Businessman Candidates

Scott Gehlbach, Konstantin Sonin, and Ekaterina Zhuravskaya

Web Appendix

The material in this web appendix supports the article "Businessman Candidates," *American Journal of Political Science*, 54:3 (July 2010).

Campaign Finance

The baseline model assumes that voters have fixed policy preferences. In this environment, the ability of businessmen to affect the election outcome is limited to entering the race and, when campaign promises are binding, adopting a platform. In practice, voters' preferences, and thus the election outcome, may be influenced by campaign spending. In the introduction and in Footnote 13 we assert that the theoretical results are robust to the assumption that businessmen have disproportionate access to funds for campaign finance. The material here supports this assertion.

One may model the role of campaign finance in the following reduced-form way. At the beginning of the game one voter is chosen at random to be the *opinion maker*. Following entry but prior to platform choice, the opinion maker announces a policy $\mathbf{x} \in \mathbf{X}$, which voters then adopt as their most-preferred policy. The opinion maker most prefers policy $\hat{\mathbf{x}} \neq \bar{\mathbf{x}}$. The opinion maker, however, is susceptible to influence by businessmen, who lobby the opinion maker in a menu auction analogous to the one that follows the election when campaign promises are not binding. In particular, each businessman i offers a contribution schedule $D_i(\mathbf{x})$, which promises a particular contribution for every possible announcement $\mathbf{x}$ of the opinion maker. Assume that the opinion maker maximizes the sum of her payoff from policy $\mathbf{x}$ and from lobbying contributions paid to her. As with the lobbying game that follows the election when campaign promises are not binding, we restrict attention to equilibria in which contribution schedules are compensating. Further, to assure a unique outcome to the lobbying game defined here, assume that for every set of businessmen from which no more than one businessman is missing, there is a unique policy that maximizes the sum of payoffs for the opinion maker and the businessmen from policy $\mathbf{x}$.

Consider first the case where campaign promises are binding. Businessmen have an incentive to lobby the opinion maker to influence the campaign promises that candidates make. So long as there are at least two candidates, the policy announced by the opinion maker will be adopted by each candidate, and that policy will be implemented by the election winner. The opinion maker thus acts as policy maker, and lobbying contributions from businessmen follow accordingly. Given the restriction to compensating contribution schedules, the policy announced by the opinion maker is jointly efficient among the opinion maker and the businessmen. Denote this policy as $\tilde{\mathbf{x}}$, and the equilibrium contribution made by businessman i to the opinion maker as $\tilde{D}_i(\tilde{\mathbf{x}})$. The payoff to any businessman i from entering the race, given that there are $N-1$ other candidates, is then $u_i(\tilde{\mathbf{x}}) + \frac{v}{N} - \kappa - \tilde{D}_i(\tilde{\mathbf{x}})$. In contrast, the payoff from deviating by staying out of the race, so long as there are at least two other candidates, is $u_i(\tilde{\mathbf{x}}) - \tilde{D}_i(\tilde{\mathbf{x}})$. Given the assumption that $\kappa > \frac{v}{2}$, the first expression is always less than the second. Therefore, as in the model with no campaign finance, there is no equilibrium with three or more candidates, at least one of which is a businessman candidate. (Similarly, one may show as in Proposition 2 that there may exist a two-candidate equilibrium with a businessman candidate, but that any such equilibrium is Pareto-dominated by a two-candidate equilibrium with no businessman candidates.) Intuitively, when campaign promises are binding, a businessman need not be in the race to affect the policy that is implemented after the election. Interestingly, if the opinion maker does not care about policy but only about lobbying contributions paid to her, then the equilibrium policy outcome is the same as in the case where campaign promises are not binding and there is no campaign finance.

Now consider the case where campaign promises are not binding. Businessmen have no incentive to lobby the opinion maker. As in the model without campaign finance, voters anticipate that whoever is elected will be unconstrained by campaign promises and so will implement $\bar{\mathbf{x}}$. Given that, campaign promises are meaningless, so voters are indifferent among all candidates regardless of the position adopted by the opinion maker after being lobbied by businessmen. The condition for existence of an equilibrium with a businessman candidate is then exactly that given by Proposition 4.

In summary, campaign finance may influence the equilibrium policy outcome when campaign promises are binding, but in either institutional environment the possibility of businessman candidates is unaffected. As in the model without campaign finance, businessman candidates are likely only when campaign promises are not binding, with the distribution of rents but not policy determined by the election winner.[1]

"Convexified" model

In Footnote 10 we assert that identical results can be obtained from a "convexified" model that parameterizes institutional strength rather than comparing ideal types of strong and weak institutions. The material here supports this assertion.

To parameterize institutional strength, assume that after the election but prior to choice of policy a random variable $\sigma \in \left\{\sigma^E, \sigma^N\right\}$ is realized, where $\Pr\left(\sigma = \sigma^E\right) = p$. If $\sigma = \sigma^E$, then the policy promised by the election winner is implemented, whereas if $\sigma = \sigma^N$ the campaign promise may be costlessly ignored. The parameter p reflects features of the institutional environment that may make it relatively difficult to renege on campaign promises. For example, p may be larger when the media are freer to report on government activities, when there is greater government transparency, and when political parties are able to prevent their members from acting opportunistically.

In this revised setup, one may define an "equilibrium" as a subgame-perfect equilibrium in which contribution schedules in the lobbying game are "compensating" that survives the following refinement: no businessman strictly prefers that a politician run in his place. (Note that if a businessman prefers that a politician run in his place, then it must be true that a politician prefers to run, given that the businessman does not.) Then the endogenous rent from holding office when campaign promises are not binding is identical to that in the baseline model.

[1] An alternative approach to modeling campaign finance would be to assume that some voters have preferences over candidates that are unrelated to candidate platforms and that may be influenced by campaign spending. Baron (1994) considers such a model for the special case of two candidates and binding campaign promises (see also Grossman and Helpman, 1996). His setup suggests qualitative results analogous to those here. When campaign promises are binding, candidate platforms are skewed toward the preferences of contributing groups. As businessmen may influence policy in this way regardless of their actual participation in the race, businessman candidates should therefore be unlikely when campaign promises are binding. In contrast, when campaign promises are not binding, campaign-finance effects of this sort may actually bring more businessman into the race, as a businessman's financial wealth can give him an advantage in competing for the endogenous rent from holding office.

Lemma A1. *When $\sigma = \sigma^N$, i.e, when campaign promises are not binding, there is an endogenous rent R from holding office common to all election winners—politicians and businessmen. This rent is given by the following expression:*

$$R = \sum_j \sum_{i \neq j} \left[u_i \left(\mathbf{x}_{-j} \right) - u_i \left(\bar{\mathbf{x}} \right) \right],$$

where $\mathbf{x}_{-j} \equiv \arg\max_{\mathbf{x}} \sum_{i \neq j} u_i (\mathbf{x})$ *and* $\bar{\mathbf{x}} \equiv \arg\max_{\mathbf{x}} \sum_i u_i (\mathbf{x})$.

Proof. Identical to Proposition 3 in the baseline model. *Q.E.D.*

Propositions 1, 2, and 4 in the baseline model can then be expressed more generally as follows:

Proposition A1. *There exists an N-candidate equilibrium with at least one businessman candidate if and only if*

$$\frac{v + (1-p) R}{\delta} - 1 \leq N \leq \frac{v + (1-p) R}{\kappa}. \tag{A1}$$

Proof. Necessity: Suppose that there is an N-candidate equilibrium with at least one businessman candidate. We shall show that Condition A1 holds. The payoff for businessman i in such an equilibrium is

$$p \left[\frac{v}{N} + u_i \left(\hat{\mathbf{x}} \right) \right] + (1-p) \left[\frac{v + R}{N} + u_j \left(\bar{\mathbf{x}} \right) \right] - \kappa. \tag{A2}$$

The first term represents the payoff when $\sigma = \sigma^E$, weighted by the probability that $\sigma = \sigma^E$, the second represents the payoff when $\sigma = \sigma^N$, weighted by the probability that $\sigma = \sigma^N$, and the third is the businessman's opportunity cost of running. (Recall that because $\delta < \frac{v}{2}$ by assumption, in any equilibrium there are at least two candidates, so that in equilibrium all candidates promise $\hat{\mathbf{x}}$.) In contrast, if some politician ran in businessman i's place, the businessman's payoff would be

$$p \left[u_i \left(\hat{\mathbf{x}} \right) \right] + (1-p) \left[u_j \left(\bar{\mathbf{x}} \right) \right]. \tag{A3}$$

By assumption, businessman i prefers that a politician does not run in his place. Therefore, Expression A2 must be at least Expression A3, or

$$\frac{v + (1-p) R}{N} \geq \kappa. \tag{A4}$$

Further, by assumption, no politician, and no businessman because $\kappa > \delta$, who has not entered the race wants to deviate by entering, given that N candidates have entered, if

$$\frac{v + (1-p) R}{N+1} - \delta \leq 0. \tag{A5}$$

Together, Conditions A4 and A5 imply Condition A1.

Sufficiency: Consider any integer N such that Condition A1 holds. We shall show that there exists an N-candidate equilibrium with at least one businessman running. (Observe that because $\delta < \frac{v}{2}$ by assumption, Condition A1 cannot hold for $N = 1$.) We must check three conditions:

1. No candidate strictly prefers to exit the race.
2. No politician and no businessman not in the race strictly prefers to enter.
3. No businessman prefers that a politician runs in his place.

To establish the first condition, recall that by assumption $N \leq \frac{v+(1-p)R}{\kappa}$, or $\frac{v+(1-p)R}{N} - \kappa \geq 0$. Thus, the payoff to any politician in the race, $\frac{v+(1-p)R}{N} - \delta$, is greater than the payoff from exiting, which is zero, because $\kappa > \delta$. To see that the payoff for any businessman in the race is at least the payoff from exiting, suppose that for $N = 2$, one businessman and one politician have entered, and the politician promises $\hat{\mathbf{x}}$ if he runs unopposed (which is a best response because the politician is indifferent over policies). For any N the payoff in equilibrium for the businessman is

$$p\left[\frac{v}{N} + u_i\left(\hat{\mathbf{x}}\right)\right] + (1-p)\left[\frac{v+R}{N} + u_j\left(\bar{\mathbf{x}}\right)\right] - \kappa, \tag{A6}$$

whereas the payoff from exiting is

$$p\left[u_i\left(\hat{\mathbf{x}}\right)\right] + (1-p)\left[u_j\left(\bar{\mathbf{x}}\right)\right]. \tag{A7}$$

Clearly, Expression A6 is at least Expression A7 because $\frac{v+(1-p)R}{N} - \kappa \geq 0$.

To establish the second condition, recall that by assumption $\frac{v+(1-p)R}{\delta} - 1 \leq N$, or $\frac{v+(1-p)R}{N+1} - \delta \leq 0$. Thus, the payoff to any politician not in the race is at least the payoff from entering. To see that this is also the case for any businessman not in the race, observe that the payoff to some businessman i not in the race is

$$p\left[u_i\left(\hat{\mathbf{x}}\right)\right] + (1-p)\left[u_j\left(\bar{\mathbf{x}}\right)\right], \tag{A8}$$

whereas the payoff from entering is

$$p\left[\frac{v}{N+1} + u_i\left(\hat{\mathbf{x}}\right)\right] + (1-p)\left[\frac{v+R}{N+1} + u_j\left(\bar{\mathbf{x}}\right)\right] - \kappa. \tag{A9}$$

For any businessman to not want to deviate by entering, Expression A8 must be at least Expression A9, or

$$\frac{v+(1-p)R}{N+1} - \kappa \leq 0,$$

which holds because $\kappa > \delta$ and $\frac{v+(1-p)R}{N+1} - \delta \leq 0$.

To establish the third condition, observe that the payoff to any businessman i in the race is

$$p\left[\frac{v}{N} + u_i\left(\hat{\mathbf{x}}\right)\right] + (1-p)\left[\frac{v+R}{N} + u_j\left(\bar{\mathbf{x}}\right)\right] - \kappa, \tag{A10}$$

whereas the businessman's payoff if a politician runs in his place is

$$p\left[u_i\left(\hat{\mathbf{x}}\right)\right] + (1-p)\left[u_j\left(\bar{\mathbf{x}}\right)\right]. \tag{A11}$$

Expression A10 is at least A11 because $\frac{v+(1-p)R}{N} - \kappa \geq 0$. *Q.E.D.*

The following three propositions immediately follow, showing how the likelihood of businessman candidacy depends on:

1. the strength of institutions that make it costly to renege on campaign promises,
2. the returns to businessmen from policy influence, and
3. their interaction.

Proposition A2. *For any v, R, and κ, there exists no equilibrium with a businessman candidate if institutions that make it costly to renege on campaign promises are sufficiently strong, i.e., if p is sufficiently close to 1.*

Proof. If $2 > \frac{v+(1-p)R}{\kappa}$, then there does not exist any N satisfying Condition A1. Because $\kappa > \frac{v}{2}$ by assumption, $2 > \frac{v+(1-p)R}{\kappa}$ for p sufficiently close to 1. *Q.E.D.*

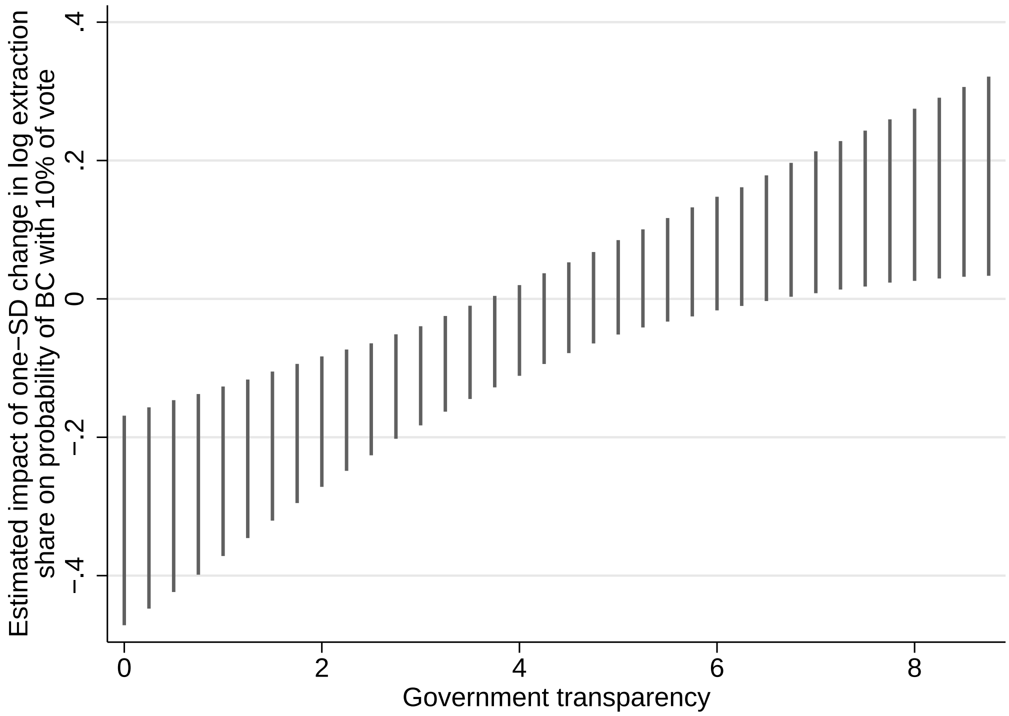
Proposition A3. *For any v, p, δ, and κ, there exists no equilibrium with a businessman candidate if the endogenous rent from holding office R is sufficiently large.*

Proof. Condition A1 does not hold for any N if $\frac{v+(1-p)R}{\delta} - 1 > \frac{v+(1-p)R}{\kappa}$, i.e., if $(1-p)\,R > \frac{\kappa\delta}{\kappa-\delta} - v$. This is clearly the case for R sufficiently large. *Q.E.D.*

Observe that the baseline model does not generate the prediction in Proposition A3, but that this prediction is consistent with the generally negative effect of log extraction share on businessman candidacy in the empirical results reported in Table 2.

Proposition A4. *For any v, δ, and κ, the effect of an increase in the endogenous rent from holding office R on the incentive for businessmen to enter is less when p is large, i.e., when institutions that make it costly to renege on campaign promises are strong.*

Proof. Following the proof to Proposition A3, there is no equilibrium with a businessman candidate when $(1-p)\,R > \frac{\kappa\delta}{\kappa-\delta} - v$. When p is large, the impact of an increase in R on the left-hand side of the inequality is smaller. *Q.E.D.*



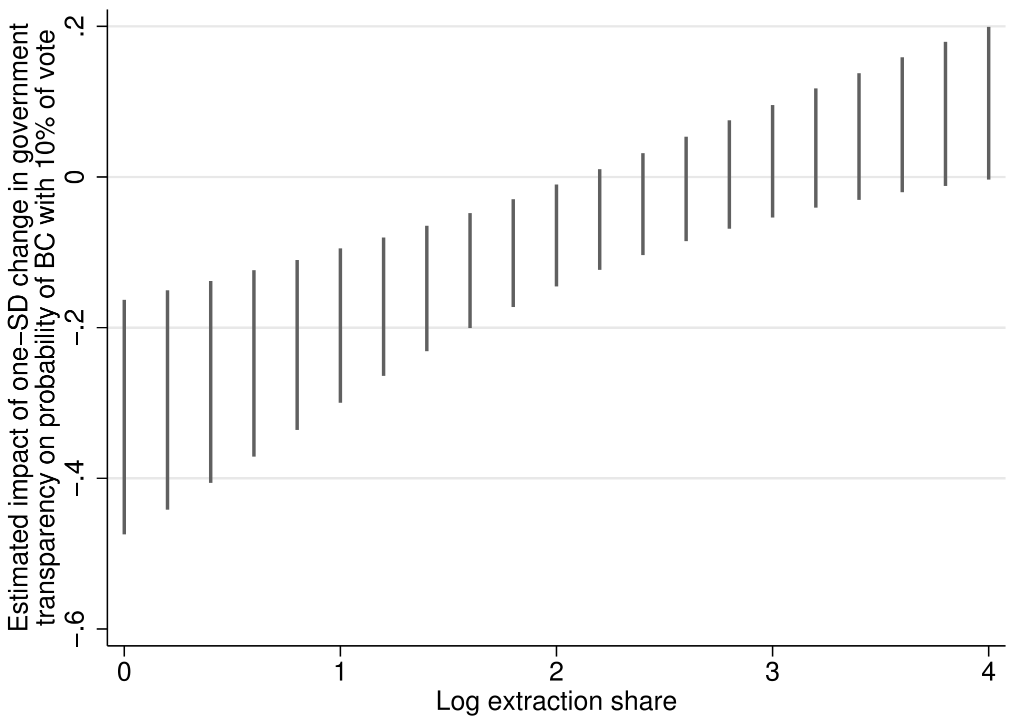


Figure A1: The figure illustrates the interactive effect of institutional strength and rents from holding office, measured as the percentage of regional employment in natural-resource extraction, using results from Model 8 in Table 2. Bars depict 95-percent confidence intervals.

Table A1: Determinants of Businessman Candidacy: Robustness to Definition of Dependent Variable

Dependent variable: Probability of *any* businessman candidate.

	1	2	3	4	5
Media freedom	-0.004		-0.013^{**}		
	[0.003]		[0.006]		
Government transparency		-0.008		-0.067^{*}	
		[0.019]		[0.037]	
Strength of parties	-0.101	-0.075	-0.122	-0.088	-0.501
	[0.288]	[0.285]	[0.292]	[0.286]	[0.588]
Log extraction share	0.032	0.028	-0.119	-0.087	-0.022
	[0.035]	[0.032]	[0.079]	[0.073]	[0.056]
X-term: Media freedom ×			0.004^{*}		
log extraction share			[0.002]		
X-term: Government transparency ×				0.031^{*}	
log extraction share				[0.018]	
X-term: Strength of parties ×					0.183
log extraction share					[0.216]
Republic	-0.139	-0.109	-0.131	-0.079	-0.097
	[0.124]	[0.115]	[0.126]	[0.114]	[0.114]
Autonomous okrug	-0.285	-0.166	-0.207	-0.167	-0.297
	[0.261]	[0.230]	[0.278]	[0.228]	[0.217]
Log population	-0.071	-0.085^{*}	-0.068	-0.076	-0.097^{**}
	[0.049]	[0.050]	[0.051]	[0.051]	[0.047]
Log income per capita	-0.046	-0.028	-0.031	-0.026	-0.004
	[0.088]	[0.078]	[0.088]	[0.079]	[0.078]
Incumbent participation	-0.231^{**}	-0.242^{**}	-0.250^{**}	-0.228^{**}	-0.213^{**}
	[0.110]	[0.098]	[0.107]	[0.102]	[0.097]
Number of candidates	0.048^{***}	0.046^{***}	0.051^{***}	0.049^{***}	0.048^{***}
	[0.015]	[0.015]	[0.015]	[0.014]	[0.015]
Year dummies	yes	yes	yes	yes	yes
Observations	219	229	219	229	231
Pseudo R-squared	0.17	0.17	0.18	0.18	0.16
Number of clusters(regions)	81	86	81	86	87

Notes: The material in this table supports the assertion at various places in the text that we obtain results consistent with our theoretical model when the dependent variable is the probability that *any* businessman candidate is in the race. Probit model. Marginal effects reported. Standard errors corrected for clustering at regional level in brackets. Significance levels: *** = .01, ** = .05, * = .10. “Log extraction share” is log(percentage of employment in extraction industries + 1).