The Political Economy of Subsidy-Giving

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Abstract

State and local governments spend at least $30 billion a year on tax breaks and subsidies to attract and retain corporations in their jurisdictions. A lack of transparency in the subsidy-giving process raises concerns that subsidies may be allocated for political, rather than economic, reasons. In this paper I document the extent to which subsidies are politically motivated, estimate the effect of subsidy-giving on political outcomes, and identify the mechanisms by which subsidy-giving confers political benefits. I then explore implications for the distribution of economic development resources within a state.

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1 Introduction

State and local governments spend at least $30 billion a year on tax breaks and subsidies to attract and retain corporations in their jurisdictions. A significant share of this spending is concentrated on a few, large firms—in 2014 alone states promised $7 billion to just 48 companies (Slattery and Zidar, 2020). Despite the magnitude of these firm-specific incentives, it is not clear how politicians decide which firms to target, and how much money to offer. This lack of transparency raises concerns that subsidies may be allocated for political, rather than economic, reasons. In New Jersey, Governor Christie's economic development agency gave billions to firms that had either contributed his campaign or the Republican Governor's Association (Swaine, 2014). An investigation after his tenure found that lobbying and corruption led to inflated subsidy deals; the agency was described as a "$11 billion black hole created by backroom political deals" (Corasaniti and Haag, 2019; Pillets and Solomon, 2019).

The way that politics manifests in the subsidy-giving process is likely more nuanced than the story of Governor Christie's economic development agency. A politician may use subsidies as a tool to create jobs, and is simply willing to pay more for those jobs when she is in the midst of a re-election campaign. Moreover, she may be more eager to create jobs in a district where there are more undecided voters. There are various channels by which career concerns and political capture can influence economic development policy and subsidy disbursement. In this paper I document the extent to which subsidies are politically motivated, estimate the effect of subsidy-giving on political outcomes, and identify the mechanisms by which subsidy-giving confers political benefits. I then explore implications for the distribution of economic development resources within a state.

I quantify the role of politics in subsidy-giving using a hand-collected data set of firm-level discretionary subsidies from 2002-2017. This data set includes details about the subsidy deal, the name of the subsidized firm, and the runner-up location in the subsidy competition. In previous work I used the same data to estimate a model of subsidy competition which allowed me to decompose the determinants of states' willingness to pay for firms. I found that all else equal, governors who are eligible to run for re-election are willing to pay 30% more to attract a firm than their term-limited counterparts (Slattery, 2020). Furthermore, governors running for re-election are 25 percentage points more likely to increase their total incentive spending budgets in election years (Slattery and Zidar, 2020). These two correlations between subsidy spending and governor's career concerns motivate further investigation into the role of politics in state economic development policy.

The hypothesized mechanisms for the effect of subsidy-giving on election outcomes are four-fold. First, there is the direct effect of winning over voters with an anticipated or realized improvement in economic outcomes in the subsidized locale. Second, there is the ability of subsidized firms to financially support the re-

election campaigns of state governors, through independent expenditures and campaign contributions (Grossman and Helpman, 2002). Third, there is the pandering effect—politicians can publicize the deal to signal that they are working hard to attract firms and create jobs for voters (Maskin and Tirole, 2004; Jensen and Malesky, 2018). Fourth, there is the "shaping the electorate" hypothesis, or "Curley Effect." In this setting, the "Curley Effect" would amount to politicians only subsidizing firms that employ supporters, in an effort to bolster their base (Glaeser and Shleifer, 2005).

In order to investigate the magnitude and mechanisms by which subsidy-giving affects election outcomes I match the subsidized firms by name to state and federal campaign contributions, political action committees, and employee contributions (National Institute on Money in Politics, 2000-2018; Bonica, 2016). For each state I have data on county-level election outcomes and governors' race advertising data, which includes the location, spending, and content of each ad aired (Leip, 2000-2018; Fowler and Ridout, 2017; Goldstein and Rivlin, 2005). Lastly, I have information on governor term-limits and state campaign finance regulations from the National Conference of State Legislatures (2019). In estimation I leverage variation in (1) the runner-up locations in the subsidy competition for each of these firms, (2) term limits for governors, and (3) a change in federal campaign finance regulations.

I find that although politicians with career concerns spend more on incentives, it has a negligible effect on re-election results. I estimate the effect of winning a subsidy on the within governor change in vote share, using the governors who attempted to win a subsidy in the same period, but were not successful (i.e. the "runnerups") as a control. One issue with estimating the re-election effect of subsidy-giving is that the vast majority of incumbents who run for re-election end up winning. That being said, there is a positive effect on vote share with the interaction of a subsidy win and the unemployment rate, suggesting that governors may have some success in signaling that they are working on creating jobs with a high-profile subsidy case (or multiple).

I test the first mechanism—the "local voting" effect—with the same approach as the state-level election analysis. I compare the change in vote share within the county that won the subsidy with other counties in the state, and with the runner-up county in the competition. There is no effect of winning a subsidy on increasing votes for the incumbent. The second mechanism is a work in progress, due to the data collection effort of matching firms to all of their political spending records. However, here I can leverage a natural experiment borne out by the Citizens United Supreme Court case. In 2010, states that had previously prohibited corporations from spending in state elections were now required to comply with the federal ruling. This regulatory change, along with variation in timing of elections, helps me to causally back out the link between campaign spending and subsidy-giving. In preliminary analysis with aggregate data I find that the ability of corporations to spend in elections has little effect on per-capita incentive spending, treated states are more

likely to increase their budget for discretionary funds for firms. The advertising data allows me to document the extent that governors publicize the subsidy deals. At this point, I present descriptive evidence of the content of these ads. Lastly, the employee campaign contribution data will shed light on the affiliation between governor subsidy-giving and their base.

This paper contributes to a growing empirical literature on state and local business tax incentives. This is the primary place-based policy in the U.S.; incentives for firms make up over two-thirds of state and local economic development spending and have tripled since the 1990s (Bartik, 2017). Even though there is growing enthusiasm for using place based policies to address regional disparities, many question their effectiveness, given issues of competition, discretion, and transparency. Slattery and Zidar (2020) and Patrick (2016) find little evidence that subsidized firms bolster local economic growth, weakening the efficiency argument for discretionary incentives.[1] Kim (2020), Mast (2020), and Slattery (2020) evaluate the role of competition between localities and find that although subsidies allocate firms to places for higher values for winning the firm, firms capture all of the welfare gain from competition. Whether subsidies are an effective means of increasing equity remains an open question. The potential for career concerns and political capture to affect which firms receive subsidies, how much is spent, and where the firms locate has implications for both the efficiency of incentive spending as a place based policy and the equitable distribution of resources within a state.

Theory tells us that politicians with career concerns will behave differently than their term-limited counterparts (Barro, 1973). Empirical work has tested this prediction, and finds evidence for the effect of binding term-limits on taxes, spending, and other regulations (Besley and Case, 1995; Poterba, 1994; Besley and Coate, 2003). In this literature the potential for reelection has a disciplining effect, the politician has an incentive to act in the voters' interest in order to win reelection. However, though electoral accountability may have a disciplining effect, it may also give politicians an incentive to pander to public opinion and disregard minority welfare (Maskin and Tirole, 2004). Pandering becomes especially relevant when one considers the salience of a policy like a discretionary subsidy. Offering a subsidy to a single firm may not be the most cost effective way to create jobs, and a firms' future effect on the local economy is highly uncertain, but it does signal to voters an effort to create jobs, and a guarantee of a concrete number of jobs with the firm. In other words, voters only need to believe that subsidies are effective.[2] Jensen and Malesky (2018) provide extensive survey evidence that voters in the U.S. would be more likely to vote for a governor who uses incentives to attract investment,

[1] Greenstone, Hornbeck and Moretti (2010) finds greater evidence for spillovers using a sample of large investment projects that received discretionary subsidies. The Slattery and Zidar (2020) data is selected on subsidy size, not investment.

[2] The historically large subsidy for Foxconn was a feature of the Wisconsin race for governor in 2018, with incumbent governor Walker running ads touting the predicted job and investments, and his rival Tony Evers running ads that documented the high costs, saying the taxpayers had been "Foxconned" (Opoien, 2018; Stein, 2017). See Appendix Figure 2 for an example ad. Evers defeated Walker in the election.

even if the governor was not successful at attracting the investment.

Lastly, this paper relates to the recent empirical work that explicitly links firms and politicians, testing the quid-pro-quo political model of Grossman and Helpman (2002). Tahoun (2014) finds that firms are more likely to contribute to election campaigns of Congress members who are stockholders, while (Bertrand, Bombardini, Fisman and Trebbi, Forthcoming) find that firms with connections to politicians exert influence through charitable donations. Other researchers find that firms that give larger contributions to politicians reap future benefits (Claessens, Feyen and Laeven, 2008; Cooper, Gulen and Ovtchinnikov, 2010) and that procurement contracts increase after the election among companies with boards of directors connected to the winning party (Goldman, Rocholl and So, 2009). To return to anecdata on subsidy-giving, the Los Angeles Times published a 3 part series on Disneyland's local political involvement in 2017, providing evidence that Disney was heavily spending on city council elections to elect "supportive politicians"—council members who had voted for Disney tax breaks in the past. Disney has received an estimated $1 billion in tax breaks from the city of Anaheim in the last 20 years, and spent $1.2 million in the 2016 city council election alone (Krishnakumar, Miller and Poston, 2017; Miller, 2017*b*,*a*). In D.C., NPR reporters linked campaign contributions by building developers to an increased probability in winning tax breaks or discounted public land. Over $640 million (one-third of the total subsidies) went to ten developers who had donated the most money on city council campaigns (Patel and Madden, May 2013).

This submission is a work in progress. The remainder of the draft will proceed as follows. Section 2 will document the data sources and present descriptive statistics. Section 3 first considers the direct effect of winning a subsidy on reelection. Then, it dives into the mechanisms. I provide preliminary evidence and descriptive statistics for three of the four proposed mechanisms: local goodwill, quid pro quo, and pandering. In the realm of additional work, I plan to introduce a straightforward model of policy choice with career concerns to examine the effect of politically-motivated subsidy-giving on the distribution of resources within a state. For the purposes of this draft, Section 4 presents some descriptive statistics on the placement of subsidized firms and the geography of opportunity within a state. Section 5 concludes with a discussion of next steps.

2 Data

I leverage multiple data sources to explore the relationship between politics and subsidy-giving.

Subsidies

States vary widely in the structure of their corporate and individual income taxes and payroll, and the absence of comprehensive data on state taxes, incentives, and subsidies has been a difficulty for empirical research in this field. In response, I have created two new data sets on state incentive spending and subsidy-giving behavior. The first data set tracks state spending on tax credits and economic development incentives from 2007-2014. I collect this by reading state level legislation, budget documents, and annual revenue reports.

The other data set, described briefly in the introduction, concerns the details of firm-specific incentives, otherwise known as discretionary subsidies. These incentives are justified by the economic benefit that the firm will bring to the state, in the form of both direct and indirect jobs, and increased demand for goods and services. However, there is very little cost-benefit analysis post-subsidy disbursement, and even less transparency when it comes to exactly what the contract is between the state and the firm. Therefore, to create a data set of firm-level subsidies I start with the Mattera and Tarczynska (2019) Subsidy Tracker. I restrict the sample to subsidies worth over $5 million, and remove any entry that does not mention expansion, relocation, or a discretionary incentive. Finally, I add any firm locations reported by *Site Selection* Magazine's "Incentives Deal of the Month" columns and annual "Top Deals" reports. This gives a sample of over 500 firms and locations that reportedly made subsidy deals. I then search local news reports and press releases to fill in details on each deal, including the runner-up location in the subsidy competition, and the number of jobs promised.

I describe the data collection process in detail, and provide descriptive statistics for both the state-level and firm-level data sets on in Slattery (2020) and Slattery and Zidar (2020). I replicate a table of individual subsidy-giving by industry from Slattery (2020) in Table 1.

Campaign Spending

Whether or not the political involvement of a firm can affect the incentives it receives is the empirical question at the heart of this paper. Therefore another major data undertaking is to link the subsidized firms to firm=level political spending. I use data on corporate spending in state elections from the National Institute on Money in State Politics, colloquially known as "Follow the Money" (National Institute on Money in Politics, 2000-2018). The Institute has a searchable database of corporate, association, PAC, and individual-level contributions to all state-level elections. This covers all 50 states from 2000 to the present. Bonica (2016) compiled all the data from the National Institute on Money in Politics (2000-2018) portal into a data set for researchers, which includes cleaned firm and individual names, with unique ids. The firms in the subsidy data set are matched by name to the corporate contributions and PACs in the Bonica (2016) data set, and are matched to individual

Table 1: Terms of Subsidy Deals

Industry (NAICS)	# of Deals	Subsidy ($ M) Mean	Subsidy ($ M) Med.	Jobs Promised Mean	Jobs Promised Med.	Invest ($ M) Mean	Invest ($ M) Med.	Cost per Job ($) Mean	Cost per Job ($) Med.
Mining, Utilities (21-22)	8	781.6	824.2	300	238	5,607	4,797	2,605,227	3,470,518
Manufacturing (31-33)	226	189.8	66.5	1,443	850	1,027	376	131,504	78,291
Chemical manuf. (3251-3)	17	133.9	133.9	311	165	869	1,000	430,606	811,741
Automobile manuf. (3361)	42	242.9	117.9	2,626	2,000	982	500	92,497	58,964
Aerospace manuf. (3364)	21	545.7	126.3	2,579	1,100	656	571	211,631	114,787
Wholesale, Retail Trade (42-45)	18	63.8	26.2	1,908	710	268	153	33,428	36,936
Transport/Warehousing (48-49)	13	87.1	77.0	1,912	1,190	230	205	45,570	64,674
Information Svc. (51)	28	82.3	59.1	762	375	590	165	107,944	157,616
Finance, Insurance, RE (52-53)	49	86.0	28.8	1,916	1,455	262	71	44,885	19,812
Financial activities (5239)	21	57.3	27.0	2,467	1,455	155	61	23,228	18,542
Prof., Scientific, Tech Svc. (54)	40	145.8	56.4	1,552	688	304	62	93,934	81,998
Scientific R&D (5417)	19	118.9	59.4	502	303	188	61	236,849	196,204
Management, Other Svc. (55-81)	14	81.4	57.7	1,333	966	330	300	61,093	59,768
Full sample	396	163.9	54.3	1,474	900	842	238	111,209	60,311

Notes: This table displays sector and industry level descriptive statistics on subsidy deals. For each industry group, the mean and median subsidy size, number of direct jobs promised, and planned investment is displayed. I also list the number of subsidy deals in each category. For large sectors (in terms of subsidy deals), such as manufacturing, I show statistics for certain industries. This is for a sample of large subsidy deals for which there was competition between localities and the runner-up location is known. The data were collected by the author. The sample period is 2002-2017.

employees who list their employer when they file the contribution. This is still a work in progress.

Other Data Sets

The Wesleyan Media Project and Wisconsin Advertising Project host political advertising data sets for Gubernatorial, Senate, House, and Presidential elections (Fowler and Ridout, 2017; Goldstein and Rivlin, 2005; Goldstein, Niebler, Neiheisel and Holleque, 2011). This data include not only the air date, sponsor, location, and cost of each date, but the content of the ads. This allows me to link advertising spending by candidates and PACs to the analysis of the quid-pro-quo effect, and identify any mention of subsidies in advertising, for the pandering effect. I will give examples from the advertisements in Section 3.4.

I use data on state election and campaign finance regulation from the National Conference of State Legislatures (National Conference of State Legislatures, 2019). They publish a document every 2 years with the legislated state limits on individual, political party, PACs, corporations and union contributions to political candidates. They also create a list of state laws affected by *Citizens United*, as well as post-ruling legislation related to *Citizens United*. They also document the term-limits for governors in each state.

I use election outcomes from the "Election Atlas" (Leip, 2000-2018). This includes county level votes for

each candidate in gubernatorial elections from 2000 to 2018. Sources for economic and demographic variables at the state and county level include Bureau of Labor Statistics (1990-2017), U.S. Bureau of Economic Analysis (1967-2017), Ruggles, Flood, Goeken, Grover, Meyer, Pacas and Sobek (2019), and County Business Patterns (1997-2017).

3 Preliminary Results

3.1 Do subsidies affect reelection?

It has now been documented that governors who are running for reelection are (1) willing to spend substantially more to attract an individual firm to their state, and (2) are more likely to increase their incentive spending budget in the year of the election (Slattery, 2020; Slattery and Zidar, 2020). Therefore, it must be that governors perceive that winning a subsidy will increase their odds of reelection. Is that the case?

In order to estimate the effect of winning a subsidy deal on reelection I regress the change in vote share for a single governor g, who runs for election in state s before and after winning a subsidy. Therefore, the dependent variable, Δvote share$_{gst}$, is the share of votes governor g wins in state s in year t, when they are running as an incumbent, less the share of votes they won in their last election, which in most states is year $t-4$. The key independent variable of interest is win$_{gs}$, which is an indicator for whether governor g attracted any firms with discretionary subsidies to state s, in their term as governor. The specification also includes state characteristics, X_{st}, and election year fixed effects η_t. I use the difference in vote share to control for the original popularity of the governor in the state, although the vote share is also a function of the strength of the opponent, who changes between the two elections (see Appendix Table 8 for results in vote share levels instead of differences).

$$\Delta\text{vote share}_{gst} = \beta_0 + \beta_1 \text{win}_{gs} + \beta_2 X_{st} + \eta_t + \varepsilon_{st} \tag{1}$$

The reason that I use the change in vote share as the outcome, instead of a dummy variable for whether the governor won reelection, is that the majority of governors in the sample win reelection. Of the 121 incumbents running for reelection between 2002 and 2018, 102 (84.3%) win. Of the 68 incumbents that won at least one subsidy deal in their previous term, 80.9% win. Therefore, the change in vote share provides more variation in the outcome. Another issue is that of a control group. Weaker governors may go after firms more aggressively, while a governor with a strong approval rating does not need to put in any extra effort to win votes. This would create a downward bias on β_1, the effect of winning a subsidy competition on change in vote share. In order to partly address this issue, I use the set of incumbent governors who were runner-ups in subsidy competitions,

but did not win, as a control group. These governors were trying to attract the firm to the state, but did not end up offering a large enough subsidy, or their state was not sufficiently attractive on some other dimension.

Table 1 shows the results. Columns (1) through (3) use all of the incumbent elections in the sample. Columns (4) through (6) restrict the control group to incumbent elections that were runner-ups in a subsidy competition. There seems to be no effect of winning a subsidy deal on increase in vote share, except when the subsidy win is interacted with state employment rate. This suggests there might be some relationship between economic health of a state and the effort of the governor to create jobs.

Table 2: The state-level effect of subsidy-giving on reelection

	All Incumbent Elections			Control = Runner-ups		
	(1)	(2)	(3)	(4)	(5)	(6)
Subsidy Deal Winner	0.016	-0.002	-0.055	0.015	0.007	-0.294*
	(0.024)	(0.021)	(0.077)	(0.031)	(0.031)	(0.146)
Unemployment Rate (%)		-0.008	-0.015		-0.005	-0.063*
		(0.010)	(0.014)		(0.012)	(0.027)
Subsidy Winner × Unemp. Rate			0.011			0.062*
			(0.015)			(0.028)
Share of Pop. with BA		-0.636	-0.602		-0.736	-0.718
		(0.329)	(0.329)		(0.485)	(0.462)
Income per capita ($10,000)		-0.002	-0.003		0.011	0.013
		(0.019)	(0.019)		(0.025)	(0.023)
Close Last Election		0.088***	0.087***		0.067**	0.060**
		(0.017)	(0.017)		(0.024)	(0.022)
Observations	117	115	115	81	81	81
R-squared	0.09	0.28	0.28	0.16	0.27	0.32
Election Year FE	×	×	×	×	×	×
Dependent Variable Mean	0.016	0.022	0.022	0.019	0.019	0.019

Notes: This table displays the results for the regression as specified in Equation 1. The sample period is 2002-2018. The outcome is the change in the vote share between two elections for the same governor at the state level (Leip, 2000-2018). Columns (1) through (3) use all of the incumbent elections in the sample. Columns (4) through (6) restrict the control group to incumbent elections that were runner-ups in a subsidy competition. Controls include state unemployment rate, education, and income per capita (Bureau of Labor Statistics, 1990-2017; Ruggles, Flood, Goeken, Grover, Meyer, Pacas and Sobek, 2019).

3.2 Do subsidies win over local voters?

I test the first mechanism—the "local voting" effect—with the same approach as the state-level election analysis. I compare the change in vote share within the county that won the subsidy with other counties in the same state, and with the runner-up county in the competition. I replicate Equation 1, but with county level subscripts, below.

$$\Delta\text{vote share}_{gcst} = \beta_0 + \beta_1 \text{win}_{gcs} + \beta_2 X_{cst} + \eta_t + \varepsilon_{cst} \quad (2)$$

Table 3 shows that there is no effect of winning a subsidy on increasing votes for the incumbent in the county of the subsidy deal. Voters that live close to the location of the new firm and jobs are no more likely to vote for the incumbent.

Table 3: The local effect of subsidy-giving on reelection

	All Incumbent Elections			Control = Runner-ups		
	(1)	(2)	(3)	(4)	(5)	(6)
Subsidy Deal Winner	0.007	0.003	0.001	0.009	0.011	-0.052
	(0.007)	(0.007)	(0.023)	(0.012)	(0.012)	(0.040)
Unemployment Rate (%)		-0.003***	-0.003***		-0.007	-0.014**
		(0.001)	(0.001)		(0.004)	(0.005)
Subsidy Winner × Unemp. Rate			0.000			0.010
			(0.003)			(0.006)
Share of Pop. with BA		-0.038	-0.038		-0.284**	-0.308**
		(0.030)	(0.030)		(0.104)	(0.106)
Income per capita ($10,000)		-0.000	-0.000		0.011*	0.011*
		(0.000)	(0.000)		(0.004)	(0.004)
Close Last Election		0.021***	0.021***		-0.004	-0.002
		(0.004)	(0.004)		(0.014)	(0.014)
Observations	7352	7263	7263	321	321	321
R-squared	0.06	0.07	0.07	0.13	0.16	0.17
Election Year FE	×	×	×	×	×	×
Dependent Variable Mean	0.009	0.012	0.012	0.015	0.015	0.015

Notes: This table displays the results for the regression as specified in Equation 2. The sample period is 2002-2018. The outcome is the change in the vote share between two elections for the same governor at the county level (Leip, 2000-2018). Columns (1) through (3) use all of the incumbent elections in the sample. Columns (4) through (6) restrict the control group to incumbent elections that were runner-ups in a subsidy competition. Controls include state unemployment rate, education, and income per capita (Bureau of Labor Statistics, 1990-2017; Ruggles, Flood, Goeken, Grover, Meyer, Pacas and Sobek, 2019).

3.3 Is there a quid-pro-quo in campaign finances?

Corporate campaign spending is one potential factor in how states allocate incentive spending, but it remains unclear whether firms are able to leverage political spending to influence the size and incidence of government subsidies. To give a brief primer, campaign finance refers to all funds used or raised to support a candidate, party, or issue. These funds come in two main forms: direct contributions ("hard money") and independent expenditures ("soft money"). A direct contribution is a monetary or in-kind contribution to a candidate's campaign. States require that candidates disclose all contributions to their campaign, and regulate the amount an individual, corporation, political action committee (PAC), and political party can contribute to a candidate

with contribution limits. These contribution limits vary by type of contributor, office of candidate, and state.

Independent spending is less straightforward than direct contributions to candidates. Independent expenditures are any spending on communication, i.e. advertising, in support or against a candidate. The important distinction from direct contributions is that the candidate themselves did not coordinate or approve the advertisement. An important difference is that independent expenditures are not subject to the contribution limits. They are typically regulated with disclosure requirements, which vary by state and by size of the independent expenditure.

Therefore, a corporation seeking to support a candidate in their election may either contribute directly to their campaign, given the limit in that state, or fund advertising for that candidate, which is usually coordinated by a PAC. Whether or not the state is able to prohibit the corporation from spending in either form, or create more barriers to entry for corporations, has often been the decision of the U.S. Supreme Court.[3]

In this section I exploit exogenous variation in corporations' abilities to spend in elections created by the 2010 *Citizens United v. Federal Election Commission* Supreme Court ruling to identify the effect of corporate campaign spending in state elections on state level incentive spending for firms. At this moment the analysis focuses on the total state budget for incentives, which can include discretionary subsidies as well as more general programs such as R&D tax credits and job training grants. I am in the process of linking each firm that receives a discretionary subsidy in my data set to their entire public history of campaign contributions and PAC spending, to explicitly identify the links between firms and politicians.

Citizens United v. Federal Election Commission

In January 2010, decades of legal precedent were overturned when the Supreme Court, in *Citizens United v. FEC* decided that the government cannot restrict independent political expenditures by corporations, labor unions, and other associations. The Supreme Court ruled, in a 5-4 decision, that banning corporate and union independent expenditures violated the First Amendment, meaning that corporations would still be subject to a state's legislation on direct-to-candidate contributions, but would be able to spend on PACs and other associations to buy media advertising in support of their favored candidate. The Court had upheld bans on contributions in the past, arguing that contributions may encourage "quid pro quo arrangements," and regulating such contributions would prevent corruption. However, they interpret independent expenditures as being, by definition, *independent* from the candidate, and thus not a source of quid pro quo corruption.

The ruling came as a surprise to Democrats and Republicans alike, as they had worked together 8 years earlier to pass the 2002 Bipartisan Campaign Reform Act. While most of the media attention was focused on

[3]This is not to say that campaign contributions and independent expenditures are the only way to exert political influence. There is of course an expansive literature on lobbying, and recent work has shown the role of charitable donations as a vehicle for influence (Bertrand, Bombardini, Fisman and Trebbi, Forthcoming).

the potential adverse effects of *Citizens* at the federal level, the decision was relevant to elections at all levels of government.

At the time of this ruling, 24 states also prohibited corporations from campaign spending in state elections. The *Citizens United vs. FEC* ruling effectively invalidated these laws, forcing states to allow corporations to make independent expenditures in state elections. Immediately after the ruling, the D.C. Court of Appeals invalidated various limits on contributions to independent expenditure groups, citing *Citizens United*. Most states immediately overturned previous legislation to comply with the federal law.[4] The 24 states with newly overturned restrictions on corporate spending will serve as the treatment group.[5]

Estimation

To identify the causal relationship between corporate spending and government subsidies for firms, I exploit the exogenous shock bourne by the Supreme Court ruling in *Citizens United v. Federal Election Commission (FEC)*. This identification strategy allows me to causally identify the effect of *Citizens* on subsidy-giving. I assume that the only channel through which the *Citizens* ruling effects subsidy spending at the state level is through increased campaign spending. In Appendix A I provide evidence that *Citizens* increased corporate campaign spending.

I use a difference-in-differences approach, comparing states that were affected by the ruling ($\text{Treat}_s = 1$), with states that already allowed corporate spending in elections, before and after the Supreme Court ruling. The post-ruling variable, Post_t, equals 1 if the year is greater than 2010. As the ruling occurred in January of 2010, the year 2010 is omitted from the analysis. The left hand side variable is a measure of subsidies in state s at time t. I estimate the equation using data from 2007 to 2014:

$$y_{st} = \theta_0 + \theta_1 \text{Treat}_s \times \text{Post}_t + \theta_2 \text{Treat}_s + \theta_3 X_{st} + \eta_t + \varepsilon_{st} \tag{3}$$

The identifying assumption is that independent spending and subsidy giving in treatment and control states would have evolved parallel to each other in the absence of the Supreme Court ruling. That is, any difference that is detected is due to the ability of corporations to now spend in elections in the treated state case. Iden-

[4]Montana, mindful of a history of corruption in their state politics, continued to restrict corporate campaign spending after *Citizens United*. In June 2012, the Supreme Court reversed a decision of the Montana Supreme Court in *Western Tradition Partnership, Inv. v. Montana* (2011), which had upheld the law limiting political spending by corporations.

[5]The treatment and control states are listed in Appendix Table 7. The treatment states include all 24 states which prohibited corporations from campaign spending at the time of the *Citizens United* decision. After the decision 14 states repealed existing legislation or enacted new legislation to conform to the federal ruling. Ten states still have laws prohibiting corporate independent spending which are potentially unenforceable. The states of course can continue to restrict direct contributions from corporations; 22 states still prohibit corporate direct to candidate contributions. I include the states that still have laws restricting independent expenditures on the book as treatment states, as they likely are not enforcing the law in wake of the Supreme Court case in Montana, but have not yet repealed it. If these states are still enforcing the bans then we can think of this as an "intent to treat," as all 24 states received the treatment of their laws being invalidated, but only 14 complied, or "accepted" the treatment.

tification of θ_1 comes from comparisons of incentive spending and subsidy giving in treatment states, which had prohibited corporate independent spending, with that of the control states, which have always allowed corporate spending, before and after the Supreme Court ruling, conditional on other observable co-variates, X_{st}. I control for year specific shocks to subsidy spending with a year fixed effect, η_t.

Table 4: *Citizens United* as Natural Experiment

	Total Spending		Discretionary Funds		Per Capita Spending	
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × *Post*	-24.78	39.54	32.49	58.09*	-1.31	2.63
	(40.61)	(26.33)	(23.05)	(32.47)	(4.20)	(5.51)
Restricted Sample		Yes		Yes		Yes
Dep. Var. Mean	362.72	289.78	43.51	36.36	56.01	53.94
N	293	185	336	217	293	185
R^2	0.06	0.18	0.10	0.17	0.03	0.05

Notes: This table displays the results for the regression as specified in Equation 3. The sample period is 2007-2014. The results in columns 1-4 are in $M, columns 5-6 are in $. Observations are state-years. State co-variates in each specification include the unemployment rate, number of establishments with over 1,000 employees, and the corporate tax rate (Bureau of Labor Statistics, 1990-2017; County Business Patterns, 1997-2017; CSG Book of the States, 1950-2018). The dependent variables on state incentives spending are collected by the author and described in Section 2, as well as Slattery and Zidar (2020). Robust standard errors are in parentheses, and * p<0.10, ** p<0.05, *** p<0.01.

Table 4 presents the results of the effect of *Citizens United* on incentive spending. Each regression is run with two definitions for the control group. The first is the unrestricted sample, which includes all states that had not banned corporate spending at the time of the *Citizens United* ruling. The second is the restricted sample, which only includes states that allowed unlimited spending of corporations at the time of the *Citizens United* ruling.[6] The results on total spending and per capita spending are not clear; at best, the effect is weakly positive.

Strikingly, the amount treatment states allocate for discretionary spending increases by 58 million dollars. The budget for discretionary spending, often called a "deal closing fund," allows governors to more easily make subsidy deals with companies. If there is no deal closing fund, or not enough funds available, the governor would have to call the legislature into special session and get approval to extend tax credits or use funds from elsewhere. This result suggests that discretionary subsidy-giving becomes more valuable with an increased ease in corporate political influence.

[6]Using the restricted sample allows for a cleaner analysis; states that always allowed unlimited corporate campaign spending (both independent expenditures and campaign contributions) are compared with states that previously banned all corporate campaign spending, but now must allow it in one form (independent expenditures), before and after the ban is lifted. This includes 8 states: IL, MO, MS, NE, NM, OR, UT and VA.

Figure 1: Advertising Data



(a) Alabama 2002



(b) Indiana 2004



(c) Michigan 2006

3.4 Do governors use subsidies to pander?

One reason that subsidy-giving may affect election outcomes is that job creation makes for great ad fodder. At this point, I am still in the process of identifying the mention of subsidies in the advertising data, by reading the storyboards or watching the video of the advertisements. To provide some flavor, I present three examples of advertisements that mention specific subsidies in Figure 1. In Alabama, Don Siegelman focused on attracting multiple automobile plants to the state, and mentioned these new plants in almost 40% of all of the ads he ran. In Indiana, Joe Kernan's ad features the following newspaper headline: "$214 million in incentives for Eli Lilly called bargain." Lastly, in Michigan incumbent governor Granholm heavily featured her subsidy-giving, and the ad in Figure 1 is simply a list of all the firms attracted with the jobs promised or saved. Once the remainder of the ads are categorized I can proceed with an analysis of when governor's mention subsidies, whether the size of the subsidy has any predictive power on future advertising, and how voters respond.

4 The distribution of resources within a state

Up to this point, the goal of this paper has been to document the relationship between subsidy-giving and politics. Why does that matter? States have limited resources, and many have balanced budget requirements. Therefore, an additional dollar spent on a subsidy to attract a firm often means less money for other public investment, or higher taxes for residents. One can consider an even simpler example—a subsidy to attract a firm to Manhattan means that state resources (both finances and governor time) are focused on creating jobs in Manhattan, instead of another city in the state. Policymakers consistently cite job creation as the main motivation for subsidy-giving. Therefore, one might expect that subsidies are targeted in regions that need the jobs most, conditional on being a place that the firm is willing to locate.

When one considers the location of firms that receive subsidies, within a state, it is places that are wealthier, larger, and have more college-educated constituents (Table 5). However, it is also places with slightly higher unemployment rates. When one considers political characteristics, counties with more democrats are more likely to receive subsidies when democrats are in office, but less likely to receive subsidies when a democrat in office is running for re-election (Table 6).

Understanding the decision of politicians of where to allocate incentive resources within a state, given the highly discretionary nature of these decisions, is an area for much more work.

Table 5: Economic/Demographic Characteristics of Winning Counties

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Unemployment Rate (%)	-0.001***					0.001***	0.002***
	(0.000)					(0.000)	(0.001)
Personal Income Per Capita ($10,000)		0.010***				0.003***	0.010***
		(0.001)				(0.001)	(0.002)
Share Population with BA			0.230***			0.112***	0.188***
			(0.009)			(0.011)	(0.026)
Share Voter Turnout				-0.011**		0.001	0.005
				(0.003)		(0.003)	(0.008)
log(Population)					0.012***	0.010***	0.025***
					(0.000)	(0.000)	(0.001)
Observations	51718	51732	51732	51610	51732	51596	20946
R-squared	0.01	0.02	0.03	0.01	0.03	0.04	0.08

Notes: State and Year FE are included in each regression. The regressions are at the county level. The dependent variable is an indicator that is equal to one if the county won a subsidy deal. Specification (7) restricts to state years that have at least one subsidy deal. Sources include Bureau of Labor Statistics (1990-2017), Ruggles, Flood, Goeken, Grover, Meyer, Pacas and Sobek (2019), Leip (2000-2018).

Table 6: Political Characteristics of Winning Counties

	(1)	(2)	(3)	(4)	(5)
Democrat Governor	0.002		-0.014**	-0.022**	-0.034
	(0.002)		(0.005)	(0.008)	(0.019)
Democrat Vote Share		0.043***	0.033***	0.002	0.012
		(0.005)	(0.006)	(0.011)	(0.027)
Democrat × Democrat Vote Share			0.029**	0.068***	0.117**
			(0.010)	(0.017)	(0.039)
Can Run × Democrat Vote Share				0.045***	0.097**
				(0.013)	(0.031)
Democrat × Can Run × Dem. Vote Share				-0.059**	-0.105*
				(0.021)	(0.048)
Observations	30654	30654	30654	30654	13923
R-squared	0.02	0.02	0.02	0.02	0.03

Notes: State and Year FE are included in each regression, as well as all of the economic and demographic characteristics from Table 5. The regressions are at the county level. The dependent variable is an indicator that is equal to one if the county won a subsidy deal. Specification (7) restricts to state years that have at least one subsidy deal. Sources include Bureau of Labor Statistics (1990-2017), Ruggles, Flood, Goeken, Grover, Meyer, Pacas and Sobek (2019), Leip (2000-2018).

5 Next Steps

In ongoing and future work I will study the relationship between politics and subsidy-giving. Given additional data on firm-level political spending and governor advertisements, I will complete the analysis of the mechanisms by which subsidy-giving can effect election outcomes. Future work will focus on the resulting

implications for the distribution of resources within a state.

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Appendix

A Independent Expenditures and Citizens United

I exploit the 2010 *Citizens United* ruling to identify the effect of the ruling on corporate independent expenditures. It must be that independent spending increases post-*Citizens United* for there to be an effect of the ruling on subsidy decisions.

I use a difference-in-differences approach, comparing states that were affected by the ruling ($\text{Treat}_s = 1$), with states that already allowed corporate spending, before and after the Supreme Court ruling. The post-ruling variable, Post_t, equals 1 if the year is greater than 2009, as the ruling occurred in January of 2010. The left hand side variable is a measure of campaign spending in state s at time t. I estimate the equation for the years 2007 to 2014:

$$y_{st} = \theta_0 + \theta_1 \text{Treat}_s \times \text{Post}_t + \theta_2 \text{Treat}_s + \theta_3 X_{st} + \eta_t + \varepsilon_{st} \tag{4}$$

Table 9 presents results of the effect of *Citizens United* on campaign spending. The sample includes only 3 election years: 2006, 2010, and 2014.[7] Treatment states experience a 116% increase in independent spending post-*Citizens*, and a 119% increase in the number of records, which would be a single PAC or interest group buying a specific ad. There is no such effect on direct to candidate contributions, which confirms that the ruling had no effect on state's laws restricting corporate contributions directly to candidates. This confirms the results of Spencer and Wood (2012), who find a 128% increase in independent expenditures in treatment states post-*Citizens* using only 2006 and 2010 data points. This also confirms that corporations were "constrained" by the corporate spending bans in treatment states pre-ruling, as these states experience a large increase in political spending when the bans are repealed.

[7] National Institute on Money in Politics (2000-2018) only has data on independent expenditures for a subset of states, and I need to further restrict the sample to states that I observe in the data before 2010. This leaves a sample of 17 states, 12 in the treatment group (AK, AZ, CO, IA, MA, MI, MN, NC, OH, OK, TN and TX) and 5 in the control group (CA, ID, ME, MO and WA).[8] Figure 3 shows the independent expenditures of treatment and control states from 2006 to 2016. This is spending that is not contributed directly to the candidate or party, but is used for advertisements for the candidate. Here we see a large jump in spending in treatment states in 2014. More states have gubernatorial elections in 2006, 2010 and 2014, so we should compare 2010 and 2014 to pre-*Citizens* 2006, and 2012 and 2016 to pre-*Citizens* 2008. Figure 4 is the graphical representation of the difference-in-differences strategy. The majority of states in the independent expenditure sample have gubernatorial elections in 2006, 2010 and 2014.

B Additional Figures and Tables

Figure 2: Campaigning on Foxconn

Scott Walker to promote Foxconn deal with regional ads for each corner of Wisconsin

From the Cap Times election roundup: Coverage of the Wisconsin governor's race series

Jessie Opoien | The Capital Times Jul 31, 2018



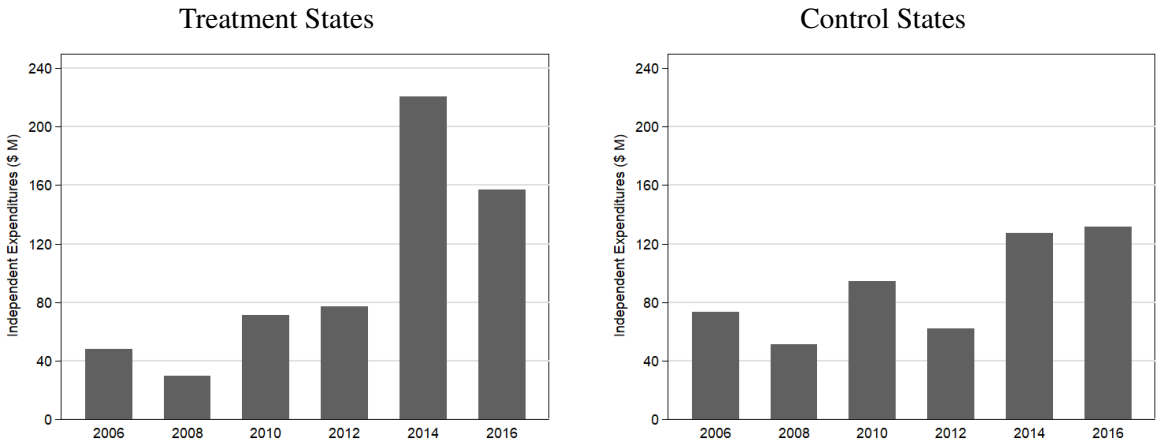
Scott Walker campaign ad

Starting Tuesday, Gov. Scott Walker will be selling Foxconn to every corner of Wisconsin.

Table 7: Sample of Treated States

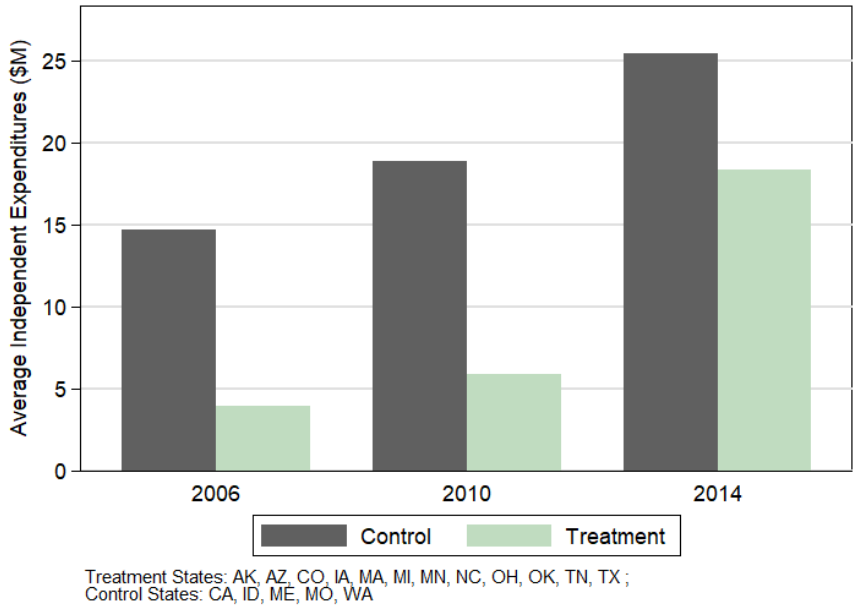
Treatment States:	AK, AL, AZ, CO, CT, IA, KY, MA, MI, MN, MT, NC, ND, NH, OH, OK, PA, RI, SD, TN, TX, WV, WI, WY
Repealed Legislation:	AK, AZ, CO, CT, IA, KY, MN, MT, NC, SD, TN, TX, WV, WI
No Action:	AL, MA, MI, ND, NH, OH, OK, PA, RI, WY

Figure 3: Independent Expenditures in State Elections: 2006-2016



*Notes:*These figures display the independent expenditures of treatment and control states from 2006 to 2016. The source is National Institute on Money in Politics (2000-2018). Follow the Money only has data on independent expenditures for a subset of states, and I need to further restrict the sample to states that I observe in the data before 2010. This leaves a sample of 17 states, 12 in the treatment group (AK, AZ, CO, IA, MA, MI, MN, NC, OH, OK, TN and TX) and 5 in the control group (CA, ID, ME, MO and WA).

Figure 4: Mean Independent Expenditures: 2006, 2010, 2014



*Notes:*This figure display the mean independent expenditures of treatment and control states from 2006 to 2016. The source is National Institute on Money in Politics (2000-2018). Follow the Money only has data on independent expenditures for a subset of states, and I need to further restrict the sample to states that I observe in the data before 2010. Moreover, I restrict to the states with gubernatorial elections in 2006, 2010, and 2014.

Table 8: The state-level effect of subsidy-giving on reelection

	All Incumbent Elections			Control = Runner-ups		
	(1)	(2)	(3)	(4)	(5)	(6)
Subsidy Deal Winner	0.008	0.005	-0.060	-0.013	-0.012	-0.237
	(0.022)	(0.019)	(0.060)	(0.030)	(0.030)	(0.140)
Unemployment Rate (%)		-0.019*	-0.029*		-0.014	-0.058*
		(0.010)	(0.012)		(0.011)	(0.028)
Subsidy Winner × Unemp. Rate			0.013			0.046
			(0.011)			(0.027)
Share of Pop. with BA		-0.785**	-0.743*		-0.529	-0.516
		(0.292)	(0.292)		(0.453)	(0.446)
Income per capita ($10,000)		0.016	0.014		-0.000	0.001
		(0.016)	(0.017)		(0.023)	(0.022)
Close Last Election		0.008	0.007		-0.004	-0.009
		(0.018)	(0.018)		(0.024)	(0.023)
Observations	117	115	115	81	81	81
R-squared	0.11	0.24	0.25	0.13	0.22	0.25
Election Year FE	×	×	×	×	×	×
Dependent Variable Mean	0.560	0.565	0.565	0.562	0.562	0.562

Notes: This table replicates the analysis from Table 2, with the outcome variable in levels instead of the difference. . The sample period is 2002-2018. The outcome is vote share of the incumbent governor running for reelection (Leip, 2000-2018). Columns (1) through (3) use all of the incumbent elections in the sample. Columns (4) through (6) restrict the control group to incumbent elections that were runner-ups in a subsidy competition. Controls include state unemployment rate, education, and income per capita ().

Table 9: Effect of *Citizens United* on Campaign Spending

	Independent Expenditures		Campaign Contributions	
	log(# of records)	log(expeditures)	log(# of records)	log(expeditures)
Treat × *Post*	1.19**	1.16	-0.11	0.05
	(0.57)	(0.94)	(0.10)	(0.17)
N	51	51	150	150
R^2	0.49	0.30	0.03	0.17

Notes: This table displays the results for the regression as specified in Equation 4. The sample includes only 3 election years: 2006, 2010, and 2014. Standard errors are in parentheses, and ^ p < 0.15, * p<0.10, ** p<0.05, *** p<0.01. The dependent variable in the first two columns is independent expenditures. Follow the Money only has data on independent expenditures for a subset of states, and I further restrict the sample to states that I observe in the data before 2010. The dependent variable in the first column is the logarithm of total spending on independent expenditures, and the dependent variable in the second column is the logarithm of the total number of entries, or "records." The two right columns runs the same regression on non-individual campaign contributions. Follow the Money has data on non-individual contributions for all 50 states, hence the larger sample size.