the well-paid civil servants in Redwood City."

[2] https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/state-and-local-revenues

total on average.[3] Despite their importance for funding government services, property taxes remain highly unpopular among citizens (Fisher, 1996).[4] Citizens and elected officials lobbying for lower taxes reference government surpluses as evidence that taxes exceed the value of services provided. To illustrate, when the city of Norfolk reported a surplus in 2024, one city councilman remarked that the surplus "is evidence the city's real estate property tax rate could be reduced" while the city budget director minimized its importance (Munro, 2024).

We begin by investigating how governments use accounting discretion to obscure surpluses in the specific context of a shock to public finance. Governments report performance through both accrual and modified accrual (sometimes referred to as "fund" or "budgetary) accounting, allowing for manipulation in either or both types of statements. Prior research (e.g., Beck, 2018; Costello et al., 2017; Gore et al., 2023) has shown that governments manipulate modified accrual statements using methods such as transferring cash between funds, selling assets for cash, and issuing debt for cash. Such manipulations are often simple to execute (Beck, 2018) and effective in some contexts (e.g., meeting balanced budget legal requirements, Costello et al., 2017). However, these transfers are explicitly disclosed in the "other financing sources and uses" section of the statements, which facilitates their detection by stakeholders. We focus on accounting manipulations motivated by personal incentives – including career advancement – and intended to influence stakeholder perceptions. As such, we focus on accrual manipulations, which require a higher level of

[3] Authors' calculations based on data from the 2017-2021 Census of Governments for general governments (counties, municipalities, and townships). As a percent of the total (self-generated, i.e., excluding intergovernmental transfers) revenues, mean taxes are 47% (44%), and median taxes are 61% (62%). Mean (median) property taxes are 69% (80%) of total tax revenues.

[4] Tension exists between taxpayers' service demands and their willingness to fund services with taxes (Glaseer and Hildreth, 1999). Fiscal illusion theory posits that "separation of taxing and spending powers blurs the local taxpayers' perception of the true tax cost of locally provided goods" (Grossman, 1990) – thus, citizens potentially underestimate the cost of services and demand a higher level of services than they are willing to pay for with taxes.

managerial skill to implement and are difficult for stakeholders to unravel. However, we also find evidence of modified accrual surplus manipulation.

Our findings suggest that governments use accounting discretion to reduce reported surpluses in response to rising property values. While discretionary accruals are positively associated with housing prices, the association between reported surplus and real estate prices is attenuated for governments with pre-discretionary surpluses. We perform several sensitivity tests, including an instrumental variable approach to alleviate possible endogeneity concerns using flood risk transparency laws that lead to property value increases (Chen, 2021; Chen and Hilary, 2021).[5]

We consider additional tests to further ascribe discretionary accruals to strategic accounting choices rather than to local economic conditions. First, we examine whether audit risk assessments align with our characterization that governments strategically use accounting discretion and diminish reporting quality in the process. Using data from the Federal Audit Clearinghouse (FAC), we find that the baseline results are most prevalent among governments that auditors identify as "high risk," those not receiving clean opinions, and those with a low level of "stewardship" (as measured by Cuny, Kim and Mehta, 2020). These findings are consistent with an agency framework and suggest that municipalities and their managers use accounting discretion to conceal actions that are not in the best interest of their stakeholders. Second, we link the evidence that governments use accounting discretion to avoid surpluses to citizen support for subsequent property tax increases by showing that governments use more surplus-reducing accruals when the sensitivity of taxes to discretionary accruals is greater. Third, many states place tax limitations on local governments with the objective of imposing fiscal responsibility. These limitations range in restrictiveness, and while some may present binding constraints that would potentially render

[5] We discuss this instrument in Section V. In short, we argue that the removal of uncertainty premium about flood risk should increase average asset values without directly affecting locales' accruals.

efforts to garner support for tax increases irrelevant, others are easily circumvented. We show that our baseline findings are stronger in states where existing limitations leave localities significant latitude to increase tax revenues.

Next, we examine if accounting manipulations have important economic consequences in terms of property tax burdens, public service provisions, and managerial compensation. We find that local governments that reduce reported surplus raise subsequent property taxes more than those that do not. Consistent with the agency considerations outlined in Gore (2009), they experience a significant increase in their cash balance. Consistent with a rent extraction theory (e.g., Jensen 1986), these governments subsequently spend more on non-core activities (e.g., administrative support), but not on their core activities (e.g., police, fire protection). This indicates that accounting behavior can impose real costs through distorted fiscal policies and potentially suboptimal investments. Also consistent with an agency framework, executive compensation increases but the rank-and-file employee wages do not. Next, we consider the labor market implications of our findings for financial statement preparers. We show that those working for local governments engaged in surplus reduction experience higher compensation increase and greater likelihood of receiving an outside promotion. These findings suggest the existence of a demand for local government accountants skilled in strategic reporting.[6]

Finally, we consider several alternative explanations that could underlie the relationship between surplus reduction and house price increase but we stress that these are not mutually exclusive to empire building. As such, our goal is not to reject their existence, but to ensure that they do not subsume our findings. First, as local governments facing strong public sector unions

[6] We exemplify this demand in our specific context but it may be broader and encompass the ability to strategically report to achieve the goals of the employer, whatever those may be. We leave it to further research to identify these additional settings.

have greater incentives to bias reporting (Gore et al., 2023), we control for the degree of unionization throughout our primary analyses. In additional analyses, we find that our baseline results are consistent within subsamples of municipalities having either high or low levels of public union membership. Thus, unionization does not account for our baseline findings.

Second, we consider a possible role for bondholders. The prospect of higher property tax revenues (obtained through accounting manipulation) could increase management's appetite for issuing new long-term debt and incentivize opportunistic reporting to appear more creditworthy. If true, surplus reduction may be motivated more by the desire to increase debt capacity than by empire building. Inconsistent with this alternative explanation, we find a robust pattern of surplus mitigation among municipalities that do not issue bonds.

Third, deficit and surplus reduction may co-exist, even if they are driven by different incentives. We consider whether our findings are symmetric between reducing surplus and deficits. Although we do find some support for deficit reduction in our setting, this behavior does not symmetrically affect measures of empire building (such as growth in cash and non-core expense) or personal incentives (such as the compensation of statement preparers and the likelihood of external promotions). This suggests that deficit reduction, to the extent it exists, is motivated by incentives that are different from the ones we consider.

Our results contribute to accounting research in several ways. First, a vast body of corporate accounting research (see Roychowdhury et al., 2019 for a review) examines the rich interplay between incentives and reporting in the context of agency problems. One of the most robust results in the literature is that corporate managers can strategically bias their reporting to facilitate empire-building and that better-quality accounting quality can mitigate it (Biddle et al., 2009). In contrast, we know comparatively little about local governments despite the large amount

of wealth that they control – spending almost 10% of GDP[7] and over half the equivalent amount of federally budgeted expenditures in 2020.[8] While prior research (e.g., Gyourko and Tracy, 1991; Brueckner and Neumark, 2014; Diamond, 2017) shows that certain local governments with exogenously determined advantages (e.g., proximity to beaches) can increase taxation to fund projects that disproportionally benefit governmental employees, our results suggest that governments can also pursue this goal by actively engaging in strategic accounting, underscoring potential conflicts of interest between citizens and government officials. We extend in several ways the burgeoning stream of research that investigates how governmental entities use accounting discretion. Several studies (e.g., Felix, 2014; Costello et al., 2017; Gore et al., 2023) have considered fund manipulations by municipalities and states but fewer have considered accruals manipulations.

Second, while corporate accounting research identifies multiple real effects of accounting decisions in the private sector (e.g., Kanodia and Sapra 2016), the real consequences of accounting decisions made by governmental entities are less explored. Several studies show evidence of local governments manipulating accounting, but the presence of these biases does not imply an impact on real outcomes in equilibrium. For example, sophisticated recipients of accounting information may understand the incentives of reporting entities and unravel these biases. Yet, statement preparers also expect this unraveling, which may ensure the presence of biased reporting without real consequences. Our focus on hitherto unexplored consequences of accounting manipulation on municipalities' ability to raise capital via tax increases ties together reporting quality, taxation, and

[7] https://www.usgovernmentspending.com/local_spending_chart

[8] Authors' calculations based on $1.7 trillion in state spending and $1.8 trillion in local spending (from http://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/state-and-local-expenditures) compared to $6.6 trillion in Federally budgeted expenditures (https://www.cbo.gov/publication/57170).

executive compensation. We note that the real cost of accounting discretion borne by citizens is likely derived not from additional compensation paid to governmental executives, but rather from distortion of executives' incentives. Our study links the consequences of accounting discretion for taxpayers and governmental expenses, shedding new light on how agency conflicts between governmental agents and citizens manifest in accounting quality and can facilitate real economic consequences in terms of inefficient public services. While estimating the marginal effect of local taxes on inhabitants' welfare is beyond the scope of this study, prior research suggests that the long-run elasticity of local economic activity with respect to state and local taxes is as low as -0.25 (Bartik, 1992; Phillips and Goss, 1995). As such, our findings are relevant to public policymakers and accounting standard setters.

Lastly, we consider the effect of surplus reduction on career development. We find that opportunistic financial reporting leads to favorable labor market outcomes for the preparers of governmental financial statements. We are not aware of a similar finding for financial statement preparers in the corporate setting, where the threat of legal penalties for accounting manipulation is much stronger and marginal shareholders may be more financially savvy than the representative citizen.

II. Background Information

Government Reporting Environment

The primary financial document for local governments is the Annual Comprehensive Financial Report (ACFR), wherein governments that follow Generally Accepted Accounting Principles (GAAP) report separate financial statements using two bases of accounting: full- and

modified accrual.[9] The full accrual financial statements disclose all – including long-term – assets and liabilities (and associated accruals), similar to corporate financial statements. Since most government revenues (e.g., taxes, fines) are compulsory and not "earned", a government's "net income" is typically referred to as a "change in net position" or "bottom line." Modified accrual financial statements (also known as "fund" financial statements) are similar to cash-based statements but allow for accruals related to financial resources and obligations due in the immediate future. Some states require governments to follow GAAP, but many municipalities voluntarily do so even if not required (Kim et al., 2022; McDonough and Yan, 2023). Our study focuses on accounting manipulation within the confines of GAAP within a sample of audited, GAAP-compliant ACFRs.

Government Reporting Manipulation

Prior research suggests that local governments may have incentives to manipulate reported numbers and act accordingly. However, in contrast to research on corporate actors, the focus has been mainly on the modified accrual (or fund) financial reports rather than on the full accrual financial reports. For example, The Institute for Truth in Accounting (2009, p. 39) issued a 111-page report outlining several manipulation techniques states use to avoid reporting results incompliant with the state budget, typically prepared using cash or modified-accrual (fund) basis. Costello et al. (2017) find empirical support for these claims, documenting that states transfer resources between funds and sell long-term assets to meet state-balanced budget requirements. At the local level, Gore et al. (2023) further show that governments transfer discretionary resources

[9] Providing an ACFR implies that a government follows GAAP, but GAAP does not require governments to provide an ACFR. Required components of the ACFR include both full- and modified accrual financial statements, a Management Discussion and Analysis, and statistical trend data. All governments in our sample provide ACFRs.

to “restricted” funds to make them less accessible to powerful unions. The more limited research on accruals methods focuses on deficit avoidance at the state (rather than the municipality) level. For example, prior research finds that states manipulate pension accruals to undervalue pension liabilities and avoid deficits (Naughton et al., 2015) and before gubernatorial elections (Kido et al., 2012). Our aim is not to reject these prior findings but to broaden the scope of the analysis. We primarily focus on manipulations within the accrual financial statements at the local level to address managerial personal incentives.

Property Tax Incentives and Manipulation

Despite being a significant – and often the primary – funding source for local government services, property taxes are immensely unpopular (Fisher, 1996). Property tax expansion is generally opposed by homeowners and non-homeowners alike (Cabral and Hoxby, 2012). The National Conference of State Legislatures (NCSL) notes that “[f]or years, opinion surveys have identified property taxes as the ones Americans hate the most” (NCSL 2024). This aversion is due in large part to the role of assessed property values in calculating the amount of property taxes owed. Local governments can raise assessed values (i.e., the basis for applying the tax rate) to capture increases in the fair value of real property and generate more property tax revenue. Homeowners lack direct control over the economic forces that affect fair property values, and increases in fair value typically do not increase homeowners’ liquidity for absorbing higher expenses (Ross, 2011). Moreover, on average, fair values have increased significantly over the last three decades, but assessed values do not correspondingly decrease when fair values decrease (Lutz, 2008). Furthermore, property taxes are more salient than many other forms of taxation, with

about half of homeowners making periodic payments in sizable lump sums (Cabral and Hoxby, 2012).

Intuitively, government officials have incentives to raise taxes and build resources, which they can utilize to fund marginal programs. If using accounting discretion to minimize surpluses reduces citizen opposition to tax increases, officials' efforts to build resources could be more successful. Slack resources, however, promote self-interested behavior – for example, empire-building, shirking, and excess compensation.

III. Hypothesis

We form our main hypothesis based on the discussion above. Given that property taxes are unpopular and salient, we expect that raising property taxes is more difficult for local governments reporting a large surplus. Anecdotally, the local press contrasts budget surpluses and higher taxes. For example, one local reporter recently noted that "despite a budget surplus, Charlottesville City Council voted to increase real estate […] taxes" (Woods, 2022) while another cited two taxpayers who "think the state should be using much of its nearly $33 billion surplus to give Texans a break on their property taxes, (Fink, 2023). A third, acknowledging the pressure from citizens, notes that "[t]wo-thirds of states approved some sort of tax relief last year [that were] surplus-induced" (Lieb, 2023). The Connecticut governor indicated that he is proposing a tax cut package that includes a significant property tax component "as the state is projecting an operating surplus of $1.48 billion".[10] Therefore, we expect that a lower surplus will facilitate raising property taxes.

We also expect that the tension between surpluses and taxes is personally important to local government managers and officers because higher taxes provide additional resources that, all else

[10] https://portal.ct.gov/governor/news/press-releases/2022/02-2022/governor-lamont-proposes-336-million-in-tax-cuts-for-connecticut-residents?language=en_US

equal, can help them achieve both financial (e.g., higher salary and perquisites) and nonfinancial (e.g., professional reputation and influence, ease of managing responsibilities) objectives.[11]

Though relatively few prior studies examine determinants of compensation in the government setting, Gore (2009) and Compton et al. (2017) both show that cash holdings predict city manager compensation, consistent with prior findings in the corporate (e.g., Brown and Medoff, 1989) and not-for-profit (Core et al., 2006) sectors. Anecdotal evidence further suggests that tax revenues provide financial resources necessary for local governments to attract and retain employees with competitive wages.[12]

In line with an empire-building hypothesis, prior literature (e.g., Gyourko and Tracy, 1991; Brueckner and Neumark, 2014; Diamond, 2017) shows that local governments exogenously endowed with favorable environments (e.g., proximity to beaches) are more likely to use higher taxes to fund projects consistent with rent extraction. For example, Diamond's (2017) model suggests that government managers presiding over areas with less elastic housing supplies can raise taxes to increase government workers' pay, hire additional employees, or more generally spend on items that benefit themselves instead of increasing public service provisions.

If these two prolegomena (i.e., surpluses hinder higher taxes and lower taxes constrain managerial utility) are true, governmental managers who want to maximize their personal utility can use accounting discretion to reach their reporting objectives.[13] As such, we hypothesize that local governments use accruals to avoid reporting a large surplus in order to raise more taxes than they would otherwise and, in time, to expand the scope of their influence (i.e., empire-building)

[11] Giroux (1989) summarizes the literature supporting this assumption.
[12] For example, Pia Orrenius, a labor economist, notes "People in the public-sector jobs are seeing their real incomes erode because these entities are constrained by tax revenue." https://www.texastribune.org/2023/02/14/texas-local-government-hiring-trouble-economy/.
[13] Officials are unlikely to use a reported surplus to justify a pay raise to taxpayers. Unlike corporate shareholders, who may see fit to reward managers for maximizing net income earned from external resources (e.g., customers), taxpayers recognize that surpluses arise from an excess of taxes they pay over services they receive.

and receive larger compensation. We expect governments to utilize all available tools to enhance their effectiveness in reducing citizen opposition. However, grasping the effects of discretionary accruals is typically more challenging for citizens than understanding the implications of cash transfers that are directly reported in financial statements. Therefore, while we consider both discretionary accruals and cash transfers, we primarily focus on the former.

Disentangling the factors affecting accounting discretion from those affecting underlying financial performance creates challenges for testing this general hypothesis in the cross-section. To alleviate these challenges, we contextualize our hypothesis by focusing on real estate price increases, which impact localities and their budgets through property taxes, one of the main sources of financing. Such increases represent shocks to local economic conditions that can directly increase the likelihood of reporting a surplus but do not *directly* generate *negative* discretionary accruals. Specifically, we form the following hypothesis:

Hypothesis: Local governments use discretionary accruals to avoid reporting a high surplus after an increase in local real estate prices.

Our study primarily focuses on how appointed officials' (i.e., bureaucrats') empire-building incentives influence accounting discretion in the government context. We largely abstract from the role of elected officials (i.e., politicians), as it is unclear how their incentives are likely to interact with bureaucrats'. On the one hand, politicians need the support of the administrative machinery of government to carry out their policies and facilitate their reelection. This may create a desire to placate administrators and align politicians' objectives with those of bureaucrats and increase incentives for accounting manipulation. On the other hand, politicians may want to tap into public sentiment and curb administrative empire-building. If successful, this may limit the extent of our findings but may also further incentivize bureaucrats to manipulate accruals to conceal surplus from politicians who may lack accounting savviness.

IV. Empirical Design and Sample.

Empirical Design

We consider surplus reduction strategies employed at the local government level to provide a basis for increasing tax revenues. Our main specification builds on Beck (2018):

$$DA = \beta_0 + \beta_1 HPG^{-1} \times Surplus + \beta_2 HPG^{-1} + \beta_3 Surplus + \beta^K Controls + \beta^C County + \beta^Y Year + \varepsilon \quad (1)$$

DA represents the total discretionary accruals estimated in full accrual financial statements, scaled by population, measured using the residual of Model 2. HPG^{-1} is the house price growth from t-2 to t-1, based on the home price index from the Office of Federal Housing Enterprise Oversight (OFHEO) (Favara and Imbs, 2015), measured as described in Appendix 1. *Surplus* is equal to one if *pre-discretionary* income (i.e., net income minus discretionary accruals) in the full accrual financial statements is greater than zero, zero otherwise.

Controls represent a vector of *k* control variables. We control for performance using lagged NI_{FA}, which is the "changes in net position" for governmental activities reported in the full accrual financial statements (i.e., "net income", for simplicity). We include *Debt* (i.e., the general bonded debt of the governmental activities) to control for alternative monitoring incentives by creditors (Beck, 2018) and *Cash* (i.e., the total cash and investments of the government's general fund) to control for the pre-existing financial resources (Gore, 2009). NI_{FA}, *Debt,* and *Cash* are scaled by population. We include *Grant* (i.e., the total grant revenues of the governmental activities as a percentage of total municipal revenue) to control for state monitoring incentives. We control for *Union*, the proportion of employees who are union members, to control for the influence of collective bargaining on reporting incentives (Barry et al., 2001; Gore et al., 2023). We control for

the local political partisan composition, which may correlate with constituents' inclination to oppose or support tax initiatives, using the county-level proportion of votes received by republican candidates during presidential elections (*Republican*). We also control for county-level socio-economic variables that may correlate with both management's reporting incentives and property values: annual unemployment rate (*Unemployment Rate*), gross domestic product per capita (*GDP*), percentage of adults with less than a high school diploma (*Education*), and the proportion of the population that is white (*PctWhite*). Lastly, we control for county and year-fixed effects.

We calculate abnormal accruals following Beck's (2018) methodology with minor adjustments,[14] estimating the following regression model on an annual basis:

$$Total\ Accruals = \beta_0 + \beta_1\ 1/Population + \beta_2 \Delta Revs + \beta_3\ Capital\ Assets + \beta_4\ NI_{FA} + \varepsilon \quad (2)$$

Total Accruals is full accrual net income from governmental activities (i.e., $NI_{FA,}$ previously defined) minus modified accrual net income (defined as modified accrual revenues less expenditures from the governmental funds), which substitute for operating cash flows given that cash flow statements are not provided for governmental activities (Beck, 2018). The independent variables consist of the change in revenues (*ΔRevs*), net investment in capital assets (*Capital Assets*), and net income (NI_{FA}), all from the governmental activities section of the full accrual financial statements. *Capital Assets* approximates total capital assets net of accumulated depreciation and associated debt. We scale *Total Accruals*, *ΔRevs, Capital Assets,* and NI_{FA} by population, the primary revenue- and cost-driver in the government setting (as opposed to assets, as in the corporate setting) (Beck, 2018). Following the recommendation from prior earnings

[14] We make the following adaptations to Beck's (2018) model. We substitute total capital assets (controlling for depreciation accruals) with net investment in capital assets because total capital assets are not included in our dataset. We incorporate the impact of internal service funds in the total accruals' calculation, as these activities are not disaggregated in our dataset. Our model yields comparable coefficient estimates and R-squared values to Beck's findings within our sample. We also note that our conclusions are unaffected by including state fixed-effects.

management literature (e.g., Kim, Kim, and Zhou, 2017), we also control for the reciprocal of the scalar, although excluding it does not affect our baseline results (untabulated). The residuals represent abnormal accruals, which may be positive or negative (Beck, 2018).

Data and Sample

We obtain ACFR data for cities and counties from the Government Financial Officers Association (GFOA) financial indicators database, which spans from 2003-2015.[15] We manually assign observations to FIPS codes based on state and government names to enable matching the GFOA dataset to residential real estate prices from the OFHEO's Home Price Index (HPI) (Chaney et al., 2012; Favara and Imbs, 2015), which is a broad measure of the movement of single-family home prices in the United States, and compensation data from the U.S. Census of Governments Annual Survey of State and Local Finances. We obtain demographic attributes such as unemployment rate, education, and GDP from the U.S. Census Bureau (Mian and Sufi, 2014).

We obtain audit data from the Federal Audit Clearinghouse (FAC) Single Audit database. To monitor the appropriate use of public funds, according to OMB Uniform Guidance and Circular A-1332, non-federal entities that receive $750,000 or more in federal awards in a single fiscal period shall have a single audit or program-specific audit conducted for that year. The FAC Single Audit database is the publicly available repository for single audit findings and related information and includes information to identify auditors, auditees, and the names and job titles of each auditee

[15] The dataset is compiled from financial statements that governments voluntarily submit for the GFOA's Excellence in Financial Reporting Award and is perhaps the most extensive available for governmental financial reports. Unfortunately, it has no longer been compiled since 2015. The award criteria primarily focus on GAAP compliance and timeliness and does not include analyses of reported amounts. The dataset does not identify which governments received the award. The degree to which award program participants exhibit less variation in property values or reporting quality biases us against finding predicted results.

point of contact. We use this information to track the movement of auditee contacts across different auditee governments in the sample.

We exclude government-year observations for which necessary financial statements and control variables, including the lead and lag data needed to execute the models, are not available. Our primary sample consists of 12,642 observations, spanning nine years (2005 to 2013) and 48 states with over 2,000 municipalities (cities and counties), with subsequent tests having smaller sample sizes due to data requirements (e.g., we omit municipalities that are not present in the FAC dataset).

V. Empirical Findings

Descriptive Statistics and Correlations.

Table 1 reports descriptive statistics largely comparable to prior literature (e.g., Beck, 2018). Municipalities in our sample have a mean (median) population of 171,077 (58,746). Mean discretionary accruals are near zero by construction, being a residual, but median discretionary accruals are slightly negative (-0.038). We report the univariate correlations between the primary variables of interest in Table 2. Accounting discretion measured using discretionary accruals (*DA*) is both positively associated with reported net income (NI_{FA}, 0.077) and strongly negatively correlated with the existence of a pre-discretionary surplus (-0.540 and significant at 1% level) – consistent with surplus reduction by government managers. Discretionary accruals are positively correlated with *Debt* (0.335) and weakly correlated with both *Cash* (-0.004) and housing price growth in the prior year (HPG^{-1}, 0.031). Housing price growth in the prior year (HPG^{-1}) is positively associated with a *pre-discretionary* surplus and net income but negatively related to the unemployment rate. We proceed with multivariate analyses to investigate these relations further.

Baseline Analysis.

We next consider our baseline specifications. In Table 3, Panel A, we present the results of Model 1 without any controls in column 1 and with all the controls in column 2. Both columns are consistent with our hypothesis. Our variable of interest, HPG^{-1}*$Surplus$, is negative and significant ($p < 0.01$ in both columns), supporting the expectation that positive price shocks increase governmental officers' surplus reduction incentives. The economic effect is such that a one-standard-deviation increase in housing price growth in the presence of a pre-discretionary surplus (i.e., the interaction HPG^{-1}*$Surplus$) correlates with an 8% standard deviation decline in DA.[16] Additionally, the coefficient on HPG^{-1} is positive (0.280), suggesting a positive association between discretionary accruals and economic conditions on average. The sum of the HPG^{-1} coefficient and the interaction coefficient is not statistically different from zero (p-value = 0.325), suggesting that local governments use discretion to nullify the effect of a property value increase on reported profitability when they experience a pre-discretionary surplus. Lastly, the coefficient on *Surplus* is significantly negative for both models, suggesting that pre-discretionary surpluses are associated with more negative discretionary accruals. This finding is consistent with the existence of surplus reduction on average and not just when housing prices increase.

Robustness Checks.

We present several robustness tests in Panel B. In columns 1 and 2, we use government- and state-fixed effects (instead of county-fixed effects). There is a trade-off between controlling for possible time-invariant omitted variables and potentially introducing bias into the specification

[16] This, and subsequently presented economic interpretations, are calculated as the coefficient on the variable of interest (in this case, *HPG*Surplus*, which is -0.248) multiplied by its standard deviation (0.059, from Table 1) divided by the standard deviation of the dependent variable (in this case, *DA,* which is 0.178, also from Table 1).

as described in Arellano and Bond (1991). Higher-level fixed effects (e.g., state level) are less effective in addressing the first issue but less susceptible to the second. Lower-level ones (e.g., government level) display the opposite behavior. Our results hold with either state, county, or government-fixed effects. In column 3, we use changes in discretionary accruals as the dependent variable, dropping the control for lagged discretionary accruals, and measuring controls using changes rather than in levels. In column 4, we estimate a joint estimation model following the suggestions by Chen et al. (2018), who show that estimating a discretionary accruals model separately as the first stage may lead to incorrect inferences. Our conclusions are not affected by using this approach.

Reverse causality (i.e., lower municipal accruals cause higher real estate prices) is unlikely in our setting. Nevertheless, we employ a two-stage least squares (2SLS) approach to address the concern that other common economic factors might affect property fair value growth and reported profitability simultaneously (i.e., an omitted variable concern). We use a series of state-level laws that increased the transparency in the housing market vis a vis coastal flood risk as the instrumental variable (Chen, 2021).[17] Prior research notes that flooding poses a material risk to real property (Kruczkiewicz et al., 2022) that is largely underestimated (Evans et al., 2022) and underinsured (Hu, 2022), causing frictions that contribute to mispricing in the housing market. To address these problems, some states enacted laws requiring sellers to provide comprehensive flood-risk disclosures to potential homebuyers, in effect leading to higher average prices by reducing the uncertainty associated with estimating flood risk (McClurkan, 2019; Kusisto, 2019). We argue that these laws impose an exogenous shock on the (potentially taxable) property values of local governments, which control neither the policies put in place by the state government nor the degree

[17] The sample size is smaller for this test because we require available data for the same set of governments both before and after the mandates of the flooding risk disclosure laws.

of flood risk uncertainty that the laws resolve. We continue to find consistent results with the 2SLS specification (reported in column 5).

Following Chen and Hilary (2021), we consider several points regarding the validity of our instrument. In terms of theoretical support, while improving the transparency in the residential housing market should affect property values directly, we have no basis for expecting a direct effect on governments' profitability without going through the property value channel. We ensure that our results are robust to estimation procedures that allow for "imperfect" instruments that violate the exclusion restriction (Berkowitz, Caner, and Fang, 2012). The fractionally resampled Anderson and Rubin test yields a p-value < 0.001. We also find that the Cragg-Donald Wald F-statistic (8.912) and Kleibergen-Paap rank Wald F-statistic (7.338) both exceed the value provided by the Stock-Yogo weak identification test (7.030, for a critical value of 10%, untabulated). Additional cross-sectional tests described below further mitigate concerns about omitted variables, which would need to exhibit both unconditional and conditional correlation (i.e., audit quality or tax incentives) with our instrument to account for our observed results.

In column 6, we consider other financing sources and uses (*OFSU*) from the modified accrual financial statements as an alternative measure of accounting discretion (Beck, 2018).[18] Other financing sources and uses are reported directly on the modified accrual financial statements and are not subject to the estimation concerns that beset generated regressors. Results are consistent with those using *DA* to measure accounting discretion. In untabulated results, we add controls for *OFSU* and an interaction with *Surplus* to Model 1. $Surplus \times HPG^{-1}$ remains significantly negative; $OFSU \times Surplus$ is also negative and significant. This suggests that the effect of property values on accruals is incremental to the one of cash flows and may be induced by

[18] For this specification, we replace NI_{FA} with $NI_{MA,}$ which is net income taken from the modified accrual statements (governmental fund revenues minus expenditures), following Beck (2018).

different incentives. Lastly, we also find in untabulated analyses that lagging the controls does not affect our findings.

Next, we employ a staggered difference-in-differences design to analyze further the effect of "large" housing price shocks on discretionary accruals. We rank house price growth by decile and define the treated sample as municipalities with a budget surplus that experience large price shocks, identified as those in the highest decile of price growth.[19] We align the price shocks based on the event time *t.* We establish a control sample comprised of municipalities that have not yet experienced a large price shock at time *t* using entropy balancing to ensure covariate balance. We compare the two groups and display the results of this analysis graphically in Table 3, Panel C. The plot illustrates that differences in discretionary accruals between the treatment and control samples are statistically indistinguishable prior to the price shocks (both the joint significance and sum of the coefficients in these time periods t-2 and t-1 are statistically insignificant with p-values of 0.48 and 0.90, respectively). In contrast, discretionary accruals are significantly more negative for the treatment group in periods *t* and *t+1* (tests of the joint significance and the sum of *t* and *t+1* coefficients have p-values < 0.01 in both tests). They then revert to be indistinguishable in t+2.

Comparative Statics – Reported Surplus and Financial Reporting Quality

If our results are attributable to opportunistic surplus reduction rather than to variation in underlying economic factors, we expect results to be stronger among municipalities that auditors designate as potentially having lower financial reporting quality. In supplemental tests, we use the FAC data to identify municipalities in our sample that (a) auditors determined are "high risk" (for example, because of previous control deficiencies or questioned costs), or (b) received an audit

[19] Results are robust when considering the top two deciles as "large" price shocks.

opinion other than unmodified (e.g., going concern opinion, reportable conditions, reportable control weaknesses, or material noncompliance). Partitioning on these conditions, we find in Panel A of Table 4 that the primary results are stronger among municipalities that are high risk (column 2) or with relatively "weak" audit opinions (column 4). The differences across high and low accounting samples are significant at the 1% and 5% levels, respectively. Lastly, we follow Cuny, Kim, and Mehta (2020) and define *Stewardship* as a measure based on the first principal component of several risk characteristics (an unmodified audit opinion; no material weakness; no significant deficiency; no material noncompliance; the lag between period-end and the audit report date). We define *High/Low Stewardship* as values above/below the sample median. We find in columns 5 and 6 that the primary result is significant in the sample of low stewardship and the difference across samples is significant at the 1% level. Together, these findings bolster the interpretation that managers avoid surpluses opportunistically and suggest that such opportunistic behavior could be accompanied by less favorable audit risk assessments and outcomes.

Comparative Statics – Reported Surplus and Ability to Raise Taxes.

Next, we consider comparative statics based on the ability to raise taxes using two approaches. First, we explore the *ex post* sensitivity of property taxes to discretionary accruals and pre-discretionary surplus. We conjecture that local government managers have greater incentives to use discretionary accruals to avoid reporting a surplus when property taxes are more empirically tied to surplus-avoiding discretionary accruals. Specifically, we derive a proxy for the relation between property taxes and surplus-avoiding discretionary accruals within each state by regressing property tax growth on *DA, Surplus,* and *DA* × *Surplus* cross-sectionally by state. We set the variable *High Sensitivity* equal to one for states wherein the estimated coefficient on *DA* × *Surplus,*

which represents the sensitivity of property values to surplus avoidance in each state, is more negative than the sample median, and zero otherwise. We report the results in columns 1 and 2 of Panel B. Additionally, we use a bootstrapping procedure that randomly reallocates observations repeatedly to achieve optimal high- versus low-sensitivity categorization (instead of relying on state-level estimates).[20] We report these results in columns 3 and 4. In both cases, the baseline results are stronger in localities where the ability to raise taxes is more closely associated with discretionary accruals (the *p*-value for the test of equality of coefficients is significant at the 5% level in the first case and 1% in the second).

Second, we examine the *ex ante* impact of state-imposed local tax and expenditure limits as another proxy for the ability to raise property taxes. Motivated by citizen opposition to property taxes, many states enact policies that limit local officials' ability to increase property taxes. These "tax limitations" can restrict changes to assessed values, property tax rates, or the tax levy as a whole, depending on the state. Accounting manipulation may be ineffective for raising property taxes when doing so is otherwise prohibited by local statutes. Wen et al. (2018) measure the severity of state limitations constraining municipalities' ability to raise revenues and expenditures. We construct a composite measure by identifying the first principal component of the limitations most relevant to our setting – e.g., property tax levy and assessment limitations.[21] We partition the sample based on the median value of this composite measure, with higher values representing

[20] We estimate the sensitivity at the state level, use these estimates to form an initial partition between high and low sensitivity observations, estimate *DA* × *Surplus* in both sub-samples, and calculate the difference between the two coefficients. We then randomly swap 50% of the sample 2,000 times. We replace the baseline sample with the new one if the signed coefficient difference is greater than the one in the current baseline sample. We repeat the procedure, halving the proportions of resampled observations until it reaches 1% (i.e., 50%, 25%, 12.5%, and so forth).

[21] Specifically, we focus on the magnitude, exclusion, and override scores that Wen et al. (2018) provide for two types of property tax limits (levy and assessment). We exclude the rate limit because it is applied to only a subset of local governments and the general revenue/expenditure limit (GEL/GRL) because it is similar to the levy limit and mainly restricts to the total budget rather than specific property tax-related (Wen et al., 2018).

states with more restrictive policies. As expected, the baseline results in Panel C of Table 4 are stronger in states where local governments have more flexibility to raise taxes.

Economic Consequences – Fiscal Policy.

Next, we examine the economic consequences of accounting manipulation. Building on our previous discussions, we expect that collecting higher levels of taxes places more resources under managerial control, increasing managers' utility directly by giving them more power and prestige, or indirectly by allowing greater compensation and perquisites (Jensen, 1986). To explore these possibilities, we examine the impact of surplus mitigation on future fiscal policy, investment, managerial compensation, and labor market performance. We estimate the following specification:

$$\begin{aligned} Consequences^{+1} = \; & \beta_0 + \beta_1 DA \times Surplus + \beta_2 DA + \beta_3 Surplus \\ & + \beta^K Controls + \beta^C County + \beta^Y Year + \varepsilon_{i,t} \end{aligned} \tag{3}$$

where $Consequences^{+1}$ is either future property taxes, investment, fiscal spending, compensation, or career outcomes in the labor market, as further described below. We regress $Consequences^{+1}$ on *DA, Surplus*, the interaction between the two, and our standard control variables. A negative coefficient on the interaction variable indicates that surplus reduction entails an increase in managerial utility.

We first examine if our findings affect local governments' future property taxes. We measure $Consequences^{+1}$ as $PropTaxGrowth^{+1}$, the growth rate in the total amount of the government's property tax levy from *t* to *t+1*. Consistent with our expectations, results in column 1 of Panel A, Table 5, indicate that the interaction is negatively significant at the 5% level, suggesting that surplus avoidance is associated with a *higher* growth rate in future property taxes. The economic effect is such that a one standard deviation increase in the interaction (*DA* × *Surplus*)

is associated with a 4% decrease in the standard deviation of $PropTaxGrowth^{+1}$. In other words, surplus minimization through discretionary accruals materially affects fiscal policy and increases the tax burden of citizens. As an untabulated triangulation, we reestimate Model 3, partitioning the sample based on the sensitivity of taxes to *DA*. We find that the *DA* × *Surplus* coefficient is statistically more negative in the *High Sensitivity* partition (p-value < 0.001). The increase in property taxes is consistent with our empire-building framework. Furthermore, Gore (2009) shows that abnormally high levels of cash reserves (purportedly to create "rainy day funds") are indicative of agency problems in local governments. In light of this finding, we replace our dependent variable with the growth rate of cash holdings from *t* to *t+1* ($CashGrowth^{+1}$) and find in column 2 of Table 5, Panel A, that accounting manipulation also correlates with higher future cash holdings (interaction between *DA* and *Surplus* is negatively significant at the 1% level).

Next, we examine if our findings affect local governments' future spending by measuring $Consequences^{+1}$ as $CoreExpGrowth^{+1}$ ($NonCoreExpGrowth^{+1}$), the growth rate of core (non-core) expenditures from *t* to *t+1*. Figlio and O'Sullivan (2001) define core expenditures as expenditures toward police and fire protection, which they argue citizens view as the most basic, "essential" services that governments provide. We follow their categorization of "core expenses" and, in our primary specifications, we classify all other expenditures as "non-core". We reestimate Model 3 using $NonCoreExpGrowth^{+1}$ and $CoreExpGrowth^{+1}$ as dependent variables in Panel A of Table 5, columns 3 and 4, respectively. In column 3, the interaction coefficient is negative and suggests that as surplus avoidance increases by one standard deviation, non-core expenditure growth increases by 4% of one standard deviation. Results are consistent (p-value = 0.06, untabulated) when we define "non-core" expenditures following Figlio and O'Sullivan's definition of "administrative overhead" expenditures (that is, "general" expenditures minus financial administration and general

public building expenditures). In column 4, using $CoreExpGrowth^{+1}$ as the dependent variable, the interaction becomes positive (significant at the 10% level). In summary, surplus-reducing accruals are associated with material spending increases on non-core functions but not on essential services – rather, results even suggest a marginal reduction in spending on core activities.

Next, we measure $Consequences^{+1}$ alternatively using $TotManPayGrowth^{+1}$, the growth rate of managerial compensation (total annual compensation of all top tercile paid managers), and $AvgManPayGrowth^{+1}$, the growth rate of average managerial wages.[22] The sample size for these specifications is materially lower (N=764) as we only have this data for Californian localities. We find in columns 1 and 2 of Table 5, Panel B, that $DA \times Surplus$ is negative and significant at the 5% and 10% level, respectively. This finding is consistent with the empire-building framework in which a higher level of resources under managerial control correlates with higher compensation.[23]

Next, we measure $Consequences^{+1}$ using $TotWorkerPayGrowth^{+1}$ (the growth rate of total workers' wages) and $AvgWorkerPayGrowth^{+1}$ (the growth rate of average workers' wages) to examine if rank-and-file employee wages are also associated with surplus reduction. Consistent with Gore et al. (2023), who find that managers use reporting discretion to prevent resource extraction by unions, we do not find that rank-and-file employee wages are associated with opportunistic reporting in columns 3 and column 4 of Table 5, Panel B. This finding suggests that while surplus reduction is done, at least in part, to enhance managerial welfare, the benefits do not extend to rank-and-file employees.

In summary, local governments that engage in surplus reduction experience a higher level of taxation and expenses, and this higher level of expenses is disproportionally related to non-core

[22] We obtain managerial compensation data from GCC (Government Compensation in California) data (available from (https://publicpay.ca.gov/Reports/RawExport.aspx). We identify managers using keyword searches related to the manager, city manager, city council, and chief executive officer.
[23] In untabulated tests, we do not find evidence that the number of managers increases.

administrative activities and senior managers' compensation. These results are consistent with a framework in which senior municipal managers extract rents from taxpayers without sharing with lower, rank-and-file, employees.

Economic Consequences – Labor Markets.

Next, we examine how accounting manipulations that reduce reported surplus affect the labor market prospects of financial statement preparers using two alternative dependent variables to measure $Consequences^{+1}$ in Model 3. *FinPayGrowth* is the growth of the average pay for people working in the finance function,[24] and *ExtProm* is an indicator variable equal to one if the name listed as the primary auditee contact in the FAC dataset receives an external promotion in the following two years (to account for the length of the hiring process) and zero otherwise. We define an external promotion as a situation in which the financial statement preparer identified in the FAC database leaves their current employer to join another local government covered in the database with higher pay.[25]

We present the results in Table 5, Panel C, columns 1 (*FinPayGrowth*) and 2 (*ExtProm*). In both columns, the interaction is significantly negative at the 1% level, suggesting that surplus reduction accruals are associated with greater future compensation and likelihood of promotion for finance function employees. In addition, *DA* is positive, which further implies a demand for

[24] We obtain the total annual payroll and the total number of employees information from the Annual Survey of Public Employment and Payroll (ASPEP) database (available from https://www.census.gov/programs-surveys/apes/data/historical_data.html). Data is unavailable for some municipalities, resulting in a marginally smaller sample size.

[25] We acknowledge two limitations of our approach. First, we designate the auditee contact as a presumed financial statement preparer. Their job titles are typically chief financial officers, chief executive officers, accountants, and controllers, positions which we argue have an influential role in financial statement preparation. However, we consider all the auditee contacts in this analysis to increase the estimation power. Second, our approach necessarily excludes promotions to employers not covered by the database.

financial statement preparers who can manage the reported bottom line toward zero (i.e., using discretion to minimize both deficits and surpluses).

Our results specifically focus on accruals management to avoid surpluses, as we initially surmise that manipulating accruals requires a degree of accounting skill which is valuable to labor markets. Manipulating accruals requires managers to adjust assumptions while remaining within the bounds of reason held by auditors and other stakeholders to avoid detection. However, the demand for preparers who can deliver bespoke financial statements may be broader. For example, managers can also manipulate modified accrual reports by transferring cash from a general fund to a special purpose one or selling assets for a one-time cash influx. Manipulations commonly referenced in the modified accrual reports are generally more akin to "real" earning management and do not require strong accounting expertise to carry out. Given that it requires more skill, we expect the labor market to place more value on the ability to manipulate accruals. Consistent with this expectation, we do not find a positive effect on the labor market value of financial preparers associated with the ability to manipulate modified accrual – measured using other financing sources and uses (*OFSU*) in place of discretionary accruals (and measuring pre-discretionary surplus using modified accrual basis) – on compensation or promotion consequences using Model 3 (untabulated).[26] Overall, these analyses suggest that the labor market places more value on the ability to manipulate accruals than cash.

VI. Alternative Explanations.

Lastly, we consider alternative explanations for our results. We stress, however, that these explanations are neither mutually exclusive with our framework nor with each other. As such, we

[26] We find the interaction *OFSU * Surplus* is insignificant (e.g., p-values of = 0.58 and 0.72 when the dependent variable is *FinPayGrowth* and *ExtPromm*, respectively) and the coefficients are close to zero.

are agnostic about their validity for this study. Rather, our goal is to ensure that these alternative explanations do not subsume our primary interpretations.

Unions.

We argue that municipalities use accounting discretion to hide financial slack from taxpayers to extract rents. Gore et al. (2023) indicate that municipalities may use accounting discretion to conceal flexible resources from powerful unions. To explore the effect of this behavior, we define *High Union* as equal to one if the annual state-level proportion of employees who are union members (Hirsch et al., 2001) is greater than the sample median, zero otherwise. We partition the sample into high- and low-unionized observations based on this measure and compare the results of Model 1 across these partitions. We find that $HPG^{-1} \times Surplus$ remains significantly positive at the 1% level (untabulated) in both partitions. Next, we add the interaction *High Union* $\times$ *Surplus* to Model 1 estimated on the pooled sample. $HPG^{-1} \times Surplus$ remains negative and significant (untabulated), consistent with our primary results. In other words, while unionization may contribute to the bias in reporting we consider, it does not subsume our interpretation based on rent extraction by managers.

Bondholders.

An alternative reason why municipalities may want to downplay surplus may be to appease creditors. For example, Beck (2018) shows municipal governments pursue a break-even income in financial statements before issuing bonds. If creditors perceive a greater ability to raise property tax revenues through accounting choices, bond issuers may reduce surpluses to raise taxes with the goal of increasing debt capacity rather than with the goal of building an empire. Empirical results suggest that this mechanism does not explain our results. First, to control for debt market participation as a determinant of surplus avoidance, we include outstanding bond debt in all

specifications (*Debt*). Second, to consider whether surplus avoidance is explained by incentives related to debt market participation rather than property value increases, we estimate Model 1 on municipalities that do not issue bonds during our sample period and thus are not motivated by debt market incentives.[27] We find that $HPG^{-1} \times Surplus$ is strongly significant in our baseline model in the sample of non-issuers (untabulated).[28] Next, we add the interaction *Bond Issuance* × *Surplus* to Model 1 estimated on the pooled sample, where *Bond Issuance* is an indicator variable set to one in the fiscal year leading up to a municipal bond issuance. $HPG^{-1} \times Surplus$ remains negative and significant (untabulated), consistent with our primary results. Overall, we do not find evidence that municipalities use the specific form of accruals management we document to reduce surpluses to cater to bondholders.

Break-even.

Lastly, municipalities may desire to come as close as possible to breaking even and display a symmetric relation between surplus and deficit reduction (Felix, 2014; Beck, 2018). This view is not inconsistent with our analysis as it begs the question of why opportunistic behavior may exist. For example, the desire to assuage concerns from stakeholders about the financial health of the municipality can motivate deficit reduction, while our thesis is that empire-building motivates surplus reduction. Consistent with the latter, *DA* ×*Surplus* (which represents surplus reduction) is significant in Table 5 when *CashGrowth, NonCoreExpGrowth,* and *AvgManPayGrowth* are the dependent variables. In contrast, *DA* (which represents deficit reduction, i.e., discretionary accruals

[27] We obtain municipal issuance data from the Mergent Municipal Bond Securities Database and use a fuzzy match between issuer names in the Mergent data and municipality names.

[28] The variable is insignificant in the sample of issuers. This may be explained by a relatively low frequency of issuance that materially reduces the power of the test (only 20% percent of the municipalities in our sample have bond issuance), by the fact that leverage has been shown to be a strong way to contain empire-building tendencies, or by the fact they are already avoiding surpluses because they are issuing bonds (Beck, 2018).

when pre-discretionary *Surplus* = 0) is not significant in these specifications. This suggests that deficits and surpluses do not have symmetric empire-building consequences. While this does not preclude the existence of other motives for deficit reduction, studying these motives and their possible consequences is beyond the scope of this study.[29]

VI. Conclusion.

Corporate finance and accounting research (Sloan, 1993; Laux and Laux, 2009; Mohan Goel and Thakor, 2003) shows that corporate executives manage earnings to maximize their compensation and use disclosure discretion to obfuscate their behavior (e.g., Hope and Wayne, 2008). In contrast, we investigate the relationship between agency problems and accounting discretion in local governments, focusing specifically on whether local authorities strategically avoid surpluses to cultivate citizen support for property tax hikes. Since taxes represent a significant portion of local government revenues, a pronounced agency conflict emerges between citizens, particularly taxpayers, and governmental managers, especially in the finance function. However, while management has incentives to boost tax revenues, such decisions typically necessitate public discourse and cannot be unilaterally enacted.

Holding other factors constant, greater tax revenues afford more budgetary leeway for managers to engage in their favored activities and receive greater compensation. However, taxpayers may resist higher property taxes, even when they are reflective of fair value increases (Ross, 2011). Government surpluses become a tool for citizens to advocate against tax increases, positing that taxes exceed the necessary funding for services rendered.

[29] For example, Costello et al. (2017) finds that states mitigate cash deficit to satisfy regulatory constraints. Our setting is different as we consider accruals instead of cash and municipalities instead of states where the regulatory constraints are different but, more fundamentally, because we consider surplus reduction instead of deficit reduction. Having regulatory incentives to avoid deficits does not preclude having other incentives to mitigate surpluses.

Our hypothesis posits that governmental managers strategically utilize accounting discretion to diminish reported fiscal surpluses, thereby facilitating an increase in tax revenues. This proposition aligns with existing research highlighting the prevalent practice of window-dressing financial disclosures within governmental entities but considers this behavior in a different framework. We anticipate that governmental managers, like their corporate counterparts, engage in such practices and that those adept at doing so stand to gain enhanced personal power and compensation, which might distort their fiscal policy choices.

Our analysis reveals that local governments strategically utilize negative accruals to counteract the positive impact of escalating real estate prices on the bottom line, particularly when they are already operating with a surplus. These baseline results remain robust in instrumented specifications. Linking this observation to the notion that surpluses compromise citizen support for subsequent property tax increases, we observe this behavior prominently in situations where reporting and stewardship quality is lower and where the ability to raise taxes is more sensitive to discretionary accruals and less restricted by stringent state laws. Lastly, we explore some of the consequences of surplus mitigation on governments' fiscal policy choices. We find that local governments that engage in surplus reduction experience a higher level of taxation and cash hoarding. They increase non-core expenses and managerial salaries but not core expenses or rank-and-file salaries. We also find that financial statement preparers enjoy higher future compensation at their current employer and a greater likelihood of external promotion when they use discretionary accruals to reduce surpluses, suggesting the demand for strategic reporting among local governments.

Bibliography

Arellano, M., Bond, S., 1991. Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. Review of Economic Studies 58: 277–297.

Bartik, Timothy J., 1992. The Effects of State and Local Taxes on Economic Development: A Review of Recent Research, Economic Development Quarterly 6(1): 102–111

Beck, A.W., 2018. Opportunistic financial reporting around municipal bond issues. Review of Accounting Studies, 23(3): 785-826.

Berkowitz, D., Caner, M., Fang, Y., 2012. The validity of instruments revisited. Journal of Econometrics 166: 255–266.

Biddle, Gary C., Hilary, Gilles Verdi, Rodrigo S., 2009. How Does Financial Reporting Quality Relate to Investment Efficiency?, Journal of Accounting and Economics 48(2–3): 112–131.

Brown, Charles, Medoff, James, 1989. The Employer Size-Wage Effect. Journal of Political Economy 97 (5): 1027–1059.

Brueckner, Jan K., Neumark, David, 2014. Beaches, Sunshine, and Public-Sector Pay: Theory and Evidence on Amenities and Rent Extraction by Government Workers. American Economic Journal: Economic Policy 6 (2): 198

Brunner, Eric J., Ross, Stephen L., Simonsen, Becky K., 2015. Homeowners, Renters and the Political Economy of Property Taxation. Regional Science and Urban Economics 53: 38–49.

Cabral, M., Hoxby, C., 2012. The Hated Property Tax: Salience, Tax Rates, and Tax Revolts, National Bureau of Economic Research Working Paper 18514.

Chaney, T., Sraer, D., Thesmar, D., 2012. The collateral channel: How real estate shocks affect corporate investment. American Economic Review 102: 2381–2409

Chen, C. X., Lu, H., Sougiannis, T., 2012. The Agency Problem, Corporate Governance, and the Asymmetrical Behavior of Selling, General, and Administrative Costs. Contemporary Accounting Research 29(1): 252–282.

Chen, Wei, Hribar, Paul, Melessa, Samuel, 2018. Incorrect Inferences When Using Residuals as Dependent Variables, Journal of Accounting Research 56 (3): 751–793

Chen, Xi, 2021. Real effects of flood risk disclosure on home mortgage lending. Working Paper.

Chen, Xi, Hilary, Gilles, 2021. Housing Prices, Labor Markets, and Corporate Decisions: Cross-market Consequences of Disclosure Regulation, Working Paper.

Compton, Y. L., Gore, A. K. Kulp, S. L., 2017. Compensation design and political risk: The case of city managers. Review of Accounting Studies 22: 109–140.

Core, J., Guay, W., Verdi, R., 2006. Agency Problems of Excess Endowments Holdings in Not-for Profit Firms. Journal of Accounting and Economics 41: 307333.

Costello, A.M., Petacchi, R., Weber, J., 2017. The Impact of Balanced Budget Restrictions on States' Fiscal Actions. The Accounting Review 92 (1): 51–71.

Cuny, Christine, Kim, Jungbae, Mehta, Mihir N., 2020. Politically Connected Governments. Journal of Accounting Research 58(4): 915–952.

Dah, Mustafa A., Frye, Melissa B., 2017. Is Board Compensation Excessive?, Journal of Corporate Finance 45: 566-585.

Di Meo, Fabrizio, Garcia Lara, Juan Manuel, Surroca, Jordi A., 2017. Managerial Entrenchment and Earnings Management, Journal of Accounting and Public Policy 36 (5): 399–414.

Diamond, Rebecca, 2017. Housing Supply Elasticity and Rent Extraction by State and Local Governments. American Economic Journal: Economic Policy 9 (1): 74–111.

Dornfest, A.S., Van Sant, S. Anderson, R. Brown, R., 2010. State and Provincial Property Tax Policies and Administrative Practices (PTAPP): Compilation and Report. Journal of Property Tax Assessment and Administration 7 (4): 5–112.

Evans, David D, Leighton A., Hunley, Brandon Katz, 2022. Unpriced costs of flooding: An emerging risk for homeowners and lenders. KatRisk LLC Research Paper.

Favara, G., Imbs, J., 2015. Credit supply and the price of housing. American Economic Review, 105(3): 958–992.

Felix, R., 2014. The use of inter-fund transfers to manage the "bottom line" in the municipal context. Journal of Governmental & Nonprofit Accounting 4(2):17–31.

Fogel, W., Lewin, D., 1974. Wage Determination in the Public Sector, Industrial and Labor Relations Review 27 (3): 410–431.

Fecher, Joshua, 2023. "Texas proposition lets voters decide whether to cut property taxes for homeowners and businesses." Texas Tribune. https://libguides.wvu.edu/c.php?g=418946&p=2855023 (accessed 24 October 2023).

Figlio, David N., O'Sullivan, Arthur, 2001, The Local Response to Tax Limitation Measures: Do Local Governments Manipulate Voters to Increase Revenues? The Journal of Law and Economics 44(1): 233–257.

Fink, Jack, 2023. “Here are the 2 philosophies to reduce property taxes behind the standoff between Gov Greg Abbott, Lt. Gov. Dan Patrick.” CBS News Texas. https://www.cbsnews.com/texas/news/philosophies-reduce-property-taxes-behind-standoff-between-gov-greg-abbott-lt-gov-dan-patrick/(accessed 1 June 2023).

Fisher, Glenn W., 1996. The Worst Tax?: A History of the Property Tax in America. University Press of Kansas.

Giroux, G. (1989). Political interests and governmental accounting disclosure. Journal of Accounting and Public Policy.

Glaser, Mark A., W., Bartley, Hildreth, 1999. Service Delivery Satisfaction and Willingness to Pay Taxes: Citizen Recognition of Local Government Performance, Public Productivity & Management Review 23(1): 48–67.

Gore, Angela K., 2009. Why Do Cities Hoard Cash? Determinants and Implications of Municipal Cash Holdings, The Accounting Review 84 (1): 183–207.

Gore, Angela K., Ji, Yuan Kulp, Susan L., 2023. Do Governments Hide Resources from Unions? The Influence of Public Sector Unions on Reported Discretionary Fund Balance Ratios. Journal of Accounting Research 61 (5): 1735–1770.

Grossman, P.J., 1990. The impact of federal and state grants on local government spending: A test of the fiscal illusion hypothesis, Public Finance Quarterly 18 (3): 313–327.

Gyourko, Joseph, Tracy, Joseph, 1991. The Structure of Local Public Finance and the Quality of Life. Journal of Political Economy 99 (4): 774–80.

Hirsch, B.T., Macpherson, D.A., Vroman, W.G., 2001. Estimates of Union Density by State. Monthly Labor Review 124(7): 51–55.

Hope, O.K., Thomas, W.B., 2008. Managerial Empire Building and Firm Disclosure. Journal of Accounting Research 46(3): 591–626.

Hu, Z., 2022. Social interactions and households’ flood insurance decisions. Journal of Financial Economics 144: 414–432.

Institute for Truth in Accounting (ITA), 2009. The Truth about Balanced Budgets: A Fifty State Study.

International Association of Assessing Officers (IAOO), 2022. United States Roll Call 2022 Edition: Requirements for Assessor Licensing/Certification by State. Kansas City, MO. Available at iaao.org.

Jensen, M.C., 1986. Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review, 76(2): 323–329.

Jimenez, B.S., 2018. Fiscal Institutional Externalities: The Negative Effects of Local Tax and Expenditure Limits on Municipal Budgetary Solvency, Public Budgeting and Finance 38 (30): 3–31.

Kanodia, C., Sapra, H., 2016. A Real Effects Perspective to Accounting Measurement and Disclosure: Implications and Insights for Future Research. Journal of Accounting Research, 54(2): 623–676.

Kido, N., Petacchi, R., Weber, J., 2012. The Influence of Elections on the Accounting Choices of Governmental Entities, Journal of Accounting Research 50(2): 443–475.

Kim, J., Kim, Y., Zhou, J., 2017. Languages and Earnings Management. Journal of Accounting and Economics 63(2-3): 288–306.

Kim, W. J., Plumlee, M.A., Stubben, S.R., 2022. Overview of US State and Local Government Financial Reporting: A Reference for Academic Research. Accounting Horizons 36(3): 127–148.

Kruczkiewicz, A, Cian, F., Monasterolo I., Di Baldassarre G., Caldas A., Royz M., Glasscoe M., Ranger N., van Aalst, M., 2022. Multiform flood risk in a rapidly changing world: what we do not do, what we should and why it matters, Environmental Research Letters 17 (8).

Kusisto, L., 2019. Is Your Home at Risk of Flooding? The Data Is Hard to Find. Wall Street Journal.

Laux, C., Volker L., 2009. Board Committees, CEO Compensation, and Earnings Management, The Accounting Review 84(3): 869–891

Lieb, David, 2023. "States cranking out even more tax cuts amid cash surpluses." Associated Press. https://apnews.com/article/tax-cuts-states-surpluses-missouri-f280bb4a6e23bf2e79c1b45979cb61ee (accessed 21 March 2023)

Lutz, B.F., 2008. The Connection Between House Price Appreciation and Property Tax Revenues, National Tax Journal 61(3): 555–572.

Makowsky, Michael, Sanders, Shane, 2013. Political Costs and Fiscal Benefits: The Political Economy of Residential Property Value Assessment under Proposition 212. Economics Letters 120 (3): 359-363.

McClurkan, G., 2019. Commentary: As Flood Threat Grows, Florida Must Mandate Flood Risk Disclosure. Insurance Journal.

McDonough, R.P., Yan, C. J., 2023. Accounting Policies in the Public Sector: Characteristics and Consequences of Accounting for Capital Assets. Journal of Accounting and Public Policy 42(1): 107033.

Mian, A., Sufi, A., 2014. What explains the 2007–2009 drop in employment? Econometrica, 82(6): 2197–2223.

Mohan Goel, Anand, Thakor, Anjan V., 2003. Why Do Firms Smooth Earnings? The Journal of Business 76(1): 151–192.

Munro, Ian, 2024. "Norfolk has a budget surplus of $17.8 million. One council member wants tax cuts." The Virginian-Pilot. https://www.pilotonline.com/2024/02/14/norfolk-has-a-budget-surplus-of-17-8m-one-council-member-wants-tax-cuts/(accessed 14 February 2024).

Naughton, J., Petacchi, R., Weber, J., 2015. Public Pension Accounting Rules and Economic Outcomes, Journal of Accounting and Economics 59: 221–241.

National Conference of State Legislatures (NCSL), 2023. The Most Hated Tax – and What States are Doing About It. https://www.ncsl.org/fiscal/the-most-hated-taxand-what-states-are-doing-about-it (accessed 19 September 2024).

Niskanen, William A., 1968. Nonmarket decision making: The peculiar economics of bureaucracy, American Economic Review 58 (2): 293–305.

Niskanen, J.,1971. Bureaucracy and Representative Government (1st ed.). Routledge.

Peacock, A.T., Wiseman, J.,1961. The Growth and Public Expenditure in the United Kingdom. Princeton: Princeton University Press.

Phillips, J.M., Goss, E.P., 1995. The effect of state and local taxes on economic development: A meta-analysis. Southern Economic Journal: 320–333.

Poterba, J. M., Rueben, K., 1999. State Fiscal Institutions and the US Municipal Bond Market, In Fiscal Institutions and Fiscal Performance, pp. 181–208. University of Chicago Press.

Price, Dave, 2023. "Opinion: They're lying when they say they don't have a surplus." Daily Post. December 9. https://padailypost.com/2023/12/09/opinion-theyre-lying-when-they-say-they-dont-have-a-surplus/(accessed 9 December 2023).

Propheter, Geoffrey, 2016. Elected and Appointed Assessor Efficiency Differentials, Public Performance & Management Review 39(2): 358–380.

Roscoe, Douglas D., 2014. "Yes, Raise My Taxes: Property Tax Cap Override Elections." Social Science Quarterly 95 (1): 145–164.

Ross, Justin M., 2011. Assessor Incentives and Property Assessment, Southern Economic Journal 77(3): 776–794.

Ross, Justin M., 2012. Interjurisdictional Determinants of Property Assessment Regressivity. Land Economics 88, 1: 28–42.

Roychowdhury, S., Shroff, N. Verdi, R. S., 2019. The Effects of Financial Reporting and Disclosure on Corporate Investment: A Review, Journal of Accounting and Economics 68(2-3): 101246.

Sloan, Richard G., 1993. Accounting Earnings and Top Executive Compensation, Journal of Accounting and Economics 16: 55–100.

Walczak, J., 2018. Property Tax Limitation Regimes: A Primer, Tax Foundation, Fiscal Fact No. 285.

Wen, C., Xu, Y., Kim, Y., Warner, M.E., 2020. Starving Counties, Squeezing Cities: Tax and Expenditure Limits in the US. Journal of Economic Policy Reform, 23(2):101–119.

Winters, J.V., 2008. Property Tax Limitations, Working Paper, Fiscal Research Center of the Andrew Young School of Policy Studies.

Woods, Charlotte R., 2022. Despite a budget surplus, Charlottesville City Council voted to increase real estate and meals taxes." Charlottesville Tomorrow. https://www.cvilletomorrow.org/despite-a-budget-surplus-charlottesville-city-council-voted-to-increase-real-estate-and-meals-taxes/ (accessed 14 April 2024).

Zimmerman, J., 1977. The Municipal Accounting Maze: An Analysis of Political Incentives, Journal of Accounting Research 15: 107-155.

Appendix 1- Definition of Variables

This table presents the definitions and identifies the data sources for the different variables used in the empirical estimations.

Variable	Definition
Population	Total population (GFOA).
ΔRevs	Change in revenues from full accrual financial statements from t to t-1, scaled by population in thousands of dollars (GFOA).
Net Capital Assets	Net investment in capital assets disclosed in the full accrual financial statements, scaled by population in thousands of dollars (GFOA).
DA	Total discretionary accruals estimated in full accrual financial statements, scaled by population, measured using the residual of Eq. (2) in thousands of dollars.
OFSU	Total other financing sources and uses of total governmental funds reported in modified accrual financial statements, scaled by population in thousands of dollars (GFOA).
HPG^{-1}	House price growth, measured as $[\log(1 + HPI)_{t-2} - \log(1 + HPI)_{t-1}]$, where *HPI* is the home price index taken from the Office of Federal Housing Enterprise Oversight (Favara and Imbs, 2015).
Surplus	Equal to one if pre-discretionary income in full accrual financial statements (modified accrual financial statement) is greater than zero, zero otherwise. Pre-discretionary income in full accrual financial statements is calculated as full accrual net income (NI_{FA}) minus discretionary accruals (DA) (or modified accrual net income (NI^{MA}) minus other financing sources and uses (OFSU), scaled by population).
NI_{FA}	Net income (i.e., "changes in net position") reported in full accrual financial statements, scaled by population in thousands of dollars (GFOA).
NI_{MA}	Net income (i.e., "changes in governmental fund balances") reported in modified accrual financial statements, scaled by population in thousands of dollars (GFOA).
Debt	Total general bonded debt of the governmental activities scaled by population in thousands of dollars (GFOA)
Cash	Total cash and investments of the government's general fund scaled by population in thousands of dollars (GFOA).
Grant	Total grant revenues as a percentage of total municipal revenue (GFOA).
GDP	County-level gross domestic product scaled by population in thousands of dollars (Census of Governments).
Unemployment Rate	County-level annual unemployment rate (Census of Governments).
Education	County-level proportion of adults with less than a high school diploma (Census of Governments).
PctWhite	County-level proportion of the total population that is white (Census of Governments).
Union	State-level proportion of employees who are union members (Barry et al., 2001).
Republican	County-level proportion of vote share received by republicans during presidential elections (MEDSL).
High Risk	An binary variable indicating whether or not the auditee is low-risk for the audit year. (Federal Audit Clearinghouse – FAC).

Clean Opinion	Equal to one if the auditee receives an unqualified opinion, does not have a going concern issue, does not have a reportable condition/significant deficiency, does not have material weakness and does not have material noncompliance on the financial statements. It is set to zero otherwise. (FAC)
High Stewardship	Following Cuny, Kim, and Mehta 2020, it is measured as the first principal component of several risk characteristics (an unmodified audit opinion; no material weakness; no significant deficiency; no material noncompliance; the lag between period-end and the audit report date). *High/Low Stewardship* are indicator variables based on whether the variable is above/below the median. (FAC)
High Sensitivity	We measure the sensitivity of property tax growth on DA and surplus, by running cross-sectional regressions of property tax growth on *DA, surplus,* and *DA* × *Surplus* by state and saving the coefficients. It is equal to one if the estimated coefficients of property tax on *DA* × *Surplus* are more negative than the yearly median value and zero otherwise. To account for more granular estimation at the municipality level, we bootstrapped the sample two thousand times to obtain the optimal sensitivity as a second measure.
High Tax Limit	The first principal component of the tax limitation indexes (including property assessment value limit and property tax levy limit) from Wen et al. (2018). *High/Low Tax Limit* are indicator variables based on whether the variable is above/below the median.
$PropTaxGrowth^{+1}$	The growth rate of the total amount of the government's property tax levy from t+1 to t (Census of Governments).
$CashGrowth^{+1}$	The growth rate of the government's total cash holdings from t+1 to t (Census of Governments).
$CoreExpGrowth^{+1}$	The growth rate of core expenditures (the sum of total police and fire protection) from t+1 to t (Census of Governments).
$NonCoreExpGrowth^{+1}$	The growth rate of the total expenditures minus the core expenditures from t+1 to t (Census of Governments).
$TotManPayGrowth^{+1}$	The growth rate of total managers' pay in California from t+1 to t (GCC Government Compensation in California).
$AvgManPayGrowth^{+1}$	The growth rate of average managers' pay in California from t+1 to t (GCC Government Compensation in California).
$TotWorkerPayGrowth^{+1}$	The growth rate of total workers' pay in California from t+1 to t (GCC Government Compensation in California).
$AvgWorkerPayGrowth^{+1}$	The growth rate of average workers' pay in California from t+1 to t (GCC Government Compensation in California).
FinPayGrowth	The growth rate of average annual payrolls per employee in the financial administration function from t to t-1 (ASPEP).
$ExtProm^{+2}$	Equal to one if the name listed as the primary auditee contact in the FAC dataset receives an external promotion in the following two years and zero otherwise (FAC).

Table 1- Descriptive Statistics

This table reports the descriptive distribution of the variables used in the analyses. Appendix 1 provides additional details about variable measurements.

	N	Mean	SD	Median
Population	12,642	171,077	480,685	58,746
ΔRevs	12,642	0.033	0.200	0.023
Net Capital Assets	12,642	1.966	1.843	1.476
DA	12,642	-0.001	0.178	-0.038
OFSU	12,642	0.113	0.199	0.034
HPG^{-1}	12,642	-0.001	0.068	0.000
Surplus	12,642	0.708	0.455	1.000
$HPG^{-1} \times Surplus$	12,642	0.002	0.059	0.000
NI_{FA}^{-1}	12,642	0.096	0.205	0.060
NI_{MA}^{-1}	12,642	0.040	0.214	0.015
Debt	12,642	0.524	0.686	0.268
Cash	12,642	0.282	0.280	0.200
Grant	12,642	0.348	0.358	0.229
GDP	12,642	1.348	3.478	0.155
Unemployment Rate	12,642	0.070	0.026	0.066
Education	12,642	0.136	0.056	0.127
PctWhite	12,642	0.730	0.242	0.813
Union	12,642	0.110	0.057	0.115
Republican	12,642	0.491	0.132	0.490

Table 2- Correlation table

This table reports the Pearson correlations of the variables used in the analyses, with the correlation coefficients with significance levels. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels. P-values are 2-tailed. We present the variable definitions and data sources in Appendix 1.

Variables	*DA*	*OFSU*	HPG^{-1}	*Surplus*	NI_{FA}^{-1}	*Debt*	*Cash*	*Grant*	GDP	*UnemployRate*	*Education*	*PctWhite*	Union
DA	1.000												
OFSU	0.513***	1.000											
HPG^{-1}	0.031***	0.077***	1.000										
Surplus	-0.540***	-0.297***	0.069***	1.000									
NI_{FA}^{-1}	0.077***	0.094***	0.121***	0.159***	1.000								
Debt	0.335***	0.360***	0.007	-0.243***	0.062***	1.000							
Cash	-0.004	0.113***	-0.013	0.012	0.248***	0.163***	1.000						
Grant	0.024***	-0.017*	0.027***	0.128***	0.098***	-0.064***	-0.196***	1.000					
GDP	-0.048***	0.025***	-0.044***	0.007	0.073***	0.029***	0.274***	-0.156***	1.000				
UnemployRate	-0.062***	-0.117***	-0.626***	-0.065***	-0.158***	-0.101***	-0.017*	0.014*	0.042***	1.000			
Education	-0.047***	-0.044***	0.143***	-0.001	-0.022**	-0.129***	-0.024***	-0.049***	0.118***	0.196***	1.000		
PctWhite	-0.063***	-0.003	-0.065***	0.044***	0.022**	0.015*	0.000	0.218***	0.167***	0.086***	-0.171***	1.000	
Union	0.021**	-0.049***	0.158***	0.053***	0.024***	-0.071***	-0.085***	-0.002	-0.320***	-0.174***	0.061***	-0.016*	1.000
Republican	0.021**	0.002	0.158***	0.053***	0.024***	-0.071***	-0.085***	-0.002	-0.320***	-0.174***	0.061***	0.324***	-0.421***

Table 3 – House Prices Growth and Accounting Discretion

This table reports the results of the association between housing prices and discretionary accruals. Panel A reports the results of the relationship between house price growth and discretionary accruals. Panel B presents a set of robustness tests for our baseline model. Among them, columns 1 and 2 include government and state fixed effects, respectively, instead of county fixed effects, column 3 estimates a change regression analysis, column 4 implements a fully interacted model (Chen, Hribar, and Melessa, 2018), column 5 uses mandatory disclosure laws as an instrument for house prices and column 6 uses a measure of other financing sources and uses. Panel C plots the differences in discretionary accruals between our treated sample and an entropy balancing matched control sample relative to a significant house price boom (defined as the top decile house prices growth). Appendix 1 provides additional details about variable measurements. We correct standard errors for heteroskedasticity and clustering at the government level (t-statistics are in parentheses). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels. P-values are 2-tailed.

Panel A. House price growth and discretionary accruals

	(1)	(2)
	DA	*DA*
$HPG^{-1} \times Surplus$	-0.247***	-0.248***
	(-4.34)	(-4.49)
HPG^{-1}	0.264***	0.280***
	(4.62)	(4.92)
Surplus	-0.202***	-0.198***
	(-42.51)	(-44.03)
NI_{FA}^{-1}		0.095***
		(7.42)
Debt		0.054***
		(10.04)
Cash		-0.015
		(-1.23)
Grant		0.053***
		(7.29)
GDP		-0.001
		(-1.52)
Unemployment Rate		0.510***
		(2.62)
Education		-0.588*
		(-1.90)
PctWhite		-0.001
		(-0.22)
Union		0.373**
		(2.05)
Republican		-0.047
		(-0.59)
Intercept	0.143***	0.118
	(34.42)	(1.62)
Observations	12,642	12,642
Adjusted R-squared	0.394	0.435
County FE	Yes	Yes
Year FE	Yes	Yes
Cluster Government	Yes	Yes

Panel B. Sensitivity tests						
	(1)	(2)	(3)	(4)	(5)	(6)
	Government FE	*State FE*	*Δ*	*Fully interacted*	*2SLS*	*OFSU*
$HPG^{-1} \times Surplus$	-0.253***	-0.265***	-0.173**	-0.235***	-6.625***	-0.137**
	(-4.59)	(-4.70)	(-2.55)	(-3.68)	(-3.39)	(-2.52)
HPG^{-1}	0.285***	0.261***	0.266***	0.260***	4.857***	0.174***
	(4.94)	(4.65)	(3.68)	(4.00)	(3.30)	(3.34)
Surplus	-0.187***	-0.205***	-0.117***	-0.235***	-0.266***	-0.072***
	(-41.15)	(-44.34)	(-22.19)	(-41.18)	(-10.38)	(-17.28)
Observations	12,642	12,642	9,869	12,642	6,373	12,642
Adjusted R-squared	0.517	0.391	0.041	0.700	-	0.230
Controls	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	No	No	Yes	No
County FE	No	No	Yes	Yes	No	Yes
Government FE	Yes	No	No	No	No	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Full interacted	No	No	No	Yes	No	No
Cluster Government	Yes	Yes	Yes	Yes	Yes	Yes

Panel C. House price shocks and discretionary accruals

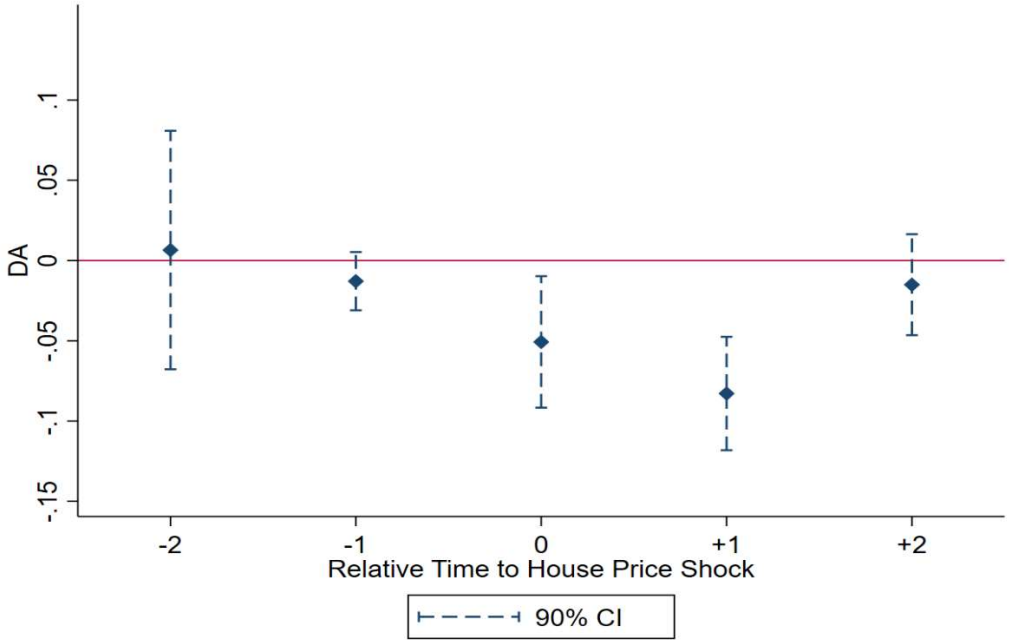

Table 4 - Comparative Statics

This table explores the incentives of governmental officials (property tax assessors). Panel A focuses on financial reporting quality. We use three measures to proxy financial reporting quality. *High/Low Risk* are indicator variables based on whether or not the auditee is low-risk for the audit year or not. *Clean Opinion* is measured as one if the auditee receives an unqualified opinion, does not have a going concern issue, does not have a reportable condition/significant deficiency, does not have material weakness and does not have material noncompliance on the financial statements. It is set to zero otherwise. *Stewardship* is a measure that follows Cuny, Kim, and Mehta (2020) based on the first principal component of several risk characteristics. *High/Low Stewardship* are indicator variables based on whether the variable is above/below the median. In Panel B, we investigate whether the effects of reported profitability vary depending on the ability of governmental officials to raise property taxes. We proxy for officials' incentives using the sensitivity of property tax growth to discretionary accruals and surplus. We estimate the sensitivity both at a state level and a municipality level. In Panel C, we use the presence of state laws restricting the ability to raise property tax as a second proxy. Tax limit is the first principal component of a set of tax limitation indexes from Wen et al. (2018). *High/Low Tax Limits* are indicator variables based on whether the variable is above/below the median. Appendix 1 provides additional details about variable measurements. We correct standard errors for heteroskedasticity and clustering at the government level (t-statistics are in parentheses). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels. P-values are 2-tailed.

Panel A- Financial Reporting Quality	*DA*					
	(1)	(2)	(3)	(4)	(5)	(6)
	Low Risk	*High Risk*	*Clean Opinion*	*Weak Opinion*	*High Stewardship*	*Low Stewardship*
$HPG^{-1} \times Surplus$	-0.113	-0.457***	-0.154*	-0.291***	0.012	-0.266***
	(-1.55)	(-3.84)	(-1.67)	(-3.40)	(0.09)	(-2.70)
HPG^{-1}	0.179**	0.422***	0.211**	0.279***	0.004	0.323***
	(2.38)	(3.46)	(2.32)	(3.06)	(0.03)	(2.94)
Surplus	-0.178***	-0.186***	-0.186***	-0.173***	-0.171***	-0.173***
	(-25.21)	(-22.08)	(-23.99)	(-23.47)	(-16.29)	(-19.55)
Observations	5,284	3,534	4,775	4,045	2,876	2,896
Adjusted R-squared	0.442	0.447	0.427	0.452	0.443	0.439
Controls	Yes	Yes	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster Government	Yes	Yes	Yes	Yes	Yes	Yes
Diff. in Coefficients $HPG^{-1} \times Surplus$	0.344***		0.137**		0.279***	

Panel B – Ability to Raise Taxes	*DA*			
	State level		*Municipal level*	
	(1)	(2)	(3)	(4)
	High Sensitivity	*Low Sensitivity*	*High Sensitivity*	*Low Sensitivity*
HPG^{-1} × *Surplus*	-0.340***	-0.119	-0.400***	-0.115
	(-5.04)	(-1.22)	(-5.23)	(-1.38)
HPG^{-1}	0.361***	0.202*	0.435***	0.152*
	(5.17)	(1.95)	(5.53)	(1.74)
Surplus	-0.200***	-0.196***	-0.200***	-0.199***
	(-32.34)	(-29.99)	(-33.65)	(-31.88)
Observations	6,487	6,155	6,452	6,169
Adjusted R-squared	0.460	0.492	0.498	0.498
Controls	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Cluster Government	Yes	Yes	Yes	Yes
Diff. in Coefficients *HPG*$^{-1}$ × *Surplus*	-0.221**		-0.295***	

Panel C – Tax limit	*DA*	
	(1)	(2)
	Low Tax Limit	*High Tax Limit*
HPG^{-1} × *Surplus*	-0.409***	-0.186***
	(-3.51)	(-3.01)
HPG^{-1}	0.336***	0.241***
	(2.70)	(3.77)
Surplus	-0.207***	-0.194***
	(-25.68)	(-36.27)
Observations	4,899	7,743
Adjusted R-squared	0.457	0.423
Controls	Yes	Yes
County FE	Yes	Yes
Year FE	Yes	Yes
Cluster Government	Yes	Yes
Diff. in Coefficients *HPG*$^{-1}$ × *Surplus*	0.223*	

Table 5 – Economic Consequences of Accounting Discretion

This table explores the relationship between accounting discretion and future economic consequences by local governments. *PropTaxGrowth*$^{+1}$is the growth rate in the total amount of the government's property tax levy from t+1 to t. *CashGrowth*$^{+1}$ is the growth rate of the government's total cash holdings from t+1 to t. *CoreExpGrowth*$^{+1}$ is the growth rate of core expenditures (defined as the sum of total police and fire protection) from t+1 to t. *NonCoreExpGrowth*$^{+1}$ is the growth rate of the total expenditures minus the core expenditures from t+1 to t. *TotManPayGrowth*$^{+1}$ is the growth rate of total managers' pay in California from t+1 to t. *AvgManPayGrowth*$^{+1}$*is* the growth rate of average managers' pay in California from t+1 to t. *TotWorkerPayGrowth*$^{+1}$ is the growth rate of total workers' pay in California from t+1 t. *AvgWorkerPayGrowth*$^{+1}$ is the growth rate of average workers' pay in California from t+1 to t. *FinPayGrowth* is the growth rate of average annual payrolls per employee in the financial administration function from t-1 to t (ASPEP). *ExtProm*$^{+2}$ equals one if the name listed as the primary auditee contact in the FAC dataset receives an external promotion in the following two years and zero otherwise. Appendix 1 provides additional details about variable measurements. We correct standard errors for heteroskedasticity and clustering at the government level (t-statistics are in parentheses). *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels. P-values are 2-tailed.

Panel A: Fiscal and investment consequences.

	PropTaxGrowth^{+1}	*CashGrowth*$^{+1}$	*NonCoreExpGrowth*$^{+1}$	*CoreExpGrowth*$^{+1}$
DA × Surplus	-0.050**	-0.276***	-0.066**	0.038*
	(-2.34)	(-2.74)	(-2.37)	(1.92)
DA	0.033**	0.069	0.027	-0.024*
	(2.26)	(0.85)	(1.43)	(-1.79)
Surplus	0.008**	-0.009	0.005	0.004
	(2.21)	(-0.45)	(1.09)	(1.12)
Observations	12,621	12,642	12,642	12,630
Controls	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Cluster Government	Yes	Yes	Yes	Yes

Panel B: Managerial Compensation.

	TotManPayGrowth^{+1}	*AvgManPayGrowth*$^{+1}$	*TotWorkerPayGrowth*$^{+1}$	*AvgWorkerPayGrowth*$^{+1}$
DA × Surplus	-0.226**	-0.108*	0.331	0.008
	(-2.19)	(-1.76)	(0.65)	(0.01)
DA	0.155*	0.061	-0.231	-0.114
	(1.81)	(1.34)	(-0.60)	(-0.34)
Surplus	0.020	0.005	-0.086	-0.006
	(0.72)	(0.45)	(-0.58)	(-0.05)
Observations	764	764	724	724
Controls	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Cluster Government	Yes	Yes	Yes	Yes

Panel C: Labor market consequences.

	FinPayGrowth	*ExtProm*$^{+2}$
DA × *Surplus*	-0.087***	-0.067**
	(-3.04)	(-2.22)
DA	0.054**	0.044*
	(2.52)	(1.92)
Surplus	0.006	0.004
	(1.10)	(0.82)
Observations	7,146	12,720
Controls	Yes	Yes
County FE	Yes	Yes
Year FE	Yes	Yes
Cluster Government	Yes	Yes