Taking the Leap: Voting, Rhetoric, and the Determinants of Electoral Reform*

Scott Moser† Andrew Reeves‡

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Abstract

The Second Reform Act ushered in the age of democratic politics in the UK by expanding the voting franchise to include the working classes and providing new representation to industrialized cities. Using unsupervised topic model analysis of parliamentary debates and quantitative analysis of roll call votes, we use new historical data to investigate why electoral reform successfully passed the House of Commons in 1867. Specifically we consider why reform passed under a minority Conservative government while a similar bill failed under a majority Liberal government despite no election or change in membership of the House of Commons. We find that party, not constituency, is responsible for explaining votes on reform and that, ultimately, it was the reduction in the number of aspects in the debate over reform that allowed a minority Conservative government to enact the Second Reform Act.

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†Assistant Professor, Department of Government, University of Texas at Austin, 1 University Sta. A1800, Austin, TX, 78712; http://smoser.webhost.utexas.edu/, smoser@austin.utexas.edu, (512) 232-7305.

‡W. Glenn Campbell and Rita Ricardo-Campbell National Fellow and the Robert Eckles Swain National Fellow at the Hoover Institution; Assistant Professor, Department of Political Science, 232 Bay State Road, Boston University, Boston, MA 02215; http://andrewreeves.org, reeves@wustl.edu, (650)723-8016.
Over the course of the nineteenth century, the United Kingdom’s electoral system was transformed from an aristocratic oligarchy to one exhibiting most of the modern hallmarks of a democracy. Parliament itself enacted these institutional changes through three reform acts (in 1832, 1867 and 1884). Of these reforms, none so dramatically expanded the scope of suffrage as the Second Reform Act of 1867. This act almost doubled the size of the electorate by enfranchising nearly one million men by lowering the property qualifications for voting (Seymour, 1970 [1915], 532); it is credited with ushering the working class into the UK electorate. As one historian put it, “The Reform Act of 1867 was one of the decisive events, perhaps the decisive event, in modern English history. It was this act that transformed England into a democracy…” (Himmelfarb, 1966, 97). In this paper we analyze how this transformative event came about through the original quantitative analysis of over sixty reform-related legislative votes and over 3,200 reform-related speeches. In contrast with previous explanations that focus on party competition or constituency-level factors, we argue that the dimensionality of debate was central in the Conservatives’ passage of reform. The Conservatives successfully passed reform through a more narrow discussion of the form it would take than did the Liberals.

The passage of the 1867 bill presents a puzzle; a moderate reform bill was proposed by a Liberal government in 1866 but defeated by anti-reform Liberals and Conservatives. The defeat of the bill brought down the Liberal government, which was replaced by a Conservative one. Without an election, the Conservatives formed a minority government and, led by Benjamin Disraeli in the Commons, introduced a similar although more extreme bill in 1867. This bill eventually passed and became the Second Reform Act. This puzzle of reform is compounded by the failure of the Liberals, who held a majority of seats, to enact reform and the success of Conservatives, who were a minority. Our analysis helps resolve this puzzle and, more generally, sheds light on a larger question of party development in the UK in the 19th century.

We address two closely related questions. First, what factors influenced wealthy and aristocratic legislators as they expanded the voting franchise to include the working class and provide new representation to industrialized cities? Second, why did reform fail under a majority Liberal government, yet succeed under a minority Conservative government? We argue and then present empirical evidence that the most influential force in voting for reform is an MP’s partisanship. We then show that there were asymmetries in the complexity of the agenda between 1866 and 1867.
In an analysis of parliamentary speeches on electoral reform, we show that the debate was more dispersed and less organized under the Liberal government as compared to when the Conservatives held control. We argue that the debate on reform in 1866 contained many dimensions of conflict and that the agenda became more coherent and contained fewer dimensions in 1867. Our explanation of the passage of reform is based on Riker’s concept of heresthetics, in which the introduction or removal of dimensions of debate can create new coalitions (Riker, 1986, 1996). From this perspective, the number and details of aspects of alternatives debated plays a large role in determining collective choices. Importantly, this concept is distinct from persuasion via rhetoric; it is the manipulation of group decision making by changing dimensions of debate. Through an empirical analysis of the legislative debate, we show that the language of reform became more focused under the Conservative government. As the “chaos theorems” show, decision-making in multi-dimensional contexts is unstable and difficult (McKelvey, 1976; Schofield, 1978; Feld, Grofman, and Miller, 1988). As the number of relevant aspects is reduced, collective decision-making becomes easier. We show that under the Conservative government the debate over reform was more coherent and contained fewer dimensions of conflict. Based on this social choice reasoning, we posit that this reduction of dimensionality facilitated the Conservatives’ enactment of the Reform Bill of 1867.

1 Passing the Second Reform Act

There are several foundational accounts of the passage of the Second Reform Act (e.g., Feuchtwanger, 1968; Smith, 1966; Cowling, 1967; Smith, 1967), and we provide a very brief overview here. The general election of 1865 saw the election of 360 Liberal and 298 Conservative MPs (Cook, 1999, 76). The Liberal government was formed under Prime Minister Lord Palmerston, who died shortly after the beginning of the session. Earl Russell then became prime minister in October 1865. Under Russell’s government, a moderate reform bill was proposed by William Gladstone, the Liberal Chancellor of the Exchequer and future prime minister. Liberals opposed to reform joined with the Conservatives to prevent the passing of the Liberal bill of 1866. The failure of the bill ultimately brought down the Liberal government. In June 1866, a new government was formed and was led by the Conservative Earl of Derby. Popular discontent with the failure of the Reform Bill of 1866 led to a series of protests around the UK, notably the Hyde Park Railings Affair on
July 23, 1866, in which a procession organized by the Reform League clashed with police. The Conservatives, led by Chancellor of the Exchequer Benjamin Disraeli in the House of Commons, ultimately passed a similar though more radical reform bill than the proposed Liberal reform of 1866. The Reform Bill of 1867 was adopted without a recorded vote upon the third reading on July 15, 1867. While some scholars have emphasized the role of public unrest and popular sentiment as an explanation for the passage (Acemoglu and Robinson, 2000), considerable disagreement exists among historians and political scientists as to the effect riots had on reform (Himmelfarb, 1966; McLean, 2001, Ch. 3). Hence, the puzzle remains.

For the first time, we apply modern empirical methods to historical data on the Second Reform Act, which is newly available in electronic format. With respect to the divisions, we ourselves obtained and recorded parliamentary voting on over sixty reform-related motions in electronic format. We study the voting patterns of the House of Commons to understand the decisions that directly led to the passage of reform. For the speeches, we rely on the work of the UK Parliamentary Service and the Millbank Systems, two groups which have digitized and published parliamentary debates over the past two centuries.\footnote{In the United Kingdom, members' debates and speeches have been recorded in \textit{Hansard} since the beginning of the 19th century.} We analyze the nature of the agenda over reform using an expanding toolkit of empirical methods for text analysis (e.g. Schonhardt-Bailey, 2006; Monroe, Colaresi, and Quinn, 2008; Klebanov, Diermeier, and Beigman, 2008; Bailey and Schonhardt-Bailey, 2008; Grimmer, 2010). Parliamentary speech is a rich source of information regarding the preferences, attention, framing, and strategy of members.

Our focus is to explain why reform passed in the House of Commons. Our analysis proceeds in two parts. First, we examine factors that influenced MPs' votes. We test two general classes of theories of reform that have been specifically applied to the passage of the Second Reform Act. The first focuses on partisan competition and the second posits constituency-level factors as driving reform. We compile constituency- and MP-level data and empirically evaluate both explanations. We find sparse evidence that constituency factors played a role in electoral reform. Instead, party was the most influential factor in voting for reform. In the absence of party institutions, we turn to parliamentary rhetoric to understand how partisanship ultimately influenced the passage of reform. In the second part of our analysis, we leverage the two reform bills to understand why a
majority party of the left failed to pass reform and a minority party of the right was successful. In an empirical examination of the legislative rhetoric on reform, we argue that the Conservative government presided over a more cohesive and unified agenda than the Liberal government. We suggest that the nature of the agenda contributed to the ability to pass reform. Specifically, we observe debate over fewer aspects of reform in 1867 and offer a social-choice explanation. Group decision-making was bound to be more problematic in 1866 due to multiple aspects of reform that MPs debated.

2 Theories of reform

Our primary inquiry is why reform failed under a majority Liberal government but then saw enactment under a minority Conservative House of Commons. We consider two sets of explanations for passage and introduce a third. The first focuses on the influence of constituency characteristics on voting for reform. We consider the extent to which these forces were activated between the first bill in 1866 and the second bill in 1867. This explanation stresses local influences on MPs to enact reform, especially the inequalities of the electoral system, which impacted MPs differently. The second focuses on the role of party and posits competition among party leaders as the primary explanation for why the House of Commons expanded suffrage. Both of these forces were influential in determining passage, yet they are both limited given the unique context of the passage of reform. The institution was composed of the same members when it voted against and then four reform. Indeed, the same party leaders were also at the helm during each bill. We argue that there is a crucial chamber-level dynamic that allowed the passage of reform. We suggest that the nature of debate, specifically the number of reform-related topics that were debated, was crucial in determining whether reform passed.

2.1 Constituency forces

One view of legislative representation is that legislators primarily adhere to the desires of their constituents when deciding upon legislation (e.g. Mayhew, 1974). In the case of the House of

\footnote{The influence of party and constituency is a question of general interest to scholars of legislative behavior (e.g. Rohde, 1991; Mayhew, 1974; Miller and Stokes, 1963; Ansolabehere, Snyder Jr., and Stewart III, 2001b) and one extensively examined in the context of the Victorian House of Commons (e.g. Aydelette, 1963; Schonhardt-Bailey, 2003; Cox, 1987; McLean and Bustani, 1999; Stephens and Brady, 1976).}
Commons, constituents mattered a great deal for representation. For instance, writing about the late eighteenth century, Namier (1968, 5) describes “country gentleman” MPs who “had to avoid all appearance that anything counted with them for more than the approval of their constituents.” And the mid-nineteenth century has been widely described as the “golden-age of the private member” (e.g. Clark, 1962, 45).3

With respect to the Victorian House of Commons, Schonhardt-Bailey (2003) finds that MPs abandoned party ideology in favor of constituency interests while voting on the Corn Laws of the 1840s. Indeed, the repeal of the Corn Laws, an import tariff that was seen as unduly raising food costs to the benefit of landed wealth, came about because Conservative MPs followed constituency to the point of destroying the electoral viability of the Conservative Party for a generation. This stands in stark contrast to the findings of Stephens and Brady (1976), which argues that, forty years later, constituency was subordinate to party in terms of parliamentary behavior.

Numerous quantitative studies of U.S. Congress have also examined the role of party and constituency in determining legislative behavior (e.g. Miller and Stokes, 1963). For instance, Ansolabehere, Snyder Jr., and Stewart III (2001b) uses pre-election surveys of members of congress to examine how personal preference, constituency preferences, and party influence roll call voting in the 103rd through 105th Congress. Their findings show that party indeed exerts a substantial effect on roll call votes especially when the votes are procedural or particularly close. In an analysis from 1874 to 1996, Ansolabehere, Snyder Jr., and Stewart III (2001a) finds that party exercises substantial influence well-beyond that of district preference with respect to the behavior of Congressional candidates.

The constituency characteristics of MPs did not change dramatically between voting on the first and second bills, yet the outcomes did. Because of this, constituency can only be influential to the extent that it was activated during one of the periods. We control for a host of constituency-level factors and consider specific mechanisms of influence at work. For instance, those MPs sitting for constituencies that have the greatest number of unenfranchised poor may acutely feel pressure to support reform. This may be either through organized political interest groups or else because of fear of violence. After the Liberal government fell, the Reform League, a pro-reform group, organized a series of protests in London. On July 23, 1866, they were prevented from entering

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3See also Pares (1953), 192.
Hyde Park and broke through railings surrounding the park. According to Acemoglu and Robinson (2000), “the Hyde Park Riots of July 1866 provided the most immediate catalyst” for reform (1183). Although Acemoglu and Robinson (2000) makes a generalized claim about the effect of violence on reform, we consider the possibility that constituency forces were particularly influential in the aftermath of riots. These same MPs may also feel substantial demand for public policy goods. Lizzeri and Persico (2004) argues that it was heterogeneous preferences among elites, especially for public goods, that caused the Second Reform Act to come about. As elites increasingly favored public goods over particularistic benefits to members from highly malapportioned boroughs, the expansion of suffrage became a preferable option. Members who were from the largest constituencies would most likely prefer wide ranging public goods to narrow particularistic goods. Their larger constituencies were too expensive to buy off and therefore it would be preferable to appeal to them through the broader distribution of public goods. Both mechanisms suggest that MPs from those constituencies that were particularly disadvantaged by the electoral system of the day might especially prefer reform.

The circumstances of the passage of the Second Reform Act provide an opportunity to test this hypothesis under both the Reform Bill of 1866 as well as the Reform Bill of 1867. Again, no election takes place between the two bills – only a change in the government. The same MPs represent the same constituencies when both bills were debated and voted on.

2.2 Partisan competition

The 1860s saw the emergence of stronger parliamentary parties, and one set of explanations for reform has focused on political competition among party leaders (Collier, 1999; Himmelfarb, 1966; Hibbert, 2006). According to this line of argument, each political party saw incentives in claiming responsibility for expanding the electorate. Himmelfarb (1966) argues that the Conservative and Liberal leaders were attempting to outbid each other for the highest levels of reform. Collier (1999) states that the Second Reform Act “must be understood above all in terms of the political competition between Liberal and Conservative parties” (62). These arguments suggest that those who are most invested in the success of the party should be especially supportive of the party’s position on reform. The Second Reform Act allows particular insights into this reasoning because of the circumstances of its passage.
Between the failed Reform Bill of 1866 and the successful Reform Bill of 1867, which became the Second Reform Act, there was no general election. The same members from the same constituencies voted on both bills. What did change was the party in control who was pushing for passage of the legislation. To the extent that party competition was a dominant force in the drive for reform, Liberals should have supported the Reform Bill of 1866 and opposed the Reform Bill of 1867. For Conservatives, we should observe the opposite pattern. Obviously, this is not the case since Liberal MPs helped to bring down the Liberal government and the Conservatives passed a bill while in the minority. Himmelfarb (1966) suggests that this is because it was “the party leaders themselves” who “forced up the price of reform” (107). Partisan competitive spirit was not uniformly allocated among MPs. In the context of legislative behavior, this clearly suggests that party effects should be strongest among party leaders, and party elites such as those individuals serving as ministers in the House of Commons. Other studies have challenged this explanation. For instance Acemoglu and Robinson (2000) argues that “the evidence does not support” an explanation based on party competition since the “Conservatives lost the 1868 election immediately after having passed the franchise extension” (1187).

While this explanation provides reasons why party leaders pursued the reform in the first place, it does not necessarily explain why the institution collectively passed it. While the motivation for party dominance may have motivated Gladstone and his lieutenants to propose reform, it was obviously not enough for his majority to pass the legislation. As we show, party is a dominant force in voting for reform, but its influence is, we argue, a) felt asymmetrically between the Liberals and the Conservatives; and b) exercised through mechanisms aside from standard punishment and reward. Liberals appear less constrained by their party than Conservatives. And both sides lack the institutional powers to control their members that begin to evolve shortly after this period. This leads us to argue that the change in the nature of the reform debate that came about with the change in party control was central to the passage of reform.

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4The exceptions are MPs who died or resigned their office.

5As Himmelfarb (1966) points out: “Although the Conservatives lost the election of 1868, they won those of 1874 and afterwards more than held their own – and this at a time when industrialization, democratization, trade-unionism, social reforms, and the like might have been expected to throw the balance in favor of the Liberals” (136–137). Additionally, just because the Conservatives lost the election 1868, it does not prove that the Second Reform Act was not an attempt to help them win it.
2.3 Nature of debate

We propose a third explanation for the passage of reform and argue that it represents the most proximate cause for why the Second Reform Act passed. This explanation focuses on the nature of debate surrounding reform. Specifically, we argue that the reduction in the number of aspects of reform that were debated created the opportunity for passage. The Second Reform Act allows for an unusual opportunity to investigate this chamber-level explanation of reform because of the change in leadership without election between 1866 and 1867. We leverage this change to examine the nature of debate over reform in each period. A possible mechanism by which parties can exercise various degrees of control in legislative environments is through the nature of the debate. Well-known social choice results indicate that the greater the number of aspects of an alternative are considered the more difficult collective decision making becomes (McKelvey, 1976; Schofield, 1978; Feld, Grofman, and Miller, 1988). By either influencing the scope and content of collective decision making or taking advantage of a “consensual” debate in which MPs agree “what the debate is about,” parties may affect legislative change.

Any issue may be discussed in a variety of ways, and various aspects of it may be more or less relevant to decision makers. Loosely speaking, the more aspects of debate are considered, the more unstable and difficult collective choice, ceterus paribus. As we argue below, the nature of reform debate under the Liberal government in 1866 was complex and varied, while the relevant aspects of reform discussed and considered were more concentrated under the Conservatives in 1867.

Analogous arguments are made in different contexts by scholars examining legislative outcomes in the context of interest groups and lobbying. For instance, Baumgartner and Jones (2009) argues that the number of topics or dimensions over which a specific issue is discussed is directly relevant to its legislative passage. This is because “anytime political actors can introduce new dimensions of conflict, they can destabilize a previously stable situation” (14) and “[i]n any situation where voting matters, stability is dependent on the dimensions of conflict present” (13). A similar argument is made in Baumgartner et al. (2009, Chapter 3).

The primary fight for reform in Victorian Britain was not between those who outright opposed

\[\text{In the extreme, collective decision making when there is only one dimension of conflict is “easy” when and voters preferences are single-peaked (Black, 1958) and “chaotic” when there is more than one dimension of conflict (McKelvey, 1976; Schofield, 1978). As discussed later, Feld, Grofman, and Miller (1988) provide a bounds on the “difficulty” of collective choice as the dimensionality of conflict changes.}

\[\text{This statement is made precise in Section 3.}

\[\text{A similar argument is made in Baumgartner et al. (2009, Chapter 3).} \]
or supported it. There was substantial agreement over the need or at least inevitability of the expansion of democratic suffrage. The debate was over the form it ought take. Saunders (2007) points out that past scholarship has characterized the record of the parliamentary debates on reform as “a corpse”, “rich only in the ability to irritate and to bore” (Hoppen, 2000, 237); a rhetorical “humbug” that proved “sadly ineffectual” in shaping legislation (Smith, 1966). Saunders (2011) then argues that the legislative debate was crucial in the passage of reform as a means to reconcile the hotly contested “nature of reform” with the more generally accepted “principle of change” (22). The barrier to earlier passage was the “complexity of reform” (22), which was overcome for passage to occur. Our findings present quantitative evidence for these arguments.

2.4 Hypotheses

To summarize, from the three frameworks described above, we analyze explanations for the passage of the Second Reform Act. The first places party competition as the proximate cause. We refer to this as the *partisanship* explanation. The second argues that constituency was the decisive influence on the passage of reform, and we refer to this as *preferenceship* explanation. Both of these explanations focus on MP-level votes on reform. Finally, we consider an institution-level explanation based on the structure of the debate over parliamentary reform. We refer to this as *rhetorical structure* explanation. We consider each explanation and its implications for the passage of reform.

Under the partisanship explanation, party should be especially important for leaders who have the most incentive to strengthen their electoral base. We expect to see party, independent of constituency characteristics, as the key determinant of voting. This effect should be particularly strong among party leaders. One hypothesis based on the partisanship explanation is that party is a significant predictor of MPs voting behavior. Further, since party elites stand to lose more from the loss of party control of government, we hypothesize the effect of party is stronger for ministers than non-ministers.

Secondly, we consider constituency. In the face of electoral pressure, MPs might abandon their party in light of the constituents (or non-voting inhabitants) that they represent. If passage of the bill was driven by demand for public goods, then demanders of public goods — be they Liberals or Conservatives — would endorse reform. We operationalize this via malapportionment of the
Those MPs representing under represented constituencies face potential pressure from masses of unenfranchised voters. Since demographics do not noticeably change between 1866 and 1867, we expect this relationship to hold for both bills. The preferenceship explanation then yields the following hypothesis: population size of constituency should predict voting behavior. MPs from districts demanding public goods should vote similarly ceteris paribus.

Finally, we consider the parliamentary debate over reform. This explanation suggests that passage of reform reflects a fundamental difference in the way that it was debated under the Liberals and Conservatives. We suggest that, in the absence of evidence for the above MP-level reform mechanisms, the nature of the rhetorical structure at the session-level is a compelling explanation for how reform passed. Under the Liberals, reform was discussed in the context of many different topics. But under the Conservatives, the structure of rhetoric was more concentrated, more stable, and ultimately able to pass the House of Commons under a minority government.

3 Passing reform: votes

In this section we investigate the role of party and constituency in the domain of legislative voting. We analyze votes on the Reform Bills of 1866 and 1867. There were a number of recorded votes on reform-related legislation. These include 10 divisions on the Reform Bill of 1866 and 51 divisions on the Reform Bill of 1867, which passed and became the Second Reform Act.

Before we turn to multivariate analysis, we conduct an analysis of party cohesion among the Liberals and the Conservatives on matters of reform. Figure 1 presents a basic analysis of the cohesiveness of votes. Each point indicates the proportion of the party in the majority for each party on a single division. As is clear, there are strong partisan divides on most votes. We often see 90% of each party voting together. Yet we also see divisions where the Conservatives vote as a block and Liberals do not (these divisions are located in the lower-right hand corner of the figure). We see fewer votes (although some) where Liberals vote together and Conservatives split. And we see a single instance where party unity fall below 70% for both parties.

We also observe the pattern in Figure 1 in an examination of specific, notably ideological MPs. For example, consider John Stuart Mill and Robert Lowe, both Liberal MPs but regarded as 9 In other analyses, we operationalize this as raw measure of constituency populations, values which are highly correlated with malapportionment. The results are substantively the same as those that we present.
Figure 1: Liberal and Conservative cohesion on divisions on Reform Bill of 1866 (+) and Reform Bill of 1867 (●). Each point represents the size of the Liberal majority (on the y-axis) and the Conservative majority (on the x-axis).
idealological opposites on the reform issue (e.g. Trevelyan, 1913). These idealological opposites voted together on 32 out of a total of 46 motions for which they were both present. A chi-squared test on the contingency table of Mill’s votes and Lowe’s votes confirms that there is no association between the voting of these two MPs. This most basic analysis of votes suggests influences on voting other than the ideology of the MP.

We further explore voting behavior using an ideal point model of Clinton, Jackman, and Rivers (2004), which jointly estimates voter ideal points, as well as motion positions, by assuming that MPs vote for bills they prefer but with error. Figure 2 shows the result of such an analysis over time. Along the $x$–axis, we plot the ideal points of MPs during the debate of the Reform Bill of 1866 and along the $y$–axis we plot ideal points of MPs voting on the Reform Bill of 1867. Boxes show Conservative MPs and dots show Liberal MPs. The picture presented in Figure 2 does not suggest an en masse repositioning of the Conservative Party with respect to parliamentary voting. Voting in both periods was fairly consistent without much variability, showing no evidence of ideological repositioning of either party.

Taken together, the analysis of the divisions shows several things. First, Conservatives were generally more cohesive than Liberals, but both parties were relatively stable when voting on reform. We also see no major shift in voting patterns among Liberals and Conservatives between 1866 and 1867. Finally, to the extent that voting behavior is based on ideological considerations, there is no evidence for either a change in ideology from 1866 to 1867, or a substantially large difference in the ideological heterogeneity between Liberals and Conservatives.

### 3.1 Independent variables

We now turn to a multivariate analyses of divisions on reform, which we introduced in the previous section. In order to conduct our analysis, we have obtained, digitized, and compiled several pieces of member- and constituency-level data. These covariates provide measures of both party and constituency in order to evaluate their influence on voting behavior. MP partisanship is obtained from several registers that are available for the period (*Dod’s Parliamentary Companion*, 1865; Mair, 10

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10 Ideal points are estimated using a one-dimensional Bayesian IRT model of Clinton, Jackman, and Rivers (2004), implemented in the “pscl” package Jackman (2012). Identification over time is achieved by assuming Lowe (Mill) have positive (negative) fixed ideal points that do not change between 1866 and 1867. Posterior means shown are based on 10000 MCMC iterations (thinning every 100 iterations), after a burn-in of 5000 iterations.
Figure 2: MP ideal points derived from votes on parliamentary reform during debates on the First Reform Bill ($x$–axis) and Second Reform Bill ($y$–axis).
1867). Although members generally identified as either Liberals or Conservatives, partisanship was less defined when examined just decades later and into the twentieth century.

Our second independent variable of interest is constituency pressure for reform. We operationalize this as constituency-level malapportionment and employ the measure used in Ansolabehere, Gerber, and Snyder (2002) and adapted from David and Eisenberg (1961).\(^{11}\) We call these measures malapportionment scores and calculate them as a ratio of how much legislative representation a district actually receives versus how much it should receive in an equal population representation scheme. The amount of representation that a district *should receive* is the total population of the district divided by the total population over all constituencies. The amount of representation that a district *actually receives* is the number of seats that the individual districts receives divided by the total number of seats in the House of Commons. Consider a nation which has 1,000 citizens and a legislature with 100 seats. District One has 150 citizens and has 7 seats in the legislature. If the 100 seats are divided equally among 1,000 citizens, then equal representation would be one seat for every 100 people. District One’s malapportionment score is \(0.47 (\frac{7}{150}/\frac{100}{1000} = .47)\), a value which indicates that District One received less than half of the representation that it would under an equal representation system. District Two has 200 people and 45 seats and a malapportionment score of 2.2 \(\frac{45}{200}/\frac{100}{1000}\), meaning that District Two receives over twice the amount of representation it would under an equal representation system. Because of the skewed nature of the variable, we take the natural log and so it is interpreted as a multiplicative index of malapportionment. Because of this transformation, a score of zero reflects equal population representation. Malapportionment scores provide measures of equality for each constituency instead of a single summary number for the entire nation. Figure 3 presents the distribution of logged malapportionment scores for all constituencies in the House of Commons. Negative values represent constituencies that are under-represented, while positive values represent over-represented constituencies.

Other independent variables include whether an MP is part of the ministry. We include in this designation those MPs who were junior ministers or full members of the cabinet and obtain this information from Cook (1999). Also from Cook (1999), we obtain constituency-level measures of population in both 1851 and 1861.\(^{12}\) This allows us to construct our malapportionment index as

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\(^{11}\) See Samuels and Snyder (2001) for one overview of measures of malapportionment.

\(^{12}\) These reports from Cook (1999) are obtained from *The Parliamentary Papers*.
Figure 3: Malapportionment scores (logged) for constituencies in the House of Commons, 1866.
well as control for population growth. We also include constituency-level measures of the economy. These are derived from tax records, which report the amount of taxes collected for each constituency. We include each as a per-capita measure that is then logged.

3.2 Party, constituency, and voting on reform

In order to assess the independent influence of party and constituency, we conduct an analysis of each reform vote. This involves conducting over sixty logistic regressions where the dependent variable is a binary indicator (0=No; 1=Aye) of whether an MP voted for or against a measure. As described in the previous section, this is modeled as a function of party, district-level malapportionment, population change, along with controls for wealth of the district.

Our analysis shows that party is consistently a strong and statistically significant predictor of vote choice, while malapportionment is not. Figure 4 presents the unstandardized coefficient for each of the reform bill divisions. The y-axis shows the size of the coefficient. The vertical lines through each point represent the 95% confidence interval of the estimate. The coefficients are ordered along the x-axis from smallest to largest, with solid dots indicating those divisions voted on in 1866. What is clear is that, even while controlling for a host of constituency-level characteristics, partisanship was a key determinant of voting on reform. Only three divisions see no significant party effects. Figure 5 presents the estimated impact of constituency on voting for reform. Only six votes see statistically significant effects of malapportionment. Taken together, these results suggest that party was the driving force behind voting behavior. Malapportionment scores were infrequently related to vote and so MPs from under-represented industrial cities were no more or less likely to support reform than an MP from a constituency controlled by a single patron.

While our analysis suggests that party drove voting behavior on reform, it falls short of explaining why reform passed.\textsuperscript{13} Our results emphasize the puzzle: if party was the dominant force, then how was it that the Liberals failed to pass reform with a majority of 360 to 298 and the Conservatives were successful with minority control? We have shown that constituency-level characteristics fail to predict votes on reform, but we have not resolved how the Conservatives succeeded or why the Liberals failed. In the next section, we analyze parliamentary speech and propose that the

\textsuperscript{13}Although the analysis of divisions provides insight into legislative behavior, it also faces certain limitations. These challenges are documented by others (e.g. Spirling and McLean, 2007b) and include (1) a non-random selection of recorded votes and (2) non-ideological (i.e. sophisticated) voting on the part of MPs.
Figure 4: Coefficients for Party (0 = Conservative; 1 = Liberal) for all votes on reform. Solid dots represent votes taken in 1866, open dots votes in 1867.
Figure 5: Coefficients for logged malapportionment score for all votes on reform. Solid dots represent votes taken in 1866, open dots votes in 1867.
structure of the agenda under the Conservatives enabled the passage of the reform.

4 Passing reform: speeches

Results from the previous section indicate that party is a powerful and significant predictor of voting behavior, much more so than constituency. The question remains however, as to how party operated to pass reform under a minority government when it was earlier defeated by a majority government. Modern parties in the British House of Commons are highly organized, cohesive entities and exert considerable discipline on their members through legislative institutions and a combination of organizational rewards and punishments. Such was not the case when the reform bills were debated. At the time of the Second Reform Act, parties were not formal organizations but rather loose collections; the first party organization did not appear until 1868.\textsuperscript{14} Party, based on classic definitions such as Duverger (1951), Key, Jr. (1964), or Aldrich (1995), did not exist in 1860s Britain and so pressures of the party organizations are not viable explanations for member behavior. In the absence of party institutions, we argue that the size and scope of the agenda was instrumental in leading to the passage of reform. We argue that asymmetric party leadership allowed the Conservatives to control the agenda and pass reform. As the debate became more focused, the Conservatives, led by Disraeli, were able to pass the Reform Bill of 1867 while being a minority government.

To explore party’s role in legislative behavior, we examine the corpus of legislative debates made on the issue of reform. We use unsupervised machine learning techniques, specifically topic models (Blei and Lafferty, 2009), to uncover aspects of the reform debate and to quantify speeches and speakers.\textsuperscript{15} From the corpus of debates, speeches are used to uncover topics, or dominant aspects of the reform debate. Using these methods, we uncover the structure of how members talk about reform such as suffrage, apportionment, or electoral corruption. We interpret topics, which we define in the next section, as \textit{aspects} of the reform debate. This structure is used to measure the semantic content of individual speeches. We then describe the extent to which a speech is about

\textsuperscript{14}The National Union of Conservative and Constitutional Associations was founded in 1868 and the National Liberal Federation was established in 1877.

\textsuperscript{15}While “debates” have a discursive nature that “speeches” do not necessarily have, we use the two words interchangeably. In the nineteenth century House of Commons, parliamentary speeches were seen as genuine opportunities to sway undecided MPs.
each of the topics that we uncover. For example, a given speech might be about suffrage and corrupt landlords or it could focus on the moral fitness of the poor to vote. This analysis allows us to summarize the similarity and differences regarding which aspects of reform are discussed by party and year, as well as examine within-party differences in the framing of the debate.

We suggest that the number of relevant aspects of the reform debate facilitated the passage of the Reform Bill of 1867 and contributed to the defeat of the Reform Bill of 1866. In the presence of multiple aspects or dimensions of conflict, achieving a collective decision is difficult and even unlikely (McKelvey, 1976; Schofield, 1978); however, as dimensions of conflict decrease, the possibility of collective decision-making increases. In brief, our argument employs the spatial model of collective decision making, and relies on results from social-choice theory. In the spatial model framework, voters and alternatives are conceived of as points in a large (potentially multi-dimensional) space. In such a setting, the difficulty of group decision making is well-known: the “chaos theorem” of McKelvey (1976) and Schofield (1978) show that, when voters have preferences over a multi-dimensional space of alternatives, outcomes are very unstable and easily changed. In essence, collective decision-making when there are many aspects along which voters disagree is generally difficult and unstable.\(^\text{16}\) By examining the results of the topic model, we are able to identify contentious aspects of the reform debate and how they changed in size and scope over time.

### 4.1 Aspects of reform

In this section we systematically examine the content of reform speeches. Recent advances in computational linguistics and natural language processing have resulted in new methods – specifically topic models – allowing for the estimation and quantification of prominent aspects of political debate. Which aspects of reform MPs consider are reflected in the words used to discuss and debate alternatives. Hence, one valuable source of information concerning the dimensions of reform in 1866 and 1867 is the textual arguments and floor speeches used by MPs when deliberating reform. As noted elsewhere (Hopkins, 2011), convincing an aspect of political debate as a probability distribution over words is hence a useful way forward. Topic models (Blei and Lafferty, 2009) implement this strategy by decomposing reform speeches into aspects or topics. Fitting a topic model yields a low-dimensional representation of the corpus of reform debates in terms of a small number of aspects.

\(^{16}\)Exceptions occur only in very knife-edge circumstances (Plott, 1967).
prominent themes used in deliberation of reform in floor debates and speeches. Our use of this method is used to estimate and quantify how MPs discussed reform and in what terms.

We analyze all legislative speeches given in the House of Commons in 1866 and 1867 related to electoral reform. This constitutes some 3,200 speeches made by individual members. Words are stemmed, and frequencies are recorded in a term document matrix. This is a $D \times V$ matrix where $D$ is the number of speeches, $V$ is number of words appearing in the corpus, and cell entries record the number of times word $v$ occurs in speech $d$. After pre-processing (see Supporting Information) the corpus of reform debates, we are left with 2,645 speeches made by 309 MPs (out of 712 unique members in this time period). Uncovering the aspects of reform debates is then accomplished by fitting a variety of topic models to these data.

We model speeches arising from a hierarchical process in which speeches consist of words from many topics. A topic is, formally, a probability distribution over words, and the composition of a speech is assumed to be a mixture of several different topics (Blei and Lafferty, 2009). Topic models are an unsupervised technique for exploring and modeling the aspects of a corpus of documents. Other examples of hierarchical Bayesian modeling of speech include Grimmer (2010) and Monroe, Colaresi, and Quinn (2008). Two specific topic models – Latent Dirichlet Allocation (LDA) (Blei, Ng, and Jordan, 2003) and Correlated Topic Models (CTM) (Blei and Lafferty, 2006) are used here. This estimation technique allows for both the identification of ex ante undefined topics, as well as the scaling of speeches and speakers. The model is presented more formally in the Supporting Information but may informally be described as follows: each document is assumed to be composed of words from (potentially) many topics where a topic is semantically coherent collection of words, and ex ante unknown. Concerns about the consequences of reform are likely to use words such as “corrupt”, “bribe”, “vote” whereas concerns for the moral aspects of reform are likely to be expressed using words such as “unfit”, “representation”, “majority”, “class”. For example, a single speech made by an MP may consist of many aspects, for example, honorific ornamentation (“...I rise to address the house.”; “... the gentleman member from Newark...”), followed by arguments

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17Entries in Hansard are recorded by topic. We select all speeches listed in Hansard associated with the topic of reform in 1866 and 1867. See Supporting Information for details.
18A natural concern is that of selection – who gives speeches. While ministers are over-represented as speakers, the corpus of speeches is more evenly represented. We address the presence of reform speeches in Supporting Information.
19For example, words like “fish” and “fishing” share a common stem, “fish.”
20We use $D$ to be both a set of all documents as well as its cardinality, similarly for $V$. 

22
for or against loosening suffrage qualifications. Hence, a speech is “about” more than one aspect of reform, and may take various positions on those aspects. In brief, two speeches addressing the reform issue can express different aspects of reform. Further, two speeches addressing the same aspects of reform express differing points of view on the same aspects of debate.

For the remainder of the paper, we use the results of a 10-topic Latent Dirichlet Allocation, using Gibbs sampling for the estimation stage. We consider a range of number of topics, but settle on ten for a number of reasons. Substantively, ten topics yield categories that are substantively meaningful and identifiable by the researchers. Statistically, the ten topic model specification presents among the best fit for the data based on held-out perplexity. Further investigation of the number of topics is presented in the Supporting Information.

Table 1 presents the results of our fitted topic model along with the most probable word stems per topic. Since we are limiting the corpus to only speeches made on the issue of reform, words used together frequently indicate an aspect of reform. As can be seen in Table 1, some topics are largely procedural, while others are substantive frames through which reform was discussed. Several topics frame different ways of specifically discussing suffrage (topics 5, 8 and 10). These include: suffrage qualifications, which focuses on the qualifications to vote especially in respect to taxation and property ownership (topic 5); the consequences of extending suffrage including bribery, corrupt landlords, etc. (topic 8) and; technical words discussing electoral statistics (topic 10). There is also a topic dealing specifically with apportionment (topic 2), the redistribution of seats. Another deals with House members discussing the business of the House of Lords (topic 3). Topic 4 consists of principles and ideas and discusses reform in broad philosophical terms. We estimate three procedural topics: an ornamental category containing the platitudes of parliamentary debate (topic 1); a process topic containing scheduling, amending and instruction to committees (topic 9); a chancellor category (topic 6) primarily containing the procedure conducted by the Chancellor of the Exchequer (Gladstone prior to June 1866, Disraeli afterwards); and miscellaneous procedural

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21 The potential for a single speech to contain more than one theme is formally captured by using admixture models, in which units are a combination of latent components. The topic models used here are examples of admixture models.

22 We fit the same model using variational EM algorithm (Blei, Ng, and Jordan, 2003; Grimmer, 2009), as well as a more general model, the Correlated Topic Model which allows for correlation between topics (LDA assumes topics are conditionally independent).

23 The two MPs whose speeches contain the most topic 4 content are John Stuart Mill and Robert Lowe, the former a radical advocating women’s rights on fairness grounds, the latter a vocal anti-Reform Liberal and leader of the Adullamites, adding support to our interpretation of this topic as a moral or principled way in which reform was discussed.
<table>
<thead>
<tr>
<th>Topic 1</th>
<th>Topic 2</th>
<th>Topic 3</th>
<th>Topic 4</th>
<th>Topic 5</th>
<th>Topic 6</th>
<th>Topic 7</th>
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<tr>
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<td>Lords</td>
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<td>suffrage qualifications</td>
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<td>major</td>
<td>occupi</td>
<td>friend</td>
<td>franchis</td>
<td>voter</td>
<td>word</td>
<td>propos</td>
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<td>household</td>
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Table 1: The 10 most probable word stems from a 10-topic LDA model fitted on reform speeches
category (topic 7). We present a complete listing and discussion of the interpretation of topics in the Supporting Information.

Figure 6: Histogram of modal topics by speech: left figure (a) shows the distribution of modal topics of speeches made by Liberal (top pane) and Conservative (bottom pane) members in 1866, arranged by popularity among Liberal MPs; right figure (b) shows composition of speeches made by Liberal and Conservative MPs in 1867 (top and bottom panes, respectively), organized according to popularity of topics among Conservative MPs in 1867.

We examine how the composition of debate differs from 1866 (when Liberals were in power) to 1867 (when Conservatives were in power) and by party. Figure 6 shows for each party in each year, the histogram of modal topics. In a topic model, each speech is comprised of a number of topics. For instance, a member might address both the suffrage qualifications and the electoral corruption that might come about by enfranchising the lower classes. Based on the words in a speech, we estimate the proportion of the speech from each given topic. For the presentation in Figure 6, we assign the speech to its most prevalent (or modal) topic. In Figure 6, the distribution of modal topics is shown by party and by year. In Figure 6(a) topics (arranged on the x-axis) are ordered by their popularity among Liberals in 1866; topics in Figure 6(b) are arranged by popularity among
Conservatives in 1867. The emphasis on topics of reform differs between parties as well as between periods of party control.  

Under the Liberal government in 1866, Liberals and Conservatives discussed and emphasized different aspects of reform. In 1866 Liberals focused on the technical and principled aspects of reform (though appear dominantly concerned with the activities of the House of Lords) while Conservatives were more focused on reform in terms of apportionment of seats. The difference between Liberal and Conservative speeches made about reform in 1866 can be seen visually as the difference between the top and bottom histograms in Figure 6(a). In terms of substantive debate in 1866, Liberal speeches decreasingly focused on the principals, technical, and apportionment aspects, while for Conservatives in 1866 the reverse is true. As we argue in more detail in a later section, the presence of numerous dimensions of debate made collective decision making increasingly difficult in the context of the Reform Bill of 1866.

By 1867 both parties were discussing similar aspects of reform. Comparing the top and bottom panes of Figure 6(b) shows more similarity in the content of speeches given by Liberal and Conservative MPs on the topic of reform. By 1867, the debate is focused on apportionment, consequences of reform, and suffrage qualifications.

The partisan and temporal differences noted above may be formalized by examining the rhetorical cohesion of each party— that is, how similar the set of speeches made by Liberals are to speeches made by Conservatives. The notion of similarity between two speeches can be defined in any number of ways. In this context, we assess the similarity of two speeches by how similarly they frame reform — the estimated topic-composition of two speeches. We measure how close speeches are using the Hellinger distance to compute the similarity of two speeches. The Hellinger distance is an entropy-based measure of how similar two speeches are. It has a minimum of 0, if two speeches

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24Topic-models assume the data generating process is such that each speech can be “about” multiple topics, and further that a topic is simply a distribution over words.

Figure 6 shows the modal topic of each speech by party-year. So, while all our estimation and calculations are done using the full estimated topical distribution at the document (and speaker) level, Figure 6 only shows one aspect of that document-level topical distribution, namely the mode. This purely for visual presentation in Figure 6 only: the analysis that follows incorporates the full estimated topical content of speeches.

25In the Supporting Information, we specifically consider the role of the Adullamites, conservative Liberals who opposed reform and attributed to the failure of the Reform Bill of 1866.

26The Hellinger distance measure is commonly used in the information retrieval literature. Blei and Lafferty (2009) uses this method to compute the similarity of scientific articles. Other notions of similarity of documents abound. Since the posterior distribution of speeches may alternatively be thought of as a composition of topics, rather than a probability distribution over topics, compositional metrics may likewise be employed to calculate how similar two documents are. For example, Grimmer (2010) employs the metric defined in Billheimer, Guttorp, and Fagan (2001).
are (probabilistically) about the same topics, and a maximum of 1, if speeches share no topics in common.\textsuperscript{27} The Hellinger distance is one commonly used measure that assesses how similar two speeches are in terms of their content.\textsuperscript{28} As mentioned earlier, the estimated topics are not positions in the reform debate, but rather aspects of reform. Hence, two speeches are similar not (necessarily) if the speakers “agree on the reform question,” but rather are similar if they discuss similar aspects of reform.

To examine the cohesion of reform debates, we calculate the average Hellinger distance between all Liberals speeches and Conservative speeches in 1866 and in 1867. The results are presented in Table 2.

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<tr>
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<th>1866</th>
<th>1867</th>
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<tbody>
<tr>
<td>Liberals</td>
<td>.264</td>
<td>.238</td>
</tr>
<tr>
<td>Conservatives</td>
<td>.258</td>
<td>.231</td>
</tr>
</tbody>
</table>

Table 2: Average distance among speeches given by same party in same year, in 1866 and 1867 using the Hellinger distance.

Each statistic provides information about the legislative cohesion within the parties under each government. For example, the average distance among all speeches given by Liberal MPs in 1866 is .264 (the top left cell of Table 2). Of particular interest is the change in cohesion by party and by year. Rhetorical cohesion is significantly different between 1866 and 1867 at any reasonable level of significance for both parties (using a t-test for difference in means). Hence, the substantive conclusion we draw is that both Liberals and Conservatives discussed reform in a more similar manner in 1867 than in 1866.

Alternatively, comparing the average distance from speeches to party leaders provides another measure of rhetorical cohesion of a party. Instead of calculating the average distance among all speeches made by Liberal members, we calculate the average distance from all speeches made by Gladstone in 1866 to all speeches made by Liberal MPs (excluding Gladstone), and likewise for Conservatives and Disraeli. The results are qualitatively similar as can be seen in Table 3. In sum,

\textsuperscript{27}If two speeches \(d, d'\) have posterior topic distributions \(\tilde{\theta}_d\) and \(\tilde{\theta}_{d'}\) over \(K\) topics, then the Hellinger distance between the two is given by

\[
\frac{1}{2} \sum_{k=1}^{K} \left( \sqrt{\tilde{\theta}_{d,k}} - \sqrt{\tilde{\theta}_{d',k}} \right)^2.
\]

\textsuperscript{28}One criticism of this measure of similarity is that MPs, especially ministers, specialize, and that the content of their speeches divides along areas of expertise. However, because we analyze just the corpus of parliamentary speeches made on the topic of reform, and because specialization likely affects both parties in similar magnitude, this criticism is likely not a significant issue in the subsequent analysis.
both Liberal and Conservative speeches become more cohesive in 1867.

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<th>1866</th>
<th>1867</th>
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<tbody>
<tr>
<td>Liberals</td>
<td>.207</td>
<td>.176</td>
</tr>
<tr>
<td>Conservatives</td>
<td>.200</td>
<td>.166</td>
</tr>
</tbody>
</table>

Table 3: Average distance from all speeches given by Liberals (Conservatives) to speeches made by party leader (Gladstone for Liberals, Disraeli for Conservatives) in 1866 and 1867 using the Hellinger distance.

We find that when we compare Liberals to Conservatives, Liberals vote together less often (Figure 1), discuss reform in terms less similar in terms less similar to each other (Table 2) and as well as their party leaders (Table 3). Taken together, this provides evidence that the debate over reform became more concentrated when the Conservatives took control. We also find evidence for asymmetric party unity. Both in terms of voting and rhetoric, Conservatives were more cohesive than Liberals. Overall there is greater commonality among topic-frames employed by speakers in 1867 when Conservatives constituted the government. Party and year are predictive of how reform speeches are framed. Liberals switch from discussing reform in an unfocused manner in 1866 to discussing reform in terms of suffrage qualifications and apportionment in 1867 (Figure 2). How does party affect legislative behavior? Our analysis suggests that, in the case of the Second Reform Act, skillful framing of the debate, facilitated by control of the agenda plays a role.

4.2 Dimensionality of debates and passing reform

Taken together then, we have documented that the focus of debate changed from 1866 to 1867. Members discussed and debated reform in 1866 in an unfocused, varied manner, but by 1867 reform debate had crystallized around a small number of aspects.

The change in the debate could have been due to several factors including: exogenous factors such as riots; skillful manipulation by Disraeli\textsuperscript{29} or even; as the product of the diverse disagreement and deliberation in 1866.\textsuperscript{30} Whatever the reasons for the reduction in aspects of the reform debate,

\textsuperscript{29}That the Second Reform Act came about via skillful manipulation of the aspects of reform by Disraeli is advanced in McLean and Bustani (1999).

\textsuperscript{30}In any reform, two aspects are crucial for decision-makers: \textit{feasibility} and \textit{consequence} of proposed reform. Decision-makers must know (1) if reform is possible and (2) if it is, what the consequences of enacting reform are likely to be. It is striking, then, that a notable shift occurred from discussing the \textit{technical aspects} of reform in 1866 to discussing the \textit{consequences} of reform in 1867. Speeches focusing on the consequences of reform are relatively infrequent amongst both Liberal and Conservative speeches in 1866 but frequent in 1867. This pattern is observed in Figure 6.
a reform bill passed in 1867, and not in 1866. It remains, however, to explain how this change in rhetoric facilitated the passage of the reform bill. Such an explanation may be found in the social choice literature. As the number of issues concerning reform decreases, collective decision-making becomes easier. One way to formalize this idea is through the use of the social-choice concept known as the “yolk,” which is a generalization of the core and can arguably be considered a super-set of possible outcomes of collective decision making. One feature of the yolk is that it gets “smaller” as the number of dimensions decreases. Specifically as a consequence of Theorem 3’ (Feld, Grofman, and Miller, 1988, 45), for a fixed number of voters (as was the case in 1866-1867 House of Commons), possible group choices include a smaller number of voters’ ideal points when decision making is over a fewer number of dimensions, *ceteris paribus*. Hence, when fewer aspects of alternatives are considered (as was the case in 1867), group-decision making becomes less difficult.

In summary, that fewer aspects of reform were debated in 1867 makes achieving a collective decision less difficult. Using social-choice analysis, this argument is made precise and helps explain the failure of the Reform Bill of 1866 (due to the multiple aspects of reform that were considered) and passage of Reform Bill of 1867 (for which fewer aspects of reform were debated).

5 Conclusion

The passage of the Second Reform Act helped usher in the age of democratic politics in the UK. The circumstances of its passage provides an opportunity to analyze mechanisms of electoral reform.

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31 To be precise: the upper bound of the size of the yolk is increasing in the dimensionality of the choice space. Letting \( n \) be the number of voters and \( w \) the dimensionality of the space of alternatives, the number of voter ideal points contained in the yolk is no more than \( \frac{(w - 1)n - 3}{2w} \).

32 One may wonder if the alternatives – possible version of a bill – really are multi-dimensional at all. For example, one popular way to conceive of alternatives is as bills ranging from “more expansion of the franchise” to “less expansion” (McLean, 2001; Spirling and McLean, 2007). However, even if one were to adopt this conceptualization of alternatives under consideration, the voters preferences were arguably *not* single-peaked in 1867, and hence the classic result of Black (1958), indicating the outcome of group decision making would be the median voter’s most preferred policy – does not apply. Specifically, not all MPs preferred either “more expansion” to “some expansion” to “less expansion,” or “less expansion” to “some expansion” to “more expansion.” For example, one group that arguably preferred “less” to “more” to “some expansion” were the Adullamites. On ideological grounds, they preferred less expansion, but if not, they preferred the Liberal plan in 1866 on partisan grounds (many Adullamites felt betrayed by the Conservatives in 1867, thinking they would get more “spoils” from the union that brought down the Liberal government). (This is not sufficient to demonstrate that MPs preferences in 1867 were not single peaked – to do so one would need to demonstrate that there is no ordering of alternatives such that all voter’s preferences were “single peaked” with respect to an ordering. However, for ease of exposition we articulate this one conceptually digestible example, which can be repeated for other orderings.)
We examine these processes by analyzing two types of legislative behavior, voting and debating in the UK House of Commons in 1866 and 1867.

Our analysis shows that party was the most significant influence on voting for reform in the House of Commons. We find no independent effect of constituency, and that partisanship was especially influential for the Conservatives. Although we rule out a constituency based explanation, it does not explain why reform passed in 1867 but not in 1866. To better understand how party influenced passage, we examine legislative debates. We posit the changing size and scope of the debates over reform as a potential explanation for ultimate passage. Using quantitative techniques of textual analysis, we show that the nature of the parliamentary debate changes markedly from 1866 to 1867.

Under the failed Reform Bill of 1866, the parliamentary debate was marked by copious discussion of numerous topics with little overlap between the Liberals and Conservatives. Under the successful Reform Bill of 1867, Conservatives were more unified than the Liberals in the aspects of reform that they debated. There was also considerable overlap between Conservatives and Liberals. Substantively, we see that in 1866 much of the discussion focused on the House of Lords, apportionment of seats, and the technical details of the bill. In 1867 the discussion focused on the consequences of reform and suffrage qualifications.

What transformed the agenda allowing Disraeli’s Commons to pass the Second Reform Act? Several mechanisms are possible. These include external events such as riots in the summer of 1866; preference homogeneity among Conservatives; greater party discipline among Conservatives and control of the legislative agenda. We cautiously point to the role of leadership in shaping the nature of the debate. In a separate analysis, McLean (2001, Ch. 3) reaches similar conclusions arguing that Disraeli’s political skill — or heresthetic ability — helps explain events. Even members of Disraeli’s own cabinet characterized his methods as deceitful in leading his party to take “the leap in the dark” on reform. This emphasis on the role of leadership is also made by Stephens and Brady (1976), which argues that legislative cohesion was a function of “skill of party leadership”

33 For evidence of greater party unity among the Conservatives see Hanham (1959).
34 Viscount Cranborne, after studying closely statistics used by Disraeli to argue for his 1867 bill tells a colleague “[I am]...firmly convinced now that Disraeli has played us false, that he is attempting to hustle us into his measure, that Lord Derby is in his hands and that the present form which the question has now assumed has been long planned by him.” (as recorded in Lord Carnarvon’s dairy, 21 Feb 1867) (Roberts, 2006, 89).
in the 1880s House of Commons (491).\textsuperscript{35}

Many studies of legislative behavior focus on the role of institutional change or long term agenda growth.\textsuperscript{36} We examine a context where a surprising legislative outcome occurs in a short period of time in the absence of any institutional change. We argue that what enables change to occur, that is what allows the minority Conservative government to pass comparable reform that failed under the majority Liberal government, has to do with the nature of the debate. Under the Conservative government MPs debated fewer aspects of reform. Although we are limited in identifying the specific cause of this change, we suggest that one explanation is that Conservative leadership was able to exert control over the reform debate. Liberal leadership, on the other hand, was not able to do this. This provides insight into the mechanisms of development by nascent political parties. Without institutional change or influence of party organization, leaders can influence the size and scope of debate and ultimately the passage of legislation.

\textsuperscript{35}This point is similar to the one made in Cooper and Brady (1981).

\textsuperscript{36}As Cox (1987) documents in the Victorian House of Commons, parties increase in power organizationally over the course of the nineteenth century in part due to the growing complexities and volume of issues.
References


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