Electoral Corruption and Institutional Change in the 19th-Century British House of Commons[1]

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PRELIMINARY AND INCOMPLETE

Abstract

In 1868, the House of Commons voted to delegate jurisdiction over election disputes to the judicial system, thus voluntarily abandoning a right it had jealously guarded for two centuries. In this paper, we provide an explanation for this decision. The basis of our explanation is our finding that election disputes were decided in a highly partisan way in the House; taking advantage of the effectively random assignment of cases to committees, we show that a defendant was as much as 30% more likely to succeed if the chair of the committee hearing his case was from his party. We then provide a model that identifies circumstances in which eliminating this partisan bias (for example by delegating authority to appointed judges) would be beneficial to Parliament, and use that model to explain why Parliament decided to delegate in 1868 and not earlier. In short, Parliament delegated in 1868 to increase deterrence against corruption and thus counteract the anticipated effect of the Second Reform Act (1867); they chose not to delegate earlier either because they preferred the status quo level of corruption or because deterrence would not have been effective.

1 Introduction

Delegation is a phenomenon of enduring interest for scholars of political institutions. Legislatures often choose to delegate authority to other entities (such as an internal committee, a ministry, or the courts), but why? The most prominent explanations for delegation revolve around information: the legislature delegates because it knows less than the entity to which it delegates, and is willing to sacrifice control over policy for reduced uncertainty about policy outcomes. Other accounts of delegation focus on the legislature's desire to avoid politically unrewarding decisions, reduce its workload, or resolve commitment problems.

In this paper we examine an episode of legislative delegation from the nineteenth-century British Parliament. From the early 17th century until 1868, the House of Commons held the constitutional right to decide disputes over the election of its members (O'leary, 1962). Like the House's other constitutional prerogatives, this right had been wrested from the Crown over centuries of conflict; Charles' abrogation of this right was among the abuses that provoked the English Civil War. In 1868, however, the House of Commons under Disraeli passed an act transferring authority over disputed elections to the Superior Courts, over the objections of several members who cautioned against casting aside such a hard-won constitutional right. We seek to understand why Parliament chose to delegate.

In parliamentary debates at the time, the most common reason given for delegating authority over election petitions was that petition hearings held in the House of Commons were excessively partisan: because MPs serving on the select committees that heard election petitions were reluctant to vote against their co-partisans, the success of a particular petition was thought to depend heavily on the partisan composition of the committee assigned to it. Our analysis begins by evaluating this claim using data on over 150 petition trials held in the House of Commons between 1852 and 1868. Taking advantage of the near-random assignment of petitions to committees, we provide evidence that petition trials in the House of Commons were indeed highly partisan. We find that an MP

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challenged in a petition was about 30% less likely to be unseated if the chairman of the committee hearing his case came from his party.

Drawing on this finding, we then develop a theoretical account for Parliament's decision to delegate authority over election petitions in 1868. Our model draws on and extends the theory of enforcement uncertainty and deterrence (Craswell and Calfee, 1986). In our model, a candidate chooses a level of corrupt electioneering that balances his desire to win office against the risk of being unseated in a petition trial. We study the relationship between uncertainty in the legal standard applied by petition committees (as a result of partisanship, for example) and the utility-maximizing level of corruption chosen by candidates. We show that the effect of enforcement uncertainty on corruption deterrence is non-monotonic: at high levels of corruption, moving to a less variable enforcement system will decrease corruption, but at low levels it may increase corruption.

We use this non-monotonicity to account for the decision of Parliament to delegate jurisdiction over election petitions in 1868 and not before. In the wake of the Second Reform Act (1867), which enfranchised working class men, judicial delegation helped to moderate the anticipated increase in corrupt electioneering. Before the Second Reform Act, we argue, delegating power to the courts would have been ineffective or even counter-productive, depending on one's assumption about Parliament's preferences over electoral corruption.

Our account of legislative delegation is related to the standard information-based theory of delegation (Bendor and Meirowitz, 2004) but differs in important ways. In both our account and the standard information-based theory of delegation, the principal delegates to reduce uncertainty; the nature of that uncertainty, however, is different. In the standard theory, the principal is willing to delegate to an agent with preferences different from his own because the agent knows more about the mapping of policy to outcomes, and the principal is risk-averse over the relevant region of uncertainty. The principal delegates in the standard model, in short, because of his distaste for uncertainty. In our account, the principal (Parliament) is willing to delegate not because it dislikes

uncertainty but because it dislikes the incentives that uncertainty creates outside of the legislature. In other words, Parliament in our model delegates not because it dislikes the *uncertainty of results* (as in the standard model) but because it dislikes the *results of uncertainty.*

In that respect, our model of delegation is closer to the standard model explaining why governments delegate authority over monetary policy to independent central banks (Rogoff, 1985). As in those models, the principal in our story can make itself better off by delegating to an entity (here, the courts) that is less subject to political vicissitudes. By delegating authority over election petitions to the courts, the House of Commons committed to enforcing anti-corruption statutes in a non-partisan (and thus more predictable) way; the resulting deterrent effect was beneficial to Parliament in a period when incumbent MPs stood to lose from widespread corrupt practices.

We proceed as follows. In Section 3 we show that election petitions were in fact decided in a strongly partisan way, confirming what some (but not all) members of Parliament claimed at the time. In Section ?? we present a model of enforcement uncertainty and deterrence, building on the work of (Craswell and Calfee, 1986). In Section 5 we discuss how this model can be used to explain how partisan bias and electoral reform made delegation optimal for Parliament in 1868 (but not before). In Section 6 we discuss the relevance of this analysis for other studies of institutional development.

2   Setting

Coming soon.

O'Leary's very thorough account of the delegation decision affirms the puzzle: "One can only speculate," he concludes, "as to the motives that induced Disraeli to adopt a policy that ran counter to one of the oldest traditions of the House of Commons" (O'leary, 1962, pg. 35).

3 The Partisanship of Petition Hearings Before 1868

The dominant critique of the process of adjudicating election petitions in the House of Commons prior to 1868 was that the decisions of committees of MPs assigned to rule on petition hearings were strongly influenced by partisanship. Starting in 1848, each election committee consisted of five members – two regular members of each party and a chairman. The allegation raised in parliamentary debates was that the members of these committees tended to view the complicated legal and factual issues raised in petition hearings through a partisan lens, and that the decisions of these committees tended to reflect their partisan composition.

In the view of Alexander Beresford-Hope, MP for Stoke-on-Trent, the fact that the decisions of election petition hearings were partisan was a natural outgrowth of the complexity of the issues being discussed and the inability of politicians to view them without partisan bias:

> How could persons who were antecedently political partisans go to the work of discrimination with dispassionate and judicial minds? How could five promiscuous Gentlemen chosen because three of them happened to belong to one party and two of them to the other – none necessarily educated to sift evidence – proceed without misgiving to adjudicate upon some difficult case of abstruse law ... when perhaps they were all of them under the torture of the consciousness that upon the decision to which they arrived the fate of a party contest and all their own material future might turn?[2]

Not all MPs agreed with Beresford-Hope that petition committees made their decisions on partisan grounds. Edward Pleydell-Bouverie, MP for Kilmarnock, claimed based on experience that committee decisions on election petitions were perfectly non-partisan:

> It was not alleged by anybody well acquainted with the facts that it was partial; during the last twenty years I have been Chairman of a very great number of such Committees,

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[2]Hansard, May 21, 1868.

and I have a strong opinion that they did their best to try the question submitted to them with the greatest impartiality. Indeed, I believe their decision was very often against the party feeling of the majority.... Speaking on the whole, there was no party colour in their decisions.[3]

In this section we look at newly collected data on election petition outcomes in order to determine whether election petitions were in fact decided in a partisan way before 1868. In the next section we will study a simple formal model of elections and petition adjudication that explains how partisan bias in the pre-1868 system, combined with changes to the nature of electoral competition brought by the Second Reform Act (1867), could explain the decision to delegate jurisdiction over election petitions to the courts in 1868.

3.1   Data on Petition Hearings

Our analysis focuses on 156 petitions that were heard before select committees of the House of Commons between 1852 and 1866. For each petition, we identified the member(s) being petitioned, the constituency election at issue, and the chairman of the committee, and we recorded whether the MP lost his seat as a result of the petition. These basic facts can be gleaned from periodic summary reports published in the Parliamentary Papers[4]; detailed accounts of individual hearings are also available for most petitions, also from the Parliamentary Papers. We then linked these attributes to our database of MPs' parties and electoral returns (gathered from Craig (1977)), as well as speeches (gathered from the digital Hansard, provided by the Parliamentary Archive[5]).

Table 1 gives an accounting of petition decisions by the party of the MP and the select committee chairman.[6] A total of 102 Liberals and 66 Tories faced petition hearings. The fact that bias did

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[3]Hansard, July 6, 1868. I have changed pronouns from the Hansard, which recorded speeches in the third person.
[4]http://parlipapers.chadwyck.co.uk/ Reports of election petitions are found in PP 947, 1852-3; PP 460, 1854; PP 343, 1857 Sess. 2; PP 220, 1859 Sess. 2; PP 85, 1864; PP 496, 1866; PP 583, 1867.
[5]http://www.hansard-archive.parliament.uk/
[6]We discard cases where the petitioned MP ran for office under a different party label: 2 who ran as "Independent Opposition" and 9 who ran as "Liberal (Ind.)".

occur is suggested by the fact that the Liberal MPs were significantly less likely than Tory MPs to be unseated when we look only at hearings in which the committee was chaired by a Liberal (left column), but they were substantially *more* likely to be unseated when we look only at hearings in which the committee was chaired by a Tory (right column). Viewed another way, Liberals were somewhat more likely to be unseated when their chair was a Tory (.42 vs. .35), but Tories were drastically *less* likely to be unseated when their chair was Tory (.16 vs .66).

Table 1: Petition outcomes as function of the party of the petitioned MP and select committee chairman, 1852-1868

	Chair is **Liberal**			Chair is **Tory**		
MP Party	Tried	Successful	Share	Tried	Successful	Share
Liberal	54	19	**.35**	48	20	**.42**
Tory	29	19	**.66**	37	6	**.16**

These raw numbers provide strong initial support of partisan bias in the decisions of election petitions. To be confident that these results are indeed because of bias in the decisions of committees rather than differences in the types of petitions that different types of committees heard, we must look more carefully at the process by which petitions were assigned to committees.

3.2 The Assignment of Select Committees to Election Petitions

To measure partisan bias in the adjudication of election petitions, we want to know how a committee's decision depended on the match of the partisanship of the MP and the partisanship of the chair. The simple analysis above provides a reasonable first cut, but our estimate of bias may itself be biased if the petitions that end up in the cells of Table 1 differ in important ways. For example, it may be that the petitions in the upper-right and lower-right cells of Table 1 are generally stronger than those in the other cells, perhaps because corrupt MPs are less able to arrange to have petitions against them heard by a committee chaired by a member of their own party. To assess this possibility, we will first review the process of assigning petitions to committees and then carry

out robustness checks.

As it turns out, committees were assigned to MPs in a way that makes it unlikely that petition quality was correlated with the partisanship of the committee. Unlike in the US Congress, where election disputes during this time were heard by a committee dominated by the majority party, petition hearings in the House of Commons were heard alternately by majority-Liberal and majority-Tory select committees. These select committees were made up of four regular members, two from each party, and a chairman drawn from the "Chairman's Panel" (a group of MPs chosen by the General Committee on Elections for their experience handling petition hearings or related legal matters). As petitions came in during the first two weeks of the parliamentary session after an election, they were placed in an order according to when they were approved on technical grounds (Warren, S., 1853, pp. 301, 314-316). Committees were then assigned to petitions according to this order, with the party of the chairman (and thus committee majority) roughly alternating down the list.[7]

This process of assigning select committees to election petitions would tend to discourage most of the strategic behavior that might otherwise introduce bias into our estimates. Suppose that committees were not, in fact, biased, and that the petitions that Tory committees heard against Liberal MPs were simply stronger than the petitions that they heard against Tory MPs (and vice versa). This kind of selection bias could happen only if stronger petitioners were better able to have their petitions heard by committees of their own party. It is very difficult to imagine that strategic jockeying by petitioners would produce this result: it would have been very difficult to choose the right time to file in order to be assigned a committee of a particular partisan color, given that dozens of petitions were being filed non-cooperatively during a short period of time (many of

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[7]That the Chairman's Committee generally (but not strictly) followed this convention is indicated by comparing the party of the chairman assigned to each petition in a given year with the ordered list of petitions announced at the end of the petition submission period. It seems that these conventions were followed at least as early as 1844, when Serjeant Digby Wrangham, a former MP who often represented parties in election petition trials, testified before a committee inquiring into the election petition process that "I should be disposed much rather to name them out of a certain panel by chance, than name them by taking one from each party, as I understand to be the course now, and a Chairman either alternately or not strictly alternately, but taken from either party. Parl. Papers 1844, 373, pg. 59.

which were disqualified or later withdrawn) and also that the alternation of committee chairs was not perfect. Even if it were possible for petitioners to marginally game the system in this way, it is not clear why ability to game the system would be correlated with the quality of the petitions.

It is more realistic to think that the Chairmen's Panel might have manipulated the assignment of chairmen to petitions in a way that would induce troublesome confounding: perhaps chairmen wanted to avoid the uncomfortable situation of ruling against an MP of their own party, so they selectively deviated from the alternation norm such that they would only rarely have to hear a strong petition against one of their own members. Although we suspect that this could only have happened infrequently and thus would not explain much of the bias we see, we pursue robustness checks in the next section to evaluate this possibility.

3.3   Robustness Checks

To formalize the analysis and assess possible confounding, we carry out a diff-in-diff regression that estimates the effect of a match between the party of the petitioned MP and the committee chairman on the probability of the MP losing his seat Shayo and Zussman (2011). In particular, we estimate the regression

$$\text{LoseSeat}_i = \beta_0 + \beta_1 \text{Tory}_i + \beta_1 \text{ChairTory}_i + \beta_3 \text{Tory}_i \times \text{ChairTory}_i + \gamma \mathbf{x}_i + \epsilon_i, \qquad (1)$$

where $\mathbf{x}_i$ is a vector of covariates describing the petition and member and our measure of bias is β_3. One way of thinking about β_3 is that it captures the difference between the top-left and bottom-right cells of Table ?? after subtracting the average differences between the rows and columns. Because some petitions targeted two MPs elected from the same district (who were in some cases not from the same party) and some committee chairmen presided over more than one petition trial, we cluster all standard errors by petition and chairman.

The results of these regressions are shown in Table 2. Model 1 is simply a regression version of the proportions reported in Table 1. The estimated bias is robust to the inclusion of election and constituency covariates (number of electors, borough vs county, country, general vs by-election, competitiveness[8]), the inclusion of MP covariates (prior service in parliament, age, an indicator for whether the MP has spoken in parliament, an indicator for whether the MP served in office), and even the inclusion of chairman fixed effects. If anything the inclusion of covariates increases the estimated bias.

Table 2: Partisan Bias in Election Petition Hearings

Model	(1)	(2)	(3)	(4)	(5)
Dependent Variable:			Sitting MP lost seat		
Chair Tory and MP Tory	-0.56	-0.60	-0.60	-0.61	-0.65
	(0.18)	(0.17)	(0.17)	(0.17)	(0.17)
Chair Tory	0.06	0.08	0.10	0.12	0.07
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
MP Tory	0.30	0.30	0.31	0.31	0.30
	(0.15)	(0.16)	(0.16)	(0.16)	(0.16)
Intercept	0.35	0.41	0.39	0.30	-0.25
	(0.07)	(0.31)	(0.31)	(0.31)	(0.31)
Election/constituency covariates:		X		X	X
MP covariates:			X	X	X
Chairman fixed effects:					X
Number of observations:	168	168	156	156	156

Note: Observations are instances of an MP being challenged in a petition heard before a select committee of the House of Commons between 1852 and 1868. Because some petitions targeted more than one MP and some chairmen heard multiple petitions, all standard errors (in parentheses) are clustered by petition and chairman.

To the extent that petition quality is correlated with MP characteristics included in the regressions in Table 2, the results shown provide some reassurance that the raw figures in Table 1 are not driven by unmeasured confounding of petition quality and the match between MP and chair. As an additional robustness check against this possibility, in Table 3 we check whether MP charac-

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[8]Effective number of candidates divided by number of seats.

teristics are correlated with the partisan match between MP and chair.[9] For each covariate we re-estimate the basic diff-in-diff model using the covariate as a placebo outcome; we interpret the estimated coefficient for a given placebo outcome as a test of whether the assignment of petitions to committees was biased in this respect. None of the placebo tests we conduct produces an estimated effect near statistical significance, and the point estimates do not appear to go in directions that suggest a coherent strategic story. Given that many of these covariates would be correlated with an MP's power and/or social network in the House, if the Chairmen's Committee were able to strategically assign chairs one would expect that they might do so in a way that correlated with these placebo outcomes. The fact that they do suggests that the assignment of committee chairmen to petitions was not strategic and that petition characteristics were in fact orthogonal to committee assignments.[10]

These findings suggest strongly that petition hearing were biased, in the sense that the results depended heavily on whether the MP being petitioned and the chair of the committee came from the same party. We now turn to developing a theoretical account that could explain how this partisan bias may have caused Parliament to delegate the power to hear election petitions in 1868.

4 Theory

To build our explanation of the 1868 Election Petitions Act, we develop a model of corruption deterrence under uncertain legal standards (or, equivalently, uncertain detection). Craswell and

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[9]The added value of Table 3, compared to Table 1, is that Table 1 would detect bias due to confounding only if the measured covariates were correlated with petition quality; the tests in Table 3 assess whether assignment of petitions to committees might be strategic, which would undermine our estimates from Table 1 even if these covariates were uncorrelated with petition quality.

[10]A further concern may be that petitioners might strategically withdraw petitions in a way that could bias our results. While this type of strategic behavior would induce bias in our estimate of partisan bias, we believe the concern is minimal, for two reasons. First, as is evident from Table 1, petitions against Tory MPs were not in fact more likely to be heard by committees chaired by Liberals, and vice versa. Second, any bias caused by strategic withdrawal would actually be attenuation: if there were strategic withdrawal, we would expect the quality of petitions to be higher when the petitioned MP and the committee chair are of opposite parties, which would tend to reduce the apparent partisan bias. To the extent that strategic withdrawal did occur, it would only increase our estimate of the bias of committees.

Table 3: Placebo tests: the effect of the match of MP and chairman party on losing seat and placebo outcomes

Outcome	t-stat	N
Loses seat	-3.18	168
Electors	-0.75	168
Competitiveness	1.49	168
Margin	0.56	167
Age of petitioned MP	1.17	156
Incumbent petitioned	-0.10	168
Years in office*	-1.52	77
Spoke in debate?*	0.17	77
Held office?*	-0.15	77

Notes: Each t-stat is the result of a separate regression in which we measure the effect of a party match between the petitioned MP and the committee chairman on the indicated outcome. Standard errors are clustered by petition and chairman. Asterisks indicate that the analysis is conducted conditional on the MP having served in parliament before the petitioned election.

Calfee (1986) were the first to examine the effects of uncertainty on deterrence; their analysis emphasizes that uncertainty in the application of a legal standard induces over-compliance in some circumstances (e.g. polluting less than the legal limit) and under-compliance in others (e.g. polluting above the legal limit). We provide a new formulation of the relationship between uncertainty and deterrence that conveys the insight of Craswell and Calfee (1986) in a way that is more closely tailored to our analysis of institutional choice. The focus of Craswell and Calfee (1986), like most of the law and economics literature on deterrence, is on the design of optimal legal standards: given choice over a legal standard and a fixed degree of uncertainty in the application of that standard, what legal standard should be chosen to induce a socially optimal level of a particular activity? Our focus, by contrast, is on the design of institutions: given choice over venues for enforcement (each with their own enforcement uncertainty) and a fixed legal standard, what venue would political actors choose in order to induce a desired level of a particular activity? Our theoretical contribution may thus be seen as a transposition to positive political theory of an insight from the economic analysis of law: deterrence in our model is designed not by social planners but by highly-constrained political actors motivated by self-interest.

4.1 Deterrence and Uncertainty I: The Basic Dynamic

We begin by laying out a simple model that conveys the basic idea that enforcement uncertainty has a non-monotonic effect on deterrence.[11] Consider a situation in which an actor chooses an action x that provides a benefit $B(x)$ to him but that is subject to enforcement: if he is found to have chosen $x > L$, where L is the legally sanctioned level of x, he is subject to a fee ϕ. Later in the paper we will depict the actor as a parliamentary candidate and x as the choice of electioneering practices, with the legal standard L defining unacceptable types of influence and bribery, but in this simplified model it makes more sense to think of the actor as a firm and x as pollution, with the legal standard L defining a level of "unreasonable" or "negligent" pollution.

The key feature of the model is uncertainty in enforcing the legal standard. If the firm knows L with certainty, and the legal system observes x without error, then the firm should choose x just below L to maximize his benefit from polluting while eliminating his risk of being required to pay ϕ. We assume, however, that there is uncertainty in the enforcement of the legal standard. This uncertainty can be thought of in two equivalent ways. One way is that judges apply L with error, i.e.

$$\tilde{L} = L + \theta \tag{2}$$

where θ is a random variable with some density $h(\theta)$ and cdf $H(\theta)$. In that case the probability of conviction, given a choice of x, can be written

$$\Pr(\text{convict}|x, L) = \Pr(x > \tilde{L}) = \int_{-\infty}^{x-L} h(\theta)d\theta = H(x - L). \tag{3}$$

A second, equivalent way to think of enforcement uncertainty is that judges observe x with error,

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[11]This is the basic setup of Craswell and Calfee (1986) for the special case where the fine is a fixed value. Craswell and Calfee (1986) do not explore this case in depth, but it demonstrates the basic non-monotonicity of the relationship between uncertainty and the privately optimal choice of x in a straightforward way, and shows that this non-monotonicity does not depend on having the fine be an increasing function of x.

i.e.

$$\tilde{x} = x + \theta, \tag{4}$$

in which case the probability of conviction, given a choice of x, can be written

$$\Pr(\text{convict}|x, L) = \Pr(\tilde{x} > L) = \int_{-\infty}^{x-L} h(\theta)d\theta = H(x - L). \tag{5}$$

In this paper we will primarily refer to uncertainty in the legal standard, but the reader should keep in mind that everything applies equally well to uncertainty in the perceived action x.

If we normalize such that $L = 0$, then the expected utility of the firm can be written

$$EU = B(x) - \phi H(x), \tag{6}$$

and the first order condition states that the firm should equilibrate the marginal benefit from polluting and the marginal increase in the expected fee from an additional unit of pollution, i.e. that

$$B'(x^*) = \phi h(x^*). \tag{7}$$

For clarity of exposition we focus on the case where there is an interior solution; to ensure this it is sufficient that $B(x)$ be concave, $h(x)$ be non-decreasing in the region of the solution, and ϕ be large enough that the firm does not want to emit maximum pollution and pay a fine with certainty.

We depict a set of solutions to this optimization problem in Figure 1, the purpose of which is to show that the relationship between enforcement uncertainty and the profit-maximizing level of x can be non-monotonic. B_x, B_x^{low}, and B_x^{low} represent three marginal benefit curves; $\phi f(x)$ and $\phi g(x)$ reflect marginal cost curves (i.e. the expected marginal increase in the fee paid) where the different slope is accounted for by the fact that enforcement uncertainty is greater for $f(x)$ (i.e. $f(x)$ has a higher variance). Under marginal benefit curve B_x the firm would produce the same

level of pollution regardless of whether enforcement uncertainty was characterized by $f(x)$ or $g(x)$. Under marginal benefit curve B_x^{hi}, the profit-maximizing level of x is higher when there is greater enforcement uncertainty. Under marginal benefit curve B_x^{low}, however, the profit-maximizing level of x is lower when there is greater enforcement uncertainty. Intuitively, this is because the higher-variance distribution has more mass on the tails and less mass at the center; this difference means that high enforcement uncertainty tends to discourage pollution more (compared to low enforcement uncertainty) when the baseline level is in the tails than when it is nearer to the center of the distribution. Put another way, if the firm is sufficiently wary of incurring a fee (because the fee is high or its benefit from pollution low), then increasing the uncertainty in enforcement will raise the specter of being fined even for very low levels of pollution and therefore lead it to pollute even less; if it is more willing to risk incurring a fee, then increasing uncertainty in enforcement will reduce the marginal probability of being fined and lead it to pollute more.

The important point here is that even in a very simple setup the relationship between enforcement uncertainty and deterrence (or compliance) is subtle and depends on the rewards from undertaking the regulated action. We now turn to applying this point in a model that approximates more closely the political environment on which we focus.

4.2   Deterrence and Uncertainty II: A Political Application

Now consider the problem of a candidate deciding on a utility-maximizing level of possibly-corrupt electioneering x. Write the probability of being elected as $V(x)$, the cost of engaging in x as $C(x)$, the probability of being removed from office as the result of a petition as $H(x)$, and the benefit of serving in office as W. Then the expected utility of a candidate from choosing x can be written

$$EU = V(x)\Big(1 - H(x)\Big)W - C(x), \tag{8}$$

Figure 1: Non-monotonic Relationship Between Deterrence and Uncertainty
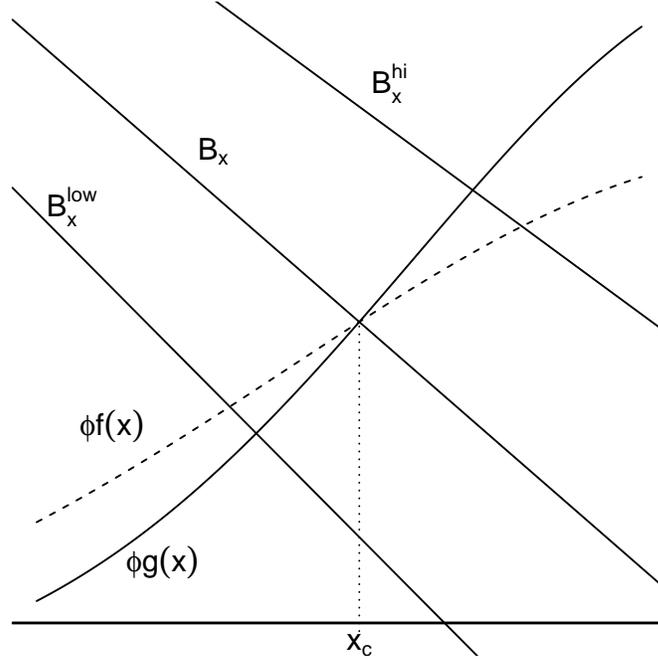
Note: As shown in Equation 7, the optimal degree of x is found by equilibrating the marginal benefit of x with the marginal increase in the expected fee. The figure shows that for one marginal benefit function (labeled as B_x above), the profit-maximizing choice of x does not depend on whether uncertainty is high or low (characterized by f and g, respectively); for the marginal benefit function labeled B_x^{hi}, the profit-maximizing choice of x is higher when there is more uncertainty in enforcement, while the opposite is true for the marginal benefit function labeled B_x^{low}.

and the first order condition is

$$FOC : \left[V'(x)\big(1 - H(x)\big) - V(x)h(x)\right]W - C'(x) = 0. \tag{9}$$

We assume throughout that $V(x)$, $C(x)$ and $H(x)$ are continuously-differentiable and that $V(x)$ is concave, and we further assume that there is an interior solution to the candidate's optimization problem, which is safe as long as the concavity of $H(x)$ is not too severe.[12]

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[12]Specifically, the second order condition states that $h'(x)V(x) > V''(x)\big(1 - H(x)\big) - 2h(x)V'(x) - C''(x)/W$. If $V(\cdot)$ and $C(\cdot)$ are concave, then the RHS is always negative; for a symmetric single-peaked $h(\cdot)$ (such as the normal

Is it reasonable to think of the choice of corrupt practices as a continuum, along which may be found a legal standard L? The idea is that candidates, like polluting firms, balance the electoral benefits of engaging in various kinds of electioneering against the possibility that they would be convicted of corrupt behavior and possibly lose their seat. As in the case of the polluter, we can think of the candidate's uncertainty about being convicted from choosing a value of x in two ways. First, consistent with the discussion of uncertainty in legal standards above, there may be ambiguity about whether some common practices would disqualify a candidate or not. In nineteenth-century British politics, for example, there was ambiguity about whether an MP should be unseated if voters were bribed without the MP's knowledge. Second, consistent with the discussion above of uncertainty in detection of x, even in cases where the legal standard clearly outlawed a certain practice (e.g. bribery of voters with the candidate's knowledge), the probability that corrupt actions such as bribery can be proven in front of a petition committee is likely to be increasing in the number of voters bribed.

Now, suppose that we have an interior solution x_f^* for the FOC above (Equation 9), where enforcement uncertainty is characterized by a density $f(x)$. Does the utility-maximizing level of x increase or decrease with a change to density $g(x)$? Note that, assuming the second-order condition is satisfied, it must increase if

$$\left[V'(x)\big(1 - G(x)\big) - V(x)g(x) \right] W - C'(x) \bigg|_{x_f^*} > 0. \tag{10}$$

In other words, if we evaluate the FOC under the alternative density g using the utility maximizing value under density f and we find that it is positive, we know that moving to g increases corruption. Now note that we can write this condition by subtracting the FOC under f from the FOC under g (where both are evaluated at x_f^*). Rearranging, this gives us the condition that moving to g

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density) the LHS will be positive, and thus the SOC certain to be satisfied, for x below the median.

increases x if

$$V'(x_f^*)\big(F(x_f^*) - G(x_f^*)\big) > V(x_f^*)\big(g(x_f^*) - f(x_f^*)\big) \tag{11}$$

Without saying more about f and g, we cannot say anything general about how moving from one density to another affects the utility-maximizing level of x. In order to proceed, we focus on the comparison of two densities $f(x)$ and $g(x)$, and write down conditions that capture the idea that $g(x)$ is more *central* than $f(x)$; we then use these conditions to make statements about how moving from enforcement uncertainty characterized by f to enforcement uncertainty characterized by g affects the utility-maximizing level of x, i.e. the degree of deterrence.

Definition: Given two continuous density functions, $g(x)$ and $f(x)$, $g(x)$ is more *central* than $f(x)$ if there exist three points $a < b < c$ such that

1. $f(x) > g(x)$ for all $x < a$ and all $x > c$, and $g(x) > f(x)$ for all $a < x < c$ (**double crossing of densities**), and

2. $F(b) = G(b)$ (**single-crossing of cdfs**).

Intuitively, the first condition requires that f have fatter tails than g; the second condition requires that the two distributions not be centered too far apart. An example of two densities that fit this definition is provided in Figure 2.

We can now use this definition to identify ranges of x_f^* for which Equation 11 will be satisfied.

Proposition 1: If g is more *central* than f and points a, b, and c capture crossing points of the distributions as described in the definition of centrality, then moving to the more central distribution

- reduces deterrence for $x < a$ and

- increases deterrence for $x \in (b, c)$.

Proof: The proof comes from Equation 11 and the definition of centrality. Because $V'(x)$ and $V(x)$ are both positive (by assumption), the inequality in Equation 11 is satisfied whenever $F(x) - G(x)$ is positive and $g(x) - f(x)$ is negative; it is reversed when $F(x) - G(x)$ is negative and $g(x) - f(x)$ is positive. By the definition of centrality, we know that the $F(x) - G(x)$ is positive and $g(x) - f(x)$ is negative to the left of point a; we know that $F(x) - G(x)$ is negative and $g(x) - f(x)$ is positive between b and c.

Based only on the definition of centrality and the fact that g is more central than f, we can sign the effect of moving from f to g on the utility-maximizing level of x only for one interval to the left of the first point where the densities cross and another interval between the points where the densities and the CDFs cross. (This is shown graphically in Figure 2; intervals where centrality alone does not tell us how moving to the more central distribution will affect deterrence are indicated with a question mark.)

If the two densities f and g satisfy an additional condition, we can be say something about more of the support of x:

Definition: Call a density g more *central plus* than f if g is more *central* than f (with associated crossing points a, b, and c) and, in addition, $g(x) - f(x)$ is increasing in x for all $x \in (a, b)$.

Proposition 2: If g is more *central plus* than f, with associated crossing points a, b, and c, then there is a point $d \in [a, b]$ such that moving to the more central distribution

- reduces deterrence for $x < d$ and

- increases deterrence for $d < x < c$.

Proof: By the definition of centrality, we know that $V'(x_f^*)\big(F(a) - G(a)\big) > V(a)\big(g(a) - f(a)\big) = 0$; we also know that $V'(x_f^*)\big(F(b) - G(b)\big) = 0 < V(a)\big(g(b) - f(b)\big)$. The fact that $g(x) - f(x)$ is increasing in x for all $x \in (a, b)$ (the condition for g to be more *central plus* than f) tells us that $F(x) - G(x)$ is decreasing in x for all $x \in (a, b)$. These facts, together with the concavity of V,

Figure 2: Centrality and Deterrence
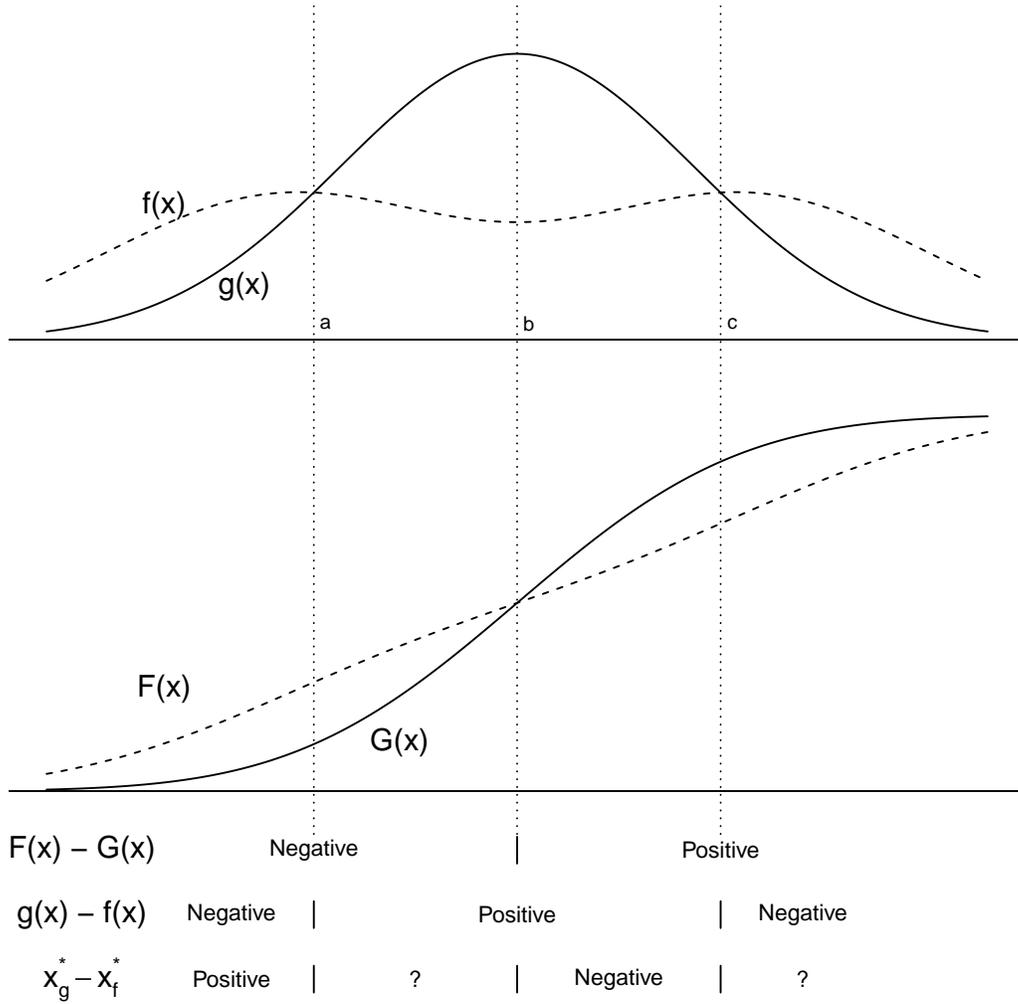
Note: As depicted, $g(x)$ is more central *than $f(x)$. As described in the text, centrality allows us to prove that moving from g to f increases deterrence for x in the interval (b, c) and decreases it for x in the interval $[0, a)$. The additional condition of* centrality plus *would allow us to identify a point $d \in [a, b]$ such that $x_g^* - x_f^* < 0$ for all $x < d$ and $x_g^* - x_f^* > 0$ for all $x \in (d, c)$.*

imply that there is a point $d \in [a, b]$ such that $V'(x_f^*)\big(F(d) - G(d)\big) = V(d)\big(g(d) - f(d)\big)$, and $V'(x_f^*)\big(F(d) - G(d)\big) > V(d)\big(g(d) - f(d)\big)$ for all $x < d$, while $V'(x_f^*)\big(F(d) - G(d)\big) < V(d)\big(g(d) - f(d)\big)$ for all $x \in [d, c]$.

To sum up, the relationship between enforcement uncertainty and deterrence is generally not monotonic. Whether a reduction in enforcement uncertainty would increase or decrease deterrence depends on the nature of the enforcement uncertainty and the existing level of deterrence. If we restrict our attention to the comparison of distributions that are centered close to one another, with one distribution having fatter tails, we can identify a low level of x (the regulated activity) such that moving to the lower level of enforcement uncertainty would *reduce* deterrence (i.e. increase x), and a higher level of x such that that moving to the lower level of enforcement uncertainty would *increase* deterrence (i.e. reduce x). A policymaker considering a change in the legal system that would affect the nature of enforcement uncertainty must therefore consider how the alternative forms of uncertainty vary, as well as how much deterrence is currently taking place. If the policymaker's goal is to reduce the level of x, for example, then in some circumstances reducing uncertainty in the legal system would be useful and in others it would be counterproductive.

5   Interpretation

We now turn to applying the model of deterrence above to explain Parliament's decision to delegate authority over election petition hearings to the courts in 1868. Our basic explanation is that Parliament decided to delegate authority to the courts because the courts could enforce anticorruption laws with greater precision, in part because they were less affected by partisan bias. In 1868, we argue, reducing enforcement uncertainty was desirable as a way to offset the increase in corruption projected to result from the recently-passed Second Reform Act. Before 1868, delegation to the courts was undesirable either because it would have actually increased corruption or because it would have upset the status quo.

We develop this interpretation in stages, starting with the claim that the Second Reform Act triggered delegation by raising candidates' temptation to adopt corrupt electioneering tactics.

5.1 The Second Reform Act and Corruption

The most important feature of the Second Reform Act, passed in 1867, was the expansion of the electoral franchise in borough constituencies. *More here*

There are two common explanations for the passage of the Second Reform Act. The first is that it happened because of a failure of cartel maintenance: the Liberals and Tories faced a prisoner's dilemma-like situation in which both parties would be better off maintaining the restricted franchise but neither could commit to doing so. The second is that the Second Reform Act passed because elites feared revolution, and franchise extension was the only way to satisfy working class demands. For our purposes, the important point is that the Second Reform Act was spurred by forces exogenous to the enforcement of corruption statutes. *More here*

It was widely believed that the expansion of the electorate would lead to an increase in the cost of fighting elections (Cowling, 1967, pp. 278–279) Even among advocates of reforms, Cowling argued, extending the franchise to householders was "in itself greatly to be deplored, introducing, as it would, all the worst evils of demagoguery in the cities, excessive deference in counties and small boroughs and bribery everywhere" (pg. 218).

Our claim is that MPs expected the Second Reform Act to increase the electoral reward of bribery and other corrupt acts. *More here*

In terms of our model, we propose that MPs expected the Second Reform Act to increase the equilibrium level of corruption under the partisan system of petition adjudication, such that delegating to the courts would restrain corruption by reducing enforcement uncertainty. With reference to Figure 3, we contend that the Second Reform Act was expected to move corruption from a point like s (where changing to the judicial system would result in reduction of corruption only to v) to a point like t (where the reduction would be more substantial).

Figure 3: The Effect of Reducing Enforcement Uncertainty on Equilibrium Electoral Corruption
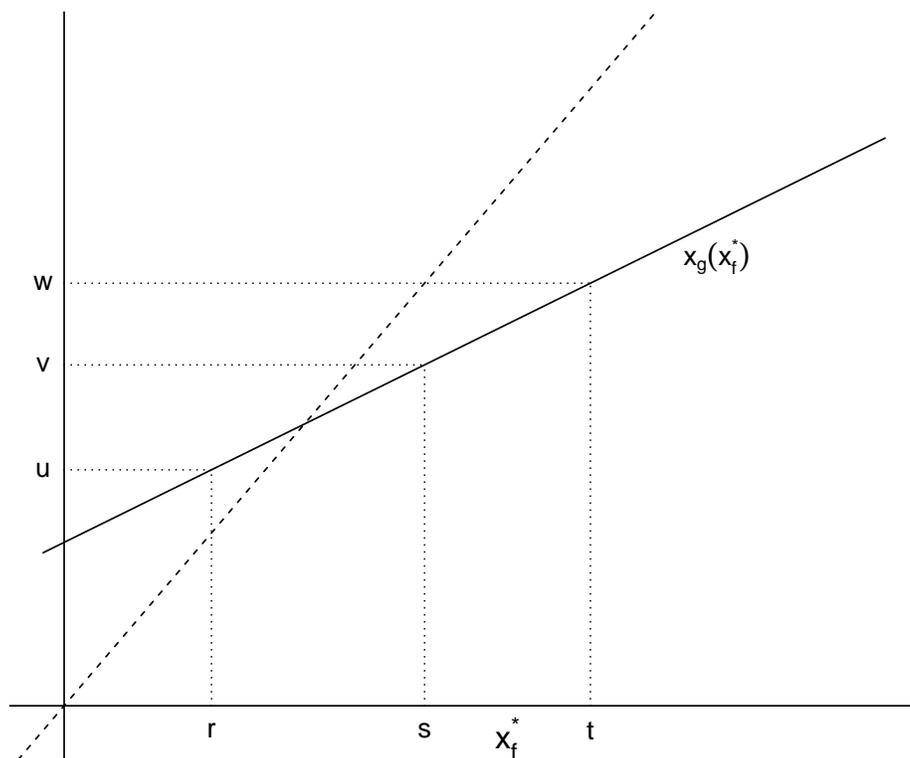
Note: The figure plots the equilibrium level of corruption under enforcement uncertainty characterized by density f (x-axis) and under enforcement uncertainty characterized by density g (y-axis), where g is assumed to be more central plus than f For high levels of corruption, reducing enforcement uncertainty reduces corruption; for low levels it increases it.

5.2 Why Not Delegate Earlier?

If delegation reduced corruption in 1868, and if reducing corruption was somehow beneficial to Parliament, then why did Parliament wait until 1868 to delegate? The answer depends on our assumptions about the goals of parliamentary leaders. To this point we have said nothing specific about Parliament's preferences regarding the level of electoral corruption. In our view, preferences of individual members likely varied. Many MPs probably would have preferred zero corruption: electoral corruption undermined the reputation of the body and was costly to individual MPs, who

in most cases paid for any bribes issued. Other MPs likely perceived that their own electoral position would be made more secure if corruption were more widely permitted – MPs who were especially adept at organizing bribery, for example, or wealthier MPs who expected to be able to outspend their opponents. Still others might have preferred that the level of corruption stay at the status quo level; given that all sitting MPs were elected under the status quo level of corruption, they may have anticipated that on average they were most likely to be reelected if the electoral environment remained the same. Given likely variation in the preferences of individual MPs, it is difficult to say with any confidence what the preferences of Parliament as a whole, or even Parliamentary leaders, might have been. We therefore proceed by considering two possible preferences that parliamentary leaders might have held: first, that parliamentary leaders had a "bliss point" level of corruption at $x^m > 0$ (perhaps because the median MP had a non-zero preferred level of corruption), and second that the bliss point was at $x = 0$, i.e. that Parliament wanted to eliminate corruption.

If we suppose first that Parliament wanted to attain a level of corruption $x^m > 0$, then the interpretation that suggests itself is that partisan process was better at attaining this level before 1868 than the courts would have been, but that it would have been *worse* after 1868.

If we suppose instead that Parliament wanted ideally to reduce the level of corruption to 0, then this suggests that delegating to the courts before 1868 would have *increased* corruption, whereas after the Second Reform Act it was expected to *reduce* corruption.

5.3   Why Not Reform Internally?

Supposing that the foregoing analysis is correct, and Parliament chose to reform the election petitions process in 1868 in order to reduce enforcement uncertainty and thus increase deterrence against corruption, why was delegation necessary? Why, in other words, was Parliament not able to achieve the same change in enforcement uncertainty without sacrificing power to the judicial system, for example by adopting measures to reduce partisan bias in petition judgments?

First, it is worth noting that parliament had indeed previously taken other actions designed to control the partisan bias of petition decisions. The most recent of these actions was the reduction of the size of select committees from seven to five in 1848, which was done explicitly to intensify election committee members' sense of individual responsibility and thus reduce the impact of "party feeling" on their decisions.[13]

One action that was considered in 1868, and that had been considered in the past, was to install a judge or other legal advisor to reduce the scope for interpretation of election law. George Sandford, MP for Maldon, said in debate on June 25, 1868 that while he "believed that the proceedings of the House on Election Petitions had generally been fair and just," their decisions would benefit from additional "uniformity, and this could be obtained by having Judges or lawyers, in whom they ought to place confidence, to sit as assessors to Committees." Perhaps the government chose to delegate the process entirely to the courts, rather than import a measure of judicial consistency, because it was perceived that this limited measure would not do enough to reduce bias and counteract imminent electoral changes.

In principle it might have been possible for the parties to enforce discipline on their members by somehow punishing them for making biased decisions while sitting on election committees. For example, party leaders could have asked MPs who voted in favor of a co-partisan in an election dispute to extensively justify their decision and otherwise submit to uncomfortable scrutiny; this scrutiny would act as a tax or fine that, properly calibrated, could eliminate bias by counteracting whatever benefit MPs would otherwise receive from deciding in favor of members of their own party. In other words, perhaps the parties could have agreed to crack down on bias within their ranks in order to avoid the necessity of delegating power to the courts.

Self-regulation of this kind raises a free-rider problem, however. Certainty in enforcement was a public good that was produced by each party's costly sacrifices and enjoyed by both parties. In

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[13]A select committee meeting in 1844 was almost unanimously agreed that reducing committee size would reduce partisan bias in decisions. They proposed a committee size of three. Parl. Paper 373, 1844.

1868, both parties had an interest in increasing the precision of petition decisions and thus deterring corrupt electioneering, but both parties would rather that the other party reduced their bias while they maintained their own bias and thus captured as many seats as possible.

6 Discussion

Coming soon.

7 Conclusion

Coming soon.

A Appendix

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