

Pastine, Ivan; Pastine, Tuvana

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**Comment on: Electoral Contests, Incumbency
Advantages, and Campaign Finance**

Ivan Pastine, University College Dublin and
Tuvana Pastine, National University of Ireland Maynooth

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BELFIELD DUBLIN 4**

Comment on: Electoral Contests, Incumbency Advantages, and Campaign Finance

Ivan Pastine

University College Dublin

Ivan.Pastine@ucd.ie

Tuvana Pastine

National University of Ireland Maynooth

Tuvana.Pastine@nuim.ie

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Abstract

This paper completes Meirowitz (2008) by analyzing the effect of a cap on political campaign spending in an environment where voters have initial preferences over political candidates. The policy implications are starkly different from the previously analyzed case where voters are indifferent between candidates in the absence of campaign spending. We find that a spending cap always favors the *a priori* popular candidate. This result holds irrespective of whether it is the incumbent or the challenger who is able to more effectively generate and spend contributions.

Keywords: Campaign Finance Reform, Spending Limit, Expenditure Limit, Incumbency Advantage, Clean Elections

Meirowitz (2008) studies incumbency advantage in a framework where political candidates compete in campaign spending with and without spending caps. Two measures of incumbency advantage are used. In the analysis without spending caps Meirowitz (2008) studies the influence of fund-raising ability/campaigning effectiveness, and the degree to which voters have a predisposition toward a candidate in the absence of campaign spending. However, in the examination of spending caps Meirowitz (2008) focuses on an environment where voters have no predisposition toward either candidate but simply respond to the candidate with higher campaign spending. For the general case where candidates may differ in fund-raising ability and voters have an initial predisposition, the only result presented is for a cap so restrictive that it curtails all competition. No result is presented for a less restrictive expenditure limit where the cap influences electoral competition, but does not entirely eliminate it. Here we supply this missing proposition.

The inclusion of *a priori* voter preferences makes a stark difference to the implications. When voters are indifferent between candidates in the absence of campaign spending an expenditure cap may help or hurt the candidate who is able to more effectively generate and spend contributions depending on which of the multiple equilibria is selected. We show that when voters have an initial preference over candidates, *however mild the preference may be*, there is only a single equilibrium and the expenditure cap always helps the candidate who is favored by the voters prior to campaign spending. This result holds for all levels of fund-raising ability and irrespective of the identity of the candidate with the fund-raising/campaign-spending advantage.

The initial preference of voters gives the favored candidate a head-start advantage: He does not need to spend as much as his rival in order to win. Given that the rival cannot spend more than the cap, the *a priori* popular candidate has the option of winning without having to spend as much as the cap. Hence the cap effectively only restricts his rival. So the cap favors the incumbent only if he already enjoys the popular position. Otherwise a more restrictive cap will improve the challenger's chances of winning as well as his expected payoff.

Nassmacher (2006) reports that “[t]raditionally campaign spending in the Anglo-Saxon orbit is subject to legal constraints.” Walecki (2007) finds that of 60 democracies studied, 25 have spending limits including the U.K., Canada, France, Italy, Spain, Portugal, Bel-

gium, New Zealand, and Israel. While in the U.S. mandatory spending limits were struck down by the Supreme Court, voluntary limits are an increasingly active policy area. Public financing of political campaigns has taken a new lease of life with the movement loosely grouped under the banners “Clean Elections” or “Fair Elections.” Candidates who choose to participate the Clean Elections initiative are subject to spending caps. Maine was the first state to pass a Clean Elections Law which went into effect in 2000. In 2008, 85% of successful candidates had accepted voluntary spending limits. Connecticut is the first state to enact Clean Elections for all state offices. In the first run in 2008, 80% of the winners were Clean Elections candidates. Currently seven states have passed Clean Elections laws. In 2008 voluntary campaign spending limit legislation passed the California legislature and is awaiting ratification via referendum in 2010. If it passes more than a quarter of the U.S. population will be living in states with voluntary caps on campaign expenditures. As such it is worth inquiring what the likely effect of such caps may be.

Next we present the results, and in the final section we use them to offer insights into the effects of campaign spending limits on the balance of power between incumbents and challengers both in the European context where the limits are compulsory and in the U.S. context where they are voluntary in states with public funding programs.

Results

We maintain the framework of Meirowitz (2008). Define f as the candidate that the majority of voters prefer in the absence of campaign spending. These preferences provide him with an initial advantage $\alpha > 0$. Let u be his rival candidate. If the initial advantage is too strong, $\alpha \geq \frac{1}{\beta_u}$ even if candidate f engages in no campaign spending it would not be worthwhile for candidate u to compete. We study all nontrivial cases where the initial advantage $\alpha \in (0, \frac{1}{\beta_u})$.

In Proposition 7 Meirowitz (2008) establishes the equilibrium when the cap is very restrictive. When $k \leq \alpha$ candidate u is unable to overcome the voters’ initial predisposition towards f and so the unique equilibrium is in pure strategies where neither of the candidates engage in campaign spending. Below we characterizes the unique equilibrium with a binding spending cap which is not too restrictive, $k > \alpha$. Define a “binding cap” as a cap which is lower than the maximum of the upper bounds of the no-cap equilibrium spending supports. The supports of the equilibrium spending levels without a cap are established in

Lemma 2 and Lemma 3 of Meirowitz (2008).¹ A “more restrictive cap” refers to a smaller k when the cap is binding. Either candidate may be the better fund-raiser and/or have an advantage in effective campaign spending, so we put no restrictions on the relative sizes of β_f and β_u . The proposition is valid for any tie-breaking rule the voters use when indifferent between candidates.

Proposition 8. (1) *With a binding spending cap and $k > \alpha$ there is no pure-strategy equilibrium if $\alpha \in (0, 1/\beta_u)$. The equilibrium is characterized by unique cumulative density functions $F_f(a_f)$ and $F_u(a_u)$ for candidates f and u 's campaign spending respectively:*

$$F_f(a_f) = \begin{cases} \beta_u(a_f + \alpha) & \text{for } a_f \in [0, k - \alpha] \\ 1 & \text{for } a_f > k - \alpha \end{cases}$$

$$F_u(a_u) = \begin{cases} 1 - \beta_f(k - \alpha) & \text{for } a_u \in [0, \alpha] \\ 1 - \beta_f(k - a_u) & \text{for } a_u \in (\alpha, k] \\ 1 & \text{for } a_u > k \end{cases}$$

(2) *Expected spending: $E(a_f) = [2 - \beta_u(k + \alpha)](k - \alpha)/2$ and $E(a_u) = \beta_f(k^2 - \alpha^2)/2$.*

(3) *Candidate f 's expected utility is $EU_f = 1 - \beta_f(k - \alpha)$, and candidate u 's expected utility is $EU_u = 0$.*

(4) *The probability that candidate f wins is $p_f = 1 - \beta_f \beta_u (k^2 - \alpha^2)/2$.*

Proof: In the Appendix.

As long as the cap is not so restrictive that it suppresses all competition, $k > \alpha$, there is no pure-strategy Nash equilibrium. When voters have initial preferences candidate f has a headstart advantage. The optimal response of candidate f to a spending level a' is either to spend slightly higher than $a' - \alpha$ or to drop out of the contest altogether, so a' would not be optimal for candidate u .² The unique equilibrium is in mixed strategies. In equilibrium there is a probability that candidate u spends more than candidate f but not by enough to overcome the voters' preferences. Hence the model is consistent with the weak empirical evidence of the effect of campaign spending on election outcomes.

With a more restrictive cap (lower k), candidate f 's probability of winning goes up and expected total campaign spending goes down. The cap always helps the candidate who is preferred initially. Candidate u is constrained by the expenditure cap, k . But candidate f is not effectively constrained since he never needs to spend more than $k - \alpha$ in order to win.. This advantage allows candidate f to capture a strictly positive expected utility from the

contest equal to $1 - \beta_f(k - \alpha)$. Hence as the cap becomes more restrictive candidate u becomes more constrained which is to the advantage of the candidate who is popular *a priori*. This decreases the overall aggressiveness of candidate u , which in turn induces less aggressive spending from candidate f , leading to decreased expected aggregate spending.

The discussion above is valid even when there are cross-cutting asymmetries such that one candidate has a fund-raising or campaigning advantage $\beta_u < \beta_f$ and the other has an advantage due to the predisposition of voters. In this case in the absence of a cap Meirowitz (2008) Proposition 4 applies. If the initial predisposition of the voters is not too strong, $\alpha < \frac{1}{\beta_u} - \frac{1}{\beta_f}$, then without a cap the strong campaigning ability of the unfavored candidate overwhelms the favored candidate's advantage arising from the voters' initial predisposition. Hence the candidate who is more efficient in campaign effort is able to capture a positive expected utility from the competition, $EU_u = 1 - \beta_u\left(\frac{1}{\beta_f} + \alpha\right) > 0$ while $EU_f = 0$. However when a binding cap is introduced, even if it is just barely binding, our Proposition 8 implies that the candidate with more efficient fund raising is no longer able to take full advantage of his low β_u , as he is restricted by the cap. Thus the cap switches the identity of the dominating candidate from the candidate with efficient campaign management to the candidate with the head-start advantage, $EU_f = 1 - \beta_f(k - \alpha) > 0$ and $EV_u = 0$. This applies even if the head-start advantage is very small.

Implications

A spending cap will always favor the candidate with the initial voter preference advantage. Irrespective of the tie-breaking rule and irrespective of cost advantages, the incumbent will benefit from the spending cap if and only if the incumbent happens to be the *a priori* popular candidate. It is often conjectured that incumbents have advantages both in fund raising and in voters' initial perceptions. However, voters' perceptions do change with occasional partisan realignments, electoral tides, or personal scandals. These results suggest that during ordinary times one would expect to see incumbents more secure in jurisdictions with spending caps as caps allow them to make full use of their advantage due to voters' predispositions. However, in extraordinary times, such as in the wake of scandals, incumbents facing expenditure caps would be exceedingly vulnerable to shifts in voter perceptions, as they would not be able to effectively use their superior fund-raising ability to overcome the difficulty.

Many democracies have mandatory campaign expenditure limits in place such as the U.K., Canada, France and Israel. Proponents of expenditure limits often claim that without such limits larger parties would have an unfair advantage over smaller parties. One interpretation of α is the initial advantage due to being from a large party with more party-loyal voters. Proposition 8 implies that a cap on campaign expenditure may in fact benefit the larger party (the party with the headstart advantage) rather than the smaller party, contrary to one of its intended consequences. It also means that expenditure caps will tend to solidify the advantage of the party with the larger loyal voter base, making competitive districts less so and making safe districts even safer. Note that this is true irrespective of which party has a fund-raising advantage.

In the U.S. while there are caps on political contributions, there are no compulsory limits on campaign expenditures. Mandatory expenditure limits were struck down by the 1976 Supreme Court ruling on *Buckley v. Valeo* as unconstitutional limitations on free speech. However, the effect of expenditure limits is still of interest in the U.S. context. For instance, the “Clean Elections” movement is a voluntary public-funding experiment which limits the campaign spending of participating candidates. Clean Elections have been adopted by Arizona, Connecticut, Maine, Massachusetts, New Mexico, Vermont, North Carolina, and in the cities of Albuquerque, New Mexico and Portland, Oregon. This is an active policy area. In 2008 a Clean Elections Bill which includes expenditure limits passed the California legislature and is awaiting ratification via referendum in 2010. The movement has been gaining momentum in recent years putting serious pressure on candidates. In legislative elections, the percentage of incumbents who opted for Clean Elections where available was 51% in 2002, 76% in 2004 and 82% in 2006.³ Proposition 8 suggests that politicians who are already popular would benefit from running in an environment with spending limits and thus they would volunteer to join the system and put pressure on their rivals in the guise of “clean politics.”

Appendix

Let $z \in [0, 1]$ be the probability that candidate f wins in case of a tie: $a_u = a_f + \alpha$.

Claim 1. *Candidate u will not put a probability mass point on any level of spending greater than zero. Candidate f will not put a probability mass point on any level of spending $a_f \in (0, k - \alpha)$. There is no equilibrium in pure strategies.*

Proof: Suppose that u 's lowest mass point in $(0, k]$ is a' . If $z < 1$ candidate f will not put any probability at or in the open interval below $a' - \alpha$ as a slight increase in spending would result in a discrete increase in f 's probability of winning. In this case u could lower his spending slightly without decreasing his probability of winning. If $z = 1$ then f will have no probability in the open interval just below a' as a slight increase in spending would result in a discrete increase in probability. Hence u would lose nothing by a slight decrease in his spending, and hence cannot have a mass point at any $a' \in (0, k]$. Since u has no mass point at k candidate f can win with certainty with $a_f = k - \alpha$ so f will not exceed that. The symmetric argument as above establishes that f can have no mass point on $a' \in (0, k - \alpha)$. Since candidate u cannot have a mass point on a positive level of spending, in any pure-strategy equilibrium u must be exerting zero spending. If so, u prefers lower spending than $k - \alpha$ and he cannot have a mass point in $(0, k - \alpha)$ so the only possibility for a pure-strategy equilibrium involves both candidates exerting zero spending. However u would prefer a spending level of just over α which would guarantee victory. \square

Claim 2. *If $z \neq 0$ candidate u will put zero probability on $a_u \in (0, \alpha]$, if $z=0$ u will put zero probability on $a_u \in (0, \alpha)$.*

Proof: Candidate u will not choose spending of $a_u \in (0, \alpha)$ as zero spending wins with the same probability. If $z \neq 0$ candidate u has a strictly positive probability of winning with $a_u = \alpha$ if $a_f = 0$. Either this chance is small enough that his expected value is negative, in which case he would prefer zero spending, or a slight increase in his spending would result in a discrete increase in his chance of winning. \square

Claim 3. *Candidate u has an infimum spending level of zero $a_u^{\text{inf}} = 0$ and $EV_u = 0$.*

Proof: $a_u^{\text{inf}} < k$ as u cannot go above the cap and he cannot have a mass point at k by Claim 1. Suppose $a_u^{\text{inf}} \in (\alpha, k)$, then f would never choose $a_f \in (0, a_u^{\text{inf}} - \alpha)$ as f would be putting in positive spending and would lose for sure since the probability of u having spending of a_u^{inf} is zero by Claim 1. Therefore u could lower his spending without changing his probability of winning. Suppose $a_u^{\text{inf}} = \alpha$. By Claim 1 the probability of u having spending α is zero. Hence if f chose zero spending f would lose for sure and get a zero payoff. Since f can guarantee a positive payoff with spending of $k - \alpha + \varepsilon$, he will not choose zero spending. Thus candidate u will not choose spending of α . The final possibility is that $a_u^{\text{inf}} = \alpha$ but that u is mixing in the open interval above α . Since by Claim 1, f has no mass point on $(0, \varepsilon]$ the probability of winning with spending of $\alpha + \varepsilon$ is $\int_{\alpha}^{\alpha+\varepsilon} f_f(x - \alpha) dx$ which is approximately zero for small ε . So with spending $\alpha + \varepsilon$ candidate u is putting in positive spending for a negligible probability of winning, hence $a_u^{\text{inf}} \neq \alpha$. $a_u^{\text{inf}} \in (0, \alpha)$ is not possible by Claim 2 so u 's infimum spending must be zero. Since zero is in the support of his mixed strategy and he loses with certainty with that spending $EV_u = 0$. \square

Claim 4. *Candidate u has a supremum spending of k , $a_u^{\text{sup}} = k$. Candidate f has a supremum spending of $k - \alpha$ and $EV_f = 1 - \beta_f(k - \alpha) > 0$.*

Proof: $a_u^{\text{sup}} = 0$ is not possible by Claim 1. If $a_u^{\text{sup}} \in (0, k)$ then f would never set $a_f > \max(0, a_u^{\text{sup}} - \alpha)$ since f can win for sure with that spending as the probability of u choos-

ing a_u^{sup} is zero by Claim 1. Therefore u could win for sure with spending $a_u^{\text{sup}} + \varepsilon$ yielding a positive payoff for small enough ε , a contradiction of Claim 3. Likewise $a_f^{\text{sup}} < k - \alpha$ allows candidate u an opportunity to guarantee a positive payoff and hence contradicts Claim 3. Candidate f can win for sure with spending in the open interval above $k - \alpha$ so $a_f^{\text{sup}} = k - \alpha$ and $\text{EV}_f = 1 - \beta_f(k - \alpha) > 0$. \square

Claim 5. For candidate f spending levels almost everywhere on $a_f \in (0, k - \alpha)$ and for candidate u spending levels almost everywhere on $a_u \in (\alpha, k)$ must have positive probability.

Proof: Suppose there were an interval (t, s) in (α, k) where candidate u had zero probability of spending. Then f would have zero probability of spending on $(t - \alpha, s - \alpha)$ since f could lower his spending to $t - \alpha$ and have the same chance of winning by Claim 1. But in this case u would never have spending of $s + \varepsilon$ as he could lower his spending to t , saving $s + \varepsilon - t$ in spending and losing only $F_f(s + \varepsilon - \alpha) - F_f(s - \alpha)$ in probability of winning. By Claim 1 this loss in probability is negligible for small ε . So if there were an interval of zero probability it must go all the way up to k , which contradicts Claim 4. A symmetric argument rules out ranges of zero probability for candidate f on $(0, k - \alpha)$. \square

Proof of Proposition 8

Part (1): The above claims demonstrate that in equilibrium u is indifferent among all spending levels almost everywhere on $\{0\} \cup (\alpha, k]$ and f is indifferent among spending levels almost everywhere on $[0, k - \alpha]$. $\text{EV}_u = 0$ by Claim 3. On $a_u \in (\alpha, k)$ candidate u wins with probability $F_f(a_u - \alpha)$ as there is zero probability that $a_f = a_u - \alpha$ by Claim 1. So indifference of u in that range implies $F_f(a_u - \alpha) - \beta_u a_u = 0$. This yields $F_f(a) = (a + \alpha)\beta_u \forall a \in (0, k - \alpha)$. Hence f has a probability mass of $\alpha\beta_u$ at zero and a mass in the open interval above $k - \alpha$ of $1 - \beta_u k$. $\text{EV}_f = 1 - \beta_f(k - \alpha) > 0$ by Claim 4. On $a_f \in (0, k - \alpha)$ candidate f wins with probability $F_u(a_f + \alpha)$ as there is zero probability that $a_u = a_f + \alpha$ by Claim 1. So the indifference of f in that range implies $F_u(a_f + \alpha) - \beta_f a_f = 1 - \beta_f(k - \alpha)$. This $F_u(a) = 1 - (k + a)\beta_f \forall a \in (\alpha, k]$. u has a probability mass of $1 - k\beta_f$ at zero spending. By Claim 2 u puts zero probability on $(0, \alpha)$.

Part (2): On $a_u \in (\alpha, k]$ the p.d.f. of u 's spending is $f_u(a_u) = \beta_f$. Hence his expected spending is $\int_{\alpha}^k f_u(x) x dx = \beta_f(k^2 - \alpha^2)/2$. On $a_u \in (0, k - \alpha]$ the p.d.f. of f 's spending is $f_f(a_f) = \beta_u$ and f has a probability mass in the open interval above $k - \alpha$. Hence his expected spending is $\int_0^{k-\alpha} f_f(x) x dx + [1 - F_f(k - \alpha)](k - \alpha) = [2 - \beta_u(k + \alpha)](k - \alpha)/2$.

Part (3): Given by Claim 3 and Claim 4.

Part (4): In equilibrium there is zero probability of ties where $a_u = a_f + \alpha$ by Claim 1 so the probability that u wins is given by $p_u = \int_{\alpha}^k F_f(x - \alpha) f_u(x) dx = \int_{\alpha}^k \beta_f \beta_u x dx = \beta_f \beta_u (k^2 - \alpha^2)/2$. $p_f = 1 - p_u$. \square

Notes

- ¹ In Meirowitz (2008) Lemma 2, f is candidate 1 and u is candidate 2, and in his Lemma 3, f is candidate 2 and u is candidate 1. (i) If candidate f has the cost advantage, $\beta_f \leq \beta_u$, then a cap $k < 1/\beta_u$ is binding. (ii) If candidate u has a cost advantage, $\beta_f > \beta_u$, and the voters' preferences are strong, $\frac{1}{\beta_u} - \frac{1}{\beta_f} < \alpha < \frac{1}{\beta_u}$ then a cap $k < 1/\beta_u$ is binding. (iii) If candidate u has cost advantage, $\beta_f > \beta_u$, and the voters' preferences are mild $0 < \alpha < \frac{1}{\beta_u} - \frac{1}{\beta_f}$ then a cap $k < \frac{1}{\beta_f} + \alpha$ is binding.
- ² If voters always choose candidate f when indifferent, f would choose exactly $a' - \alpha$ as he can win with certainty with that spending, however as u would lose with certainty in that case u would not choose a' in equilibrium.
- ³ For detailed information see <http://www.commoncause.org>.

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