Stimulated Political Decisions:

Local Leadership Turnover and Firm Subsidies in China

Online Appendix

Yue Hou and Siyao Li

Online Appendix for

Stimulated Political Decisions: Local Leadership Turnover and Firm Subsidies in China

The Appendix includes the following materials:

A.1 Descriptive data

Figure A.1: Total subsidies received by firms within infrastructure-related industries, 2007-2015
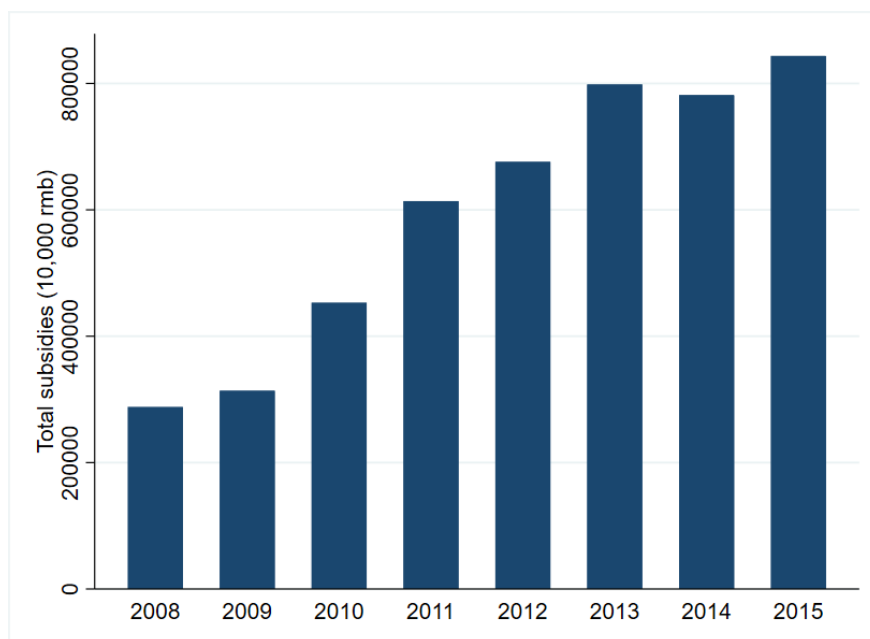
Notes: Data source: WIND database, accessed July 2019. Infrastructure related industries include construction; hydro, environment, and public facility management; and electricity, thermo, gas and water production and supply.

Figure A.2: Structure of the 2008 Stimulus Plan
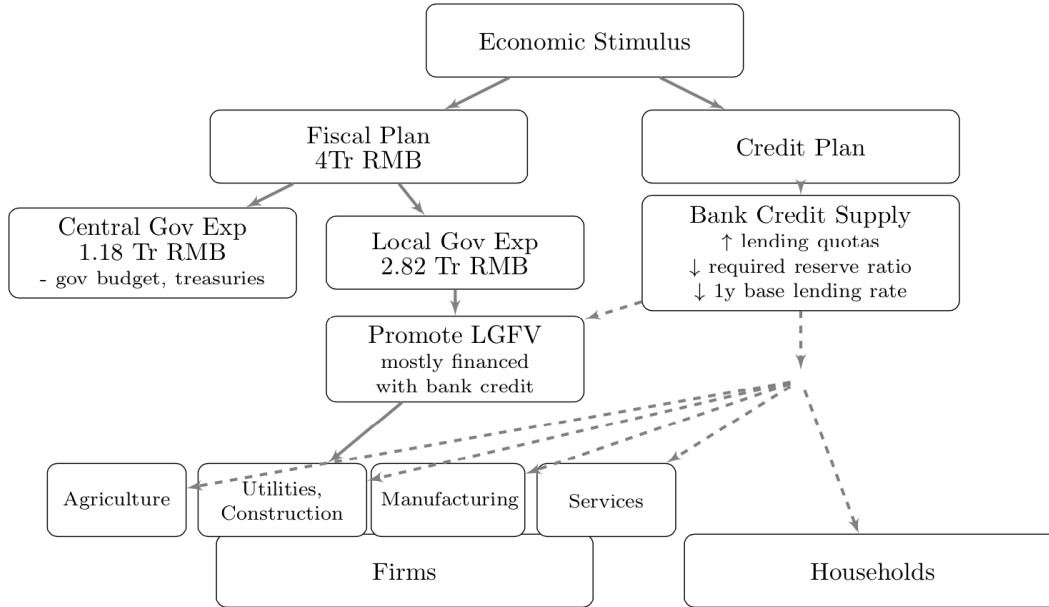
Notes: Structure of China Economic Stimulus Plan from Cong et al. (2018), Figure 2.

Table A.1: Firm type by year

Year	Central SOE	Local SOE	Private enterprises	Other	Total
2007	318	706	1850	361	3235
2008	342	706	1885	302	3235
2009	349	701	1897	286	3233
2010	359	694	1911	271	3235
2011	361	681	1927	263	3232
2012	356	679	1933	264	3232
2013	354	671	1928	279	3232
2014	350	662	1926	293	3231
2015	350	650	1933	299	3232
Total	3139	6152	2618	17191	29100

Notes: Ownership types of all listed firms. The category "Other" includes foreign enterprises, public enterprises, collective enterprises, as well as firms without ownership data. Some firms did not report ownership information, and we use extrapolation to fill in the information: a firm is more likely to maintain the same ownership structure as the year before than to change its ownership structure, we extrapolate ownership information backwards year by year for firm-year observations.

Table A.2: Number of firms by industry

Industries	SOE	private	Count
Construction	36	54	90
Hydro, environment, and public facility management	15	30	45
Electricity, thermo, gas and water production and supply	76	19	95
Total	127	103	230

Notes: The total number of firm-year observations in our sample is 1,845.

Figure A.3: Distribution of publicly listed companies across 31 provinces
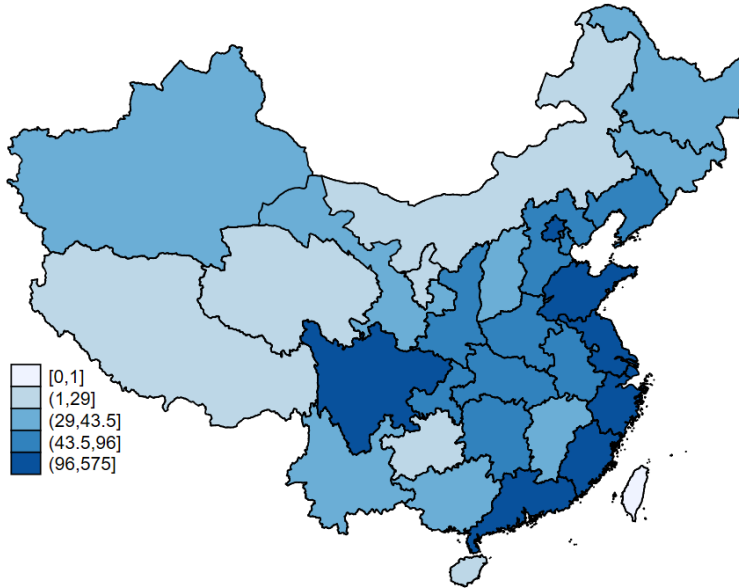
Notes: Darker color indicates higher concentration of publicly listed companies in that province. Tiers are divided according to quantile cutoffs. Data from *WIND financial.*

Figure A.4: Distribution of Provincial Governor Tenure, 2007–15
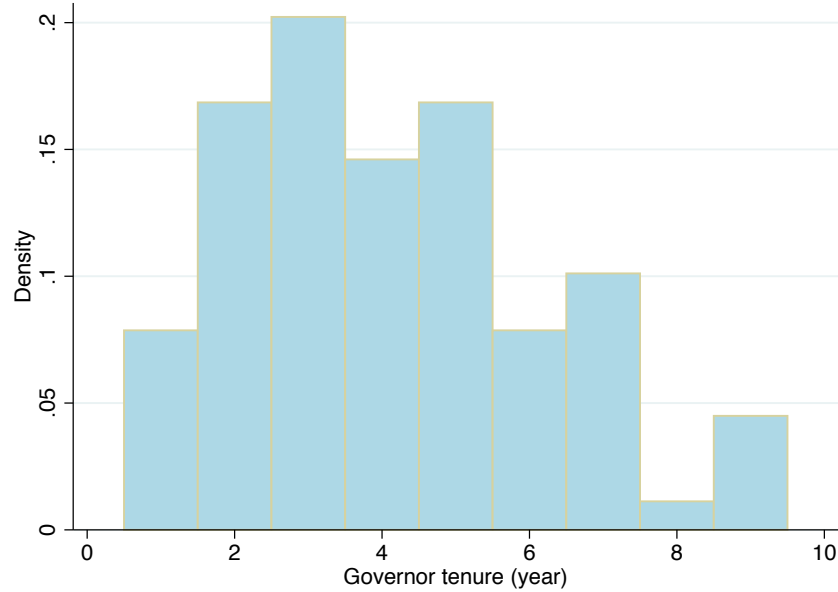
Notes: This figure plots the density of provincial governor tenure length for 2007-2015, the period our study covers. In reality, governor's tenure is longer than four years on average, because we do not have data on governors' positions after 2015. For instance, Liu Cigui (刘赐贵, Hainan province), Chen Hao (陈豪, Yunnan province), and Zha Ke Er (雪克来提·扎克尔, Xinjiang autonomous region) were all new governors of their respective province in 2015. They stayed in their positions after 2015, but because our data ends in 2015, their tenures are recorded as 1 in the dataset.

A.2 Additional analyses and robustness checks

Winsorization and non-winsorized results

Financial data tend to be heavily skewed. Their outliers need to be adjusted for the regression estimates to be unbiased (e.g., Eichengreen, Gullapalli and Panizza 2011). There are mainly two ways to address the outliers, either by winsorizing, or by trimming. Trimming removes extreme values from the dataset, while winsorizing replaces their values with less extreme values. We apply winsorization conservatively and replace values smaller than 1st percentile and larger than 99th percentile with the values at the 1st and 99th percentiles. The relevant variables that we winsorize are $log(TotalAssets)$, $log(Revenue)$, $Subsidy/TotalAssets$, and

ROA.

Table A.3 shows that the results using variables that have not undergone winsorization are consistent with our main analysis in Table 2. The turnover effect is relatively larger in magnitude than in Table 2.

Table A.3: Effect of governor turnover on firm subsidies
Results without winsorization

	(1)	(2)	(3)	(4)	(5)
Governor turnover	-0.005	0.002	0.003	0.006	-0.016
	(0.032)	(0.035)	(0.034)	(0.035)	(0.041)
Private enterprise	0.238**	0.039	0.021	0.025	0.025
	(0.098)	(0.074)	(0.074)	(0.074)	(0.075)
Turnover×Private	-0.142**	-0.127*	-0.123*	-0.127**	-0.134*
	(0.066)	(0.065)	(0.066)	(0.059)	(0.072)
Revenue (log)		-0.091*			
		(0.053)			
Assets (log)			-0.094**	-0.098**	-0.096**
			(0.043)	(0.045)	(0.045)
Return on Assets (ROA)				-0.002	-0.002
				(0.002)	(0.002)
Constant	0.209***	1.367**	1.489**	1.553**	1.536**
	(0.038)	(0.660)	(0.567)	(0.594)	(0.604)
Observations	1,355	1,349	1,350	1,350	1,348
R-squared	0.066	0.084	0.083	0.091	0.107
Year FE	✓	✓	✓		
Province FE	✓	✓	✓	✓	
Industry FE	✓	✓	✓		
Governor FE					✓
Industry-Year FE				✓	✓

Notes: Standard errors clustered by province in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Alternative dependent variable

Using the alternative dependent variable $log(subsidy)$, we show that the estimation results are consistent with our main results in Table 2. The values for log subsidy are also winsorized so that extreme values beyond the 1st percentile and 99th percentiles are replaced with values at the 1st and 99th percentiles.

Table A.4: Effect of turnover on subsidies
Dependent variable: log subsidies

	(1)	(2)	(3)	(4)	(5)
Governor turnover	0.154	0.146	0.164	0.182	0.122
	(0.131)	(0.118)	(0.119)	(0.122)	(0.117)
Private enterprises	-1.398***	0.066	0.157	0.142	0.165
	(0.382)	(0.235)	(0.261)	(0.269)	(0.275)
Turnover×Private	-0.646***	-0.539***	-0.606***	-0.620***	-0.582***
	(0.184)	(0.149)	(0.156)	(0.162)	(0.164)
Revenue (log)		0.805***			
		(0.089)			
Assets (log)			0.788***	0.789***	0.793***
			(0.097)	(0.093)	(0.096)
Return on Assets (ROA)				0.004	0.003
				(0.015)	(0.016)
Constant	6.375***	-3.861***	-4.345***	-4.381***	-4.413***
	(0.147)	(1.114)	(1.303)	(1.212)	(1.241)
Observations	1,355	1,349	1,350	1,350	1,348
R-squared	0.262	0.448	0.421	0.423	0.442
Year FE	✓	✓	✓		
Province FE	✓	✓	✓	✓	
Industry FE	✓	✓	✓		
Governor FE					✓
Industry-Year FE				✓	✓

Notes: Standard errors clustered by province in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Income tax rate

In Table A.5 we replace firm return on assets (ROA) with firm income tax rate to take into account the possibility that firm tax contributions are a more important firm characteristic than firm profit levels when it comes to receiving subsidies, since politicians may be more attentive to firms that are big contributors to local revenue. Firm ROA is originally included in models (4) and (5) of Table 2, and we therefore test for the robustness of these two models. The results show that the interaction effect between governor turnover and private enterprises remains stable and highly consistent with our main analysis.

Table A.5: Effect of governor turnover on firm subsidies
Firm income tax rate

	(1)	(2)
Governor turnover	0.020	0.006
	(0.030)	(0.029)
Private enterprise	-0.003	-0.006
	(0.061)	(0.064)
Turnover × Private	-0.085*	-0.081*
	(0.043)	(0.046)
Assets (log)	-0.063***	-0.062***
	(0.018)	(0.018)
Income tax rate	-0.007	-0.007
	(0.005)	(0.005)
Constant	1.193***	1.195***
	(0.260)	(0.267)
Observations	1,267	1,266
R-squared	0.122	0.141
Province FE	✓	
Governor FE		✓
Industry-Year FE	✓	✓

Notes: Governor turnover, revenue, total assets, and income tax rate are lagged by 1 year. Robust standard errors clustered by province in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Additional firm characteristics

In Table A.6 we account for additional firm characteristics as a robustness test for our main findings presented in Table 2. In addition to firm revenue, total assets, and return on assets that are controlled for in Table 2, we also control for the staff headcount of each firm, and

the number of years that each firm has been established. As the table below shows, the staff headcount is positively correlated with the amount of subsidies received by an average firm, and the interaction effect between governor turnover and firm ownership remains quite stable and highly similar with that in Table 2.

Table A.6: Effect of governor turnover on firm subsidies
Additional firm characteristics

	(1)	(2)	(3)	(4)	(5)
Governor turnover	0.016	0.012	0.011	0.012	-0.001
	(0.028)	(0.031)	(0.029)	(0.030)	(0.032)
Private enterprise	0.130**	0.068	0.027	0.033	0.034
	(0.060)	(0.057)	(0.054)	(0.050)	(0.052)
Turnover × Private	-0.096**	-0.098**	-0.086**	-0.086**	-0.085*
	(0.039)	(0.039)	(0.041)	(0.041)	(0.045)
Revenue (log)		-0.098***			
		(0.017)			
Assets (log)			-0.118***	-0.119***	-0.118***
			(0.014)	(0.015)	(0.015)
Return on Assets (ROA)				-0.002	-0.002
				(0.004)	(0.004)
Employees (log)	-0.012	0.063***	0.070***	0.070***	0.070***
	(0.011)	(0.014)	(0.014)	(0.014)	(0.014)
Firm age	-0.003	-0.004	-0.003	-0.003	-0.003
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)
Constant	0.341***	0.997***	1.299***	1.322***	1.314***
	(0.122)	(0.214)	(0.211)	(0.228)	(0.236)
Observations	1,320	1,318	1,319	1,319	1,317
R-squared	0.098	0.133	0.148	0.151	0.165
Year FE	✓	✓	✓		
Province FE	✓	✓	✓	✓	
Industry FE	✓	✓	✓		
Governor FE					✓
Industry-Year FE				✓	✓

Notes: Governor turnover, revenue, total assets, and ROA are lagged by 1 year. Robust standard errors clustered by province in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Subsidy's effect on governor turnover

Table A.7 uses the same fixed effects setup as our main model in model (5) of Table 2. It switches the independent variable of governor turnover with the dependent variable of firm subsidies to test for the possibility that firms, especially those that receive more subsidies, could affect whether or not governor turnover occurs. We do not find evidence of reverse causation. As the table shows, the amount of subsidies that firms receive is not significantly correlated with leadership turnover in the following year. In addition, the firm ownership dummy and the interaction between subsidy and private ownership are not significantly correlated with leadership turnover the year after. This suggests that state-owned enterprises, despite typically having more political influence than private firms, also do not systematically influence the political process of leadership turnovers.

Table A.7: Effect of firm subsidies on governor turnover

	Governor turnover
Subsidy over assets	-0.026
	(0.023)
Private enterprises	-0.002
	(0.011)
Private × Subsidy	0.021
	(0.033)
Assets (log)	-0.000
	(0.002)
Return on Assets (ROA)	-0.000
	(0.001)
Constant	0.194***
	(0.034)
Observations	1,282
R-squared	0.589
Governor fixed effects	✓
Industry-Year FE	✓

Notes: Subsidy over assets, total assets, and ROA are lagged by 1 year. Robust standard errors clustered by province in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Tables underlying Figure 1

Table A.8 shows the full models underlying Figure 1: Effect of governor turnover on subsidy received by private firms relative to SOEs. Coefficients and standard errors for the interaction term Turnover × Private (highlighted in Table A.8) correspond to the coefficients and confidence intervals plotted in Figure 1.

Table A.8: Effect of governor turnover on firm subsidies
Models corresponding to Figure 3

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	-2	-1	0	+1	+2	+3	+4
Governor turnover	0.018	0.003	-0.023	-0.003	0.109*	-0.001	-0.046
	(0.045)	(0.050)	(0.045)	(0.029)	(0.054)	(0.045)	(0.050)
Private enterprise	0.008	0.025	0.026	0.034	0.038	0.018	0.003
	(0.076)	(0.059)	(0.060)	(0.060)	(0.060)	(0.058)	(0.056)
lightgray Turnover × Private	0.010	-0.046	-0.063	-0.085*	-0.134**	0.021	0.000
lightgray	(0.086)	(0.066)	(0.055)	(0.043)	(0.058)	(0.057)	(0.083)
Assets (log)	-0.080***	-0.069***	-0.063***	-0.064***	-0.068***	-0.059***	-0.058***
	(0.028)	(0.023)	(0.019)	(0.019)	(0.020)	(0.015)	(0.015)
Return on Assets (ROA)	-0.003	-0.003	-0.001	-0.001	-0.001	-0.002	-0.003
	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Constant	1.310***	1.161***	1.077***	1.082***	1.109***	1.007***	1.031***
	(0.388)	(0.313)	(0.259)	(0.261)	(0.270)	(0.218)	(0.206)
Observations	902	1,119	1,348	1,348	1,185	1,015	840
R-squared	0.143	0.141	0.153	0.154	0.168	0.181	0.201
Governor FE	✓	✓	✓	✓	✓	✓	✓
Industry-Year FE	✓	✓	✓	✓	✓	✓	✓

Notes: Governor turnover in models (1) to (8) is leading by 2 to 0 years or lagged by 1 year to 5 years respectively.
Revenue, total assets, and ROA are lagged by 1 year.
Robust standard errors clustered by province in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Analysis by governor tenure length

Table A.9 shows results using the same specifications as Table 2 for only governors who are in their positions for more than two years.

Table A.9: Effect of governor turnover on firm subsidies for governors with longer tenures

	(1)	(2)	(3)	(4)	(5)
Governor turnover	0.006	0.019	0.021	0.022	-0.002
	(0.033)	(0.035)	(0.034)	(0.034)	(0.037)
Private enterprises	0.187***	0.070	0.039	0.049	0.052
	(0.058)	(0.064)	(0.065)	(0.061)	(0.062)
Turnover×Private	-0.091**	-0.082*	-0.084*	-0.086*	-0.075
	(0.040)	(0.041)	(0.043)	(0.045)	(0.048)
Revenue (log)		-0.047**			
		(0.018)			
Assets (log)			-0.059***	-0.060***	-0.059***
			(0.018)	(0.019)	(0.019)
Return on Assets (ROA)				-0.002	-0.002
				(0.004)	(0.004)
Constant	0.194***	0.796***	0.994***	1.018***	1.008***
	(0.025)	(0.237)	(0.252)	(0.262)	(0.269)
Observations	1,182	1,176	1,177	1,177	1,177
R-squared	0.098	0.113	0.119	0.123	0.132
Year FE	✓	✓	✓		
Province FE	✓	✓	✓	✓	
Industry FE	✓	✓	✓		
Governor FE					✓
Industry-Year FE				✓	✓

Note: Robust standard errors clustered by province in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A.10 further shows that a relatively low percentage of governors are promoted if they are only in their governor position for one or two years. Breaking down promoted governors according to the length of years they spent on the governor position, one can see that the cohort of governors whose tenure lasts for 6 years have the highest chance of promotion (75% promotion rate).

Table A.10: Promotion of governors by tenure length

Years of tenure	Not promoted	Promoted	% Promoted
1	7	0	0
2	25	2	7.4
3	48	2	4
4	34	3	8.1
5	28	7	20
6	8	24	75
7	23	16	41
8	8	0	0
9	5	8	61.5
Total	186	62	100

Notes: Promotion indicates that a governor is promoted to the central government after his tenure. "% Promoted" indicates the percentage of governors with a given length of tenure who are promoted.

Sensitivity analysis

Following Cinelli and Hazlett (2019), this sensitivity analysis allows us to assess the minimum strength of association that unobserved confounding would need to have with both the treatment and the outcome to alter our finding. We find that for our preferred specification (model (5) of Table 2), unobserved confounders that explain more than 3.97 percent of the residual variance of both the treatment (i.e., the interaction term) and the outcome are strong enough to bring the point estimate to 0. Benchmarking this magnitude, confounders that are ten times as strong as firm total assets in explaining residual variation in both the treatment and the outcome are not sufficient to explain away the observed estimate. Given

that total assets are strongly correlated with the outcome and treatment across our models, it would be hard to find an unobserved confounder that would have more explanatory power than total assets. We elaborate on this benchmarked analysis using a contour plot shown in the Figure A.5.

Following Cinelli and Hazlett (2019) and Cinelli, Ferwerda and Hazlett (forthcoming), we use a contour plot to show what estimate for the treatment (interaction between governor turnover and private ownership dummy) would have been obtained in a full regression model that includes unobserved confounders with hypothetical strengths relative to the benchmark of the variable firm total assets. Figure A.5 below reveals that the direction of the treatment effect is robust to confounding once, twice or even ten times as strong as the observed covariate firm total assets. As the contour plot shows, the interaction effect is robust to confounding ten times as strong as the observed covariate logged firm total assets (L_log_assets_w in figure), although the magnitude of the effect does decrease from -0.08 to -0.06, which is 25% smaller than the original estimate. These results strengthen our confidence that our main findings are robust to unobserved confounders.

Figure A.5: Sensitivity contour plot of point estimate
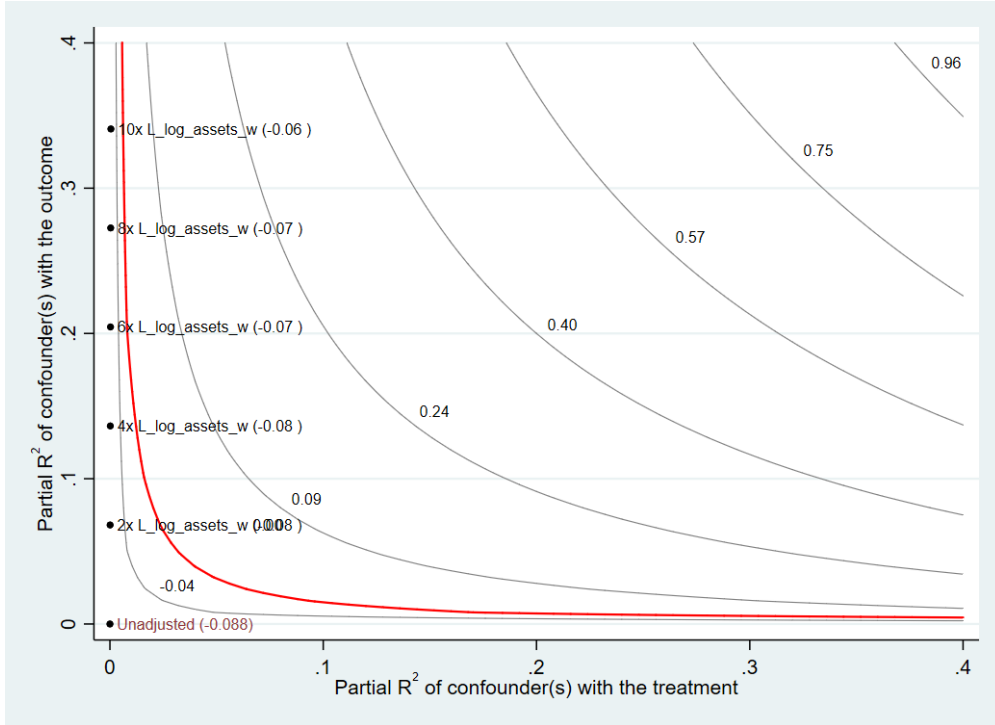
Notes: The horizontal axis shows the residual share of variation of the treatment that is hypothetically explained by unobserved confounding. The vertical axis shows the hypothetical partial R squared of unobserved confounding with the outcome. The contours show what estimate for the interaction of governor turnover (lagged) with private enterprises (dummy) would have been obtained in the full regression model including unobserved confounders with hypothetical strengths relative to the observed covariate that serves as a benchmark (Cinelli, Ferwerda and Hazlett, forthcoming).

Effect of local leadership turnover on firm subsidies

We run the main analysis models (4) and (5) on turnovers of provincial party secretaries, as well as city-level turnovers of mayors and city party secretaries. We do not expect to find an effect of provincial party secretary turnover on subsidy changes, because party secretaries are usually not in charge of specific economic affairs. We also do not expect to find an effect of city-level turnovers on subsidy changes, because our sample only includes listed companies–these large and important companies usually interact with provincial-level politicians or even directly with national-level bureaus (*buwei*) rather than city-level politicians. These results are shown in Table A.11. As expected, we do not find a negative effect of turnover on the relative amount of subsidies that private enterprises receive.

Table A.11: Effect of leadership turnover on firm subsidies
Private vs. SOE

	(1) provincial party sec	(2) provincial party sec	(3) city mayor	(4) city mayor	(5) city party sec	(6) city party sec
Leadership turnover	0.032	0.049	-0.013	0.007	-0.023	-0.033
	(0.032)	(0.034)	(0.028)	(0.037)	(0.024)	(0.028)
Private enterprises	0.013	0.012	0.012	0.039	0.023	0.063
	(0.064)	(0.058)	(0.061)	(0.078)	(0.063)	(0.077)
Turnover×Private	-0.007	-0.015	-0.003	-0.012	-0.052	-0.044
	(0.044)	(0.044)	(0.044)	(0.046)	(0.048)	(0.046)
Assets (log)	-0.001	0.000	-0.001	-0.002	-0.001	-0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Return on Assets (ROA)	-0.001	0.000	-0.001	-0.002	-0.001	-0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Constant	1.083***	1.040***	1.093***	1.005***	1.094***	0.974***
	(0.253)	(0.222)	(0.255)	(0.288)	(0.252)	(0.281)
Observations	1,350	1,349	1,350	1,323	1,350	1,327
R-squared	0.135	0.132	0.134	0.210	0.136	0.201
Province FE	✓		✓		✓	
Governor FE		✓		✓		✓
Industry-Year FE	✓	✓	✓	✓	✓	✓

Notes: Leadership turnover, revenue, total assets, and ROA are lagged by 1 year. Robust standard errors clustered by province in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Private firm political connections and subsidies

To examine whether political connections help private firms obtain special deals in the form of subsidies, we test for whether more politically connected private firms receive more subsidies than less politically connected ones. We obtain data on the past positions of board members of publicly listed private firms from the China Stock Market Accounting Research Database (CSMAR), and code a board member as having political connections if he/she has served in government institutions (eg. CCP local committees, government agencies). The resulting firm political connection measure records the ratio of members on the board of a private firm each year that have political connections. We use the same combinations of fixed effects and same control variables as our main results (Table 2) for our models. Across Table A.12 models (1) through (5), the more politically connected private firms obtain more subsidies than less connected private firms on average.

19

Table A.12: Effect of political connections on private firm subsidies

	(1)	(2)	(3)	(4)	(5)
Political connection (ratio)	0.238***	0.345***	0.342***	0.365***	0.344***
	(0.073)	(0.069)	(0.059)	(0.074)	(0.079)
Revenue (log)		-0.047			
		(0.034)			
Total assets (log)			-0.062	-0.062	-0.064
			(0.039)	(0.040)	(0.038)
Return on Total Assets (ROA)				-0.000	-0.001
				(0.004)	(0.004)
Constant	0.167***	0.669*	0.901*	0.887*	0.925*
	(0.013)	(0.375)	(0.463)	(0.467)	(0.444)
Observations	345	345	345	345	339
R-squared	0.171	0.200	0.207	0.228	0.283
Year FE	✓	✓	✓		
Province FE	✓	✓	✓	✓	
Industry FE	✓	✓	✓		
Governor FE					✓
Industry-Year FE				✓	✓

Notes: Ratio of politically connected board members, firm revenue, total assets, and ROA are lagged by 1 year. Robust standard errors clustered by province in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Analysis of governors near retirement

Table A.13 displays subset analysis of governors starting their positions at age 59 and above with models consistent with the main analysis (Table 2). In Table A.14, we also use the same specifications as in the main analysis (Table 2) but interact a dummy variable of whether or not governors are close to retirement age with the interaction of governor turnover and private firm ownership. As estimation results in Table A.14 show, the triple interaction term Turnover×Private×Retire exhibits a positive coefficient, as do Private×Retire and Retire. Even though statistically insignificant, perhaps due to a small sample of governors near retirement, the positive coefficients estimates suggest that governors close to retirement are less motivated to favor SOEs in subsidy distribution after they come into their posts.

Table A.13: Effect of governor turnover on firm subsidies
Governors near retirement

	(1)	(2)	(3)	(4)	(5)
Governor turnover	0.072	0.062	0.065	0.109**	
	(0.035)	(0.040)	(0.042)	(0.027)	
Private enterprises	0.238***	0.187	0.203	0.244***	0.224**
	(0.051)	(0.103)	(0.108)	(0.042)	(0.054)
Turnover×Private	-0.105	-0.093	-0.092	-0.081	-0.089
	(0.094)	(0.092)	(0.092)	(0.128)	(0.171)
Revenue (log)		-0.026			
		(0.033)			
Assets (log)			-0.021	-0.028	-0.030
			(0.040)	(0.025)	(0.027)
Return on Assets (ROA)				-0.013***	-0.013***
				(0.002)	(0.002)
Constant	0.082	0.418	0.358	0.500	0.581
	(0.045)	(0.445)	(0.562)	(0.338)	(0.388)
Observations	80	80	80	80	80
R-squared	0.087	0.100	0.093	0.245	0.255
Year FE	✓	✓	✓		
Industry FE	✓	✓	✓		
Governor FE					✓
Industry-Year FE				✓	✓

Notes: Governor turnover, revenue, total assets, and ROA are lagged by 1 year. Province FEs are not included in these models due to perfect correlation with the governor turnover variable in each province. Governor fixed effects used in model (5) also absorbs variation in the governor turnover variable. Robust standard errors clustered by province in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A.14: Effect of governor turnover on firm subsidies
Triple interaction with governors near retirement

	(1)	(2)	(3)	(4)	(5)
Governor turnover	0.002	0.013	0.014	0.015	-0.027
	(0.042)	(0.041)	(0.039)	(0.039)	(0.039)
Private enterprise	0.134*	0.037	-0.010	-0.013	-0.035
	(0.075)	(0.068)	(0.062)	(0.049)	(0.060)
Retire	0.013	0.005	-0.007	-0.008	
	(0.062)	(0.053)	(0.054)	(0.057)	
Turnover×Private	-0.133**	-0.104*	-0.096*	-0.093*	-0.092
	(0.051)	(0.054)	(0.054)	(0.052)	(0.061)
Turnover×Retire	-0.030	-0.050	-0.066	-0.071	0.026
	(0.060)	(0.059)	(0.062)	(0.062)	(0.074)
Private×Retire	0.066	0.093	0.108	0.124	0.184
	(0.095)	(0.089)	(0.085)	(0.080)	(0.111)
Turnover×Private×Retire	0.049	0.018	0.038	0.046	0.011
	(0.097)	(0.101)	(0.094)	(0.094)	(0.107)
Revenue (log)		-0.056**			
		(0.024)			
Assets (log)			-0.088***	-0.088***	-0.096***
			(0.022)	(0.021)	(0.019)
Return on Total Assets (ROA)				0.000	-0.001
				(0.005)	(0.005)
Constant	0.221***	0.905***	1.374***	1.369***	1.484***
	(0.042)	(0.287)	(0.274)	(0.258)	(0.244)
Observations	1,003	998	999	999	997
R-squared	0.040	0.060	0.082	0.088	0.185
Year FE	✓	✓	✓		
Province FE	✓	✓	✓	✓	
Industry FE	✓	✓	✓		
Governor FE					✓
Industry-Year FE				✓	✓

Notes: Governor turnover, revenue, total assets, and ROA are lagged by 1 year. Retire is a dummy variable that indicates that the governor would certainly retire after the current term (i.e., those starting their positions at age 59 and above). does not include the centrally administered municipalities due to lack of age data in CPED. Robust standard errors clustered by province in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Analysis of firm profit levels by ownership

We show evidence in figure A.6 and table A.15 that on average, private firms are as profitable as SOEs of similar sizes within the same industry, same province, and same year. This is the case across samples (i) year 0 to year 2 after a turnover, (ii) 3 years or more after a turnover, and the full dataset. Figure A.6 shows that the average return on assets (ROA) for private

firms and SOEs in each of the three industries in our sample. In each of the industries, private enterprises tend to have a higher ROA on average.

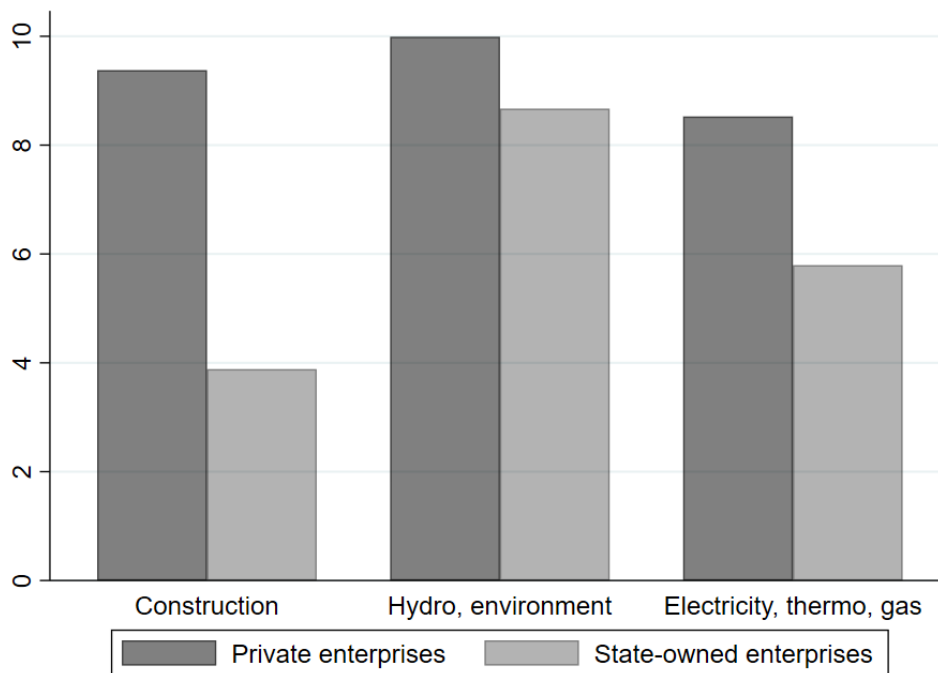Figure A.6: Average ROA (%) for private firms and SOEs across industries

Table A.15 tests the relationship of firm ownership with firm profit levels using fixed effects analysis that account for year fixed effect, province fixed effect, and industry fixed effect. The dependent variable is the return on total assets for each firm in the sample. Model (1) includes the year of governor turnover, and the first and second year after turnover. Model (2) includes years of governor tenure after the second year. Model (3) includes the full sample. Across these three models, the dummy indicator on private enterprises is statistically insignificant, indicating that on average, profit levels of private firms and SOEs of the same size are on par with one another.

Table A.15: Comparison of profit levels for private firms and SOEs
Dependent variable: ROA

	(1)	(2)	(3)
	Year 0-2	3 year or more after turnover	Full sample
Private enterprises	0.908	1.129	1.089
	(1.050)	(0.891)	(0.902)
Total assets (log)	-0.823***	-0.873**	-0.875***
	(0.255)	(0.381)	(0.303)
Constant	17.162***	17.815***	17.782***
	(3.566)	(5.127)	(4.105)
Observations	886	840	1,439
R-squared	0.143	0.174	0.145
Year FE	✓	✓	✓
Province FE	✓	✓	✓
Industry FE	✓	✓	✓

Notes: Total assets is lagged by a year. Robust standard errors clustered by province in parentheses.*** p<0.01, ** p<0.05, * p<0.1

References

Cinelli, Carlos and Chad Hazlett. 2019. "Making sense of sensitivity: extending omitted variable bias." *Journal of the Royal Statistical Society: Series B (Statistical Methodology)* 82(1):39–67.

Cinelli, Carlos, Jeremy Ferwerda and Chad Hazlett. forthcoming. "sensemakr: Sensitivity Analysis Tools for OLS in R and Stata." *Journal of Statistical Software* .

Cong, Lin William, Haoyu Gao, Jacopo Ponticelli and Xiaoguang Yang. 2018. "Credit Allocation under Economic Stimulus: Evidence from China." *Chicago Booth Research Paper No. 17-19* p. 1–57.

Eichengreen, Barry, Rachita Gullapalli and Ugo Panizza. 2011. "Capital account liberalization, financial development and industry growth: A synthetic view." *Journal of International Money and Finance* 30(6):1090–1106.