Does Transparency Improve Public Policy? Evidence from a Tax Incentive Transparency Initiative

Abstract

Tax incentives for business investment, a common economic development tool employed by local governments, are often criticized as bad policy but good politics: they aren't cost-effect strategies to attract investment or create jobs, but offer electoral returns for politicians who give them out. Politicians claim credit for the benefits of incentive use but hide the costs of these incentives. Building on the literature on the "fiscal illusion," we theorize that making the costs of incentives transparent will reduce the use of these policy tools. We leverage a policy change that required local governments to begin reporting the costs of their tax incentives, GASB 77, to test whether transparency impacts local economic development policy (e.g., reduces tax incentive use). Using a difference-in-differences design, we estimate that GASB 77 had no discernible effect on local governments' use of tax incentives. We supplement our quantitative analysis with surveys of local politicians and heads of finance for municipalities, as well as elite interviews with supporters of GASB 77 and additional empirical tests on the role of media markets on incentive use. Our results suggest that transparency is only effective in the presence of pressure groups that can make use of the disclosed information.

Governmental transparency has become a major policy initiative in countries around the world. Even in areas that are notoriously opaque, such as trade negotiations, there is increasing pressure to open up the policy process to the public. Transparency has been posited to accomplish everything from reducing corruption, to improving public policy, to increasing trust in government. Does transparency really accomplish these goals?

In this paper we examine an exogenous change in U.S. transparency standards in a major policy area: local economic development policy. In the United States, and in many countries around the world, governments offer individual companies financial incentives, such as tax breaks to relocate or expand operations. The most high profile case was in 2017, when U.S. technology giant Amazon began searching for a U.S. municipality in which to locate its second headquarters (dubbed "Amazon HQ2"). The competition was intense; Amazon claimed to receive bids from 238 North American municipalities, each one a detailed document touting the municipality's suitability for a new Amazon HQ. Cities competed to offer Amazon the largest and most attractive tax incentive package: for example, Newark, New Jersey offered a package (endorsed by NJ governor Chris Christie) worth nearly $7 billion.[1]

Although this is an extreme example, local politicians frequently offer tax incentives in an attempt to woo other companies as well; Bartik (2017) estimates that U.S. municipalities gave out $45 billion dollars in incentives in 2015. The economic logic of the firm specific incentives is that the new jobs and capital expenditure that investing firms bring to town outweigh the cost of forgone tax revenue. However, a wealth of academic evidence suggests that such incentives do not play a major role in firms' location decisions; rather, firms look for favorable labor markets and geographic locations (Jensen and Malesky, 2018).

One explanation for the overuse of incentives is the lack of transparency in this policy space. Many of these economic incentive deals, including for Amazon HQ2 are shrouded in secrecy, and numerous economic development programs are exempt from public records laws. Thus the groundbreaking and headline jobs numbers are publicized by politicians, but

[1] See, e.g., https://lasvegassun.com/news/2017/oct/23/amazon-says-it-received-238-proposals-for-2nd-head/

many of the details, including the costs aren't transparent to the public. We take advantage of a unique and exogenous policy change - the Governmental Accounting Standards Board (GASB)'s Statement 77 - to examine how an increase in cost transparency shapes incentive use.

GASB is an oversight board that sets standards for state and local government finance. Enacted in 2015, GASB Statement 77 required U.S. municipalities to include information on their total tax incentive spending in their (publicly available) annual financial reports. Up to this point, most cities provided no comprehensive accounting of the amount of tax abatements offered to firms.

GASB 77 constituted a plausibly exogenous increase in the transparency of local governments' tax incentive spending; however, non-tax incentives (such as grants and low-interest financing) were not affected by the new policy, nor were municipalities in states that do not require their cities to adhere to these standards. We use a difference-in-differences design to test whether or not GASB 77 caused cities to reduce their tax incentive spending. This allows us to examine if the enacting of this transparency standard led to fewer incentives deals or smaller amounts of tax abatements.

We find that GASB 77 did not cause affected municipalities to reduce their tax incentive spending, at least in the short term, regardless of whether nontax incentives or tax incentives in non-GAAP states are used as the comparison group. Our original surveys of 651 local government officials and 322 heads of finance for municipalities indicates that GASB 77 provides a clear explanation for this null results. Many government officials are not only uncertain if their own municipality complies with GASB 77, many respondents in both samples had a limited understanding of the rule itself. Interviews with supporters of GASB 77 confirm our null results of a limited impact of GASB 77 on changing government behavior. Explanations of the limited impact of GASB 77 from these elite interviews include issues of non-compliance by cities and loopholes with GASB 77. The two successful cases of cities reforming incentives due to GASB 77 disclosures are cases of local interest groups harnessing

this transparency for policy change. Our final set of empirical tests finds that the number of local newspapers impacts how politicians reduce incentives post GASB 77. This result, along with elites interviews suggests that transparency isn't a panacea for policy reform, but it is a useful if not a necessary condition for better policy.

1 Government Use of Tax Incentives

Governments around the world use different forms of firm specific incentives to facilitate economic development. Although these incentives include tax abatements, cash grants, fee waivers, and dedicated infrastructure for companies, a study by Danzman et al. (2016) finds that the vast majority of economic development incentives are provided through tax incentives. By 1999, 95 percent of U. S. cities were using firm-specific incentives for development Jensen and Malesky (2018). The total dollar value of incentives in the United States has been estimated between 45−90 billion per year, although the lack of transparency of both programs and individual deals makes this value difficult to estimate (Parilla and Liu, 2018).

Despite incentives being one of the primary tools used by government officials, there is limited evidence that incentives are an effective economic development strategy. Slattery and Zidar (2020) review the literature as well as original analysis of "close deals", where cities attracting companies through incentives see employment increases, but find no evidence of broader economic benefits for spillovers from these subsidized firms. This is consistent with previous work that finds incentives suffer from poor targeting, where the majority of incentives are allocated to companies that would have invested absent these incentives. There is a general consencus that economic development incentives practice is in need of reform.

Jensen and Malesky (2018) argue that, while corporate tax breaks are not efficient tools for attracting investment, they are tools that local politicians can use to attach their name to local investment projects. Jensen and Malesky argue that, even if they fail to bring new firms to town, local officials can use incentives to deflect blame for a lack of investment.

These same government officials minimize the oversight of these programs, often not even requiring a simple cost-benefit analysis for offering taxpayer support. Corporate tax breaks may be bad economics, but they are good politics.

Central to the political economy of economic development incentives is the lack of transparency around these programs and deals. Some high profile programs, such as Georgia's film incentives provide no details on the companies receiving incentives. Numerous states maintain exceptions to economic development activities, allowing broad exceptions to the release of information on economic deals (Jensen and Thrall, 2021). As best summarized by watchdog group Good Jobs First, "Politicians only want to brag about the benefits of subsidy deals, while obscuring the true costs." [2] In the next section we further discuss the political economy of transparency and specifically discuss the potential implications of increasing transparency of local economic development programs, linking this policy tool with the broader literature on the fiscal illusion. In this paper we address a specific type of transparency, the costs of abatements through lost revenues and how this cost transparency can restrain incentive use. We view our theory and analysis as an important contribution to this fiscal illusion literature.

2 Transparency and Local Economic Development

It is often noted that transparency is necessary for democratic governance; without transparency, voters cannot accurately determine what their elected officials are doing and thus cannot hold them accountable for their actions (Adsera, Boix and Payne, 2003). However, while cross-national evidence suggests that democracies are indeed more transparent than nondemocracies (Hollyer, Rosendorff and Vreeland, 2011), there is substantial variation in transparency between (and even within) democratic governments.

The leading explanation for variation in transparency across and within democracies centers on electoral competition. The logic is that competitive elections foster uncertainty

[2] https://goodjobsfirst.org/tax-abatement-disclosures/

about whether or not the incumbent party will remain in power during the next cycle; knowing they may be removed from office, incumbent politicians in competitive democracies will pass transparency regulations in order to constrain future opposition parties. States with greater electoral competition have been found to have higher levels of budgetary disclosure (Wehner and de Renzio, 2013) and are more likely to implement freedom of information laws (Berliner, 2014).

Why might transparency constrain policymakers? We argue that the case of tax incentives for local economic development provides an instructive example: they offer substantial electoral benefits for the leaders that offer them (Jensen and Malesky, 2018), precisely because nontransparency allows elected officials to publicize incentives' economic benefits while hiding their true cost.

2.1 Tax Incentives and the "Fiscal Illusion"

Germane to this paper's topic is the literature on the effects of fiscal transparency: what happens when citizens are better informed about how the government is spending their tax money? An influential public choice literature on the "fiscal illusion" helps explain the overuse of some types of policies due to non-transparent costs (Wagner, 1976). This work focuses on the inability of voters to understand the full costs of providing public goods, and thus leading to an oversupply of this public good.

Numerous theoretical mechanisms explaining the public's inability to price public goods has been identified, but one theory is particularly relevant to the study of economic development incentives. This theory focuses on the role of debt and how debt can lead to an increase in government (Dollery and Worthington, 1996). Voters are more aware of the costs to taxation based spending than debt financed spending, and thus politicians are able to increase debt financed spending more easily than taxation based spending.

This point, while seemingly obvious, has more implication for not only the level of government but also for the form of government spending. Governments may privilege the use

of tax expenditures relative to other expenditures (Burman and Phaup, 2012; Surrey and McDaniel, 1985).

This focus on tax expenditures is particularly relevant for the study of state and local economic development incentives. As summarized by Danzman et al. (2016)'s study of manufacturing incentives, "The vast majority of these programs - 147 - provide tax incentives to qualifying firms even though many evaluations of tax incentive programs find little evidence they are effective." 64 percent of programs provided tax incentives and another 21 percent helped with the financing of investments. Only 8 percent of programs were grants to companies. Tax incentives dominate these economic development programs.

These reliance on tax incentives has been a criticism of scholars and NGOs (Bartik, 2019). A blog for the Lincoln Institute for Land of Land Policy, summarizes the position of many activist NGOs, "While many public officials offer business tax incentives for commendable reasons, critics claim these deals can conjure a brief illusion of prosperity but fail to offset the toll taken on fiscal health, both short- and long-term."[3]

This lack of cost transparency of these programs is often the feature of the program design, and not the lack of public awareness of incentives. In Texas's most recent tax incentive program, called Chapter 403, tax incentives are allocated to firms, mostly in the energy sector, but these programs are uncapped. In the Comptroller Fiscal Note on this new tax incentive legislation, the estimate for the costs of this program are "significant" but "can not be determined at this time."[4] At the Federal level, tax credits associated with the Inflation Reduction Act have been criticized for ballooning in total costs. The total costs of these programs depend on the amount of qualifying investment, and it is unclear when and if these full costs will be apparent to taxpayers.[5]

[3]See Wagaman, Andrew, "GASB 77: Revealing the Cost of Property Tax Incentives for Business," *Lincoln Institute of Land Policy*, July 2017.

[4]See https://capitol.texas.gov/tlodocs/88R/fiscalnotes/pdf/HB00005F.pdf.

[5]See "The Real Cost of the Inflation Reduction Act Subsidies: $1.2 Trillion," *The Wall Street Journal* Editorial Board, 24 March 2023.

2.2 Transparency: Shattering the Illusion?

How would an increase in transparency of economic development incentive shape government use of incentives? First, greater fiscal transparency is associated with more balanced budgets (Benito and Bastida, 2009) and lower levels of debt Alt and Lassen (2006) . Second, Alt and Lassen (2006) find that fiscally transparent democracies experience less pronounced electoral cycles in government spending than non-transparent democracies. This result suggests that transparency, by way of increasing voters' information about government spending activity, limits the extent to which politicians can spend taxpayer money in ways that are economically suboptimal but electorally efficient. Electoral cycles - the ramping up of public spending in the year preceding an election - bring electoral returns to incumbent politicians because they temporarily boost the economy just before voters decide whether to vote the proverbial bums out. However, Healy and Lenz (2012) argue that most voters actually want to evaluate politicians' aggregate economic performance, but they simply lack the information necessary to do so and thus rely on the current/recent state of the economy as a proxy. They find that experimentally increasing voters' information about incumbents' aggregate performance substantially reduces the recency bias.

These findings suggest that government transparency should reduce government spending, as voters will be able to hold incumbents accountable for profligate use of their tax dollars. This suggests that an increase in transparency of tax incentive for economic development would lead to a reduction in the use of incentives.

The importance of financial transparency for economic development policy reform was central to supporters of GASB 77. Numerous NGOs submitted letters in support of the GASB 77 rule, and in many cases asked GASB to go farther in mandating more details in disclosures. A coalition of New York NGOs submitted comments to GASB in support of GASB 77 noting that "we are supportive of the proposed standard and believe it will have huge and positive ramifications on the ability to assess New York's fiscal conditions."[6]

[6]See https://www.gasb.org/document/blob?fileName=TAD_ED_CL120.pdf.

Organizations in Nevada and New Mexico jointly submitted comments on GASB 77, noting that these disclosures are useful for their own organizations.

Not only does GASB 77 allow for the disclosure of the costs of incentives, it provides details on the distribution of costs. As noted by Policy Matters Ohio,[7] GASB 77 provides details on incentives given at one level of government affecting other levels of government. In practical terms, numerous letters to GASB in support of GASB 77 note that economic development incentives such as tax breaks can have major implications on school finance. As noted by the Chicago's Teacher Union in their statement of support for GASB 77, "Tax abatements drain vitally important revenues from public schools, and their true cost of their use, primarily to well-to-do private citizens and corporations, should be included in any government financial statements."[8] The New York United State Teachers These implication for schools have led to some of the biggest post-GASB 77 stories. Exposes have linked GASB 77 data do decreased school funding cities including Cincinnati, Cleveland, New York, and Philadephia.[9].

Academic research and activists suggest that greater financial transparency should lead to less use of tax incentives. However, one are of research finds that fiscal transparency can, in some circumstances, lead to greater spending by encouraging greater government effort. For example, Ferejohn (1999) links increased transparency to higher taxes and transfers. This is also consistent with work finding that transparency can increase trust in government and lead to higher levels of government spending (Alt, Lassen and Skilling, 2002; Alt and Lowry, 2010). We addresses this point in the conclusion, but we note that few pro-incentive interest groups, such as economic developers, were encouraging a vast increase in financial transparency. The most vocal opposition to GASB 77 were economic developments and state economic development agencies.

Theoretically and empirically, fiscal transparency can have different effects on government

[7]See https://www.gasb.org/document/blob?fileName=TAD_ED_CL170.pdf
[8]See https://www.gasb.org/document/blob?fileName=TAD_ED_CL168.pdf
[9]For a list of GASB 77 studies see https://goodjobsfirst.org/tax-abatement-disclosures/

spending. We believe that examining local economic development transparency provides some answers to these broader questions about the implications for transparency. Our study focuses on economic development tax incentives.

Tax incentives are similar to electoral budget cycles in the sense that they allow incumbent politicians to use taxpayer funds to maximize their odds of reelection, rather than to maximize aggregate welfare. Other economic development tools may be more effective for governments, but limited information about the costs of incentives can make them an effective political strategy (Patrick, 2016). Politicians can often use message control to extol the benefits of their economic development efforts while minimizing information on the costs Jensen and Malesky (2018).

We argue that existing practices allow governments to selectively provide information on incentive use. Politicians already use incentive announcements to pander to the public (Jensen and Malesky, 2018) and selectively reveal information about the costs as well as the benefits of incentives (Jensen and Thrall, 2021). What is missing in the current transparency regime is a full and systematic accounting for the costs of incentives.

GASB 77 was an exogenous shock to local transparency, requiring a very specific type of disclosure by governments. We believe that this transparency doesn't affect the government's ability to pander, and doesn't necessarily even signal major changes in a city's financial health. The main benefit of this transparency is providing detailed information on why government revenues are lower than one might otherwise think, and to show systematically on how much economic development efforts lead to annual reductions in revenues. Thus by only revealing additional information on the costs of incentives, we hypothesize that this disclosure can shape the provision of incentives.

This type of transparency has been linked with reductions in government spending, where the public is provided additional information about the costs of a policy (tax abatements) but no additional information on the benefits of these programs.

Formally, this paper's sole hypothesis can be stated as follows:

H1: All else equal, an increase in the transparency of tax incentive spending should result in a decrease in the amount of incentive spending.

3 Research Setting: GASB 77

In 2015, U.S. state and local governments experienced a sudden increase in transparency requirements for their tax incentive spending. That increase was the result of GASB Statement 77, an accounting rule change that required state and local governments to report their incentive spending in a standardized format on their annual financial reports. This rule change provides an ideal setting in which to test the above hypothesis about transparency and tax incentive spending.

In the years following the Great Depression, the U.S. government took several steps to standardize and regulate accounting practices for companies, school districts, and local governments. One of the most important pieces of legislation related to this mission was the Securities Exchange Act of 1934, which created the Securities and Exchange Commission (SEC), the federal agency tasked with regulating the financial reporting practices of public and private entities (Strother, 1975). Shortly after its creation, the SEC adopted a common set of standards for financial reporting called the Generally Accepted Accounting Principles (GAAP) and required that companies and local governments comply to them. The GAAP includes both broad, general commitments (e.g., the commitment that financial results be presented honestly) as well as more specific rules (e.g., unrealized income cannot be reported as revenue).

In 1984, a number of groups including the National League of Cities and the National Conference of State Legislatures came together to create the Governmental Accounting Standards Board (GASB).[10] GASB is a private organization tasked with setting financial reporting standards for GAAP-compliant local and state governments; it sets standards "through a transparent and inclusive process intended to promote financial reporting that provides

[10] https://www.fasb.org/jsp/FASB/Page/TimelinePage&cid=1175805309640

useful information to taxpayers, public officials, investors, and others who use financial reports."[11]

Since its creation, GASB has issued 94 rule changes, called "Statements," that affect the manner in which state and local governments must prepare their annual financial reports and/or the information that governments must include in the reports. The focus of this paper is GASB Statement 77 (hereafter GASB 77), issued in August 2015, which required for the first time that local and state governments must disclose their tax incentive spending in their annual reports. Specifically, GASB 77 requires governments to report three things:[12]

1. The dollar amount (gross) of taxes abated during the reporting period.

2. "Brief descriptive information" about the incentives, such as the specific tax being abated, eligibility requirements for recipients of the abatement, and any provisions that may be in place to reclaim or terminate the incentive in certain situations.

3. Other non-tax commitments made by a government as part of a tax incentive deal.

GASB 77 markedly increased the transparency of the affected governments' incentive spending by requiring governments to report their total annual spending in a standardized, public format. Prior to GASB 77, information on a local government's total incentive spending would need to either be pieced together from different news articles/press releases (time intensive), calculated using proprietary incentive data (cost intensive), or accessed via Freedom of Information Act (FOIA) request (time and cost intensive). In many cases, these deals were exempt from FOIA requests and the costs were never reported.

[11] See https://www.gasb.org/jsp/GASB/Page/GASBSectionPage&cid=1176168081485
[12] The full text of GASB 77 can be found here.

4 Research Design:

4.1 Identification Strategy

We test the effect of GASB 77 on local governments' incentive spending using a difference-in-differences design. To do so, we take advantage of the fact that GASB 77 only required local governments to report incentives that abate tax revenue; other types of incentive spending, such as grants or low-interest loans, were unaffected. We can therefore learn about the effect of increased fiscal transparency on tax incentive spending by comparing local governments' tax incentive spending to their *non*tax incentive spending, pre- and post-GASB 77. Under the assumption that both types of incentives are typically deployed in pursuit of the same economic development goals—indeed, many firms receive both tax and nontax incentives—any change in municipalities' use of tax vs. nontax incentives after the policy change should be attributable to the increased transparency of the cost of tax incentives.

One potential concern about this approach is that governments may ramp up their nontax incentive spending in response to GASB 77, meaning that the treatment really affected both types of incentive spending and rendering the comparison invalid. However, this is unlikely for two reasons. First, governments are typically more constrained in their ability to use nontax incentives such as grants or low-interest financing, as they require large upfront costs. Second, many nontax incentives, such as grants, are outlays that municipal governments would already have been required to include in their public financial reports; governments cannot avoid publicizing their spending by substituting nontax incentives for tax-based ones.

Figure 1 displays the total monthly level of spending on tax incentives and nontax incentives across reporting cities, expressed as a proportion of their immediate pre-treatment level in July 2015; the dashed vertical line indicates the issuance of GASB 77. First, note that pre-GASB 77 trends in in tax vs. nontax incentive spending seem to be largely parallel. Further, while nontax incentives experienced a slight increase post-treatment, it is clear that governments have not simply transferred their tax incentive spending into nontax formats.

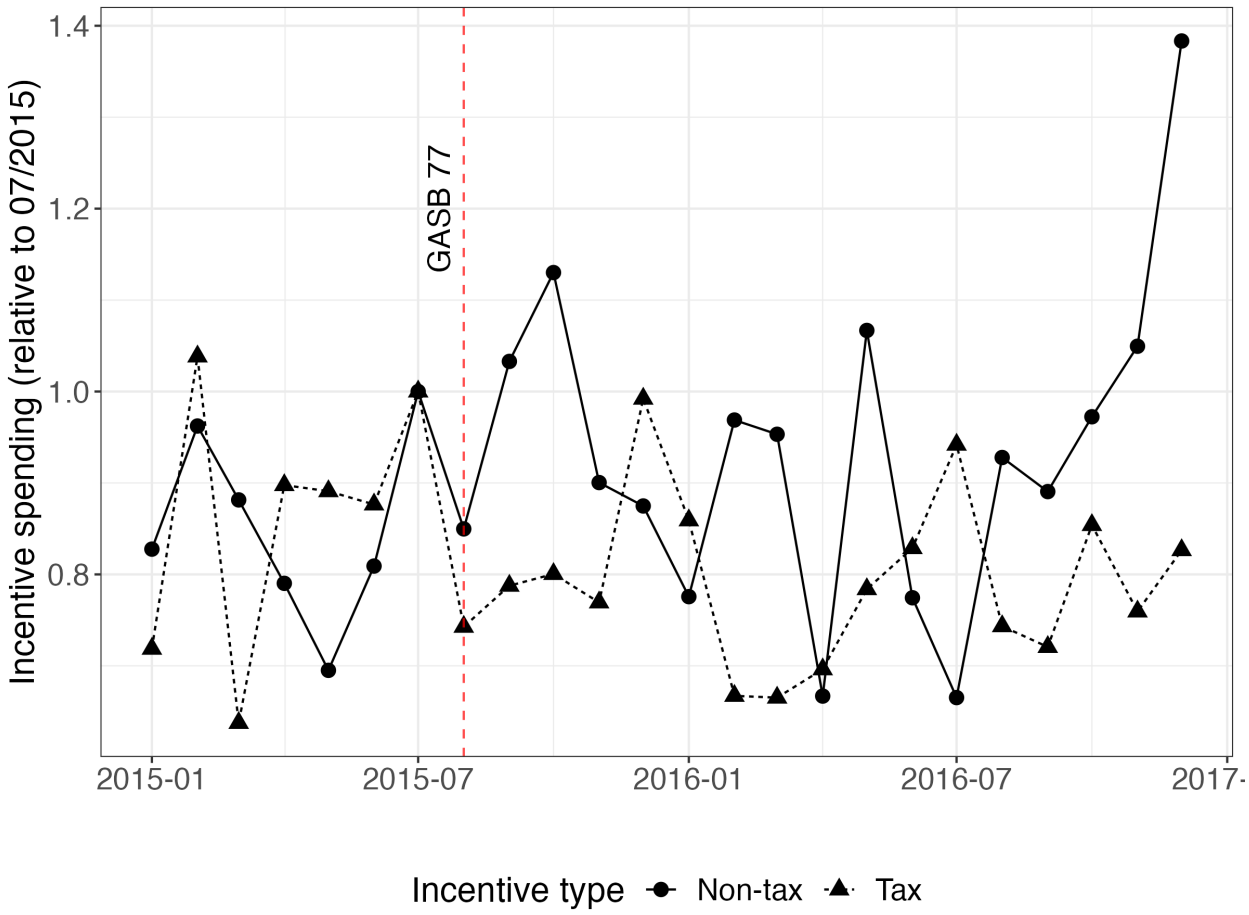


Figure 1: **Tax vs. Nontax Incentive Spending, pre- and post-GASB 77**

The baseline difference-in-differences model is specified as follows:

$$ln(Incentive)_{ist} = \lambda_t + \gamma_s + \sum_{\tau=-7}^{-2} \gamma_\tau D_{st} + \sum_{\phi=0}^{16} \gamma_\phi D_{st} + \epsilon_{ist} \tag{1}$$

Time (year-months) is indexed by t, treatment group (tax vs. non-tax incentives, or GAAP mandated vs. non-GAAP mandated) is indexed by s, and municipality is indexed by i. Fixed effects are included at the treatment group and year-month levels. Finally, as is standard in event study D-in-D designs, we estimate the difference-in-differences parameter in several pre- and post-treatment time periods (omitting the first pre-treatment lag to serve as the baseline).

4.2 Incentive Data

Data on incentives come from the IncentiveFlow database, developed by Wavteq (a spinoff of Financial Times). The IncentiveFlow database attempts to collect a comprehensive set of project-level incentive deals, alongside detailed information on the deals (amount, tax vs. nontax, jobs/capital expenditure promised by the recipient, et cetera), from a variety of sources (local media, industry periodicals, economic development magazines, etc). Usefully, the database also reports the date (month and year) that the project was announced and the municipality that granted the incentive. While the IncentiveFlow data likely does not include the entire universe of U.S. incentive deals, it is the highest-quality source of data on U.S. incentives that is not reliant on voluntary reporting by local governments themselves. This consistent data collection is ideal for our diff-in-diff strategy, allowing us to compare incentives use pre- and post- GASB 77. In the conclusion we discuss possible limitations of this data and its implications for this project. We have access to IncentiveFlow data for the calendar years 2015 and 2016.

The key dependent variable is logged total incentive spending, measured at the municipality-month level. This is a relatively straightforward measure of cities' spending on new incentive agreements, rather than existing agreements that may not be under the control of the current administration. The sample is restricted to U.S. municipalities with populations of at least 50,000, of which there are 757.

5 Results

Figure 2 displays the results of the model comparing municipalities' tax and nontax economic development incentive spending before and after GASB 77, with robust standard errors clustered on the municipality and year-month. As a reminder, we predict that GASB 77 will lead municipalities to reduce their incentive spending, and therefore we expect a negative treatment effect. We find little evidence in support of this expectation. While

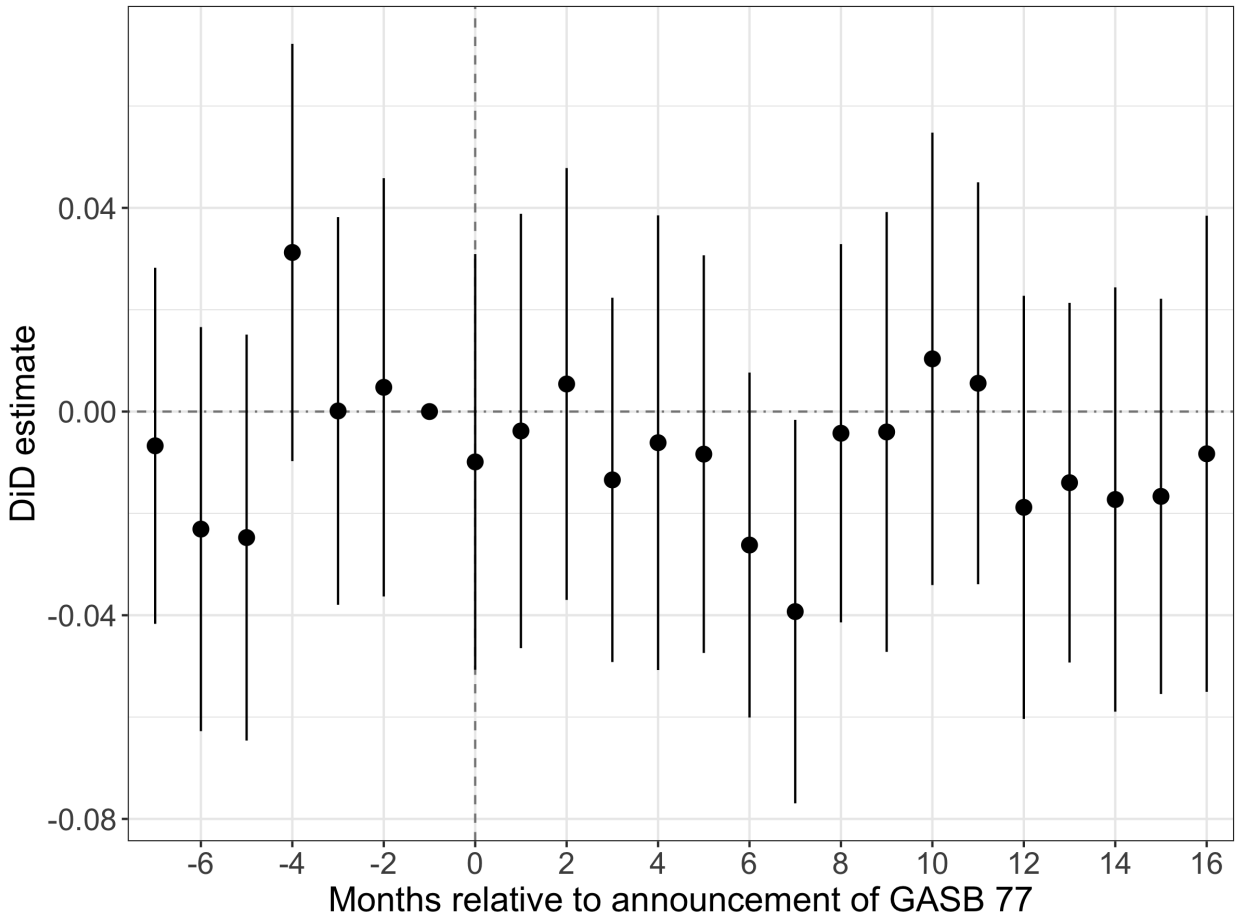


Figure 2: **GASB 77 did not decrease tax incentive spending relative to non-tax incentive spending**.

there are no significant differences between tax and non-tax spending prior to GASB 77, the same hold true after the legislation was enacted: the average treatment effect on the treated (ATT) is non-significant in sixteen of the seventeen post-treatment periods.

As a robustness check, we estimate additional models using Imai, Kim and Wang (2020)'s nonparametric difference-in-differences estimator ("PanelMatch").[13] The PanelMatch estimator, developed for designs with staggered treatment assignment, allows us to adjust for confounders (GDP, population, and partisanship) for which we do not have monthly data. We also test the possibility that the transparency shock of GASB 77 led cities to use tax incentives more effectively, creating more jobs and generating more investment. To do so,

[13]More information about PanelMatch can be found in Appendix A.1.

we examine additional outcome variables from the IncentiveFlow dataset: job creation (log jobs created from incentives), capital expenditure (log capex generated by incentives), and the proportion of incentive deals that fund new (rather than existing) projects. However, the results (presented in Appendix A.2 and A.3) show that GASB 77 had little to no effect on either the quality or the quantity of cities' tax incentives.

Despite the hopes of transparency advocates and economic development reformers, we find no evidence that this major transparency initiative affected economic development policy making. In the following section, we discuss potential explanations for these non-findings and avenues for future research.

6 Why Didn't GASB 77 Change Incentive Spending?

Why didn't municipal governments adjust their tax incentive spending in response to the transparency requirements imposed by GASB 77? We investigate two (related) potential explanations. First, it is possible that the problem is one of compliance; cities could simply be failing to report their incentives (noncompliance) or reporting strategically/selectively, meaning that the policy change failed to increase transparency in the first place. Second, our original survey of hundreds of policymakers (local elected officials and finance officers) showed that most officials were unfamiliar (or only passingly familiar) with GASB 77. It is possible that the policy change was so minimally salient that elected officials were unaware that their accountants had implemented it, preventing them from changing incentive spending in response. In this section, we evaluate these possibilities using observational data, large-N elite surveys of policymakers, as well as in-depth elite interviews with policy analysts.

6.1 Delayed Compliance and Noncompliance

To investigate (non)compliance with GASB 77, we examined the documents in which municipalities are required to report on their tax incentive spending: the annual compre-

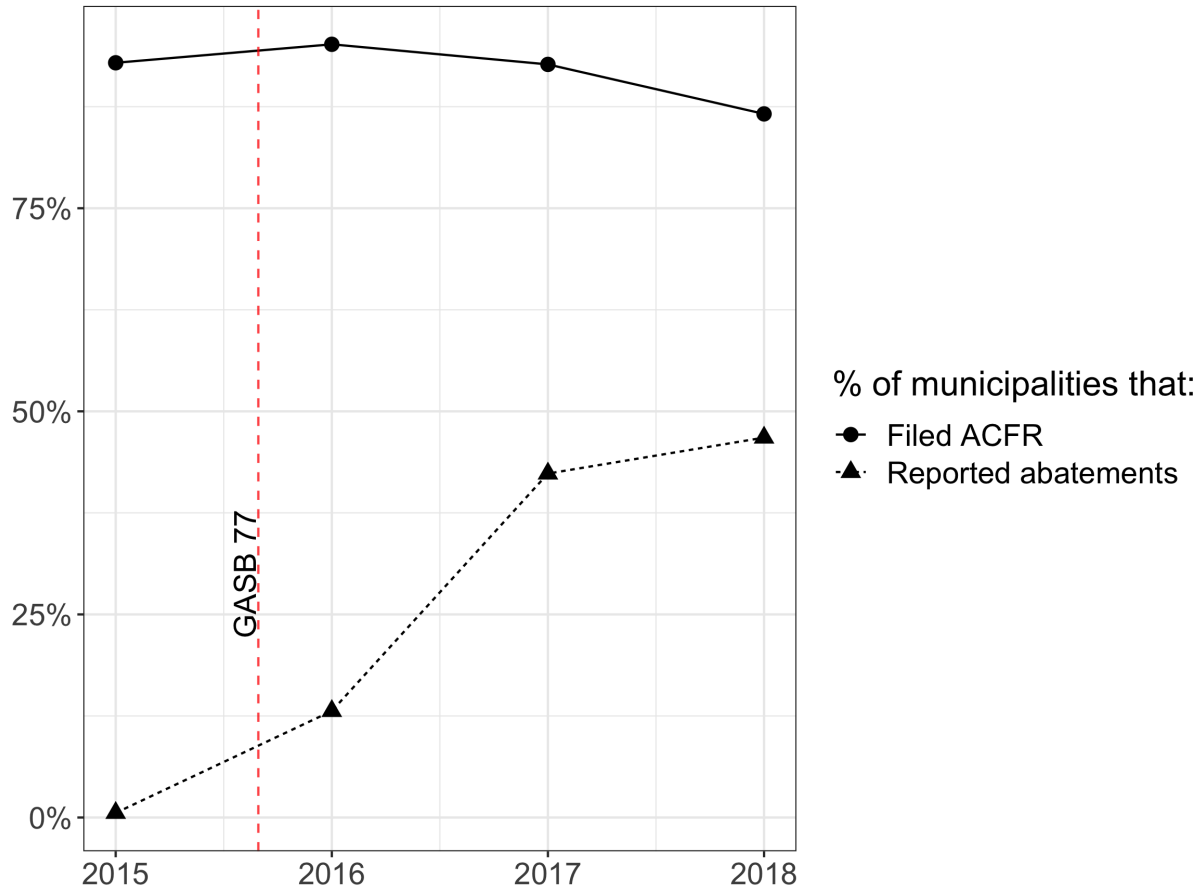


Figure 3: **Most states did not report their tax incentives until the 2017 fiscal year.**

hensive financial report (ACFR), which contains accounting information from the previous fiscal year.[14] We collected ACFRs from the years 2015-2018 for the 757 U.S. municipalities with populations greater than 50,000, primarily by searching the cities' websites. We then searched the ACFRs to determine whether municipalities were reporting on their tax incentives as required by GASB 77.

Figure 3 plots the percentage of municipalities that filed ACFRs and reported on their tax incentives in each year. First, note that the policy change certainly increased transparency: almost half of all municipalities reported their tax incentives publicly by 2018, while virtually none had done so as of 2015. Second, note that the vast majority of municipalities did not

[14]For municipal governments, the fiscal year is rarely the same as the calendar year. So, for example, a 2015 ACFR might report on the period of August 01, 2014 through July 30, 2015.

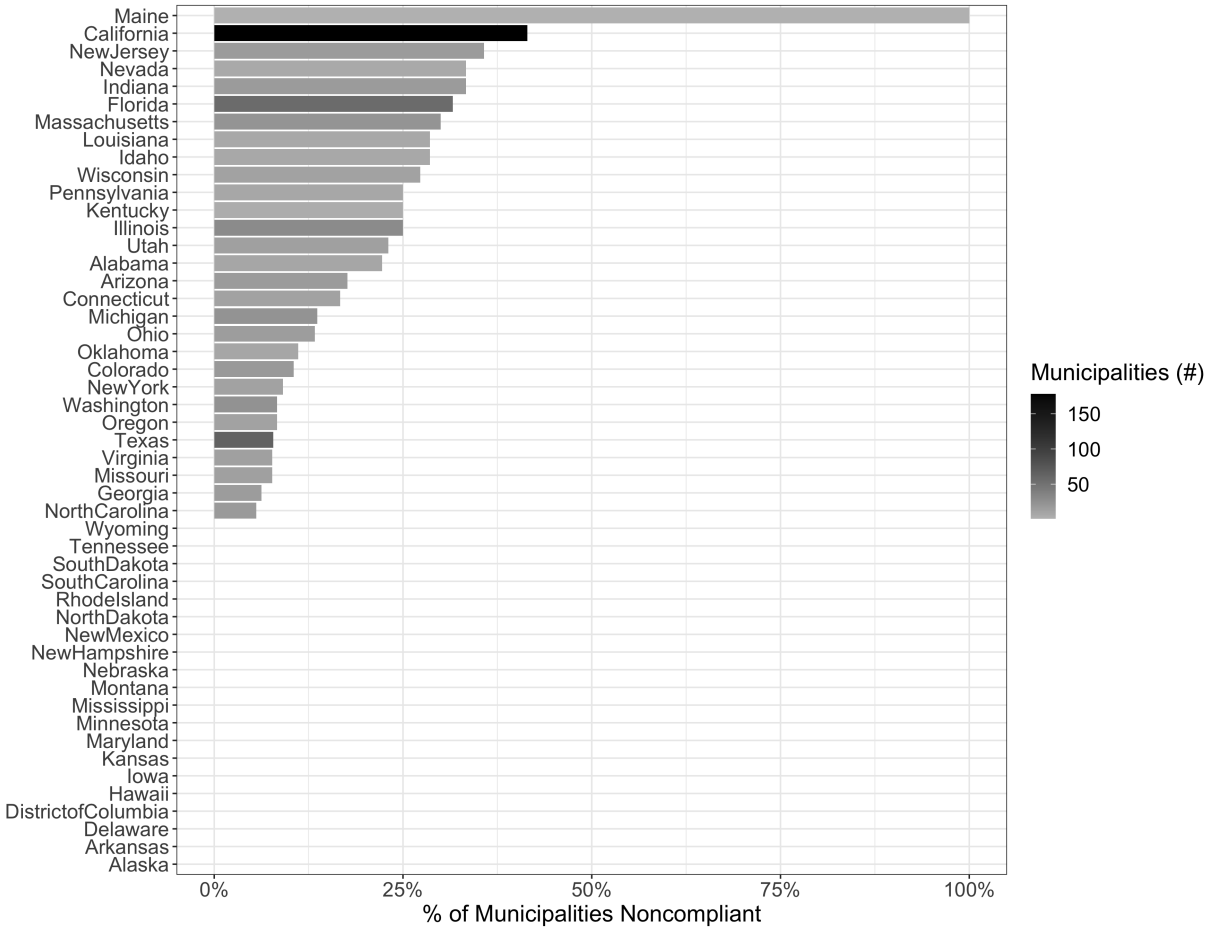


Figure 4: **Variation in GASB 77 noncompliance across states.**

update their incentive reporting until the release of their 2017 ACFR. This is not indicative of noncompliance; governments were required to begin reporting in accordance with GASB 77 in fiscal years that began after December 15, 2015, which for almost all municipalities would have been the 2017 fiscal year. However, it raises the possibility that—despite the fact that incentive deals that were made in 2016 would need to be reported on the 2017 ACFR—municipal governments did not change their behavior until they first began actually complying with the new rule. Our survey results of local government official and municipal finance officers in 2021 and elite interviews conducted in 2022, outlined in the next sections, suggest that noncompliance remains a serious concern.

It is difficult to precisely estimate the extent of municipal noncompliance with GASB

77. This is largely because the IncentiveFlow data does not capture every single tax abatement that cities would be required to report. We therefore cannot determine whether a city that does not appear in the IncentiveFlow data and did not report tax incentives is compliant (they had nothing to report) or noncompliant (they gave tax incentives that we could not observe). However, we can calculate lower-bound noncompliance estimates by labeling municipalities noncompliant if they both:

1. Agreed to tax incentive deals in 2015/2016, as contained in the IncentiveFlow dataset;

2. Did not report these incentives on their 2017/2018 ACFRs.

This exercise produces an estimated noncompliance rate of 22% in 2017 and 20% in 2018. As Figure 4 shows, there is substantial state-level heterogeneity, and Californian municipalities (which comprise nearly a quarter of the sample) are particularly noncompliant. Strategic noncompliance—e.g., selection into non-reporting by municipalities who would stand to face the largest public opinion backlash if they were to report their incentive spending—could explain why we fail to see a consistent effect of GASB 77 of tax incentive spending.

6.2 Low Salience Among Policymakers

The previous section outlines concerns about compliance with GASB 77. If elected officials aren't subject to these new transparency standards, or they can delay reporting of these costs, incentive use may not change. Yet another plausible alternative is that even in cases where cities are complying with GASB 77, elected officials are either unaware of GASB 77 or GASB 77 has no real impact on their offering of incentives.

To address the perceptions of elected officials, we fielded two surveys of local government officials in Fall 2021 through CivicPulse. One survey was administered to local policy makers in U.S. municipal governments with populations exceeding 1,000 residents. The second was administered to heads of finance from U.S. local governments with a population exceeding 1,000 residents. Both surveys were administered online and yielded 651 and 322 responses

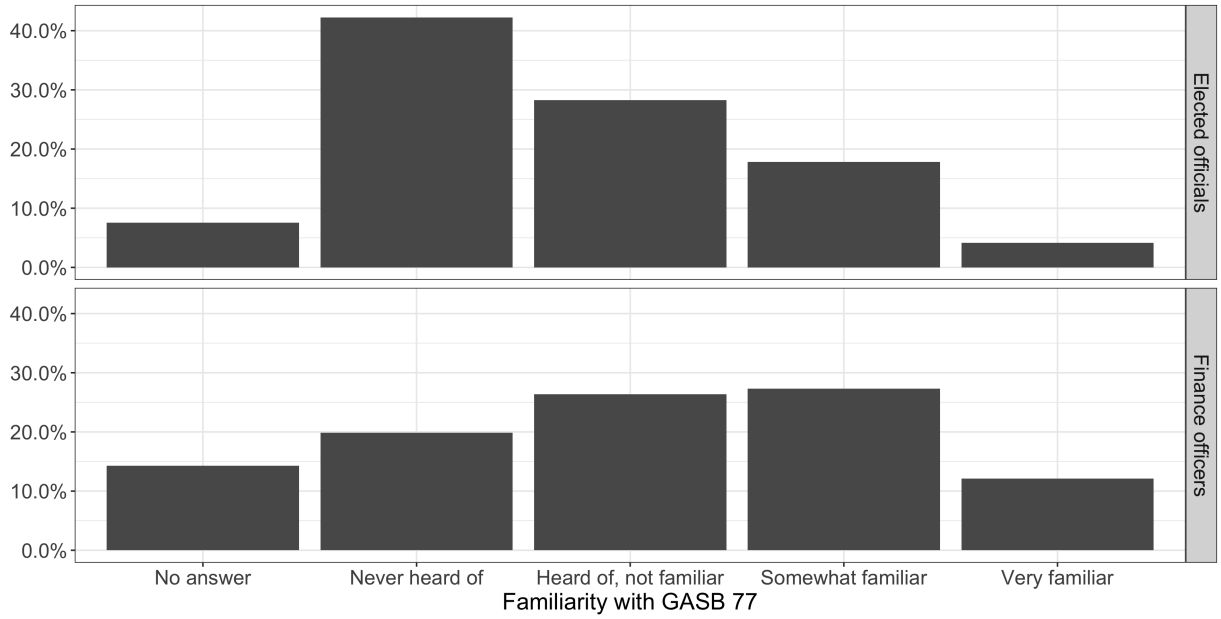


Figure 5: **Local Finance Officers and Elected Officials have limited knowledge of GASB 77.**

respectively. Our intention in fielding these surveys was not to test a causal theory, but rather to provide descriptive insights into government officials' perceptions.

Our main questions in both surveys asked respondents about familiarity of GASB 77 as well as their compliance with the rule. We present the histogram of the responses in Figure 5 of policy makers (top panel) and finance officers (bottom panel). The results were striking from both surveys. Only 12 percent and 4 percent of respondents claimed to be very familiar with GASB 77, and a large number of respondents hadn't heard of this requirement.

We included addition question in surveys directly asking respondents if they included tax abatements in their annual financial reports. We present this data in Figure 6. To our surprise, 43 percent of elected officials indicated "don't know" when asked about tax abatement disclosures in their annual financial reports. Only 20 percent answered their abatements were included in their annual reports. City chief financial officers (bottom panel), were less likely to indicate they didn't know about abatement disclosures in their annual financial reports, but similar to the elected officials survey, only 23 percent indicated that their community disclosed tax abatements.

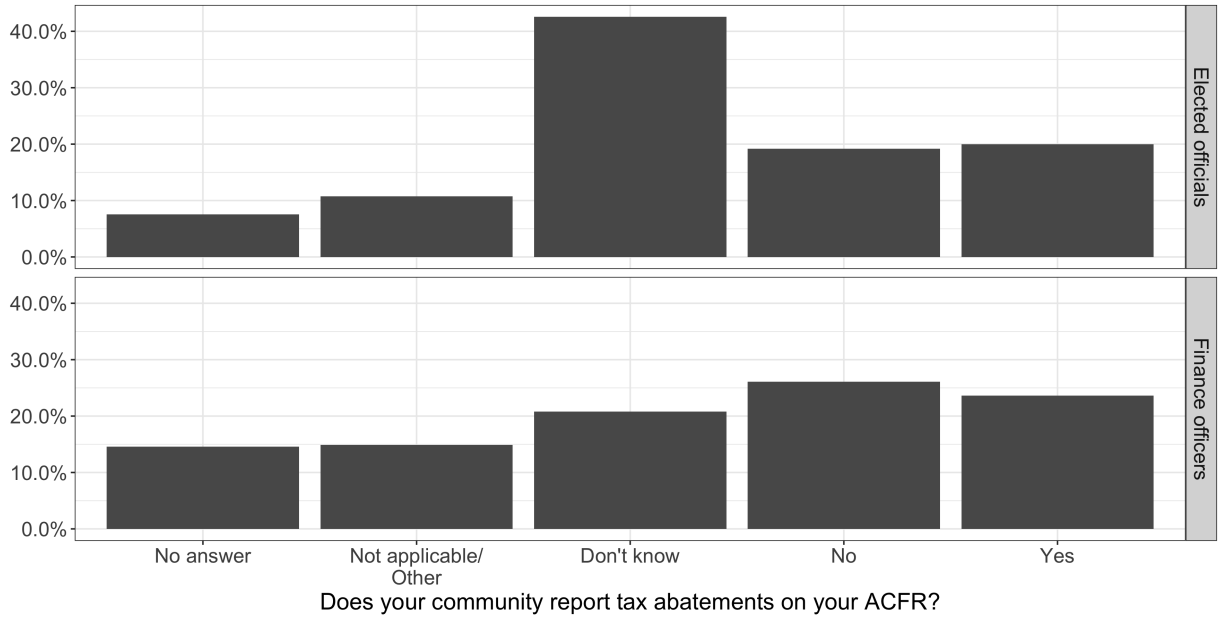


Figure 6: **Local Finance Officers and Elected Officials have limited knowledge of their own municipality's GASB 77 reporting.**

These survey results are suggestive a lack of information and effort on GASB 77 and tax transparency compliance. It is important to note that although our tax incentive data ends in 2016, this survey, fielded in Fall 2021, is consistent with our empirical evidence of any change in government effort post-GASB 77. Low levels of compliance, and knowledge, seem to limit the potential effectiveness of GASB 77.

6.3 Evidence from Elite Interviews

In 2014, GASB issued a call for public comments on their proposed tax incentive rule. Over 300 letters were submitted to GASB from individuals, foundations, public interest groups, unions, economic developers, and various professional associations (GASB 2016). As analyzed by Jensen and Malesky (2018), the vast majority of letters were supportive of GASB 77, often urging GASB to push even farther on tax abatement disclosures. We use this sample to identify policy professionals with expertise on local economic development and knowledge of GASB 77, and interview several of these professionals about their perceptions of whether or not GASB 77 has been successful (and if not, why not).

We hand coded these over 300 letters identifying individuals signing on behalf or organizations in support for GASB 77, using letterhead and signatures to identify these individuals as experts on the topic area. We identified 158 individuals signing letters in support for GASB 77.[15] The vast majority of these letters were of general support on transparency, including a single letter that listed numerous foundations in support of GASB 77. Of these 158 individuals, we identified 62 email address for our sample and invited them to participate in an anonymous, open-ended survey and a possible follow up. In total, 14 individuals agreed to take our survey and we conducted follow-up interviews with 6 individuals.[16]

All of our subjects expressed skepticism that GASB 77 had a major impact in incentive use in aggregate. No respondent in the Qualtrics survey, Zoom interviews, or email follow ups perceived GASB 77 has having a general impact on tax abatement practices.

This qualitative evidence supports our null results from our difference and difference analysis as well as our findings on the lack of salience of GASB 77 for elected officials. Supporters of GASB 77 do not see a significant change in aggregate incentives use. This is not to say GASB 77 had no impact. As argued by Greg LeRoy, Executive Director of Good Jobs First, an incentive watchdog group, there are at two high-profile cases of reform efforts, Philadelphia and Kansas City and where GASB 77 disclosures motivated policy change. LeRoy notes: "Public education is the biggest loser to most abatement programs, so it's no surprise that financially strapped school districts like Kansas City and Philadelphia are benefiting from Statement 77 disclosures." The aggregate impact of GASB 77 is limited, but there are at least two cases of reform.

These GASB 77 inspired policy changes are rare, leading to our second main avenue for questions experts. Why hasn't GASB 77 lead to a systematic change in incentive use? Three general answers were provided.

First, some respondents didn't expect a direct change in incentive behavior. Mark Joffe,

[15] Over 100 letters were signed by individuals responding as concerned citizens rather than policy experts. We did not include any of these individuals in our sample.

[16] Two of the respondents were referred to us by other organizations as experts who were supportive of GASB 77.

Senior Analyst at Reason Foundation, took a financial market perspective. "I don't think GASB 77 disclosures are meaningful for bond markets, in most cases. Tax abatements result in marginal increases or decreases in government revenues available for debt service. If an abatement was in place at the time of bond issuance, rating agencies and other analysts will have already factored in its revenue implications."[17] Professor Geoffrey Propheter questioned the salience of GASB for elected leaders. "I'm not convinced that putting tax incentive data in the notes section of a financial document that the average council member doesn't read or even know about will change anything." Thus, without financial markets responding to these disclosures, the link between this transparency and policy change is unclear.

Second, numerous respondents indicated ways in which communities were underreporting incentives. This includes non-compliance with GASB 77 by communities, inconsistent reporting, as well as certain types of tax incentives being exempt from GASB 77 reporting. According to Greg LeRoy of Good Jobs First, "We warned GASB repeatedly before Statement 77 was formally adopted that it was mishandling TIF, which is the costliest form of tax abatement in some states. To their credit, some localities are reporting TIF spending. GASB now needs to revisit the issue and clarify that TIF districts are abatements." University of Colorado-Denver Professor Geoffrey Propether argues, "I suspect that if GASB 77 affects local governments/bureaucratic decisions, it would be in how tax incentives are offered. If lawmakers want to avoid political risks of making tax breaks more salient, then they will find ways to provide financial benefits in other ways – ways that either do not apply to GASB 77's narrow tax abatement definition or ways that use non-tax delivery mechanisms." Ron Shultis, Director of Policy and Research for the Beacon Center of Tennessee noted the difficulty of disclosure for small cities: "Smaller cities often don't know how to calculate or implement GASB 77... so many cities and counties provide incentives through an IDB and so that adds an additional layer of complexity for calculations or question on if those incentives are required to be disclosed through the city or county."[18] Whether this non-disclosure if due

[17] Zoom interview and follow up email quote, 4/22/22.
[18] Qualtrics survey, 3/9/22.

to lack of capacity or purposely avoidance, numerous respondents noted that this uneven disclosure seriously limits the impact of GASB 77.

Finally, is that transparency is a tool that can be used for policy change, but doesn't necessarily lead to immediate impacts. This theme of the importance of transparency in enabling advocacy is best summarized by John Mozena, President of the Center for Economic Accountability:

> I think [GASB 77] has been effective at helping advance the state of research and improving the ability of reform advocates to create effective, data-driven arguments for changing economic development incentive policy. Those in turn have had some small impact on changing economic development policy in some jurisdictions – witness the journalism exposing the failures of Texas's Chapter 313 program that pushed the Legislature to allow those subsidies to sunset – but the lack of more widespread reforms is less an issue of issues with GASB 77 and much more a factor of massive public choice incentives in favor of the status quo. It's far from a cure-all and much more is needed with regards to governments being meaningfully transparent about their economic development finances, but we're better off after GASB 77 than we were before it.[19]

Pat Garofalo, Director of State and Local Policy at the American Economic Liberties Project, argues that activists need to make better use of this data. "It needs much better branding and comms around it amongst reform advocates. It sounds like a wonky technicality no one needs to think or care about and the line hasn't effectively been drawn between what the disclosures say and the outcomes at the local level."[20] Christine Wen, Senior Research Associate at Good Jobs First, made a similar argument: "For GASB 77 to be more effective in triggering changes, it needs to receive wider coverage and citation... I don't see how city officials would want to change their behaviors if there's no pressure. To crank up the

[19] Qualtrics survey, zoom interview and follow up email quote.
[20] Survey and follow up email, 4/23/22.

pressure, especially in places that have big tax abatements, there needs to be more public awareness on the issue. It seems that many people still don't know that new jobs often come at a steep price."[21] Tim Bartik, Senior Economist at the W.E. Upjohn Institute, concurred: "I doubt that DISCLOSURE, by itself, will change behavior with respect to incentives. I think behavior with respect to incentives will change if different interest groups, and the public, become more aware of the various costs of incentives, which may stem from research that in part USES disclosed data."[22]

These elite interviews contain a mix of skepticism and optimism over the success of GASB 77. GASB 77 had led to an increase in transparency that can be harnessed by activists to push for policy change. But the limitations not only include the uneven compliance with GASB 77 and rules that restricts the types of incentives that are reported. Financial markets can not be expected to react to GASB 77 disclosures leading to policy responses. The main mechanism requires journalists, activists or academics using this tax incentive data as one motivation for policy reform.

These elites interviews support our diff-in-diff results and our survey findings. There is no evidence of a general shift in the use of incentives after GASB 77 through our diff-in-diff estimates, surveys or elite interviews. Issue of non-compliance were identified in our empirical analysis as well as in our survey and interview data. The salience of this policy is a related concern, with many government officials being unaware of their only disclosures

These elite interviews add one additional piece of information not included in the previous analysis. There are two cases of GASB 77 induced reform where school reform advocates used GASB 77 data to champion incentive reform. Numerous interviews highlight the importance of activists using GASB 77 data to motivate policy reform.

[21] Zoom interview and email follow up quote, 4/28/22.
[22] Email quote, 5/4/22.

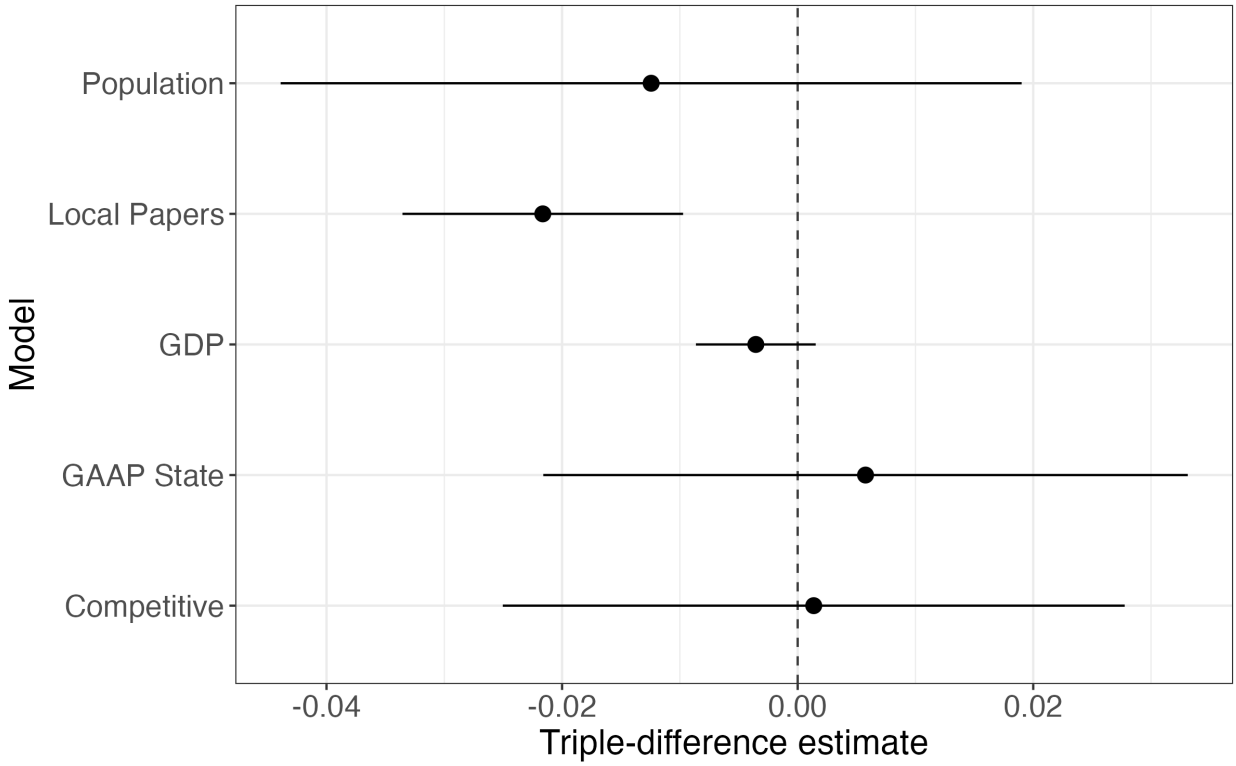
7 What Makes Transparency "Work?"

Our baseline empirical results revealed that, in the aggregate, GASB 77 did not lead to a reduction in local governments' tax incentive spending. Further, while we do detect some noncompliance with the policy change, our analysis of cities' financial reports reveals that GASB 77 did indeed increase the transparency of tax incentives' costs. Evidence from a survey of local government officials and elite interviews with policy experts corroborate our conclusion that transparency alone is not enough to change policymakers' actions. Under what conditions, if any, can transparency improve the quality of governance?

We take steps towards answering this question by testing how the effects of GASB 77 on tax incentive spending vary according to two theoretically motivated local-level factors. First, as indicated by several of our elite interviews, transparency often fails in the absence of a pressure group with an incentive to use the disclosed information to achieve some organizational goal. One such group may be local news outlets, who have an interest in publicizing disclosed information (such as incentive spending) both to improve the quality of their product and to keep their readers informed. Decline in newsroom staffing has been shown to reduce political news coverage (Peterson, 2021) and to decrease competition and turnout in mayoral elections (Rubado and Jennings, 2020); it is plausible that local newspapers, by processing disclosed information and communicating its importance to voters, are critical for turning transparency into accountability. To measure the strength of local media presence, we use data from the UNC News Desert Project to count the number of local newspapers that were active in each of the cities in our sample as of 2014.

Second, another type of pressure group with an interest in magnifying the impact of government disclosures is the opposition party. When campaigning for office, opposition party candidates have an incentive to communicate indicators of government (non)performance to prospective voters. The effects of transparency reforms such as GASB 77 may therefore be larger in more politically competitive municipalities, as incumbents know voters are more likely to actually learn about the disclosed information. We measure political competition in

Figure 7: **GASB 77 and incentive spending: heterogeneous effects.** Each plotted point represents a triple-differences estimate from a separate model.



each of our municipalities by examining county-level voting in the 2012 presidential election; municipalities are labeled competitive if their county's Democratic vote share was between 45-55%. We acknowledge that this is an imperfect measure of city-level competition in 2015. However, unlike more fine-grained measures such as mayoral election results, it is available for all cities in our sample and should serve as a decent proxy for competition at the local level.

As a benchmark for the other tests, we also look for heterogeneity in the effect of GASB 77 according to cities' population size and GDP. Finally, we test for heterogeneity according to whether or not a city's state government formally requires it to prepare its financial accounts in compliance with GAAP standards (which would also require it to comply with GASB 77). However, we note that, as an empirical matter, there is no significant relationship between state-level requirements and cities' decisions to file according to GAAP standards.[23]

[23]More information about state-level GAAP requirements, as well as additional results, can be found in

To test our expectations, we estimate triple-difference regressions using OLS that take the following form:

$$ln(Incentive)_{ist} = \lambda_t + \chi_i + \text{Post}_t + \text{Tax incentive}_s + [\text{Variable}]_i + \alpha(\text{Post}_t \times \text{Tax incentive}_s) + \beta(\text{Post}_t \times [\text{Variable}]_i) + \phi(\text{Tax incentive}_s \times [\text{Variable}]_i) + \delta(\text{Post}_t \times \text{Tax incentive}_s \times [\text{Variable}]_i) + \epsilon_{ist}$$

Cities are indexed by i, incentive type by s, and year-months by t. The coefficient of interest is δ, the triple-difference term. Negative estimates for this term indicate that—for cities with higher values of the given variable—GASB 77 had a more negative effect on tax incentive spending, while positive estimates indicate the opposite.

Figure 7 displays the results of five models, each presented with robust standard errors clustered on city and year-month. First, note that we observe no significant heterogeneity in GASB 77's effect on tax incentive spending according to whether a city is politically competitive or whether it is located in a state that requires adherence to GAAP standards. However, we do observe that GASB 77 had a significantly *more* negative effect on tax incentive spending in cities with a larger number (logged) of local newspapers. The effect size, at 8% of a standard deviation, is not enormous but not insubstantial. Further, we do not see the same effect for GDP or population size, implying that local news presence is not simply epiphenomenal to city size.

We treat the results of this exercise as suggestive evidence that, while transparent disclosure of policy outcomes is not sufficient to affect policymaking, there are conditions under which transparency can be an effective tool for promoting good governance. In particular, we find that the *presence* of local news organizations—whether or not they actually report on the disclosed information—magnifies the effect of transparency, perhaps by generating a credible threat to communicate negative information to prospective voters. Future work

Appendix Section A.1.

should continue to study the interactive effect of transparency legislation and media presence on policy outcomes.

8 Discussion and Conclusion

Economic development transparency continues to be a hard fought battle. In many states, NGOs sued state and local governments to release the details of offers made to Amazon HQ2, and transparency organizations such as Good Jobs First have painstakingly collect data on economic development incentives. GASB 77, the major national transparency change in state and local economic development, was hoped to rein in excessive economic development spending and lead to better policy making.

However, our empirical results from difference-in-differences models show that GASB 77 had no effect on tax incentive spending in affected municipalities, and we found no evidence of any other changes in economic development policy making. We posit three reasons for the lack impact of GASB 77.

First, there are concerns that municipalities aren't complying with this rule. Our own analysis of thousands of annual comprehensive financial reports finds that compliance with GASB 77 is far from universal, with a minimum of $\sim$22% of municipalities failing to publicly report their tax incentive spending. This lack of compliance is in line with the existing work on the subject. Propheter (2021) finds systematic lack of compliance with GASB 77 in Colorado, and descriptive data by NGO Good Jobs first documents systematic noncompliance at city, county and school district with abatements. If the policy did not sufficiently increase cost transparency, this could explain its failure to change tax incentive spending.

Second, our original elite survey data shows a systematic lack of incentive reporting knowledge among local policymakers: familiarity with GASB 77, and with their own city's tax incentive reporting practices, is particularly low among elected officials. Cost transparency may therefore fail to change incentive spending, even in compliant municipalities,

because the officials who stand to gain from brokering incentive deals do not know that it has been implemented. Increasing the salience of this accounting standard—informing policymakers that their incentive spending will be scrutinized by the public—could therefore be a low-cost method for improving economic development policy.

Finally, and most importantly for political science research, the unconditional benefits of transparency for improving public policy may have been overstated. Elite interviews suggested that there are benefits to transparency, but other conditions are necessary for transparency to lead to policy reform. In the two cases of reforms by cities outlined by Greg LeRoy of Good Jobs first, local stakeholders used GASB 77 disclosures to raise the salience of tax abatements. Further, our heterogeneous effects analyses suggest that GASB 77 may have had stronger effects in cities with a stronger local media environment. Without these stakeholders, is is unclear if these disclosures would have had any meaningful impact on public policy.

This final point is of interest to social scientists studying transparency and public policy. As numerous local governments in the US see reductions in local news staff and many communities are now in news deserts, many GASB 77 disclosures, or the nondisclosures, will go unnoticed. Equally important is the existence of local stakeholders willing to use these new revelations of tax abatement costs to push for policy reform.

Competing Interests

The authors declare no competing interests.

References

Adsera, Alicia, Carles Boix and Mark Payne. 2003. "Are You Being Served? Political Accountability and Quality of Government." *Journal of Law, Economics, and Organization* 19(2):445–490.
URL: *https://academic.oup.com/jleo/article-lookup/doi/10.1093/jleo/ewg017*

Alt, James E. and David Dreyer Lassen. 2006. "Transparency, political polarization, and political budget cycles in OECD countries." *American Journal of Political Science* 50(3):530–550.

Alt, James E, David Dreyer Lassen and David Skilling. 2002. "Fiscal Transparency, Gubernatorial Approval, and the Scale of Government: Evidence from the States." *State Politics and Policy Quarterly* 2(3):230–250.

Alt, James E. and Robert C. Lowry. 2010. "Transparency and accountability: Empirical results for US states." *Journal of Theoretical Politics* 22(4):379–406.

Bartik, Timothy J. 2017. "A new panel database on business incentives for economic development offered by state and local governments in the United States." *W.E. Upjohn Institute for Employment Research Report* pp. 1–131.
URL: *http://research.upjohn.org//reports/225*

Bartik, Timothy J. 2019. *Making sense of incentives : taming business incentives to promote prosperity*. W.E. Upjohn Institute for Employment Research.
URL: *http://www.columbia.edu/cgi-bin/cul/resolve?clio15315745.001, http://www.columbia.edu/cgi-bin/cul/resolve?clio15315745.002*

Benito, Bernardino and Francisco Bastida. 2009. "Budget Transparency, Fiscal Performance, and Political Fostering Fiscal Turnout: An International Approach." *Public Administration Review* 69(3):403–417.

Berliner, Daniel. 2014. "The political origins of transparency." *Journal of Politics* 76(2):479–491.

Burman, Leonard E. and Marvin Phaup. 2012. "Tax Expenditures, the Size and Efficiency of Government, and Implications for Budget Reform." *Tax Policy and the Economy* 26(1):93–124.
URL: *http://www.jstor.org/stable/10.1086/665504*

Danzman, Sarah Bauerle, Jacqueline Bauman, Michael Holmberg, Jonathan Hreha, Karis Neufeld, Anna Piskunova, Alec Resch, Jamie Spitz, Jocelyn Wallace and Anna Williams. 2016. Incentivizing an Increasingly Automated Manufacturing Sector :. Technical report Smart Incentives.

Dollery, Brian E. and Andrew C. Worthington. 1996. "THE EMPIRICAL ANALYSIS OF FISCAL ILLUSION." *Journal of Economic Surveys* 10(3):261–297.
URL: *https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-6419.1996.tb00014.x*

Ferejohn, John. 1999. Accountability and Authority: Toward a Theory of Political Accountability. In *Democracy, Accountability, and Representation*, ed. Adam Przeworski, Susan C. Stokes and Bernard Manin. Cambridge University Press pp. 131–153.
URL: *https://www.cambridge.org/core/product/identifier/CBO9781139175104A013/type/book_part*

Healy, Andrew and Gabriel S. Lenz. 2012. "Substituting the End for the Whole: Why Voters Respond Primarily to the Election-Year Economy." *American Journal of Political Science* 58(1):31–47.

Hollyer, James R., B. Peter Rosendorff and James Raymond Vreeland. 2011. "Democracy and transparency." *Journal of Politics* 73(4):1191–1205.

Imai, Kosuke, In Song Kim and Erik Wang. 2020. Matching Methods for Causal Inference with Time-Series Cross-Sectional Data. Technical report.

URL: *file:///C:/Users/schuett/OneDrive/Documents/EndNote Library-Saved.data/PDF/Stuart - 2010 - Matching methods for causal inference A review and a look forward.pdf*

Jensen, Nathan M. and Calvin Thrall. 2021. "Who's Afraid of Sunlight? Explaining Opposition to Transparency in Economic Development." *Business and Politics* pp. 1–18.

Jensen, Nathan M. and Edmund Malesky. 2018. *Incentives to Pander*. Cambridge University Press.

URL: *https://www.cambridge.org/core/product/identifier/9781108292337/type/book*

Parilla, Joseph and Sifan Liu. 2018. EXAMINING THE LOCAL VALUE OF ECONOMIC DEVELOPMENT INCENTIVES Evidence from four U.S cities. Technical Report March Metropolitan Policy Program at Brookings Institute.

Patrick, Carlianne. 2016. "Identifying the Local Economic Development Effects of Million Dollar Facilities." *Economic Inquiry* 54(4):1737–1762.

Peterson, Erik. 2021. "Paper Cuts: How Reporting Resources Affect Political News Coverage." *American Journal of Political Science* 65(2):443–459.

URL: *https://onlinelibrary.wiley.com/doi/abs/10.1111/ajps.12560*

Propheter, Geoffrey. 2021. "GASB 77 Implementation in Colorado Local Governments." *Municipal Finance Journal* 41(4):1–22.

Rubado, Meghan E. and Jay T. Jennings. 2020. "Political Consequences of the Endangered Local Watchdog: Newspaper Decline and Mayoral Elections in the United States." *Urban Affairs Review* 56(5):1327–1356.

URL: *https://doi.org/10.1177/1078087419838058*

Slattery, Cailin and Owen Zidar. 2020. "Evaluating state and local business incentives." *Journal of Economic Perspectives* 34(2):90–118.

Strother, James F. 1975. "The Establishment of Generally Accepted Accounting Principles and Generally Accepted Auditing Standards." *Vanderbilt Law Review* 28(1):201–234.

Surrey, Stanley S. and Paul R. McDaniel. 1985. *Tax Expenditures*. Cambridge, MA and London, England: Harvard University Press.
URL: *https://doi.org/10.4159/harvard.9780674436527*

Wagner, Richard E. 1976. "Revenue Structure, Fiscal Illusion, and Budgetary Choice." *Public Choice* 25:45–61.
URL: *http://www.jstor.org/stable/30022857*

Wehner, Joachim and Paolo de Renzio. 2013. "Citizens, Legislators, and Executive Disclosure: The Political Determinants of Fiscal Transparency." *World Development* 41(1):96–108.
URL: *http://dx.doi.org/10.1016/j.worlddev.2012.06.005*

A Appendix

A.1 More details on state-level variation in GAAP reporting requirements

All U.S. state governments are required to file their own financial reports in accordance with GAAP; however, some states require their municipal governments to follow GAAP standards while others do not.[24] Twenty-nine U.S. states fall in the latter group, and thus local governments in these states face no legal requirement to comply with GASB's Statements.[25] Despite this, most large local governments in these states nevertheless follow GAAP standards; for example, a GASB report notes that the majority of Californian cities are GAAP compliant, though they have no legal requirement to be. A likely explanation for this is that most local governments want to be able to issue municipal bonds in order to fund projects and operations, and both credit rating agencies and prospective bondholders respond more favorably when local governments prepare their financial accounts in line with the broadly accepted GAAP standard. For this reason, comparing the effect of GASB 77 on tax incentive spending in GAAP vs. non-GAAP states is not a particularly clean test of the rule's impact. Still, we perform that test in this section for robustness' sake.

We employ the same diff-in-diff design described in Equation 1, selecting tax incentives issued by local governments in GAAP states as the treatment group, and tax incentives issued by local governments in non-GAAP states as the control group. Figure A.1 presents the results of the model comparing tax incentive spending in GAAP vs. non-GAAP municipalities pre- and post-GASB 77, again with robust standard errors clustered on the municipality. Again, we predict that GASB 77 should increase transparency and thus reduce tax incentive

[24] For a detailed report on state-level reporting requirements, see https://gasb.org/document/blob?fileName=GAAP_Research_Brief.pdf. Note that some states impose

[25] The states are Alabama, Alaska, Arkansas, California, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Michigan, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, Washington, West Virginia, and Wyoming.

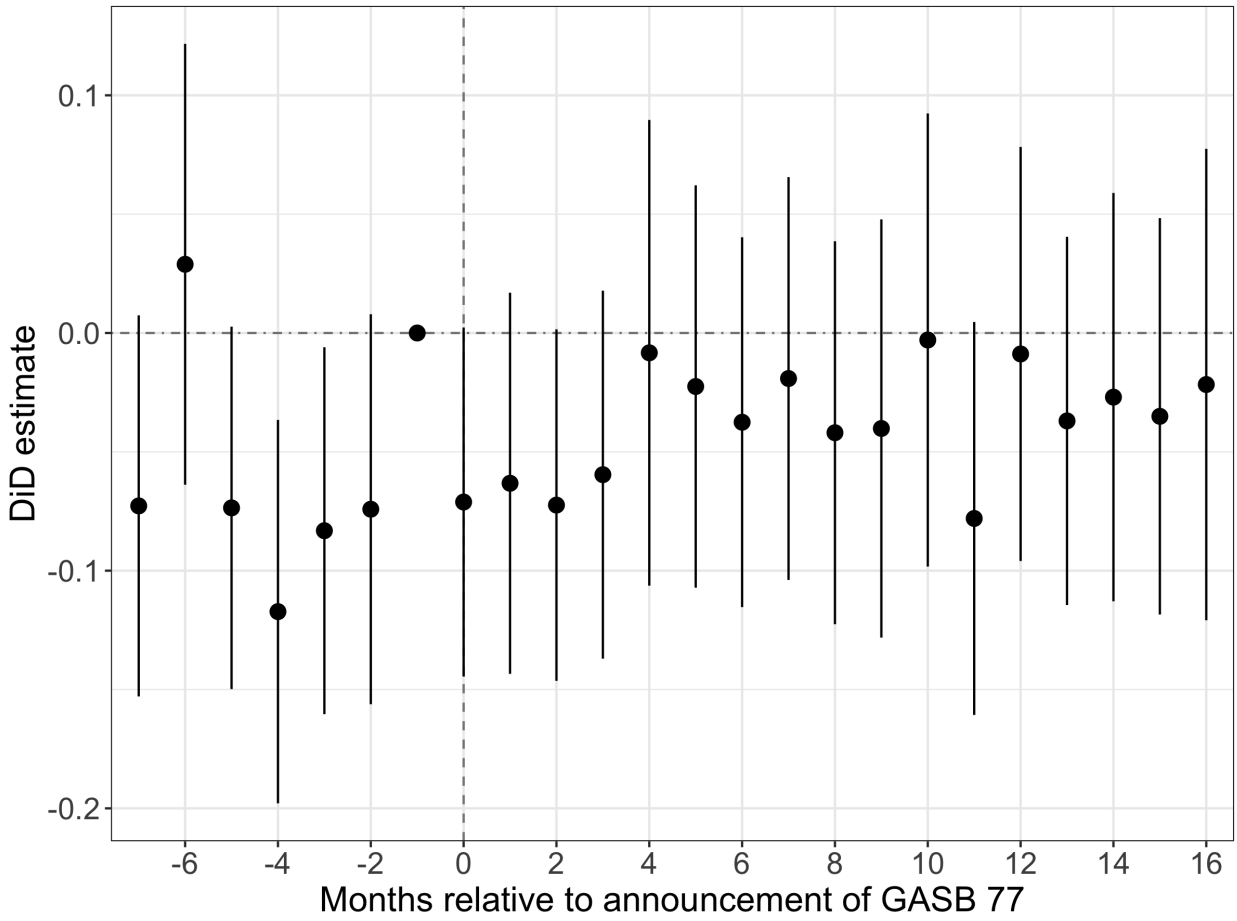


Figure A.1: **GASB 77 did not decrease tax incentive spending in GAAP mandated cities relative to non-GAAP mandated cities**.

spending in GAAP municipalities but not non-GAAP municipalities, resulting in a negative treatment effect. However, this is not what we observe in the data. While GAAP mandated municipalities do appear to abate less tax revenue than non-GAAP mandated municipalities in the pre-treatment period, this difference disappears after GASB 77 is enacted.

A.2 PanelMatch: Details on Estimation

PanelMatch is a nonparametric difference-in-differences estimator that proceeds in three steps. First, each treated observation is matched with a set of counterfactual observations that share its L-period treatment history but did *not* receive treatment at time t. Then, the matched set of counterfactual observations is adjusted to make sure that treated and

counterfactual units are similar on observables. We use propensity score weighting to up-weight counterfactuals that are similar to the treated unit in logged GDP, logged population, and the percentage of the population that voted for Obama in 2008.[26] Finally, the treated observations and their matched sets serve as inputs for the PanelMatch estimator:

$$\hat{\delta}(F, L) = \frac{1}{\sum_{i=1}^{N} \sum_{t=L+1}^{T-F} D_{it}} \sum_{i=1}^{N} \sum_{t=L+1}^{T-F} D_{it} \Big\{ (Y_{i,t+F} - Y_{i,t-1}) - \sum_{i' \in M_{it}} w_{it}^{i'} (Y_{i',t+F} - Y_{i',t-1}) \Big\} \quad (2)$$

We set $L = 6$, and report estimates in each time period F from $F = t - 6$ to $F = t + 16$ (again omitting $t - 1$ as the reference category). Standard errors are calculated via block bootstrapping. Additional data on the PanelMatch estimator can be found in Imai, Kim and Wang (2020).

[26] GDP is measured in 2014 at the CSA level, and comes from the U.S. BEA. Population is also measured in 2014 at the municipal level, and comes from the Census. Presidential voting in 2008 is measured at the municipal level, and comes from Elections Atlas.

A.3 PanelMatch: Tax vs. Non-Tax Incentives

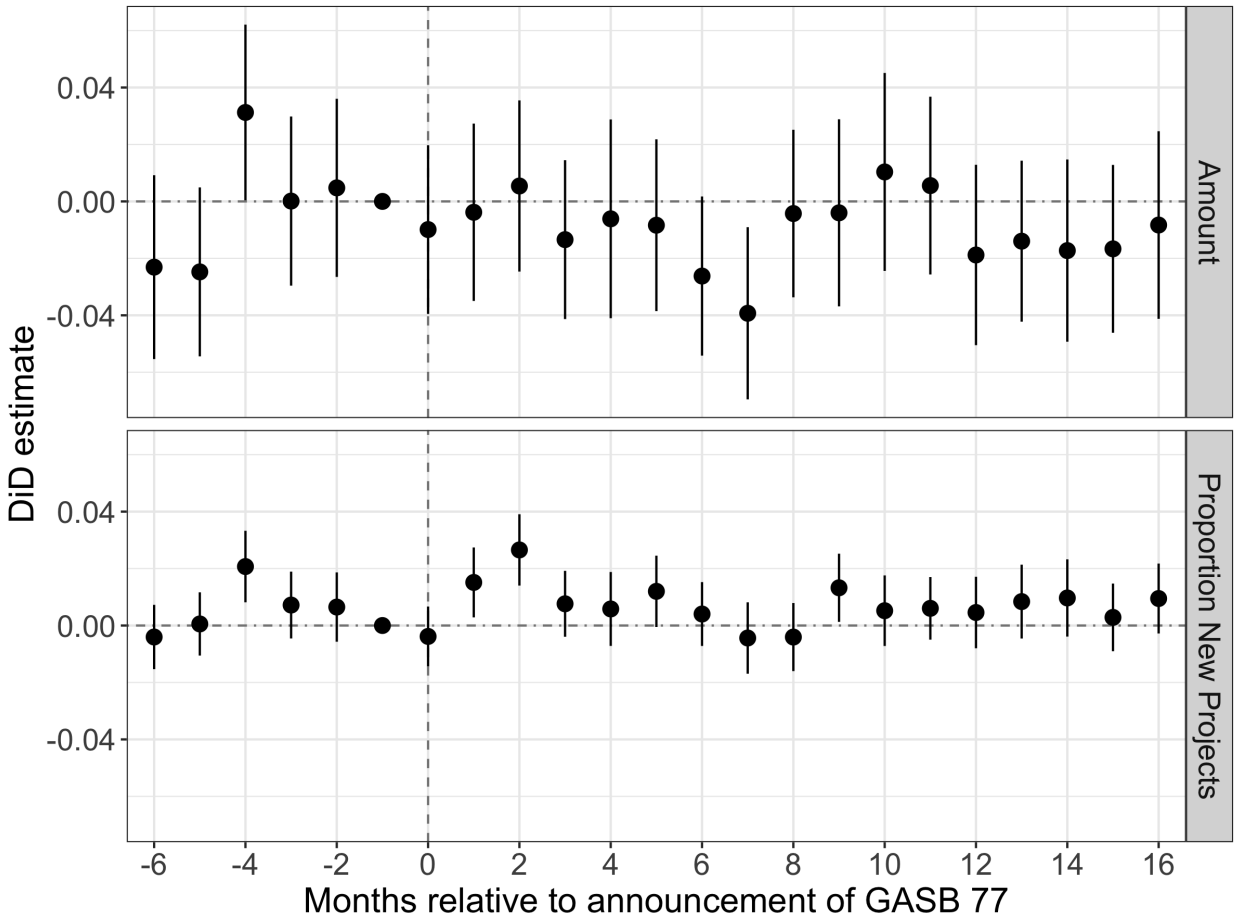


Figure A.2: **PanelMatch Estimates: Tax vs. Non-Tax**. Outcome variables are logged incentive spending ("Amount") and the proportion of incentives that went towards new projects. Estimates are adjusted for GDP, population, and 2008 presidential voting using propensity score weighting.

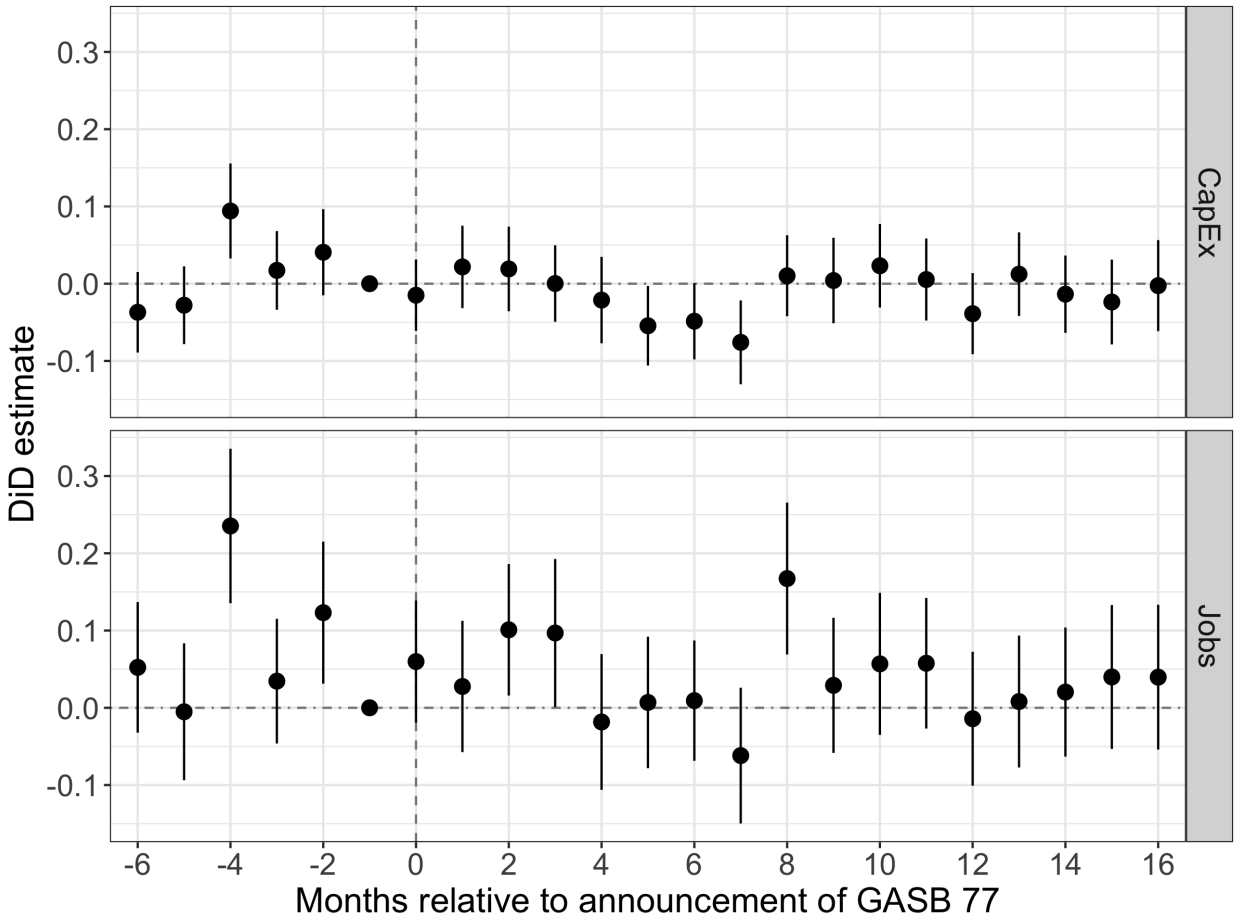


Figure A.3: **PanelMatch Estimates: Tax vs. Non-Tax**. Outcome variables are logged new jobs created as a result of the incentive(s) and logged capital expenditure as a result of the incentive(s). Estimates are adjusted for GDP, population, and 2008 presidential voting using propensity score weighting.

A.4 PanelMatch: Tax Incentives in GAAP Mandating vs. Non-GAAP Mandating States

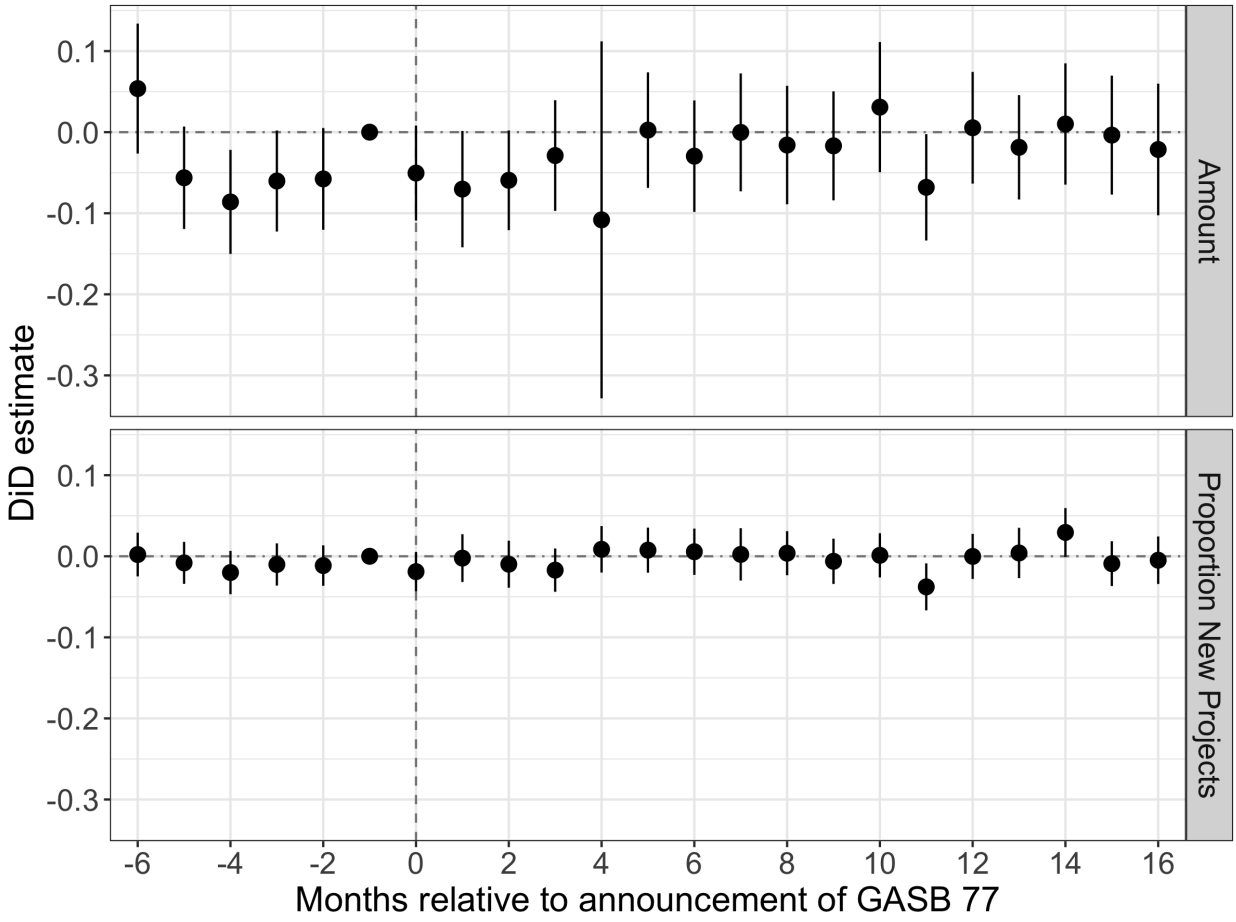


Figure A.4: **PanelMatch Estimates: GAAP mandating vs. Non-GAAP mandating**. Outcome variables are logged incentive spending ("Amount") and the proportion of incentives that went towards new projects. Estimates are adjusted for GDP, population, and 2008 presidential voting using propensity score weighting.

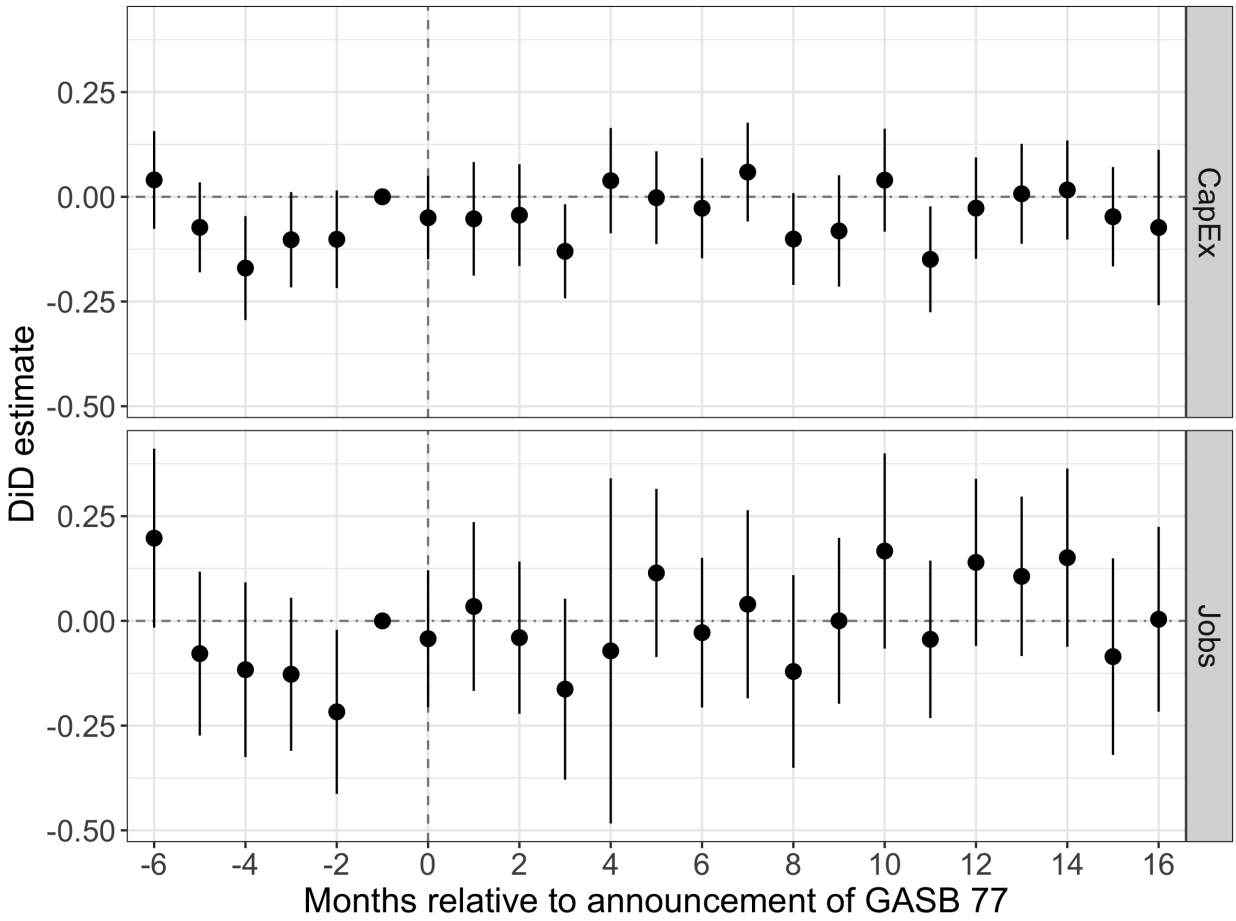


Figure A.5: **PanelMatch Estimates: GAAP mandating vs. Non-GAAP mandating**. Outcome variables are logged new jobs created as a result of the incentive(s) and logged capital expenditure as a result of the incentive(s). Estimates are adjusted for GDP, population, and 2008 presidential voting using propensity score weighting.