

Constituent-Representative Interaction Outside of Elections: Theory and Evidence from the Early U.K. Women’s Rights Movement *

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Abstract

Political economy theories of constituent-representative interactions typically focus on elections, yet many important issues arise between elections. We study how constituent and representatives interact outside of elections and how this interaction is shaped by the work of advocacy groups. In our model, representatives have an imperfect understanding of constituent preferences when faced with a novel policy issue and constituents face a coordination problem in signaling their preferences which advocacy groups can help overcome. To study these issues empirically we focus on a key period in the development of the women’s rights movement in the U.K. (1860s-1880s), a setting where the availability of detailed data on constituent petitions offers unique visibility into constituent-representative interactions. Our results show that advocacy efforts can create persistent increases in constituent signaling and that constituent signals influences MP votes. Advocacy and signaling focused on one policy can have spillover effects onto related policy areas, both by solving coordination problems and because representatives update their beliefs about constituent preferences.

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1 Introduction

Political economy theories describing the interaction between constituents and their representatives typically focus on elections. However, between elections representatives must decide how to vote on a large number of legislative measures that received little attention during election debates. For example, the early stages of the covid-19 pandemic, the 2009 financial crises, and the Ukraine War, are just three recent examples of cases where elected representatives had to decide on issues of great importance which were never debated in the previous election. In this paper, we take advantage of a unique historical context in order to explore, theoretically and empirically, how constituents and their representatives interact outside of elections as well as the role played by advocacy groups in this interaction.

We begin with a simple theory in which, faced with a particular policy proposal, the voting decision of a representative (hereafter, MP) depends on both their own personal preferences toward the policy as well as the utility that the policy generates for their constituents—or at least a subset of their constituents that the representative cares about. However, the MP faces a critical problem: they have only imperfect information about the preferences of their constituents. To deal with this, constituents have the ability to send costly signals to the MP, such as by writing letters, calling their office, or—the dominant form of signal in the empirical setting we consider—sending a petition. This imperfect information about constituent’s preferences, and constituents’ ability to influence their MP through signaling, is the first key feature of our theory. A second key feature is that signaling involves a coordination problem, where the cost of sending a signal depends on how many others are also doing so. This idea, which traces its roots back to [Olson \(1965\)](#), reflects the presence of fixed costs in signaling, such as the cost of putting together and transmitting a petition, organizing a rally, etc. This coordination problem opens up an opportunity for advocacy groups which, by fostering coordination among supportive constituents, may be able to shift them into a high-signaling equilibrium, and thereby influence the policy choices of MPs.

Our theoretical framework generates several predictions that can be examined empirically. First, constituent signals regarding a policy can influence MP votes on that policy. Second, efforts by advocacy groups can increase signaling, by shifting constituents from a low-signaling to a high-signaling equilibrium. Third, signaling and advocacy related to one policy can have spillover effects on other related policies through two channels. One channel relates to *coordination*: advocacy efforts that facilitate coordination on a high-signaling equilibrium for one policy may also solve coordination problems for signal-sending on other related policies. A second channel relates to *updating*: when MP’s update their beliefs about constituent preferences regarding one policy, it may also influence how they believe constituents feel about other related policies.

To examine these implications empirically we need a setting with a specific set of features. First, we want to consider a major policy debate that emerged in a period between elections and attracted substantial advocacy activity. Second, we need to be able to observe constituent signaling

activity. Third, we need to observe MP responses (votes) in a setting where voting patterns are not dominated by party affiliation. Fourth, we ideally want to identify related policy issues in order to study cross-policy spillover effects. These features are challenging to find in modern settings, where constituents have access to many signaling mechanisms and representative voting patterns are often dominated by party affiliation. Turning to history can help us overcome this challenge.

We study a critical period in the early women’s rights movement in the UK, in the 1860s, 1870s, and 1880s. The main policy we study was a series of laws called the Contagious Disease Acts. These acts, passed between 1864 and 1869 with essentially no public debate, imposed on sex workers in certain parts of the country a harsh regime of mandatory registration, invasive physical inspections, and forced isolation if they were found to be carrying a sexually transmitted infection (STI). However, in 1869 these laws led to the emergence of a powerful single-issue advocacy organization, the Ladies National Association for the Repeal of the Contagious Disease Acts (LNA), that mobilized against the CDAs arguing the laws violated individual rights of women.

Historians have identified anti-CDA advocacy during the early 1870s as a formative period for the broader women’s rights movement in the country, which was in its infancy at this time (Caine, 1997). Fortuitously for our analysis, this effort took place in a period between elections, allowing us to observe the role that advocacy can play in these between-election periods. Moreover, we are able to observe in detail the key conduit for information flow from constituents to their MPs: petitions sent to Parliament. To do so, we draw on a rich new database covering over 300,000 petitions sent to Parliament from 1864 to 1883 on all topics, including information on the target policy, the location and nature of the petitioning group, etc. Given the limited set of alternative signaling mechanisms available in the historical setting we study, this provides a unique opportunity to observe, in detail, constituent signaling behavior, how it was related to advocacy efforts, and how constituent signaling impacted MP votes. The fact that the events we examine took place in a context of relatively weak party discipline meant that the votes we study featured substantial cross-over voting by MPs from both parties, providing the variation we need to study how MPs respond to constituent signals.

Finally, our empirical setting allows us to study how advocacy and signaling focused on the CDAs had spillover effects on other policies related to women’s rights, perhaps the most interesting prediction of our theory. We focus specifically on women’s suffrage, a related issue that was also being vigorously debated in the 1870s and 1880s and was voted on, unsuccessfully, more than half a dozen times. Both parties were split on this important issue, so we are able to exploit substantial variation in MP votes for our analysis.

As a preliminary step in our analysis, we begin by looking at the key issues that appear in Parliamentary debates over the CDAs and how those issues changed after the emergence of LNA advocacy. We start with the text of three major debates over the CDAs in Parliament, one from 1866, before the LNA emerged, one from 1873, after several years of LNA advocacy, and a third from 1883. We ask ChatGPT to summarize the key arguments for and against repeal in debate

speeches. This analysis shows that in early debates, such as the discussion that preceded the passing of the second CDA bill in 1866, concerns about women’s rights were not an important debate topic. In fact, in the 1860s MPs seemed largely unaware that people might view the CDAs as a major violation of women’s rights. However, by the 1873 debate, women’s rights becomes one of the most important critiques of the acts. Moreover, the language that appears in Parliamentary debates closely resembles the language found in LNA propaganda. This change is even more pronounced in the 1883 debate. One potential explanation for this pattern is that MPs may have updated their understanding of their constituent’s preferences towards the CDAs and women’s rights more generally between 1866 and 1873.

Our main empirical analysis examines the links between LNA advocacy, constituent signaling, and MP votes. The first step of our main analysis establishes the link between LNA advocacy and constituent signals. The primary forms of advocacy in our setting was a series of rallies in different locations conducted by LNA leaders. We apply a staggered-treatment event study analysis framework to study how petitions related to the CDAs responded to these rallies. Once we include a rich set of available controls, we find no evidence of differential pre-trends in petitioning activity in locations where LNA rallies were held, even when zooming in below the annual level using the detailed time information available in the petitions data. We also show that, conditional on controls, there was no relationship between whether a location received a rally and pre-1870 patterns of petitioning related to women’s rights issues. However, after a rally there is a clear and immediate increase in the the number of CDA petitions from rally locations which remains for several years. To further strengthen our results, we conduct placebo analysis looking across all other major petition topics (excluding those related to women’s rights) and find that only petitions against the CDAs respond in the immediate period following the rallies. We also zoom in on specific locations and document how effects fall off as one moves just a few kilometers away from rally locations. Overall, this first set of empirical results demonstrates the link between LNA advocacy and constituents signaling their preferences to politicians.

Next, we study how constituent signals influenced MP votes on the CDAs. Our main analysis focuses on a vote in 1873 that was the culmination of the first wave of advocacy efforts against the CDA. The 1873 vote is particularly interesting for us because it occurred after several years of vigorous LNA advocacy efforts but before any general election had taken place in which the CDAs were a meaningful issue. Thus, this was the type of between-election period in which we hypothesize that constituent signaling may play an important role in influencing MP votes. Our analysis begins with a set of simple OLS regressions showing that MPs whose constituents sent more petitions against the CDAs were more likely to vote to repeal the acts (nearly all petitions on the issue were in favor of repeal). While suggestive, these results cannot be interpreted as causal because petitions may be endogenous.

To strengthen identification we use the results from part one of our analysis, which estimates the relationship between LNA rallies and petitions, to generated predicted petitions sent by an

MP's constituents based only on the timing and location of LNA rallies. Using these predicted petitions, we provide more convincing evidence showing that constituent signals had a meaningful effect on MP votes on the 1873 repeal bill. To further strengthen identification, we conduct placebo tests which show that LNA rallies have no clear relationship with votes other than those related to the CDAs or women's rights.

When analyzing MP votes, we also need to deal with the fact that in the UK Parliament many MPs did not vote on any particular vote, even on major issues such as the CDAs. To account for this, we offer multinomial logit regressions where we think of MPs as deciding between three options: showing up and voting for a bill, showing up and voting against, or not voting at all. These results show that CDA petitions both increased the probability that an MP would show up to vote for repeal and reduced the probability that MPs would show up to vote against repeal.

Our most convincing evidence looks at how predicted petitions related to MP votes in 1873 while controlling for MP choices in 1870, when the earliest vote on repealing the CDAs took place. These results show that, even conditional on previous choices, MPs whose constituents sent more petitions against the CDAs were more likely to vote to repeal those acts. Overall, these results show that CDA repeal petitions sent by constituents, facilitated and encouraged by LNA activism, meaningfully impacted MP votes.

We conduct a similar analysis for the successful 1883 vote that repealed key elements of the CDAs. Unlike the 1873 vote, the 1883 vote took place after two elections in which the CDAs were debated. Our analysis shows that constituent petitions, predicted based on the timing and location of LNA rallies, still influenced MP's votes in 1883. Interestingly, however, the quantitative magnitude of this effect is substantially smaller than for the 1873 vote. That suggests that constituent signals may have less influence once an issue has been debated in an election.

We then turn our attention to analyzing the spillover influence of advocacy and constituency signaling related to the CDAs on other women's rights legislation, focusing specifically on women's suffrage, the most important women's rights cause of this era. Women's suffrage was first voted on (unsuccessfully) in the UK Parliament in 1867, as an amendment to the Second Reform Act. In the early 1870s, separate women's suffrage bills were introduced and voted on repeatedly. While also unsuccessful, these bills attracted substantial support, with around one-third of MPs voting in favor of women's suffrage. These repeated votes, occurring right during the period of LNA advocacy, allow us to look for evidence of spillover effects across these related policies.

Our empirical analysis provides support for spillover effects operating through both the coordination and updating channels highlighted in our model. To look at the coordination channel, we study how petitions on women's suffrage respond to LNA rallies. Using an event-study analysis framework, we show that LNA rallies led to an increase in women's suffrage petitions. Unlike CDA petitions, which respond immediately to LNA rallies, the impact of LNA rallies on women's suffrage petitions is delayed. That pattern is exactly what we would expect if solving a coordination problem related to CDA petitioning at one point in time made it easier for constituents to coordinate

to signal about related policies later.

We then look at how MP's votes on women's suffrage are related to petitions sent by their constituents. We study six votes on women's rights bills that took place from 1872 to 1883. We begin by looking at the impact of both CDA and women's suffrage petitions. In this analysis, our key explanatory variable is predicted CDA plus women's suffrage petitions, which we predict using the timing and location of LNA rallies and the estimated effect of those rallies on total CDA and women's suffrage petitions. The idea here is to identify the total spillover effect of CDA advocacy on women's suffrage votes operating through both the coordination and updating channels.

We find that MP's from constituencies where we predict more CDA and women's suffrage petitions were more likely to vote in favor of women's suffrage. In particular, pooling across all six women's suffrage votes, we estimate that a one standard deviation increase in these petitions made MPs around 4 percent more likely to support women's suffrage. Multinomial logit results suggest that this effect was driven primarily by MPs who might otherwise have voted against women's suffrage choosing instead to not vote at all.

To separate the impact of the updating and coordination channels, we then add to these regressions the actual number of women's suffrage petitions sent from a constituency. This variable should absorb the coordination channel. When we do this, we find that around half of the spillover impact on women's suffrage votes came through the coordination channel, while the remainder can be attributed to the updating channel. Thus, both channels appear to have played an important role in our setting.

Related literature and contributions The most important contribution of this study is to a large body of work in political economy looking at the relationship between constituents and representatives. Following [Downs \(1957\)](#), the vast majority of this literature places elections at the center of this relationship. In these models, elections may serve to aggregate voter preferences, to hold representatives accountable, or to select among politicians with different abilities or preferences. An important branch of this literature emphasizes this relationship in a principle-agent framework in which constituents have imperfect information about representative actions ([Barro, 1973](#); [Ferejohn, 1986](#); [Persson and Tabellini, 2000](#)). Another important line of work emphasizes the importance of the identity of elected politicians ([Osborne and Slivinski, 1996](#); [Besley and Coate, 1997](#); [Caselli and Morelli, 2004](#); [Besley, 2006](#)).¹

What all of this work has in common is the central role played by elections. However, as our empirical example illustrates, many important issues arise, and must be dealt with, between elections. Thus, the critical difference between this paper and most previous work in this area is that we are interested in the interaction of constituents and their representatives between elections, and particularly in the role that advocacy groups play in this interaction. While this interaction is likely to be influenced by concerns about future elections, without elections to convey information constituents and their representatives must find other ways to interact.

¹See [Gehlbach \(2022\)](#) for a recent overview of work in this area.

In contrast to the literature centered on elections, political economy work examining how politicians may be influenced outside of elections is relatively sparse. Perhaps the most developed line of work in this area focuses on lobbying, which [Bombardini and Trebbi \(2020\)](#) describe as (p. 392) “the process of political influence by corporations and other business interests on the adoption, retention, or amendment of public policy through selective communication of information and material exchange.” [Grossman and Helpman \(1994\)](#) is a seminal theoretical work on this topic in the economics literature, while there is a larger literature on lobbying in political science, including papers such as [Hall and Deardorff \(2006\)](#). [Bombardini and Trebbi \(2020\)](#) provide a review of this literature with a focus on contributions by economists, while [Victor \(2020\)](#) focuses more on studies in political science. While somewhat related to our paper, lobbying is fundamentally different than the type of constituent-representative interaction that we are interested in. In particular, work on lobbying tends to emphasize either the provision of direct benefits (material or electoral) by special interest groups to politicians, or how lobbying can affect politician’s understanding of particular policy proposals. Both of these channels differ from the mechanism we emphasize, which focuses on how signaling can improve politician’s understanding of their constituent’s preferences.

Another line of work focuses on the role of protests, which offer another avenue through which constituents may signal their leaders.² Much of this literature is empirical and focused on understanding the factors, such as media exposure, social networks, or beliefs about other participants, that determine whether an individual chooses to participate in a protest ([Enikolopov et al., 2020](#); [González, 2020](#); [Hager et al., 2020](#); [Cantoni et al., 2019](#); [Manacorda and Tesei, 2020](#); [Bursztyn et al., 2021](#); [Cantoni et al., 2022](#); [García-Jimeno et al., 2022](#)). Like much of this literature, collective action problems are important in the signaling game that we study. However, an important difference is that we are interested in how constituents’ actions depend on their representative and how representatives’ votes are influenced by constituent actions within a democratic system. Perhaps the closest paper to our study is [Madestam et al. \(2013\)](#), which looks at the influence of protest activity (the U.S. Tea Party Movement) influenced politician’s votes. However, we differ from this paper in several important dimensions. First, we ground our analysis in theory. Second, we are able to observe constituent signals to their representatives. Third, we can study how signals related to one policy spillover onto other related policy decisions and unpack the mechanisms through which these spillover effects occur.

This paper is also related to a recent study by [Alsan and Neberai \(2026\)](#) looking at the impact of one powerful advocacy group, the American Medical Association, on policy outcomes in the U.S. Their study shows that advocacy work, operating through constituent opinions, can have a substantial influence on policy. An important conceptual difference between this paper and their study is that they focus primarily on persuasion—changing constituent preferences—while we emphasize the possibility that advocacy can operate through improving representative’s understanding of constituent preferences. Obviously, from a welfare perspective, these are quite different channels,

²See [Cantoni et al. \(2024\)](#) for a recent review of this literature.

though empirically they are nearly impossible to separate. We also provide a general theoretical framework for thinking about these issues, whereas their study is entirely empirical. Finally, motivated by our theory, we examine how advocacy work can spillover across related policy debates.

This paper is also related to work on the causes of the adoption of women’s suffrage historically. There is now a rich literature describing the deep economic forces that contributed to the adoption of women’s suffrage in Western democracies (Jones, 1991; Geddes and Lueck, 2002; Doepke and Tertilt, 2009; Bertocchi, 2011; Fernández, 2014; Tertilt et al., 2022).³ Within economics, less attention has been paid to the role of women’s organizations and advocacy efforts, despite the fact that researchers in other fields have argued that these organizations played an important role in determining the success of the suffrage movement (McCammon and Campbell, 2001; Przeworski, 2009; McConnaughy, 2013; Teele, 2018). We bridge these two strands of work, by bringing the quantitative and theoretical tools of economics to investigate the role of advocacy movements in influencing the attitudes of MPs toward women’s suffrage.

To summarize, our contribution is to break new ground, both theoretically and empirically, in order to understand how constituents and representatives interact outside of elections. Given the number of issues that emerge and must be dealt with between general elections, we think that this contribution has a broad set of potential applications.

2 Empirical setting

Before presenting the theory, it is useful to review the critical features of the empirical setting in order to fix ideas. We begin by discussing the women’s rights movement in the UK before focusing more specifically on the role of CDA activism.

2.1 The early women’s rights movement

Our study period spans the origin of the organized women’s rights movement in the U.K. While there had been isolated efforts in favor of women’s rights prior to the 1860s, it was during that decade that it became an organized movement with a substantial public profile. In the late 1850s, Barbara Leigh Smith Bodichon and Bessie Rayner Parkes began publishing the *English Women’s Journal* and attracted what came to be called the Langham Place group of like-minded women. These early feminists, which included Helen Blackburn, Jessie Boucherett, and Emily Faithful pushed for women’s rights, particularly related to employment and property.

In the late 1860s, women’s suffrage became a major focus of women’s rights advocates. At this time there was widespread agitation for electoral reform, raising the possibility that women’s suffrage might be included as part of a broader reform of voting rights. Prominent women’s suffrage advocates included Lydia Becker, who helped start the Manchester Women’s Suffrage Committee in 1867, and Millicent Fawcett, an early member of the London National Society for Women’s

³See Moehling and Thomasson (2020) for a recent review of this literature.

Suffrage, also founded in 1867. John Stuart Mill, who was both a prominent public intellectual and a Member of Parliament at this time, also played an important role in the movement. His pamphlet *The Subjection of Women*, developed with his wife Harriet Taylor Mill, was published in 1869. Women’s suffrage advocates were disappointed, however, when the Second Reform Act, passed in 1867, left women out.

The early 1870s saw rapid growth in the organization and effectiveness of the women’s rights movement. Historians have suggested that the CDA repeal effort played a central role in the overall debate over women’s rights going on during the 1870s. Feminist historian Barbara Caine, for example, writes:⁴

some would argue that the real turning point [in the British women’s rights movement] was not so much the early campaigns of the 1850s and 1860s as the contagious disease agitation, which...dominated feminist consciousness during the 1870s. The campaign...soon involved a national movement with a substantial membership, working through large-scale public meetings and demonstrations, direct political intervention in by-elections, and by producing effective propaganda

This sentiment is echoed by [Szreter \(2014\)](#): “The successful battle to repeal the Contagious Disease Acts, 1864-86...was a powerful engine of mobilization for Victorian feminism.” One reason for the movement’s impact was how, “drawing on the model of the abolitionist movement, it...developed a powerful religious rhetoric which tied its specific legal objective, the end of the Contagious Disease Acts, with an ideal of moral and religious transformation—and the end of the sexual double standard.”⁵ In order to understand this contribution, we need to begin by reviewing the origin of the CDAs and the women’s rights advocates that would oppose them.

2.2 The Contagious Disease Acts

The origin of the CDAs can be traced back to the Crimean War (1854-56), when the work of Florence Nightingale and others drew attention to the poor health of British soldiers and sailors, many of whom died from disease rather than enemy action. After the war, the Army Sanitary Commission assigned to look into the issue identified STIs as a major cause of hospitalization and lost productivity in the military ([Blanco, 1967](#)). In response, in 1864 Parliament adopted the first CDA, which was applied on a trial basis to a set of military stations in the south of England. The primary objective of the act was to reduce STI prevalence, especially among men in the military, who represented a significant portion of the demand for sex work. To achieve this aim, the act required that all sex workers in the district around each station be registered and undergo mandatory periodic medical inspections. If found to be infected with an STI, a sex worker could be forcibly isolated in a lock hospital. The initial act applied to eleven districts, while subsequent acts

⁴[Caine \(1997\)](#), p. 90-91.

⁵[Caine \(1997\)](#), p. 91.

in 1866 and 1869 expanded the set of regulated locations covered and strengthened the regulations, including by expanding the period of forced isolation to up to nine months.

The CDAs were vigorously enforced. By 1870, more than 5,000 sex workers had been registered. In 1870, sex workers were forced to undergo more than 50,000 medical inspections (Goehring and Hanlon, 2025).⁶ From 1870 to 1880, between 3,000 and 5,000 mandatory hospitalizations occurred per year.

The invasive nature of the CDAs, their violation of women’s basic rights, and their implicit public legitimization of the sex trade, eventually sparked a public outcry and the birth of a strong resistance movement. Next, we provide a timeline of these events.

2.3 Timeline of events

Figure 1 presents a timeline of the key events in our historical setting from 1864, when the first CDA was passed, until 1886, when the CDAs were finally repealed. This period can be split into four broad regimes. In the first, lasting from 1864-1869, a series of CDA bills were passed, in 1864, 1866, and 1869, under both Conservative and Liberal governments, with almost no public debate and essentially no opposition. In fact, opposition to the Acts was so limited during this period that the laws were passed without a division (i.e., a vote), which take place only when there is evidence of sufficient opposition to a bill.⁷ As we will show, concerns about women’s rights played essentially no role in the early debates over the CDAs. MPs did not even seem to be aware that ordinary people might care about the violation of rights that they introduced. Instead, the primary issues related to public health, the morality of the state sanctioning prostitution, and cost. This era ended in late 1869, when substantial public opposition to the CDAs began.

The exact origins of the public opposition to the CDAs are unclear. Josephine Butler gives some credit to a series of articles by Harriet Martineau, an important figure in the slavery abolition movement, published in the *Daily News* in 1869.⁸ The Rescue Society, an organization founded to save women and children from prostitution, also played a role.⁹ In 1869, two Nottingham physicians, Charles Bell Taylor and Charles Worth, raised the issue at a meeting of the Social Science Congress in Bristol. Eventually, Josephine Butler, who had been actively working as an

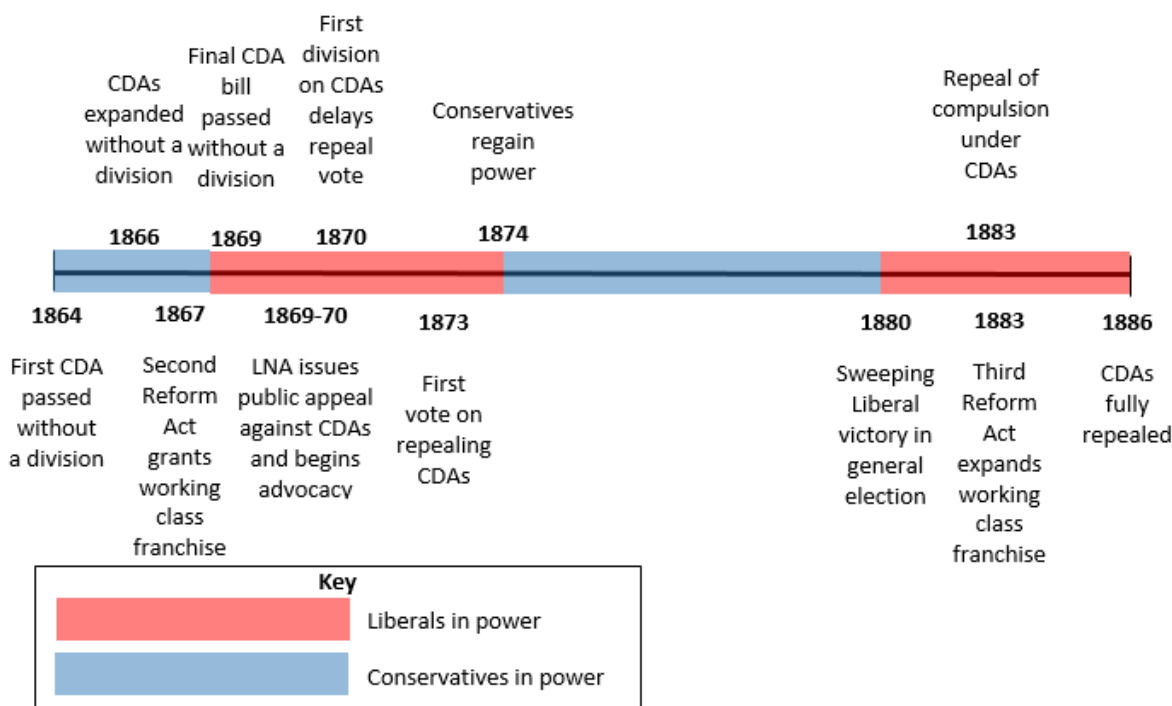
⁶After 1870, the number of inspections fell, leveling off at around 40,000 per year (Goehring and Hanlon, 2025). These rigorous measures were highly effective from a public health perspective. As we show in a companion paper, they substantially reduced STI hospitalizations among soldiers and sailors, STI mortality among the general population, and even rates of childlessness (Goehring and Hanlon, 2025). Contemporaries were aware of these health benefits; though CDA opponents consistently argued that the acts were ineffective, a series of Parliamentary committees concluded (correctly) that the CDAs were achieving the public health improvements that they were designed to produce.

⁷That an Act can pass without a vote may seem surprising to those not familiar with the workings of the U.K. Parliament. As Parliament’s website explains, “When a vote is held the Speaker in the Commons - or Lord Speaker in the Lords - asks Members to call out whether they agree or not. The Speaker will then judge whether there is a clear result. If this cannot be determined, the Speaker or Lord Speaker calls a division” (see <https://www.parliament.uk/about/how/business/divisions/>).

⁸Butler (1896), p. 9-10.

⁹Walkowitz (1982), p. 91.

Figure 1: Timeline of key events



advocate for women’s education, became involved. By late 1869, the LNA had been founded.¹⁰ In the following years, Butler would become the leader of the repeal movement.

The first major act of the LNA was the publication of a public appeal on January 1, 1870 in the *Daily News*. The LNA appeal, which was reprinted in newspapers around the country, signalled the end of the era of unopposed legislation (Butler, 1896). We reproduce the text of the LNA protest in Appendix B. This appeal laid out the key critiques about the CDAs offered by the LNA. Among these was the “momentous change in the legal safeguards hitherto enjoyed by women in common with men” which “so far as women are concerned...remove every guarantee of personal security which the law has established and held sacred, and put their reputation, their freedom, and their person absolutely in the power of the police.” In addition to violating the fundamental rights of women, the LNA argued that it was “unjust to punish the sex who are the victims of a vice, and leave unpunished the sex who are the main cause both of the vice and its dreaded consequences” and that “these measures are cruel to the women who come under their action—violating the feelings of those whose sense of shame is not wholly lost, and further brutalising even the most abandoned.” Later, we will compare these points to the shifts that we observe in Parliamentary debates over the CDAs, which can reveal the impact of advocacy. Butler (1909) claimed that 120 names were

¹⁰Another organization, the National Association for the Repeal of the Contagious Disease Acts, was also founded in 1869. However, that organization excluded women and, ultimately, it would play a much less important role in advocacy against the CDAs.

attached to the original protest but that the number of signatories eventually reached over two thousand, including many notable women such as Harriet Martineau and Florence Nightingale.

Following the publication of this appeal, the LNA, led by Josephine Butler, vigorously advocated for the repeal of the CDAs. The LNA had initially written letters to all MPs, hoping to sway their views towards the acts. This had little effect, leading to a switch in strategy, described by Butler in her memoir:¹¹

Our appeal, we decided, must be made to the Nation. Letters had previously been written by us...to every member of both Houses of Parliament, and to many leading men, lay and ecclesiastical...Having received so little encouragement from the person whom we had vainly imagined would have taken an interest in the question, we turned to the working populations of the Kingdom. Here our reception was wholly different.

The centerpiece of these advocacy efforts was a set of rallies in locations around the country where Butler addressed crowds and worked to build support against the acts.¹² LNA advocacy was largely aimed at influencing Liberal MPs. The Liberals under William Gladstone had won the election of 1867 and the LNA viewed Liberal voters as the most likely supporters of repeal. To apply pressure, the LNA worked to convince Liberal voters to withhold their votes from Liberal candidates. This strategy was demonstrated in a by-election in Colchester that took place in November, 1870, where the LNA openly opposed and defeated a Liberal candidate who supported the CDAs. Butler wrote that “The moral of this election was not lost on the Government. They learned that this question was not one which they could trifle with or ignore” (Butler, 1896, p. 53).

The advocacy of the LNA led to the first vote on the CDAs in Parliament, which took place on 24 May, 1870. However, the actual motion voted on was whether or not to delay consideration of the acts in order to allow a Royal Commission to gather more information. This makes it challenging to interpret MP’s votes, because it appears that some MPs who were critical of the acts voted for delay in order to increase the chances of a subsequent repeal.

The first clear repeal vote came two years later, in 1873. This vote will be the primary subject of our analysis in Section 6.2. After an extensive debate, the repeal bill was defeated, as shown in Table 1, with Liberal MPs almost evenly split on the issue and almost all Conservative MPs voting against repeal.

The defeat of the 1873 repeal bill, and the triumph of the Conservatives in the 1874 general election, paused legislative activity on the CDAs for several years. This quiet period lasted until the election of 1880, when the Liberals returned to power with a large majority. This began the fourth and final period of CDA activism. This culminated in an 1883 vote in which Parliament passed a resolution that eliminated compulsory inspection and isolation from the CDAs, rendering the laws completely ineffectual. They were fully repealed in 1886.

¹¹Butler (1896), p. 30.

¹²Interestingly, often only women were admitted to these rallies, in part because the CDAs were seen as touching upon what Victorians thought of as sensitive topics that could not be discussed in mixed company.

Table 1: Breakdown of key CDA repeal votes of 1873 and 1883

Party	1873			1883		
	No	Yes	Share for repeal	No	Yes	Share for repeal
Conservative	132	16	0.108	80	15	0.158
Liberal	97	104	0.517	22	152	0.874
Other	9	10	0.526	8	16	0.667
Total	238	130	0.353	110	183	0.625
Liberal share of voters		0.546			0.594	

Note: Data are taken from [Eggers and Spirling \(2014\)](#).

An important feature of this historical setting is that the LNA, as the organization’s name indicates, was a single-issue advocacy organization. While many LNA supporters were also supporters of women’s rights, and vice versa, women’s rights advocates were careful to keep these two efforts separate. Women’s rights advocates in particular were aware that an association with the LNA could endanger their cause among certain constituencies.¹³ This feature is important for our analysis of cross-issue spillovers.

3 Theoretical framework

This section presents a simple theoretical framework for thinking about how advocates, constituents, and MPs interact outside of elections to determine MP’s votes on policy proposals. In our framework, MPs care (to some extent) about how policies affect the utility of their constituents. However, MPs have only imperfect information about their constituents’ preferences. Constituents may send signals, such as petitions, to help inform their MPs, but in doing so they face a collective action problem ([Olson, 1965](#)). This collective action problem creates an opening for advocacy groups to organize constituents in order to influence policy outcomes.

Policies: A policy R in our simplified model is represented as a vector of length K with components $r_k \in \{-1, 0, 1\}$. Each element represents an issue that a policy might touch on, and the value of r_k signifies whether the policy has a negative, neutral, or positive effect on the particular issue. So, for example, a simplified version of the CDA acts could be thought of as a vector with four non-zero elements, corresponding to public health, military preparedness, women’s rights, and fiscal cost, with components $[1, 1, -1, -1]$, and with all other elements of the vector being zeroes. So, in this simplified representation, the CDAs embody a trade-off between improvements in public health

¹³[Rover \(1967\)](#) explains that (p. 2), “Mrs. Fawcett felt it unwise for the women’s suffrage movement to be associated with Josephine Butler’s campaign against the Contagious Diseases Acts and the violent opposition which this aroused...”.

and military preparedness against violations of women’s rights and fiscal costs. To keep the model simple, we assume that R is public information and that everyone agrees on the value of each element.¹⁴

Constituents: Let A_j be a vector of constituent j ’s preferences composed of a set of elements $a_{jk} \in \{0, 1\}$, representing the weights that individual j places on each of the elements of a policy R . So, using the example of the CDA laws, the vector would reflect whether individual j cares about public health, military preparedness, women’s rights, or costs. Constituent j ’s utility from a policy being adopted is given by $U_j(R|A_j) = \sum_{k \in K} a_{jk} r_k$.

MPs: An MP’s vote on a policy R depends on (1) their own preferences toward the policy, which is private information, and (2) their expectations over the preferences of their constituents regarding the policy. The critical issue faced by MPs in this setting is that they don’t have perfect information on the preferences of their constituents. Instead, at any point in time they have a set of priors about their constituents’ preferences \tilde{A}_j with elements $\tilde{a}_{jk} = Pr(a_{jk} = 1)$. Over time, they may receive imperfect signals and update their beliefs accordingly, as described in more detail below.

MP i ’s evaluation of a policy R is:

$$V_i(R) = \gamma u_i + (1 - \gamma) \sum_{j \in J} \eta_j U_j(R|\tilde{A}_j)$$

where the first term on the right-hand side is the MP’s own taste for the policy u_i , which is drawn from a uniform distribution on $[-1, 1]$, and the second term on the right-hand side is a weighted sum of the utility of the MP’s constituents from the policy, $U(R|\tilde{A}_j)$, which depends on the MP’s belief of the constituent’s preference vector \tilde{A}_j . The $\gamma \in (0, 1)$ parameter reflects the weighting that MP’s apply to their own feelings toward the policy relative to that of their constituents, which may depend on factors such as the competitiveness of their seat. The η_j parameters, which satisfy $\sum_{j \in J} \eta_j = 1$, reflect how much the MP cares about constituent j . Denoting each element of vector \tilde{A}_j as \tilde{a}_{jk} , MP i ’s evaluation of a policy R can be rewritten as:

$$V_i(R) = \gamma u_i + (1 - \gamma) \sum_{j \in J} \eta_j \sum_{k \in K} \tilde{a}_{jk} r_k$$

MP’s will vote in favor of a reform R whenever it delivers a $V_i(R)$ that is greater than the status quo policy. To simplify our exposition of the model, we will think of the status quo policy as being a vector of zeros. Thus, MP’s will vote in favor of a policy R whenever $V_i(R) > 0$.

Signals: Constituents have the ability to send signals to their MPs in order to better inform the MPs about their preferences. In particular, we assume that a constituent can send a signal informing their MP about one element of their preference vector, a_{jk} .¹⁵ However, the signal is not

¹⁴Naturally, that may not be true in reality. However, departing from this assumption would introduce an additional source of uncertainty into the model that would only serve to obscure the mechanism that we are interested in.

¹⁵Alternatively, we could have modelled constituents as sending signals about their preference over a policy as a

always effective at conveying the constituent's preferences to the MP. In particular, we assume that the MP receives the correct signal with probability $q \in (0.5, 1)$ and the incorrect signal otherwise.¹⁶ So, if constituent j sends a signal indicating that their preference over the k 'th element of the policy is 1, the MP receives the signal correctly with probability q but receives the incorrect signal, i.e., $a_{jk} = 0$, with probability $1 - q$.

Given a signal s_{jk} from constituent j , MP i updates his belief about the constituent's preference following Bayes rule. So, if MP i receives signal s_{jk} he updates his assessment of the preferences of constituent j according to:

$$\begin{aligned}\tilde{a}'_{jk}(s_{jk} = 1) &= P(a_{jk} = 1 | s_{jk} = 1) = \frac{q\tilde{a}_{jk}}{q\tilde{a}_{jk} + (1 - q)(1 - \tilde{a}_{jk})} \\ \tilde{a}'_{jk}(s_{jk} = 0) &= P(a_{jk} = 1 | s_{jk} = 0) = \frac{(1 - q)\tilde{a}_{jk}}{(1 - q)\tilde{a}_{jk} + q(1 - \tilde{a}_{jk})}\end{aligned}\tag{1}$$

The value of sending a signal depends in part on the likelihood that a constituent's MP ends up casting the pivotal vote on policy R . Constituents likely have very little information with which to calculate this probability. To reflect this, we suppose that all constituents operate under a common expectation that their MP is pivotal with probability Π . Given this, the benefit to constituent j of sending a signal s_{jk} is the product of (i) the probability that MP i casts the pivotal vote, (ii) the probability that the constituent's signal changes MP i 's vote, and (iii) the utility (or disutility) that constituent i experiences from the policy relative to the status quo.

$$\Pi [Pr(V_i > 0 | \tilde{a}'_{jk}(s_{jk})) - Pr(V_i > 0 | \tilde{a}_{jk})] U_j(R | A_j)\tag{2}$$

Given a set of MP beliefs about constituent preferences, the constituent's expected probability that an MP will vote in favor of the policy is given by:

$$\begin{aligned}Pr(V_i > 0 | \tilde{a}_{jk}) &= Pr\left(u_i > -\frac{1 - \gamma}{\gamma} \sum_{j \in J} \eta_j \sum_{k \in K} \tilde{a}_{jk} r_k\right) \\ Pr(V_i > 0 | \tilde{a}_{jk}) &= \begin{cases} 1 & \text{if } -\frac{1 - \gamma}{\gamma} \sum_{j \in J} \eta_j \sum_{k \in K} \tilde{a}_{jk} r_k < -1 \\ \frac{1}{2} - \frac{1}{2} \left(\frac{1 - \gamma}{\gamma}\right) \sum_{j \in J} \eta_j \sum_{k \in K} \tilde{a}_{jk} r_k & \text{otherwise} \\ 0 & \text{if } -\frac{1 - \gamma}{\gamma} \sum_{j \in J} \eta_j \sum_{k \in K} \tilde{a}_{jk} r_k > 1 \end{cases}\end{aligned}\tag{3}$$

whole. We have chosen to make signals reflect only one element of the constituent's preference vector because we think that this is a better representation of how communication between MPs and constituents takes place, and because it generates a somewhat simpler and more transparent exposition.

¹⁶Put differently, we are assuming that the signal contains some information but not perfect information. If $q = 0.5$ the signal would be meaningless because the received signal would just be an unbiased coin flip. If $q = 1$ then the signal is perfect.

We are interested in the intermediate case where the MP is not certain to either vote for or against the policy but instead is potentially open to persuasion. Within this range, the benefit B_j to constituent j from sending a signal is:

$$B_j = \Pi \left(\frac{1}{2} \right) \left(\frac{1-\gamma}{\gamma} \right) \eta_j [\tilde{a}_{jk} - \tilde{a}'_{jk}(s_{jk})] r_k U_j(R|A_j) \quad (4)$$

where $\tilde{a}'_{jk}(s_{jk})$ is given by Eq. 1. It is evident from Eq. 4 that each constituent will only receive positive benefits from either $s_{jk} = 0$ or $s_{jk} = 1$ and that the beneficial signal is the one that will increase (decrease) the probability that the policy is successful when the policy provides the constituent with positive (negative) utility.

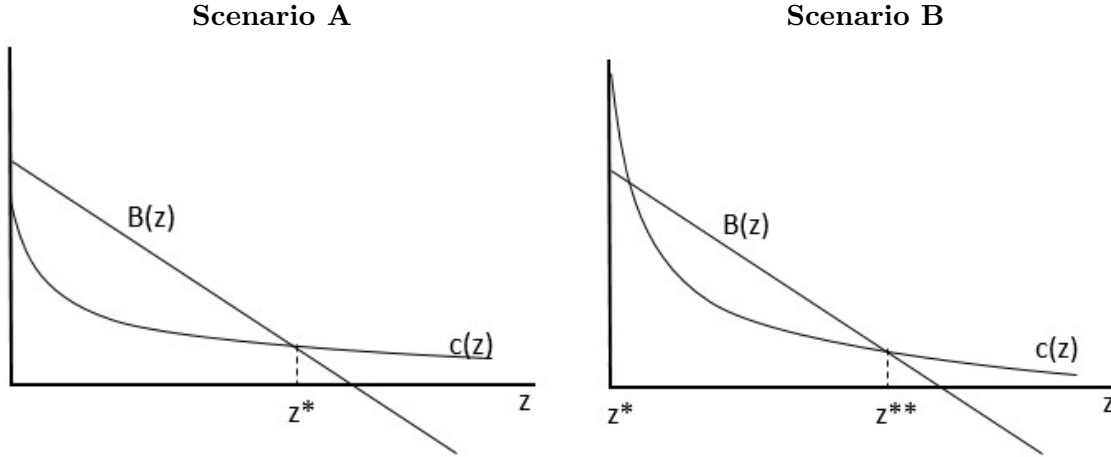
A key feature of the result described by Eq. 4 is that, within the range in which the MP is not certain to either vote for or against the policy, the benefit to constituent j of sending a signal is invariant to whether other constituents send a signal. This feature, which follows from the assumption that the MP's type is uniformly distributed, is useful for simplifying our analysis. In essence, it implies that there is neither increasing nor decreasing returns in the number of signals sent, within the range in which the MP is persuadable.

Constituents weight the benefits of sending a signal against the cost. A key assumption in our theory, one that traces its roots back to [Olson \(1965\)](#), is that there is a public goods aspect of signaling. Specifically, we assume that the cost to constituent j of sending a signal to their MP is $c(z)$ where z is the number of constituents sending a particular signal. We also assume that this function is positive, decreasing, and convex. Intuitively, this reflects the idea that there is likely to be some fixed cost involved in sending a signal, such as the cost of preparing and transmitting a petition, that must be paid regardless of whether the petition comes from one constituent or many.

Suppose that we order constituents in descending order according to the value they receive from sending a signal of a particular type about a particular preference parameter and denote $B(z)$ the benefit that the z 'th constituent obtains. We can then depict the equilibrium number of signals of a particular type as in [Figure 2](#). The Scenario A panel of the figure describes the equilibrium when the fixed cost of sending a signal is not too high. In this case, there is a single equilibrium at z^* . In the Scenario B panel, the fixed cost of sending a signal is larger and there are two stable equilibria, a low-signaling equilibria at $z^*=0$ and a high-signaling equilibria at z^{**} . It is this second scenario that we are particularly interested in, because in this case the constituents face a coordination problem in deciding whether or not to signal to their MP.

Advocates – We think of advocacy groups as outside groups (independent of both MPs and constituents) that seek to influence the outcome of a vote over a particular policy. In principle, there are three avenues in our model through which advocacy groups could achieve this: (i) they could influence the MP's personal view regarding a policy u_i , (ii) they could seek to change constituent's preferences toward a policy A_j , or (iii) they could aim to solve the signaling coordination problem in order to increase the number of signals that constituents send to their MP regarding their view

Figure 2: Depiction of possible signaling equilibria under two alternative scenarios



Note: This figure depicts two possible signaling equilibria. In the left-hand graph, the fixed cost of sending a signal is not too high and there is a single unique equilibrium z^* . In the right-hand graph, the fixed cost of sending a signal is higher and there are two equilibria, a low equilibrium at $z^*=0$ and a high equilibrium at z^{**} .

of a policy (specifically for those constituents with views aligned with the advocacy group). We are particularly interested in the third of these alternatives, because it offers advocacy groups the opportunity to achieve substantial results without undertaking the challenging and costly task of trying to alter individual's underlying preferences. In practice, in cases where constituents are stuck in an low-signaling equilibrium, one way that advocacy groups can shift the equilibria is by absorbing some of the fixed costs in order to shift the equilibrium from Scenario B to Scenario A. This could be done through, for example, holding a rally where a prepared petition is available for constituents to sign. Alternatively, an advocacy group may use other forms of persuasion to induce constituents to shift from a low-signaling to a high-signaling equilibria.

Implications – This framework has several implications that we will explore in our empirical analysis. First, our framework suggests that constituents will sometimes signal their MPs, and that when they do so the signal will influence the MP's vote with some probability. Second, advocacy work can potentially increase the signals sent to the MP by constituents that support the advocate's position. More interestingly, advocacy can also have durable effects, if it shifts the constituents from a low-signaling equilibrium into a high-signaling equilibrium, such as through the development of politically active local groups. Advocacy may also have spillover effects, if solving a coordination problem related to one policy makes it easier to solve a coordination problem related to other policies.

A third implication of our framework is that, because signals received by MPs cause them to update their beliefs about their constituent's underlying preference vector, a signal sent by constituents about issue k in order to influence some policy R can also impact MP's votes on any future policy that relates to issue k . So, to tie this result to the context we are interested in, if

constituents signal their support for women’s rights in order to defeat the CDA policy, their MP’s may update their beliefs about their constituents’ views on women’s rights, which will influence the MP’s votes on any subsequent policy touching on women’s rights issues.

One other important point to note regarding our theory is that it also suggests conditions under which we expect constituents *not* to send signals to their MP. In particular, if MP’s priors are a good representation of constituent preferences, then there is no reason for constituents to send signals. This point is relevant for our empirical analysis, because it offers a potential explanation for why we might see constituents sending petitions against the CDAs but few counter-petitions in support of the CDAs. If MPs had a poor understanding of constituent preferences regarding women’s rights, which was a relatively novel issue in the 1870s, there is likely to be more incentive for constituents who opposed the CDAs on those grounds to send signals. In contrast, if MPs had a good understanding of constituents feelings toward, say, military preparedness, a much less novel topic of debate, then constituents who supported the CDAs for that reason would have far less incentive to signal.

4 Data

We have collected and compiled a variety of data sources in order to conduct the empirical analysis. This section briefly summarizes each of the main datasets.

Petition data: Our analysis draws heavily on a set of data tracking petitions sent to Parliament, which we obtained from ProQuest, covering 1833-1918.¹⁷ To understand these data, it is useful to first describe the role that petitions played in the political process during the period we study.

The middle of the nineteenth century was the “heyday” of petitioning in Britain, “distinguished by an intensification and institutionalization of mass petitioning to the Commons that was sustained over a long period” (Miller, 2023, p. 15). During this period, petitioning became the most important conduit for communication between constituents and their representatives outside of elections.¹⁸ Relative to modern representatives, who have access to survey and polling data, local offices, and a variety of other connections to their constituencies, communication channels were much more limited in the nineteenth century. Petitioning filled this gap.

We use petitions from 1864 to 1883 in our analysis of the petitions data, a period across which we observe 333,494 petitions. The petitions data contain a wealth of information. One important piece of information is the topic or bill that the petition related to, which we can use to identify those petitions related to issues such as the CDAs or women’s suffrage. The data reveal that

¹⁷We are not the first to use petition data to study British politics in the 19th century. A recent paper by [Figuroa and Fouka \(2023\)](#) use data from 1788 to 1833 in their study of the origins of the slavery abolition movement.

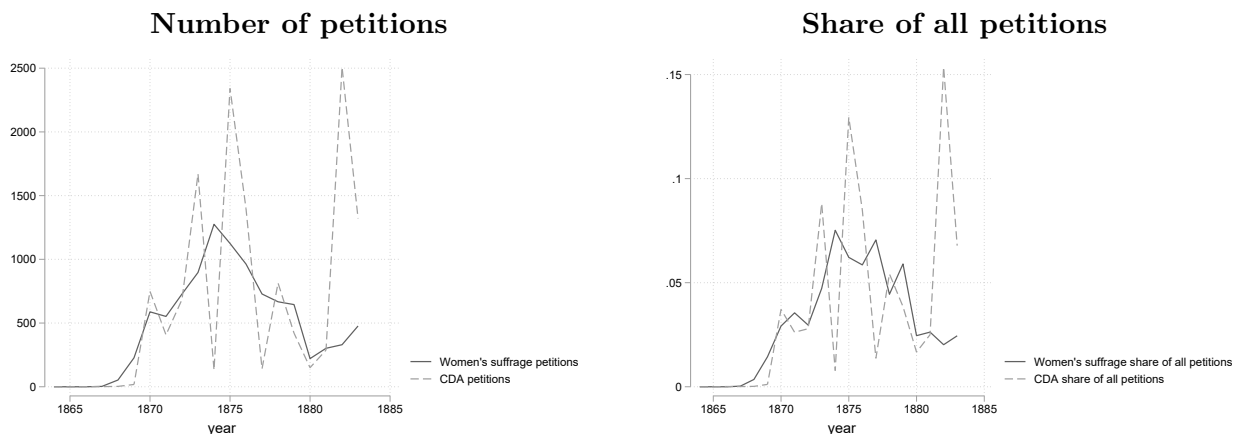
¹⁸Huzzey and Miller call petitioning “a crucial site of representation between people and parliament” ([Huzzey and Miller, 2020](#), p. 1). As a particularly notable example of this representation in action, Huzzey and Miller describe the enormous petition—stretching over five miles long when rolled out—for repeal of the CDAs, signed by a quarter of a million women and presented to Parliament on March 31, 1871.

nineteenth century petitions related to a wide range of topics. In Appendix C we provide a listing of the issues that attracted the most attention in the 1864-1874 period, which will be the main focus of our analysis. Among these, we see petitions on topics as varied as liquor sales, education, religious practices, prisons, elections and the franchise, the legalization of marrying a deceased wife’s sister, and gas supply.

The data also contain information about the group that sent the petitions, such as, for example, “Members of the Leigh Chamber of Commerce,” “Inhabitants of Handsworth near Birmingham,” and “Licensed grocers of Crosshill.” We use this information to study petition flows by the type of group that sent them, and in particular, to identify petitions sent by women’s groups. An interesting feature of petitioning is that it was not limited to the enfranchised population. At this time, a large fraction of adults, including all women and many poorer men, lacked voting rights at the national level. Petitioning offered one of the only means available to these groups for influencing government policy.

We can track the ebbs and flows of the effort against the CDAs in the petition data. Figure 3 plots the number and share of all petitions related to the CDAs and women’s suffrage across the study period. As expected, we see very few CDA petitions before 1869, when the LNA began contesting the policy. Following that point, we see a high level of petitioning related to the CDAs from 1870-1875, with substantial spikes in 1870 and 1873. That was followed by a lull during the Conservative government of 1874-1880, and then another period of intense petitioning following the Liberal victory of 1880, peaking in 1883. It is important to note in these graphs the high level of activity that the CDAs generated. The right-hand graph shows that CDA petitions accounted for over 5% of all petitions across most of the period from 1870-1883, and as much as 15% in some years. It is also interesting to note that petitioning activity related to women’s suffrage followed a similar pattern over time.

Figure 3: Petitions related to the CDAs and women’s suffrage, 1864-1883



Most petitions also include information about the location of the petitioners which can be used

to geolocate the petitions. Most petitions were geolocated by ProQuest, but for some reason they did not geolocate some petitions and they omitted some years. We have filled in geolocations for petitions containing sufficient location information that were not already geocoded. Appendix Figure B2 shows that around 80% of petitions can be geocoded in each year of our study.

A map of the petition locations, in Appendix Figure B3, shows that petitions came from all parts of the country. We combine this location information with a map of English and Welsh constituencies as of 1870 in order to map each petition to a Parliamentary constituency.¹⁹

Finally, the petitions data include information on whether the petitioners were for or against a policy. In the case of the CDAs, essentially all of the petitions were from groups that were in favor of repeal (see Appendix B4). The same is true for women’s suffrage petitions.²⁰

It is worth noting that the data include some information on the number of signatures on a petition, but many petitions just list a single signature (e.g. by the mayor for a petition sent by “citizens” of a town, or a pastor for a petition sent by a congregation), so we do not use this information in the analysis.

LNA advocacy data: To track LNA advocacy work at the local level, we use information gleaned from the digitized historical newspaper articles in the British Newspaper Archive (BNA).²¹ This database is the product of a partnership between the British Library and Find My Past that takes advantage of the British Library’s extensive historical newspaper collection. As a result, it is one of the most complete historical newspaper archives available for any location (Beach and Hanlon, 2023b). Despite the relatively high coverage rate, many newspapers that existed during our study period are still not included.

To track LNA activities, we search the BNA newspapers to identify all articles mentioning Josephine Butler, and then manually review each article to identify all of the rallies that she attended during the study period. We use this to build a database of the timing and location of every LNA rally from 1869 to 1883.²² It is important to note that these rallies were always mentioned in multiple newspapers, including newspapers outside of the rally location. This is a useful feature, because it means that we will be able to identify rallies even if there is no surviving digitized newspaper from the location where the rally was actually held. We geolocate each rally based on the location described in the newspaper articles (not the location of the newspaper).

Spatial controls: Our analysis of the impact of LNA advocacy on petitioning activity utilizes a rich set of spatial control variables. One set of controls comes from our main petition data. Using these, we construct controls for the overall level of petitioning unrelated to women’s rights at the location level. This provides a control for the level of political activity and organization

¹⁹This shapefile was originally constructed by the Vision of Britain project (<https://www.visionofbritain.org.uk/>) but no longer appears on their website. The version that we use was generously shared with us by Jonathan Chapman.

²⁰Out of almost 10,000 petitions related to women’s suffrage, we observe only 11 that are identified as against in the data.

²¹See britishnewspaperarchive.co.uk.

²²Our manual review allows us to exclude mentions of Josephine Butler attending events other than LNA rallies.

in a location. A second set of controls comes from the Census. We use available census data to construct controls for population, population density, as well as male-female population shares and the age distribution of the population. The census also provides us with economic indicators such as the share of manufacturing, service, or professional occupations. A third set of controls are drawn from data produced by the Registrar General’s office. In particular, the Registrar’s Office collected detailed annual data, at the district level, for marriages.²³ These allow us to measure marriage rates as well as the rate of illiteracy at marriage and the rate of marriages involving minors. Together, these various datasets provide us with a rich set of indicators for local economic, political, and social conditions that might have influenced petitioning activity.

MP votes data: To study MP voting behavior, we use the dataset put together by [Eggers and Spirling \(2014\)](#). This dataset provides the votes of each MP in each division taken during the period we study, as well as the MP’s constituency and additional information such as their party affiliation and age. Our main analysis focuses on divisions on the CDAs and women’s suffrage occurring from 1870 to 1874, though we also examine the divisions in the early 1880s when the CDAs were repealed.

Parliamentary debate transcripts: We obtain texts of the Parliamentary debates on the CDAs from the *Hansard*. We use this data to provide a complementary descriptive analysis of how the debate over the CDAs changed after the period of LNA advocacy. By the period we study, the *Hansard* had become the semi-official record of Parliament. The *Hansard* transcripts have been digitized and are available from <https://api.parliament.uk/historic-hansard/index.html>. See [Hanlon \(2022\)](#) for further discussion of the *Hansard*.

5 Preliminary analysis: Terms of the debate

Before moving to our main quantitative analysis, it is useful to look at how the debate over the CDAs changed after the beginning of LNA advocacy. This can help illuminate the key issues at stake in the historical setting we consider and how these issues changed after the emergence of the LNA.

To analyze how the terms of the debate over the CDAs changed before and after the emergence of LNA advocacy, we start with the texts from three substantial debates over the CDAs that took place in Parliament. Our main focus is on comparing the debate in 1866, before LNA advocacy began, to the debate in 1873, after several years of LNA advocacy. In the Appendix we also offer results from a third substantial debate, in 1883.²⁴ We feed these debate texts into ChatGPT and ask it to produce summaries of the key arguments made for and against the CDAs in each of the debates and then use those summaries to understand how the key issues changed after the beginning

²³These data have been used previously in studies such as [Beach and Hanlon \(2023a\)](#).

²⁴While there were other short debates at other times, these are the only three substantial debates during our study period.

of advocacy efforts in 1870.²⁵

Figure 4 provides the summary of the key arguments for and against the CDAs from the 1866 Parliamentary debate. The striking feature of the debate summary in Figure 4 is that concerns about women’s rights makes almost no appearance. While the summary mentions concerns related to a failure to provide opportunities for women to reform, there is no mention of violations of women’s rights or unequal treatment relative to men. Now contrast this with the summary of the 1873 debate, in Figure 5, which occurred after three years of LNA advocacy. While many key arguments in favor of the CDAs remained the same, the main difference relative to the 1866 debate is the emergence of concerns about women’s rights in arguments against the acts. In point 1, we see critiques based around the “unequal treatment of men and women, with women disproportionately penalized” and, in point 2, additional concerns about how “Women’s liberties were curtailed under vague and discriminatory criteria.” These issues were completely absent in the 1866 debate, where criticisms instead focused on the effectiveness of the intervention, the cost of the program, and the morality of government legitimizing the sex trade.

Clearly, somewhere between 1866 and 1873, the key terms of the debate over the CDAs had changed in a way that elevated concerns about women’s rights. While we cannot link these changes directly to the advocacy work of the LNA (given that fewer than a dozen speakers spoke at any given debate, a quantitative analysis is not possible), it is striking how the issues raised in the LNA appeal of 1870 in Appendix B are echoed in the Parliamentary debate of 1873, while being absent from the debate of 1866. Concerns about women’s rights are even more prominent in the summary of the 1883 debate, which can be found in Appendix O.

So, it appears that concerns about women’s rights played little role in the early debate over the CDA bills, but became much more important after LNA advocacy began. Our model suggests a potential explanation for this; perhaps MPs initially did not appreciate that their constituents cared about the way that the CDAs impacted women’s rights before LNA advocacy began, but then became aware of those concerns as a result of constituent signals resulting from LNA advocacy efforts. Next, we examine the links between advocacy, constituent signaling, and MP votes.

6 Main analysis

Our main empirical analysis is broken into three components. We begin by studying the impact of the LNA’s advocacy work on petitioning activity. Next, we shift our focus to MP voting behavior, where we look at how MP voting behavior is influenced by constituent petitions. Finally, we examine the spillover effects of CDA advocacy on MP votes on other women’s rights legislation.

²⁵It is useful to note that too few MPs spoke in any particular debate to allow us to undertake a quantitative analysis at the MP level.

Figure 4: ChatGPT summary of key arguments in the 1866 CDA bill debate

Arguments Against the Acts:

- 1. Immorality and Hypocrisy:** MR. AYRTON criticized the Act as institutionalizing vice, claiming it was a disgrace to public morality by providing health certificates to immoral women for the benefit of soldiers and sailors.
- 2. Lack of Reclamation Focus:** Critics argued that the Act failed to provide meaningful opportunities for women to reform, reducing them to tools of a morally questionable system.
- 3. Ineffectiveness:** MR. HENLEY highlighted reports indicating little to no reduction in disease due to these measures, questioning their practical value.
- 4. Public Expense for Vice:** Opponents claimed that taxpayer money was being used to support and sustain vice, rather than addressing root causes or fostering moral improvement.
- 5. Ethical and Religious Concerns:** Critics questioned whether legislation that condoned vice could expect to yield positive societal blessings or benefits.

Arguments For the Acts:

- 1. Public Health:** LORD CLARENCE PAGET argued that the Act aimed to preserve the health of soldiers and sailors by controlling the spread of diseases in ports, as recommended by medical experts.
- 2. Continuity of Existing Measures:** Proponents viewed the legislation as an extension of a system already approved by Parliament, reflecting ongoing efforts to address public health concerns.
- 3. Moral and Practical Efforts:** Supporters like MR. AYRTON pointed out reclamation efforts to restore unfortunate women to their families, showing the Act's positive social impact in some cases.
- 4. Professional Medical Oversight:** LORD CLARENCE PAGET emphasized the importance of health measures and protested against misconceptions that the Act sanctioned or promoted immoral behavior.
- 5. Select Committee Review:** Advocates suggested referring the Bill to a Select Committee to ensure thorough consideration and mitigate concerns.

6.1 Advocacy and petitioning

To examine the impact of advocacy on petitioning, we begin with a balanced panel of 582 districts in England and Wales outside of London across the period from 1864 to 1874.²⁶ The advantage of conducting our main analysis at the district level and focusing on England and Wales is that it allows us to include a rich set of control variables based on the census or the registration of marriages. We focus our main analysis on the period up to 1874, before the lull caused by the

²⁶While there are around 630 district in the U.K. during this period, we drop 35 districts in London and merge a small number of other districts that experienced border changes to end up with 582 districts with fairly consistent boundaries across the 1864-1875 period. We exclude London because it differs from the country in many ways and was likely exposed to LNA activity through a variety of channels other than rallies.

Figure 5: ChatGPT summary of key arguments in the 1873 CDA bill debate

Arguments Against the Contagious Disease Acts

- 1. Immorality and Double Standards:** The Acts were seen as immoral for licensing vice and creating unequal treatment of men and women, with women disproportionately penalized. Prostitution was treated as a necessity for men, while women bore the brunt of regulation and stigma.
- 2. Infringement of Rights:** Police powers were deemed excessive, often based on mere suspicion. Women’s liberties were curtailed under vague and discriminatory criteria.
- 3. Ineffectiveness:** Opponents argued the disease had been declining even before the Acts, rendering them unnecessary. The effectiveness of medical examinations and treatments provided under the Acts was questioned.
- 4. Social and Ethical Concerns:** Critics denounced the idea of the state implicitly endorsing or managing prostitution. The Acts were seen as ignoring broader societal issues, such as the economic conditions driving women to prostitution.

Arguments For the Contagious Disease Acts

- 1. Public Health and Morality:** Proponents highlighted the Acts’ success in reducing disease among soldiers and sailors, improving public health outcomes. They argued the measures reduced visible vice and improved conditions in areas like military camps.
- 2. Moral Reform:** The Acts were viewed as a way to reform prostitutes by providing medical treatment and reducing their presence in public areas. Supporters cited examples of improved behavior and fewer instances of juvenile prostitution.
- 3. Protecting the Vulnerable:** Advocates claimed the Acts protected innocent women and children from the spread of disease by addressing its sources. They emphasized the practical benefits seen in districts where the Acts were enforced.
- 4. Evidence of Effectiveness:** Supporters presented statistical and anecdotal evidence showing reduced instances of disease and vice in areas covered by the Acts. Testimonies from medical professionals and military authorities supported the continuation of the legislation.

Conservative victory in the general election of that year, because this was an era during which the CDAs became a major issue of public debate but before any election had been held. Thus, it allows us to analyze communication between constituents and representatives on issues that had not been litigated during an election campaign.

To assess the effect of rallies on petitions, we estimate the following equation:

$$CDA_{it} = \beta RALLY_{it} + \varphi X_{it} + \alpha_i + \gamma_t + \epsilon_{it} \quad (5)$$

The dependent variable in this analysis, CDA_{it} , is the number of petitions related to the CDAs that were sent from each location i in year t . The key explanatory variable in our regression, $RALLY_{it}$ is an indicator for whether there was an LNA rally in location i in year t or any previous year (so

treatment is an absorbing state). α_i and γ_t are location and year fixed effects, respectively. β is the parameter of interest that captures the increase in CDA petitions after LNA rallies. The vector X_{it} contains a rich set of control variables discussed in more detail later. Since this is a staggered difference-in-difference regression framework, our main analysis follows the approach from [Callaway and Sant’Anna \(2021\)](#).

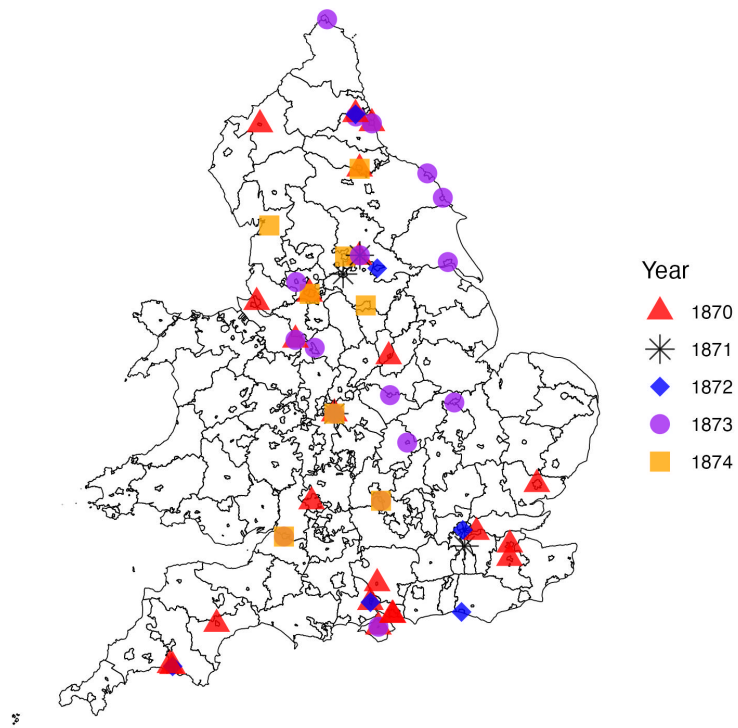
To provide a sense of the variation in the explanatory variable, Figure 6 maps the LNA rallies by location and year onto a map of 1870 electoral constituencies. We can see that rallies were sprinkled throughout the country. They were held in both larger cities such as London, Manchester and Birmingham, and in smaller towns such as Crewe and Darlington. Rallies were also held in several locations subject to the CDAs, including Chatham, Plymouth, Portsmouth, and Woolwich. In terms of timing, the rallies began in early 1870 following the publication of the LNA appeal and continued at a rapid pace through 1875 before slowing down thereafter.

In Appendix D, we explore the factors that predict whether a location received an LNA rally. This analysis shows that LNA rallies were more likely to be held in more urban locations and those with more political activity (as indicated by the number of pre-1870 petitions unrelated to women’s rights). LNA rallies were also more common in locations with military stations, which is expected given that we know that Butler targeted locations that were subject to the CDAs. We do not observe strong correlations with the economic structure of the locations, such as the share of workers in manufacturing or professional occupations. However, we do observe correlations with some demographic variables, such as the marriage rate and the illiteracy rate.

Since selection into treatment is not random, our main analysis includes a rich set of control variables. The most important controls are population density and the number of petitions on all topics other than women’s rights sent from the district prior to 1870, which help control for districts that were more urban or more politically active. We also include additional demographic controls from the census: the working-age population share and the female to male population ratio. The census also provides us with controls for economic conditions in a district: the manufacturing employment share, share of workers with professional jobs, and the share of employment in the service sector. From the marriage data we add controls for overall marriage rates (marriages/population), literacy rates (the share of spouses that were illiterate at the time of marriage), and the share of marriages involving minors. Finally, we control for the log number of soldiers or sailors in the district, since districts subject to the CDAs contained military stations.

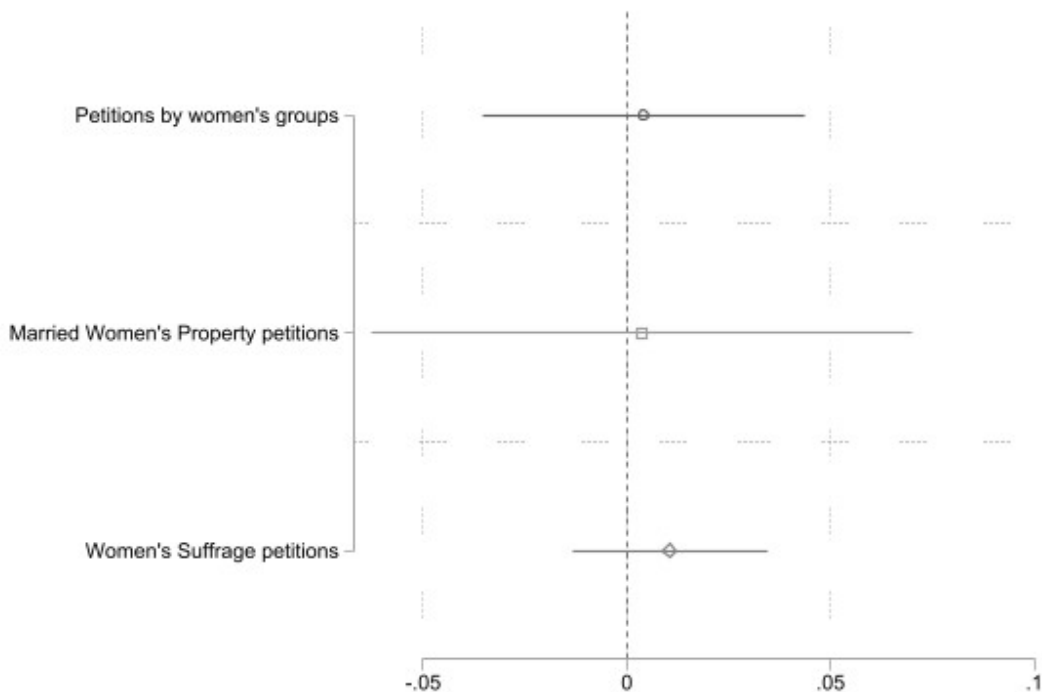
The primary identifying assumption in our analysis is that, conditional on these controls, CDA petitions in treated locations, where the LNA held rallies, and in control locations, where they did not, would have evolved on parallel trends in the absence of treatment. One way to support this assumption is to look at whether treatment is correlated with pre-treatment patterns of petitioning related to women’s rights. In Figure 7 we show that, conditional on controls, there is no correlation between treatment and pre-treatment levels of petitioning by women’s groups, or related to women’s suffrage or married women’s property laws. Overall, these results provide confidence that our set

Figure 6: Location and timing of LNA rallies, 1870-74



of controls is capturing essentially all relevant pre-treatment differences between treatment and control locations. Note that it is likely that the locations where the rallies were held were those most likely to be responsive to advocacy efforts (heterogeneous treatment effects). This feature affects our interpretation of the coefficients we estimate, but does not invalidate our identification strategy.

Figure 7: Comparing pre-treatment women’s rights petitions to treatment, conditional on controls
 Dep. var.: Whether there was an LNA rally in a location in 1870-75

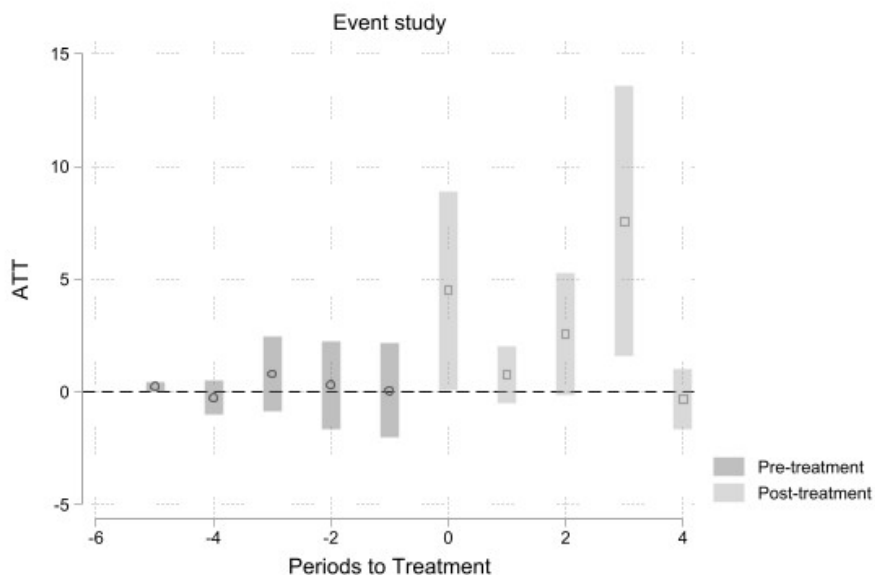


This table presents the coefficients and 95% confidence intervals estimated from a district-level cross-sectional regression of an indicator for whether a district was the location of an LNA rally in the 1870-1875 period on four different measures of petitions related to women’s rights in the 1864-1869 period as well as our full set of control variables observed in the pre-1870 period. Regressions are run separately for each of the three measures of women’s rights petitions.

Our analysis of the impact of advocacy on petitioning begins with an event-study specification looking at the impact of LNA rallies on CDA petitions at the district-by-year level including our full set of controls. Results are in Figure 8. The first thing to note in these results is that there is no evidence of pre-trends. Once an LNA rally occurs, we observe a statistically significant increase in petitioning related to the CDAs, equal to around 4 petitions. The magnitude of this effect is fairly substantial; across the full study period we observed around 51 petitions per year from treated districts across all other topics, so the effect of an LNA rally was equal to around 8% of all petitions from these locations. We also see evidence of elevated rates of CDA petitions in subsequent years, which suggests that the LNA rally may have had persistent effects on constituents’ ability to

coordinate. Note that treatment is an absorbing state in our analysis, but the timing of treatment means that the set of districts that contribute to the effects estimated for different numbers of years after treatment will change.²⁷

Figure 8: Event-study estimates of the impact of LNA advocacy on CDA petitions



Estimates obtained using the method from Callaway and Sant’Anna (2021) on district-by-year level data for 582 districts and years from 1864-1875. The dependent variable is the number of CDA petitions from a district in a year. The explanatory variable is an indicator for whether the district had been the site of an LNA rally in the year or previous years. The regression includes the following control variables: district population density in 1861, the number of petitions unrelated to women’s rights from the district, district working age population share, the female to male population ratio, the share of workers in manufacturing, with professional jobs, or with service jobs, the marriage rate, the illiteracy rate at marriage, and the share of marriages involving minors.

Table 2 summarizes results for a wider set of specifications. For each, we report the ATT across the full treatment period. Column 1 shows the simplest specification without any controls. Column 2 adds in controls for population density and the number of petitions in the pre-1870 period. These are the most important controls; their inclusion substantially reduces the estimated coefficient, though the results remain statistically significant at the 95% level. In Column 3, we add in the controls for district population and economic structure obtained from the Census. In Column 4 we add in the controls obtained from the Registrar General’s marriage data so that we have the full set of controls.

In Appendix E we present additional results looking at effects that extend out to the end of our study period in 1883. Those result suggest that LNA rallies have the greatest effect on petitioning in the first five years, and then effects fade away. Thus, we find that advocacy work matters for constituent signaling activity but that its impact is only temporary.

²⁷For example, since we use only data up to 1875, the effect measured four years after treatment is driven only by districts where the LNA held a rally in 1870.

Table 2: Estimated impact of LNA rallies on CDA petitions

	(1)	(2)	(3)	(4)
ATT	4.270***	2.758**	2.586***	3.007***
	(1.024)	(1.085)	(0.993)	(0.952)
Controls:				
Pop. density		Yes	Yes	Yes
Other petitions		Yes	Yes	Yes
Economic controls			Yes	Yes
Demographic controls			Yes	

Standard errors in parentheses are clustered at the district level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. N=6,402: 582 districts over 11 years from 1864-1874. This table presents ATT coefficient estimates and standard errors obtained using the method of Callaway and Sant’Anna (2021) including as a control the number of petitions in the last pre-treatment period. Column 1 includes no control variables. Column 2 controls for district population density and the number of petitions unrelated to women’s rights from the district in the pre-period. Column 3 adds economic controls from Census data: the log number of military in the district, and the share of workers in manufacturing, in services, or in professional occupations. Column 4 adds in the female share of the population and the working age share from the Census as well as additional controls from the Registrar’s marriage data: the marriage rate, share of spouses who were minors, and share of those who were illiterate at the time of marriage.

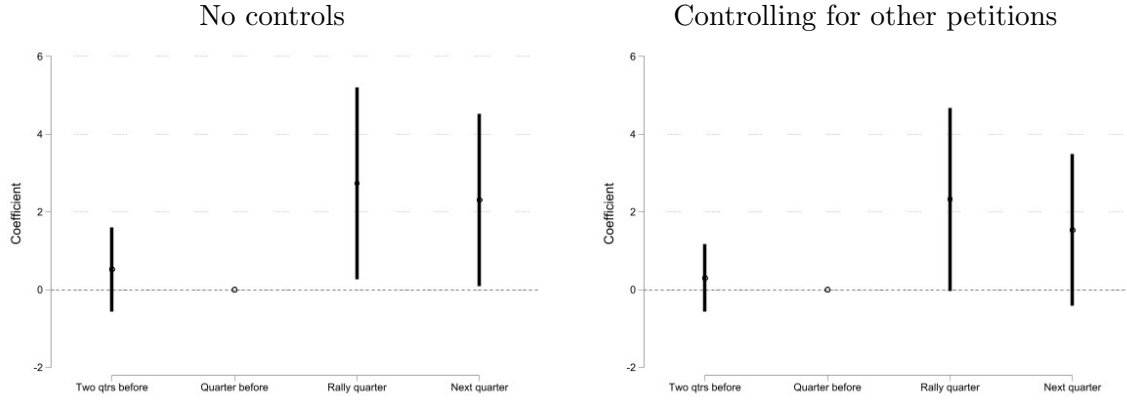
A primary worry with the results presented so far is that the LNA may have been holding rallies in locations where concern about the CDAs was rising. While the lack of differential pre-trends in Figure 8 suggests that this is unlikely, we can examine this issue in more detail by exploiting the granularity of the data in order to look for patterns over shorter time periods. In particular, in the next set of results we study petitioning patterns in the two quarters before an LNA rally compared to the two quarters starting from the month in which the rally took place.

We define an experiment e as a month in which an LNA rally occurs. For each experiment, we construct a four-quarter panel with month e as the first month of the third quarter in the panel. We include in the panel districts where an LNA rally was held in month e (treated districts) as well as any other district where no rally took place either before or within six months after month e (controls). Thus, for each experiment e we have a panel with four quarter-long time periods q spanning a set of district i which were either treated at the beginning of quarter 3 or untreated throughout (or before). We stack these panels and run regressions estimating the impact of a rally on petitions in the two quarters starting from the rally month compared to the two quarters just before, clustering standard errors by district. The specification is,

$$CDA_{ieq} = \beta_{-1}RALLY_{ie}1[q = 1] + \beta_1RALLY_{ie}1[q = 3] + \beta_2RALLY_{ie}1[q = 4] + \varphi X_{ieq} + \alpha_{ie} + \gamma_{eq} + \epsilon_{ieq} \quad (6)$$

where CDA_{ieq} are CDA petitions from district i in period q of experiment e , $RALLY_{ie}$ identifies districts where a rally took place in the experimental window (always in the month at the beginning of quarter 3), and α_{ie} and γ_{eq} are, respectively, experiment-district and experiment-period fixed effects. X_{ieq} is a set of control variables, though the only control variable included in these

Figure 9: Quarterly analysis of LNA rallies on CDA petitions



This figure plots estimated coefficients and 95% confidence intervals for stacked two way fixed effect panel estimates of the impact of an LNA rally in a district on the number of CDA petitions sent from that district. Confidence intervals are based on standard errors clustered at the district level. Treated quarters are the quarter starting from the month in which the rally occurred. Each panel covers all locations treated by an LNA rally in a particular month (treated locations) as well as all other locations (controls) where no rally took place prior to that month or within the two quarter treatment period (i.e., only locations that were never-treated within the four-quarter period covered by a panel). Standard errors are clustered by district to allow serial correlation and account for the fact that locations may appear as controls in more than one panel. The regression in the right-hand panel includes a control for the total number of petitions unrelated to the CDAs or women’s suffrage sent from the district in each quarter.

regressions is the number of petitions unrelated to women’s rights sent from the district because that is the only variable observed at high frequency in our data.²⁸

Figure 9 present the quarterly analysis results for the impact on LNA rallies on CDA petitions. The first key pattern to notice is that there is no evidence of differential pre-trends in petitioning before an LNA rally. This provides a valuable piece of evidence in support of our identification strategy. After a rally, however, we see a clear increase in CDA petitions sent from treated locations. In terms of magnitudes, these results suggest that about two additional petitions were sent from districts where LNA rallies occurred per quarter.

In Appendix F, we show results from similar regressions looking at petitions by women’s groups or on other women’s rights issues. The key result from those regressions is that there is no evidence of pre-trends for any of these types of petitions, which lends further credibility to our identification strategy.

As a second check on our identification strategy, in the next set of results we estimate placebo regressions looking at the impact of LNA rallies on petitions on topics that are plausibly unrelated to the CDAs or women’s rights. Specifically, we focus on the set of petition topics for which one thousand or more petitions were sent in the 1864-1874 period. We analyze the relationship between LNA rallies and each of these placebo topics. This analysis is done at the annual district level by estimating Eq. 5 separately for each petition topic using the same method from Callaway and

²⁸Any variable factor that adjusts at below a quarterly frequency will be absorbed by the experiment-by-district fixed effects.

Sant’Anna (2021) as the results shown in Table 2.

Table 3 presents results for CDA petitions, in the first column, and all of the other major petition topics (except women’s suffrage) in the remaining columns. Panel A shows results without controlling for the number of petitions from a location while Panel B adds this control (which, in the Callaway and Sant’Anna (2021) approach, is based on petitions in the location in the last pre-treatment period interacted with post-treatment period dummies). We can see that none of the other topics has as strong a relationship to treatment as CDA petitions and for none of the other topics is the relationship statistically significant after the petitions control is included. Moreover, event study plots of results for all of these topics (available upon request) exhibit flat pre-trends in the periods leading up to LNA rallies. That pattern provides further evidence that the timing and location of LNA rallies was not the product of some other time-varying change in political activity in treated locations.

Table 3: Estimated ATT of LNA rallies on placebo topics

CDA	Burials	Liquor	Educ.	Irish Church	Marry DWS	Monas.	Pub. wrshp	Prison	Elect.	Relig other
A. Without petitions control										
4.270*** (1.024)	-0.923 (0.712)	-2.083 (3.185)	-1.479 (1.506)	-2.651*** (0.875)	0.672 (0.760)	1.426** (0.628)	2.366*** (0.482)	-0.120 (0.366)	0.110 (0.175)	0.220 (0.154)
B. With petitions control										
2.866** (1.142)	-2.917 (2.602)	-2.792 (4.364)	0.087 (1.527)	8.662 (8.537)	1.216 (0.929)	0.640 (0.804)	0.718 (0.508)	-0.387 (0.330)	-0.015 (0.407)	-0.676 (0.584)

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. This table presents ATT coefficient estimates and standard errors obtained using the method of Callaway and Sant’Anna (2021) including as a control the number of petitions in the last pre-treatment period. Each coefficient is from a separate regression with petitions related to the topic indicated at the top of the column as the dependent variable and using district-level data from 1864-1874. Standard errors are clustered at the district level.

Thus far, we have broken down results into finer time periods as well as looking across topics. Our petitions data also offer additional richness in terms of location detail that we can exploit. To do so, we now shift from districts as the unit of observation to geocoded locations. Our data include 16,804 unique locations within England and Wales. We have also geocoded the LNA rallies to specific locations. If we think of proximity to an LNA rally as affecting the intensity of treatment, then we can study how this effect varies as we expand the distance around LNA rally locations that we consider treated.

In Table 4, we present results where we consider locations as treated if they are within 2km of an LNA rally (Columns 1 and 3), 5km (Columns 2 and 4), or 10km (Columns 3 and 6). We observe a strong impact of LNA rallies on petitions at each of these distances, but the magnitude of that impact falls off smoothly at increased distances, exactly as we would expect if what we are

measuring is the causal effect of LNA rallies. This provides another piece of evidence in support of our identification assumptions.

These results will be useful later, when we study how CDA petitions affected MP votes. In that analysis, we will strengthen identification by predicting the number of petitions MPs receive based only on the timing and location of LNA rallies. We will do that at the location level in order to map treatment effects to MPs constituencies, which do not correspond closely to the districts used in the previous analysis.

Table 4: Estimated ATT of LNA rallies at different treatment distances

Treatment:	No controls			Full controls		
	Rally within 2km (1)	Rally within 5km (2)	Rally within 10km (3)	Rally within 2km (4)	Rally within 5km (5)	Rally within 10km (6)
ATT	.5994384*** (.1454922)	.2348237*** (.0560232)	.1004756*** (.0252148)	.4130017*** (.1303704)	.1659597*** (.0498971)	.0749859** (.034018)

Standard errors in parentheses are clustered at the district level to allow for both serial and some spatial correlation. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. N=184,844: 16,804 geocoded locations in England and Wales over 11 years from 1864-1874. This table presents ATT coefficient estimates and standard errors obtained using the method of Callaway and Sant’Anna (2021). In Columns 1 and 4, treatment is defined as any location within 2km of an LNA rally. In Columns 2 and 5, it is any location within 5km, and in Columns 3 and 6 it is any location within 10km. Columns 1-3 include no control while Columns 4-6 include the full set of controls. There is one location-level control, the number of petitions unrelated to women’s rights, and we well as the following controls reflecting conditions in the district in which the location was situated: district population density, the log number of military personnel, the share of manufacturing, service, or professional workers, the marriage rate, share of spouses marrying as minors, rate of illiteracy at marriage, female to male population share, and working age population.

Heterogeneity by petitioner type: Our data also allow us to break down the impact of LNA rallies on petitions using information on the type of petitioner. Of particular interest is the impact of LNA advocacy on CDA petitions sent by womens’ groups. Indeed, in Appendix G, we show that there is some suggestive evidence that petitions by women’s groups related to the CDAs increased in response to LNA rallies, though there are too few petitions by women’s groups in our data for us to draw strong conclusions.

6.2 Petitioning and MP votes

Next, we explore the impact of constituent petitioning on MP votes. Our primary focus is on the 1873 vote to repeal the CDAs. This is the most interesting outcome vote to consider for three reasons. First, the 1873 vote was a clear referendum on repeal, unlike the 1870 vote. Second, it took place after LNA advocacy had begun but before a general election had taken place in which the CDAs were a meaningful issue. Third, the 1873 vote was not along party lines (see Table 1). In particular, Liberals were divided almost evenly for or against repeal. Thus, the 1873 vote provides a particularly clean context in which to study constituent signaling in the absence of an election.

One potential identification concern when comparing the number of petitions sent by an MP’s constituents and the MP’s votes is that locations that send more petitions may also have MPs that vote differently for reasons other than petitions. To deal with this issue, in our preferred specification the key explanatory variable will be the number of CDA petitions that we predict would have been sent from a constituency based on the timing and location of LNA rallies and our estimates of the effect of LNA rallies on CDA petitions from the previous section. Specifically, we start with the estimated impact of LNA rallies on CDA petitions from the location-level analysis shown in Column 4 of Table 4, which includes our full set of controls.²⁹ Using this estimated relationship, we calculate the predicted number of CDA petitions for each location and year based only on the timing and location of LNA rallies:

$$P\hat{E}T_{it} = \hat{\beta}RALLY_{it}. \quad (7)$$

where $\hat{\beta}$ is the estimated ATT effect of LNA rallies on petitions from Column 4 or Table 4 and $RALLY_{it}$ is an indicator for whether the location has a rally in year t or any previous year, as defined above.³⁰ We then map these location-level predicted petitions to MP constituencies, and then sum up the predicted number of petitions from 1870 to 1873 at the constituency level. So, for each constituency c , our predicted petition variable is,

$$PredPet_c = \sum_{t=1870}^{1873} \sum_{i \in c} P\hat{E}T_{it}$$

where the second summation is across all locations i in constituency c .

The result is a prediction for the number of recent petitions related to the CDAs sent by the constituents of each MP from 1870-1873. This variable exploits both the location and timing of the LNA rallies. For example, an LNA rally held in 1870 will have more impact on predicted petitions than one held in 1872, because the rally will increase petitions over more years. It also accounts for the fact that some constituencies, such as county constituencies, may be geographically large and so even if a location on the periphery of the constituency was exposed to an LNA rally the impact on overall petitioning from the constituency is small. In contrast, a rally in a geographically small but densely populated borough constituency may have a much larger impact on the total number of CDA petitions sent by constituents. Appendix Table B6 shows that our predicted petition variable is a strong predictor of actual CDA petitions.

Table 5 presents results looking at the relationship between petitioning and MP’s votes in the 1873 division on CDA repeal. The unit of observation in this analysis is an MP and the dependent variable is an indicator for whether an MP voted to repeal the CDAs. Our primary explanatory

²⁹We use location-level results because locations can easily be aggregated up to MP constituencies, whereas districts do not map well to MP constituencies.

³⁰In Appendix Table B7 we show results are obtained as we expand the radius out to 5 of 10km, as in Columns 5 and 6 of Table 4. While the size and statistical significance of the results fall as we include more distant locations as treated, the patterns are similar.

variable of interest is either the number of CDA petitions sent by groups in the MP’s constituency in the years leading up to the vote (1870-73) or the predicted number of petitions sent based on the timing and location of LNA rallies and the estimated impact of those rallies on petitioning from the previous section.³¹ In our preferred specification, we include a rich set of controls. One important control is the number of petitions on all other subjects sent from the constituency up to 1870, which will help account for differences in the size and level of political activity in different constituencies. We also control for the MP’s party and whether they had a CDA district in their constituency. In addition, we include the full set of district-level controls from the Census and Registrar General’s data that were included in our analysis of the impact of LNA rallies on petitions.³² For comparability across specifications, we standardize the key explanatory variable (actual or predicted number of petitions).

Column 1 of Table 5 presents results from a specification using actual CDA petitions as the key explanatory variable. We can see that the number of CDA petitions from a constituency is positively related to whether an MP voted for repeal. In addition, it is clear that Conservative Party MPs and those from CDA districts are much more likely to vote against repeal. The second of these results is particularly interesting, because it suggests that direct exposure to the CDAs increased support for the acts, while opposition came almost entirely from other locations.

In Column 2, we instead use predicted CDA petitions based on the timing and location of LNA rallies in place of actual CDA petitions. This is our preferred specification. We have argued that, conditional on the rich set of included controls, the timing and location of LNA rallies is plausibly exogenous. If this is correct, then these estimates can be interpreted as the causal effect of LNA advocacy on MP votes. The results indicate that LNA rallies had a meaningful effect on MP votes on CDA repeal. In particular, a one standard deviation increase in predicted petitions from locations within an MP’s constituency increases the chance the MP votes for repeal by around 8.4 percent.

While we view the results in Column 2 as our preferred specification, for completeness we include in Column 3 instrumental variables results where we use predicted petitions to instrument for actual petitions. This are not our preferred specification because we view predicted petitions as a proxy for the impact of an LNA rally on constituent signaling, which may operate through a variety of channels including, but not limited to, petitioning.³³ That feature makes the exclusion restriction on these IV results hard to sustain and indicates that the reduced-form results in Column 2 are likely to be more informative.

It is interesting to see that we find larger IV estimates for the impact of petitions on MP votes

³¹Recall that essentially all petitions were in favor of repeal.

³²Those controls are available at the district level. Unfortunately, districts do not map cleanly to electoral constituencies. To map these controls to constituencies, we first map the district level values to petitioning locations. We then average the values across all petitioning locations in an electoral constituency.

³³For example, MPs might be influenced by reading newspaper articles about the rallies that happened in their constituency. In that case, the exclusion restriction on the IV results will not hold and the reduced form results are more informative.

than we obtained from the OLS specification in Column 1. This is consistent with the idea that some of the effects of LNA rallies operate through channels other than petitioning, which would act to bias upwards the estimates in the IV specification.

All of the results in Table 5 show a relationship between CDA petitions and MP votes. The primary identification concern for our preferred results in Column 2 is that the timing and location of LNA rallies may have been chosen based on other factors that made MPs more likely to vote to repeal the CDAs. One way to evaluate this concern is to look at whether MP's votes in the 1870 CDA division predict the timing and location of LNA rallies in 1871-73. We evaluate this relationship in Appendix Table B5. Those results show no statistically significant relationship between MP's 1870 vote on the CDAs and the number of petitions predicted from a location in 1871-73 based on LNA rallies. What does predict the timing and location of LNA rallies are (1) whether the MP was a Liberal, and (2) whether the location was in a constituency with a CDA district. In particular, consistent with the historical narrative described above, we find that LNA rallies were aimed at Liberal MPs.

In Appendix K, we break these results down by party. Interestingly, while we see that actual CDA petitions are mainly associated with increased support for repeal among Liberal MPs, predicted petitions based on LNA rallies are associated with increased support for repeal among both Liberals and Conservatives. This suggests that, while the LNA typically did not target Conservative constituencies, in those cases where they did the rallies were effective.

Placebo tests: One way to check our results is to conduct placebo regressions looking at how the estimated impact of CDA petitions on the 1873 CDA repeal vote compares to the impact of CDA petitions on all other votes taken in 1873. The intuition behind this test is that, if our exclusion restriction is violated because, conditional on controls, LNA rallies were held in locations where MPs voted differently for other reasons, then presumably exposure to rallies should predict a meaningful fraction of voting outcomes on issues other than the CDAs or other women's rights issues.

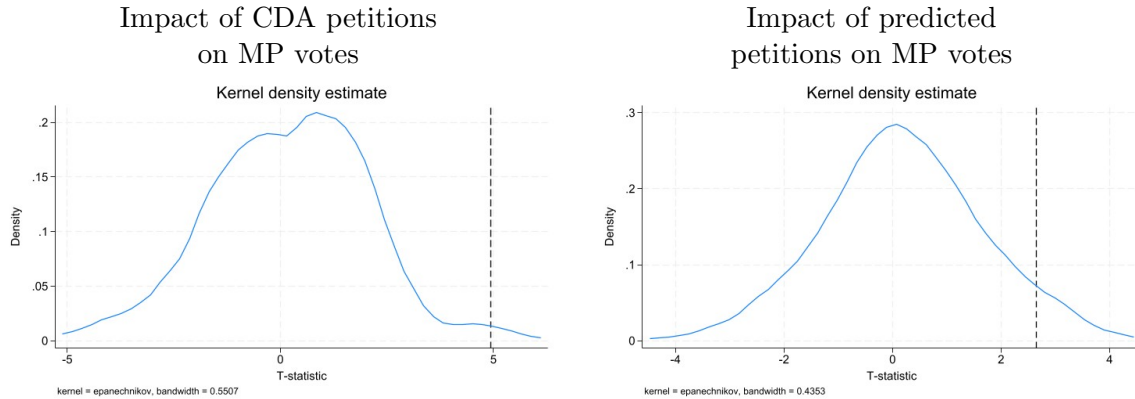
Including the CDA repeal vote, there were 219 divisions in 1873. For each of these, we run regressions using the specification used in Columns 1 and 2 of Table 5. Figure 10 plots the distribution of the t-statistics obtained from these regressions, with the vertical lines indicating the t-statistic from the regression where the CDA repeal vote is the outcome. In both of these figures, our estimate of the impact of CDA petitions or predicted petitions on the CDA repeal vote lies toward the edge of the distribution. When using actual petitions as the explanatory variable, we find that less than 3 (6/218) percent of t-statistics are greater than the estimated impact on the CDA repeal vote. When using predicted petitions in the right-hand panel, only one out of 218 of other votes have t-statistics greater than that for the CDA repeal vote. Together, these results indicate that it is extraordinarily unlikely that we would observe such a strong relationship between CDA petitions, or petitions predicted based on LNA rallies, and the CDA repeal vote simply by random chance. Moreover, it seems extraordinarily unlikely that our exclusion restriction could be violated

Table 5: The effect of petitioning on MP votes for the 1873 repeal bill

	DV: Indicator for vote in favor of repeal		
	OLS (1)	RF (2)	IV (3)
CDA Petitions (std)	0.058*** (0.022)		0.165** (0.079)
Predicted CDA petitions (std)		0.080*** (0.029)	
Conservative	-0.304*** (0.053)	-0.295*** (0.053)	-0.285*** (0.056)
CDA district	-0.133 (0.145)	-0.182 (0.154)	-0.070 (0.144)
Additional controls	Yes	Yes	Yes
IV F-stat			11.99
Observations	296	296	296
R-squared	0.288	0.296	0.255

Standard errors are clustered by constituency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Kleibergen-Paap F-statistics are reported for the IV results. In the IV results, the instrument is the number of predicted petitions based on locations with an LNA rally within 2km. The sample is the set of MPs from England and Wales that voted in the 1873 CDA division. The key explanatory variables, CDA Petitions and Predicted CDA Petitions, are for the period 1870-1873. Those variables have been standardized to have a mean of zero and standard deviation of one to facilitate comparability. The additional controls include: petitions sent from the constituency from 1864-1869, MP age, and controls for log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

Figure 10: Distribution of t-stats across all 1873 votes



The left-hand figure presents the kernel distribution of t-statistics obtained from regression MP votes in 219 divisions that took place in 1873 on the number of CDA petitions sent by each MP's constituents from 1870-1873. The right-hand panel is the density when predicted CDA petitions (based on locations within 5km of CDA rallies) is used as the explanatory variable in place of actual CDA petitions. The vertical lines indicate the t-statistics obtained when analyzing votes in the 1873 CDA repeal division. All specifications include controls for all petitions sent from a constituency from 1864-1869, MP party, MP age, and whether the MP was from a CDA district. Standard errors are clustered by constituency.

by LNA rallies targeting locations where MPs voted differently without that difference showing up clearly for a wider set of votes.

Accounting for selection into voting: In our analysis of MP votes thus far, one potential concern is that our results may be affected by selection, since only a subset of MPs actually showed up to vote. In the next set of results, we address this concern by using multinomial logit regressions where our sample covers all MPs in England or Wales that were in office at the time of the 1873 vote and we think of MPs as choosing between three options: not voting, voting against repeal, or voting for repeal.

Column 1 of Table 6 offers the simplest specification looking at how CDA petitions influenced MP decisions. The results in Column 1 show that receiving more petitions against the CDAs made MPs less likely to vote against repeal (top panel of results, relative risk ratios below one), relative to not voting, and more likely to vote for repeal (bottom panel of results, relative risk ratios above one). Column 2 adds in controls for MP party and other characteristics. It is interesting to see that the impact of being a Conservative seems to operate mainly through MPs not showing up to vote in favor of repeal, rather than being more likely to show up and vote against.

Columns 3 and 4 present results using predicted petitions in place of actual petitions, our preferred specification. Again, we see evidence that CDA petitions reduced the chances of MPs voting no and increased the chances of MPs voting yes on CDA repeal, though reducing the number showing up and voting no seems to be the stronger effect once controls are included.

The most important result is in Column 5. Here, we add in two controls capturing how the MP voted in the earlier 1870 vote on the CDA, which came at the very early stages of advocacy efforts.

The first of these variables, “1870 CDA voted” is an indicator for whether the MP voted in the 1870 vote. The second, “1870 CDA yes” is an indicator for whether the MP voted in favor of repeal. As expected, MP’s who voted for repeal in 1870 were more likely to vote for repeal in 1873, while MPs who voted either way in 1870 were also more likely to vote in 1873. The important point here, however, is that by controlling for MP’s 1870 vote we are effectively looking at how MP attitudes toward the CDAs change between 1870, when LNA advocacy was just beginning, and 1873, when advocacy efforts were in full swing. The fact that we still find evidence of a relationship between predicted petitions and MP votes suggests that advocacy was actually changing MP’s views relative to 1870.

The result in Column 5 is our strongest specification looking at the impact of predicted petitions on MP votes in 1873, since it essentially differences out behavior reflecting MP’s views on the issue in 1870. However, one might be concerned that the 1870 vote is only a noisy signal of MP’s views on women’s rights before exposure to substantial LNA advocacy. In Appendix Table B11, we push this further by including controls for a wider variety of votes on women’s rights issues in the late 1860s and early 1870s: two votes in 1870 on women’s suffrage and two votes, in 1869 and 1870 on married women’s property rights. Controlling for all of these as well as the MP’s votes on the 1870 CDA bill, we continue to find evidence that predicted petitions were related to how MPs voted in the 1873 CDA repeal.

Heterogeneous effects: Our data also allow us to explore how the influence of petitions differed based on the characteristics of MPs or of petitioners. In Appendix K, we look at how the influence of petitions varied depending on MP’s party. Consistent with the historical narrative, we find that CDA petitions were disproportionately sent to Liberal MPs, a pattern that contrasts with the relatively even balance of petitions across all other topics. However, the effect of petitions appears to be relatively similar across both Liberal and Conservative MPs. Though the power of this exercise is too low to draw strong conclusions, this is the pattern we would expect if constituent petitioning choices or LNA activism patterns were based on reasonably accurate assessments of MP persuadability.

We are also able to examine how the influence of petitions differed depending on the identity of the petitioner. Most interestingly, the petition data allow us to separately identify CDA petitions from women’s groups from those coming from all other groups (some of which also included many women). Petitions by women’s groups make up around 10% of the total set of CDA petitions and were sent to Liberal and Conservative representatives at rates that were similar to all other CDA petitions.

In Appendix Table B12 we separately estimate the impact of CDA petitions from women’s groups and all other CDA petitions. While we do not have enough women’s petitions to draw strong conclusions, the point estimates in these regressions suggest that petitions by women’s groups were just as influential as those by other groups, perhaps even more so. It may seem surprising that petitions by women were influential during this period despite the fact that women were not able

Table 6: Multinomial logit results for the impact of petitions on 1873 CDA repeal votes

	(1)	(2)	(3)	(4)	(5)
Baseline category: No vote					
Vote against repeal (relative risk ratios)					
CDA Petitions (std)	0.786*	0.932			
	(0.107)	(0.180)			
Predicted CDA petitions (std)			0.710**	0.739	0.742
			(0.106)	(0.146)	(0.142)
Conservative		1.001		0.995	1.244
		(0.232)		(0.230)	(0.308)
CDA district		1.137		1.275	1.096
		(0.590)		(0.654)	(0.554)
1870 CDA voted					2.290***
					(0.555)
1870 CDA yes					0.098***
					(0.050)
Vote for repeal (relative risk ratios)					
CDA Petitions (std)	1.315***	1.336**			
	(0.125)	(0.172)			
Predicted CDA petitions (std)			1.266***	1.260*	1.305*
			(0.109)	(0.165)	(0.180)
Conservative		0.147***		0.147***	0.110***
		(0.055)		(0.054)	(0.042)
CDA district		0.545		0.423	0.434
		(0.412)		(0.353)	(0.356)
1870 CDA voted					1.129
					(0.403)
1870 CDA yes					5.127***
					(2.094)
<hr/>					
Controls		Yes		Yes	
N	492	485	492	485	485

This table presents coefficients, in relative risk ratios, and standard errors, in parenthesis, obtained from multinomial logit regressions. The dependent variable is an MP's vote on the 1873 CDA repeal bill, with the base category being not voting. Standard errors are clustered by constituency. For comparability, both the CDA Petitions and Predicted Petitions variables have been standardized to have a mean zero and standard deviation of one. The additional controls include: petitions sent from the constituency from 1864-1869, MP age, and controls for log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

vote. However, this finding is consistent with existing work on the U.S. suggesting that women’s groups had a substantial influence on social policy before they achieved suffrage (Skocpol, 1995). However, it is also worth keeping in mind that the fact that only a small fraction of petitions came from women’s groups may indicate an endogenous choice by women not to send petitions except when they thought they would be influential, as our model would suggest.

Effects after an election: We can also study how LNA advocacy impacted outcomes after an election occurred. To do this, we focus on the key 1883 vote that eliminated compulsory medical inspections, effectively gutting the CDA laws. Our analysis is based on cross-sectional regressions where the unit of observation is an MP in 1883 and the dependent variable is the MP’s vote on the 1883 CDA repeal bill. Our key explanatory variable in this analysis is the predicted number of CDA petitions sent from a constituency from 1870-1883, obtained using the approach described previously. Note that, because two elections took place between 1870 and the 1883 vote, LNA advocacy could have influenced the 1883 vote by either affecting who was elected in the 1880 election or by influencing the choices of those elected.

Column 1 of Table 7 presents results looking at the impact of predicted petitions from 1870-83 on MP’s votes in 1883. This specification includes all of the controls included in our main analysis, except that we omit the party of the MP that voted in 1883, which could be affected by LNA advocacy efforts. We do, however, control for the party of the MP (or MPs) that represented the constituency at the time of the 1873 vote, which was determined before 1870.³⁴ The results show evidence of a statistically significant effect of predicted petitions on MP votes in 1883. However, note that the magnitude of this effect is around half the size of the magnitude in the equivalent specification looking at the 1873 vote, in Column 2 of Table 5. This suggests that the impact of constituent signaling is reduced once an election has taken place.

In Column 2, we add in a control for the party affiliation of the MP that voted in the 1883 vote. This reduces somewhat the effect of LNA advocacy. The fact that this reduces the estimated effect of predicted petitions makes sense given that MP party in 1883 could be influenced in part by LNA advocacy efforts. However, we still observe results that are statistically significant at the 90% confidence level.

In Appendix N, we present multinomial logit results for the 1883 vote. These show that LNA advocacy made Conservatives more likely to show up and vote in favor of repeal in 1883 rather than abstaining. There is also some evidence that Liberals subject to LNA advocacy were less likely to vote against repeal, though those effects are not statistically significant.

³⁴Where a constituency is represented by more than one MP, this variable is the average across all constituency MPs of indicator variables for whether each MP was a conservative. So if the constituency was represented by two MPs and one was conservative, the value is 0.5.

Table 7: Impact of LNA advocacy on the 1883 CDA repeal vote

MP Party:	DV: Vote against the CDAs in 1883			
	Both (1)	Both (2)	Conservative (3)	Liberal (4)
Predicted CDA petitions (1870-83)	0.040** (0.019)	0.032* (0.018)	0.118*** (0.037)	-0.002 (0.014)
Conservative in 1873	-0.210** (0.082)	0.013 (0.070)	0.111 (0.097)	-0.024 (0.089)
Conservative in 1883		-0.610*** (0.060)		
CDA location	-0.441*** (0.117)	-0.175** (0.079)	-0.222** (0.089)	0.000 (.)
Controls	Yes	Yes	Yes	Yes
Observations	249	249	97	149
R-squared	0.319	0.548	0.113	0.217

Standard errors are clustered by constituency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The sample is the set of MPs from England and Wales that voted in the 1883 CDA division. The key explanatory variable is the (standardized) predicted CDA petitions sent from a constituency from 1870-1883 based on the timing and location of LNA rallies and the estimated effect of LNA rallies on CDA petitions. All regressions include the following additional controls: petitions sent from the constituency from 1864-1869, log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

6.3 Spillover effects across related policies

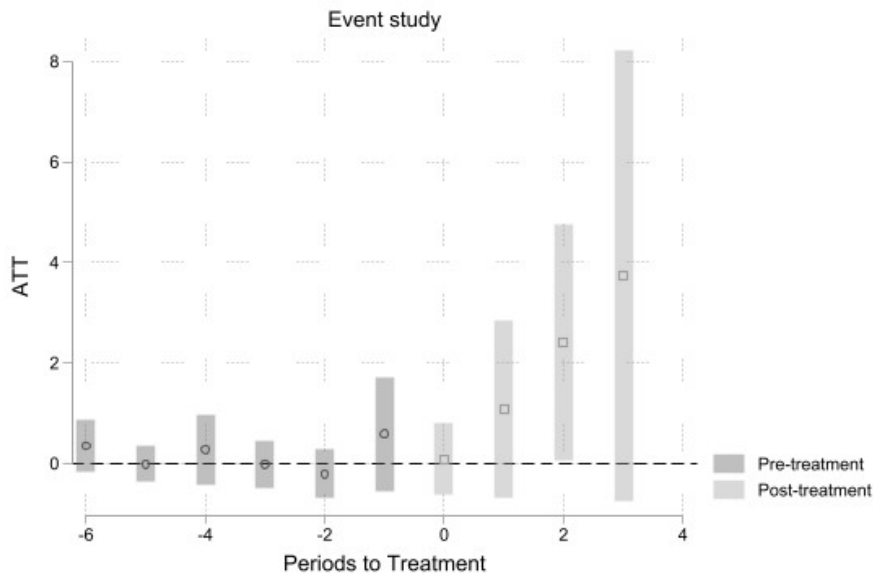
One interesting prediction of our theory is that activism aimed at influencing one policy might also influence votes on other related policies. These spillover effects can occur through two channels. First, activism that helps constituents overcome the coordination problem in order to send signals to their MP related to one policy might, as a side-effect, also overcome the coordination problem for sending signals about other related policies: the “coordination” channel. Second, when MPs learn about the preferences of their constituents as a result of signals related to one policy, that may affect their estimate of constituent’s preferences toward other policies that also have similar characteristics: the “updating” channel. In this section, we assess both of these potential channels. To do so, we look at how LNA rallies influenced petitions related to another policy that was distinct from, but shared key characteristics with, the CDAs: women’s suffrage.³⁵

We begin by looking at the impact of CDA advocacy on petitions related to women’s suffrage. This set of results will tell us whether the coordination channel was operating. Figure 11 presents

³⁵In Appendix S we also discuss another important women’s rights issue that was being discussed around this time: reform of laws related to married women’s property. We do not analyze spillovers from CDA advocacy to married women’s property rights policies for two reasons. First, the main reform of married women’s property rights occurred in 1869, just before CDA advocacy really began, and after that point the issue received less attention. This timing makes it challenging to look for spillover effects. Second, married women’s property rights received much less public interest, and thus far fewer petitions, than either the CDAs or women’s suffrage, leaving us with too few observations for a rigorous analysis.

event study results showing the impact of CDA rallies on women’s suffrage petitions, using district-level data up to 1875 and the same methods applied to CDA petitions in Section 6.1 but with the number of women’s suffrage petitions as the variable of interest. There are a couple of features to note in this graph. First, we see no evidence of pre-trends, which provides additional confidence that the parallel trends assumption underlying our analysis is valid. Second, note that there is no immediate response of women’s suffrage petitions to a CDA rally. This fits the historical narrative which suggests that LNA rallies were not focused on promoting women’s suffrage. However, after a couple of years we begin to see an increase in the number of women’s suffrage petitions from locations that received an LNA rally. This suggests that LNA advocacy had a delayed effect on the ability of constituents to organize women’s suffrage petitions.

Figure 11: Event-study estimates of the impact of LNA advocacy on women’s suffrage petitions



Estimates obtained using the method from Callaway and Sant’Anna (2021) on district-by-year level data for 582 districts and years from 1864-1874. The dependent variable is the number of women’s suffrage petitions from a district in a year. The explanatory variable is an indicator for whether the district had been the site of an LNA rally in the year or previous years. The regression includes the following control variables: district population density in 1861, the number of petitions unrelated to women’s rights from the district, district working age population share, the female to male population ratio, the share of workers in manufacturing, with professional jobs, or with service jobs, the marriage rate, the illiteracy rate at marriage, and the share of marriages involving minors.

Table 8 presents ATT estimates for a wider variety of specifications. Over all of these, we see some evidence that LNA rallies resulted in an increase in women’s suffrage petitions, though the effect is weaker than what we observed for CDA petitions (as we would expect). In our preferred specification with the full set of controls, in Column 4, an LNA rally was associated with an increase of around 1.5 petitions in the period after treatment, an effect that is statistically significant at the 90% confidence level. Overall, we interpret these results as offering suggestive evidence in favor of spillover occurring through the coordination channel.

Table 8: Estimated impact of LNA rallies on women’s suffrage petitions up to 1873

	(1)	(2)	(3)	(4)
ATT	1.599*	1.321	1.376	1.534*
	(0.902)	(0.838)	(0.864)	(0.875)
Controls:				
Pop. density		Yes	Yes	Yes
Other petitions		Yes	Yes	Yes
Economic controls			Yes	Yes
Demographic controls				Yes

Standard errors in parentheses are clustered at the district level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. N=5,820: 582 districts over 10 years from 1864-1873. This table presents ATT coefficient estimates and standard errors obtained using the method of Callaway and Sant’Anna (2021) including as a control the number of petitions in the last pre-treatment period. Column 1 includes no control variables. Column 2 controls for district population density and the number of petitions unrelated to women’s rights from the district in the pre-period. Column 3 adds economic controls from Census data: the log number of military in the district, and the share of workers in manufacturing, in services, or in professional occupations. Column 4 adds in the female share of the population and the working age share from the Census as well as additional controls from the Registrar’s marriage data: the marriage rate, share of spouses who were minors, and share of those who were illiterate at the time of marriage.

Next, we shift our attention to MP votes on women’s suffrage bills. The first women’s suffrage bill (called the Women’s Disability Bill) was introduced by Jacob Bright in early 1870.³⁶ This Bill was voted on in two divisions in May of 1870 and again in 1871. We do not study these early divisions as they occur quite soon after the beginning of LNA advocacy efforts, when relatively few LNA rallies had been held. Bright’s bill was reintroduced in 1872, and again in 1873. After the Conservatives took over government in 1874, women’s suffrage bills were introduced in 1875, 1876, and 1878. We also consider one additional vote in 1883, after the Liberals had regained power. Thus, our analysis will focus on six votes on women’s suffrage bills stretching from 1872 to 1883.³⁷

Table 9 shows the breakdown of votes in the six divisions that we consider by party. All of these votes were unsuccessful, but in each vote more than 100 MPs voted in favor of women’s suffrage. Moreover, the vote was not divided along party lines. While Conservatives were more likely to vote against women’s suffrage, there was substantial crossover voting by MPs from both parties. The fact that both parties were split on this issue is important, because it means that voting patterns will not be dominated by party affiliation.

Our regression specification is,

$$VOTE_{ict} = \beta_0 + \beta_1 TREAT_{ct} + \lambda PARTY_i + W_c \gamma + \epsilon_{ict} \quad (8)$$

³⁶There was actually an earlier vote on women’s suffrage, as an amendment to what would become the Second Reform Act, in 1867.

³⁷Another vote on women’s suffrage was held in 1884, on an amendment to what would become the Third Reform Act. However, this vote was not a clean test of women’s suffrage because the proposal was used as a strategy for defeating the entire bill. This caused many Liberals who supported women’s suffrage to oppose the bill. No other votes were held during the period that we consider, though women’s suffrage was revisited in the 1890s.

Table 9: Voting on women’s suffrage bills from 1872 to 1883

Vote year	Vote	Liberals	Conservatives	Other	Total
1872	Yes	102	33	3	135
	No	109	105	2	214
	Not voting	155	140	6	295
1873	Yes	105	47	4	152
	No	112	101	8	213
	Not voting	140	136	8	276
1875	Yes	77	64	12	141
	No	65	112	6	177
	Not voting	107	178	31	285
1876	Yes	76	59	14	135
	No	79	142	7	221
	Not voting	95	151	29	246
1878	Yes	85	36	18	121
	No	68	137	6	205
	Not voting	100	173	29	273
1883	Yes	80	18	17	98
	No	50	77	3	127
	Not voting	201	152	51	353

This table describes votes included in our analysis dataset on women’s suffrage bills from 1872 to 1883. Note that not all votes appear in our analysis dataset. Some voters are not included because they do not map to geographic constituencies, such as those representing the universities. Others may be missing because they were tellers or because they are otherwise missing from the votes list in the Eggers & Spirling dataset.

where $VOTE_{ict}$ is the vote of MP i representing constituency c on the women’s suffrage bill in year t , $TREAT_{ct}$ is a measure of the intensity of treatment in constituency c at the time which is explained in more detail below, $PARTY_i$ in MP i ’s party, and W_c are controls for constituency features observed prior to 1870.

To construct the key explanatory variable for this analysis, we begin by estimating the impact of LNA rallies on the combination of CDA and women’s suffrage (WS) petitions. This uses the specification in Eq. 5, but with the sum of CDA and WS petitions as the outcome variable. Results of this estimation are reported in Appendix P. We then use the results of this regression to predict the number of CDA+ WS petitions sent from a constituency in each year from 1870-1883 based only on the timing and location of LNA rallies. Finally, for each constituency c and year t , we construct the treatment variable as the sum of all predicted petitions from 1870 to year $t - 1$.³⁸

Note that the intent in using a prediction of how LNA rallies affected both CDA petitions and WS petitions to construct our key explanatory variable is to capture effect through both the coordination channel, where LNA rallies affect women’s suffrage petitions, and the updating channel, which operates through CDA petitions that affect MP’s priors about their constituent’s feelings towards women’s rights. Later, we will separate these two channels by including women’s suffrage petitions in the regression directly, in order to absorb the effect operating through the coordination channel.

We estimate Eq. 8 either for one vote at a time, or pooling all votes. In both cases, we cluster standard errors by constituency. That accounts for the fact that treatment occurs at the constituency level (recall that some constituencies have more than one MP) and also, in the pooled specification, allows correlated errors within constituencies over time.

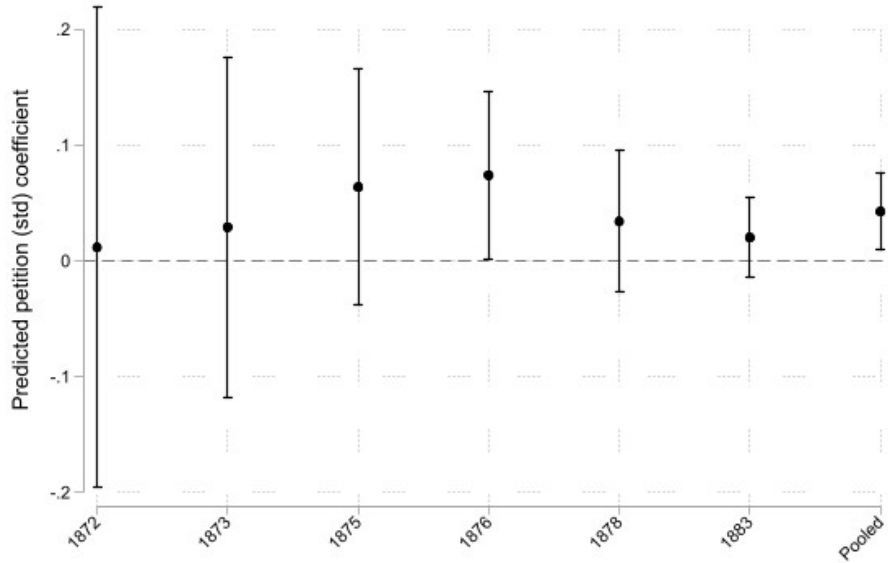
Figure 12 plots the estimated coefficients and 95% confidence intervals when Eq. 8 is estimated for each vote from 1872 to 1883 separately or, at the far right, when pooling all years. It is interesting to see that we estimate no effect of predicted petitions in 1872 and 1873, but the effect grows over time, peaking in the mid-1870s and then moderating by 1883. This pattern is consistent with the pattern in Figure 11, which show that it took several years for LNA rallies to impact women’s suffrage petitions. Note that we obtain more precise estimates for later years. This is because in later years LNA rallies have been held in more locations, so we have more variation in the treatment variable.

At the right side of the graph, we can see the estimate when we pool across all women’s suffrage votes, which is our preferred specification. The pooled estimate, which is statistically significant above the 95% level, indicates that a one standard deviation increase in CDA + WS predicted petitions increases the likelihood that an MP votes in favor of women’s suffrage by 4.1 percent.

The effects documented in Figure 12 may be due to the impact of LNA advocacy operating through either the coordination or updating channels. In Table 10, we present results that can help

³⁸I.e., $TREAT_{ct} = \sum_{1870 \text{ to } t-1} \hat{P}ET_{jt}$ where $\hat{P}ET_{jt}$ is as defined in Eq. ?? above except using the estimated coefficient from an analysis where the dependent variable is the sum of CDA and WS petitions.

Figure 12: Impact of predicted petitions on women’s suffrage votes



Estimates obtained using the method from [Callaway and Sant’Anna \(2021\)](#) on district-by-year level data for 582 districts and years from 1864-1874. The dependent variable for constituency c and year t is the number of predicted petitions related to the CDAs or WS from that constituency all years from 1870 to $t - 1$ based on the timing and location of LNA rallies and the estimated effect of rallies on the sum of CDA and women’s suffrage petitions. These regressions include our full set of control variables: MP party, the number of petitions in the constituency prior to 1870, and controls for population density, working age population share, log military employment, the average share of manufacturing, service, and professional workers, the marriage rate, the illiteracy rate at marriage, and the share of marriages involving minors.

us sort out the impact of these two channels. In Column 1, we present results showing the estimated effect of predicted petitions on women’s suffrage votes in the pooled specification, equivalent to the results on the right-hand side of Figure 12. This reflects the effect through both channels. We also report estimates for the two control variables that have a strong impact on women’s suffrage votes. MP party is one of these: we can see that Conservative MPs were much more likely to vote against women’s suffrage. The share of manufacturing workers also mattered. Constituencies with large shares of manufacturing workers were much more likely to have MPs that voted in favor of women’s suffrage. This likely reflects working-class support for women’s suffrage.³⁹

Our main result comes from a comparison of the results in Column 1 with those in Column 2. In Column 2, we add a control for women’s suffrage petitions to the regression. This control will absorb effects of LNA rallies operating through the coordination channel. We can see that the estimated effect of predicted petitions drops by about one-half relative to the estimate in Column 1. This tells us that the coordination channel accounts for approximately half of the impact of LNA rallies on MP votes, leaving the remaining one-half to the updating channel. Thus, our results

³⁹While the Labour Party did not exist during our study period, once it emerged in the early 20th century, Labour MPs proved to be the strongest and most consistent supporters of women’s suffrage.

Table 10: Separating the coordination and updating channels

	(1)	(2)
Predicted petitions (CDA and WS)	0.043** (0.017)	0.027 (0.020)
Women’s suffrage petitions		0.029** (0.012)
Conservative	-0.111*** (0.043)	-0.113*** (0.043)
Manuf. workers share	1.382*** (0.437)	1.326*** (0.438)
Observations	1498	1498
R-squared	0.150	0.153

Standard errors are clustered by constituency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The predicted petitions and women’s suffrage petitions variables have been standardized to have a mean of zero and standard deviation of one to facilitate comparability. In addition to the controls reported above, the regressions include our full set of other controls: petitions sent from the constituency from 1864-1869, MP party, log military employment, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

indicate that both the coordination and updating channels played an important role in explaining the effect of CDA advocacy on women’s suffrage votes. As expected, women’s suffrage petitions also have a strong positive impact on votes in favor of women’s suffrage in Column 2, though this results must be interpreted with caution because it is not causally identified.

In Appendix Q, we present multinomial logit regression results looking at how LNA advocacy affected MP’s choices between voting against women’s suffrage, voting in favor, or not voting. The main finding of those results is that predicted petitions are mainly associated with a reduction in the number of MPs who show up to vote against women’s suffrage. Controlling for actual women’s suffrage petitions reduces this effect, but it remains statistically significant. Thus, we continue to find evidence of both the updating and the coordination channels which seem to operate mainly through persuading some MPs who might otherwise oppose women’s suffrage to instead abstain from voting.

7 Conclusions

Political economy has been a vibrant area of research over the past two decades, yet the vast majority of the work on interactions between constituents and their representatives has focused on elections. While elections clearly matter, many important issues must be confronted between elections. How do representatives respond to issues that were never up for debate during the last election? Our results suggest that this response is shaped, at least in part, by the information signals received from constituents, that advocacy groups can play an important role in facilitating

constituent signaling, and that signals related to one policy can have broader spillover effects into other related issues.

While our empirical analysis focuses on a specific empirical setting, one where we have unique visibility into constituent signaling, the problem that we study likely to be present in many other settings, including in modern democracies. Today, petitioning is less important as a signaling channel, in part because constituents have a broader set of ways to make their voices heard between elections. However, many of the channels still used today, from calling representatives to organizing marches and rallies, exhibit the features emphasized in our model. Many modern signaling channels are still characterized by coordination problems and, as in the past, advocacy groups likely play an important role in solving these problems through activities ranging from rally organization to distributing representative's contact information and encouraging constituents to make phone calls. At the same time, while representatives may have more information about their constituent's preferences, their understanding likely remains imperfect.

An important caveat to our analysis is that, while our theoretical framework emphasizes the role of signaling and coordination, the empirical patterns that we document could also be the product of persuasion, i.e., advocacy that changes constituent preferences. While disentangling these alternative mechanisms empirically is extremely challenging, we think that there are good reasons to emphasize the signaling/coordination channel. Persuasion is likely to be difficult and uncertain work for advocacy groups. In contrast, advocacy organizations can potentially have large impacts at relatively low cost by helping constituents overcome signaling coordination problems. This type of mechanism is also consistent with the common practice of advocacy groups organizing events in locations where large numbers of people appear to already agree with them.

Our results also enrich our understanding of the political process through which women's rights expanded. Numerous economic studies have examined how changing economic incentives contributed to this expansion. Much less attention has been paid to the role of women themselves and the contribution of their own advocacy efforts, at least within economics. We provide some of the first quantitative evidence on the impact of advocacy in one important historical context. Consistent with the arguments made by historians and political scientists, our evidence shows that advocacy efforts played an important role in shifting the views of all-male legislatures towards women's rights. In particular, we find evidence of spillover effects operating across debates over different aspects of women's rights. This suggests that major expansions of women's rights, such as the adoption of women's suffrage, were influenced, in part, from the cumulative effects of advocacy related to more narrowly defined aspects of women's rights.

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Appendix

A Locations covered by the CDAs

Table B1 describes the locations included in the CDAs, including details on the Act in which the location was included and the year in which enforcement actually began. Note that there may be some delay between when the Act was passed covering a location and when enforcement began. This delay was due to the need in some locations to expand hospital facilities to accommodate women who were being isolated.

Table B1: Locations covered by the CDAs

Location	Country	Primary service	Authorizing act year	Enforcement begins
Portsmouth	England	Both	1864	1864
Plymouth/Devpt	England	Both	1864	1865
Woolwich	England	Army	1864	1866
Greenwich	England	Navy	1864	1870
Chatham	England	Both	1864	1865
Sheerness	England	Navy	1864	1865
Deal*	England	Both	1864	1870
Aldershot	England	Army	1864	1867
Colchester	England	Army	1864	1869
Shorncliffe	England	Army	1864	1868
The Curragh	Ireland	Army	1864	1870
Cork	Ireland	Army	1864	1870
Queenstown	Ireland	Navy	1864	?
Windsor	England	Army	1866	1868
Canterbury	England	Army	1869	1870
Dover	England	Both	1869	1870
Gravesend	England	Navy	1869	1870
Maidstone	England	Army	1869	1870
Southampton	England	Navy	1869	1870
Winchester	England	Army	1869	1870

* Deal was not listed separately in the acts, but was included as part of Sheerness. For English stations, the date when enforcement begins is from *The Annual Report, for 1874, of Captain Harris, Assistant Commissioner of Police of the Metropolis, on the Operation of the Contagious Disease Acts*, 12 March 1875.

B Text of the LNA Appeal

Figure B1: Text of the LNA appeal

We, the undersigned, enter our solemn protest against the Acts.

(1) Because, involving as they do such a momentous change in the legal safeguards hitherto enjoyed by women in common with men, they have been passed not only without the knowledge of the country, but unknown in great measure to Parliament itself; and we hold that neither the Representatives of the People nor the Press fulfill the duties which are expected of them when they allow such legislation to take place without the fullest discussion.

(2) Because, so far as women are concerned, they remove every guarantee of personal security which the law has established and held sacred, and put their reputation, their freedom, and their person absolutely in the power of the police.

(3) Because the law is bound, in any country professing to give civil liberty to its subjects, to define clearly an offence which it punishes.

(4) Because it is unjust to punish the sex who are the victims of a vice, and leave unpunished the sex who are the main cause both of the vice and its dreaded consequences; and we consider that liability to arrest, forced medical treatment, and (where this is resisted) imprisonment with hard labour, to which these Acts subject women, are punishments of the most degrading kind.

(5) Because by such a system the path of evil is made more easy to our sons, and to the whole of the youth of England, inasmuch as a moral restraint is withdrawn the moment the State recognises, and provides convenience for, the practice of a vice which it thereby declares to be necessary and venial.

(6) Because these measures are cruel to the women who come under their action—violating the feelings of those whose sense of shame is not wholly lost, and further brutalising even the most abandoned.

(7) Because the disease which these Acts seek to remove has never been removed by any such legislation. The advocates of the system have utterly failed to show, by statistics or otherwise, that these regulations have in any case, after several years' trial, and when applied to one sex only, diminished disease, reclaimed the fallen, or improved the general mortality of the country. WE have on the contrary the strongest evidence to show that in Paris and other continental cities, where women have long been outraged by this system, the public health and morals are worse than at home.

(8) Because the conditions of this disease in the first instance are moral not physical. The moral evil, through which the disease makes its way, separates the case entirely from that of the plague, or rather [sic] scourges, which have been placed under police control or sanitary care. We hold that we are bound, before rushing into experiments of legalising a revolting vice, to try to deal with the causes of the evil, and we dare to believe, that with wiser teaching and more capable legislation, those causes would not be beyond control.

Source: Quoted from [Butler \(1909\)](#).

C Additional details on the petition data

Figure B2 plots the total number of petitions in our dataset, the number that have been geocoded, and the number of geocoded petitions linked to districts in England and Wales, for 1864-1883. As a point of reference, the vertical lines mark general election years. We can see that the total number of petitions was growing across the early part of our study period, particularly after 1867, when the Second Reform Act enfranchised large numbers of working class men. Petitions declined during the Conservative administration of 1875-1880, and then increase again after the Liberals regained power in 1880. Across the study period, around 80% of petitions are geocoded, with roughly similar shares geocoded in each year. Around 60% of petitions are geocoded and mapped to districts in England and Wales. This is the dataset used in our main petitions analysis. The vast majority of the remaining geocoded petitions map to either Scotland or Ireland (all of Ireland was part of the U.K. at this time).

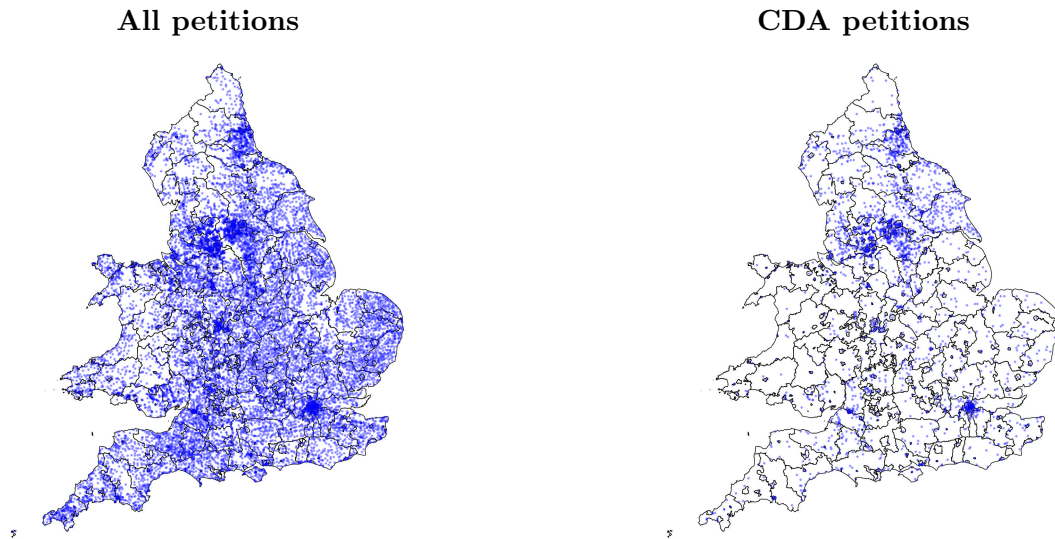
Figure B2: Total petitions and geocoded petitions, 1864-1883



Figure B3 presents maps of the petitions data. The left-hand panel maps the location of all petitions found in the data, where locations are known, from 1864-1883. The right-hand panel maps locations that sent CDA petitions. We can see that petitions were sent from locations all around the country, with particular concentrations around the major cities of London, Birmingham, Manchester and Liverpool, as well as in the industrial areas of Lancashire and the West Riding. In the right-hand graph we can see that more CDA petitions were sent from locations in the North of England than in other parts of the country. This makes sense given the petitions were typically aimed at Liberal politicians and the North was a Liberal stronghold.

Table B2 lists the issues that attracted the largest number of petitions in the period from 1864-1874. These topics are identified based on the information included in the petitions data, which we have manually reviewed in order to try to combine petitions related to the same topic but mentioning different specific pieces of legislation. This helps us deal with the fact that the title of bills on the same issue can change over time.

Figure B3: Map of locations in the petition data, 1864-1883



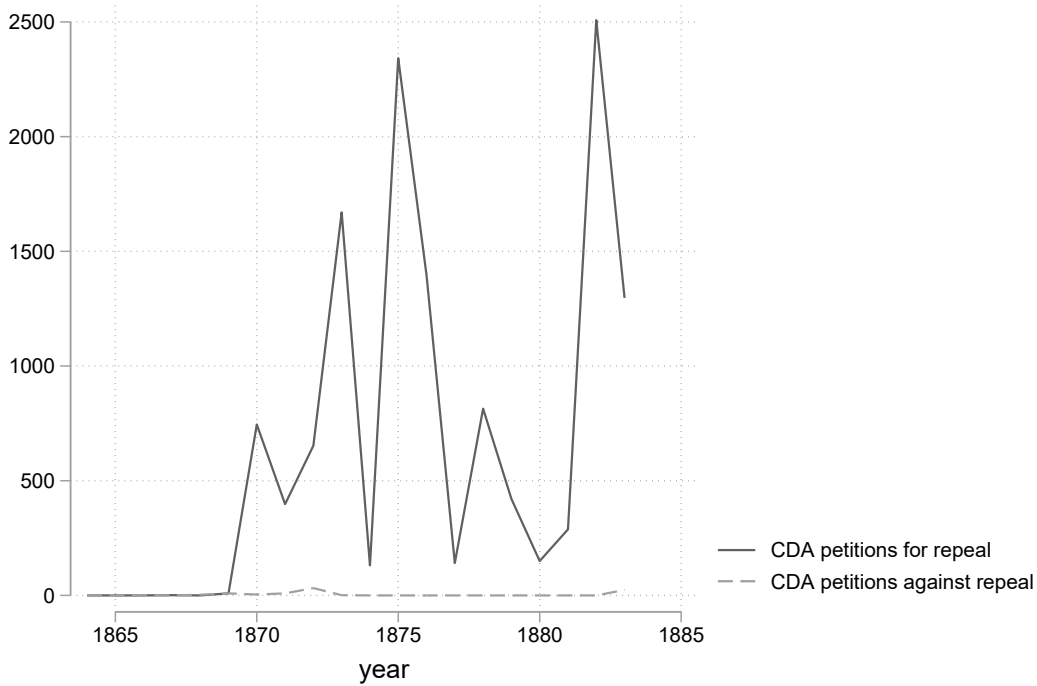
The topic that attracted the most attention by far was liquor regulation, followed by education. There are several topics related to religious issues, including the regulation of monastic institutions, burials, the Irish Church (disestablishment), and regulations related to public worship. Petitions related to the CDAs make up 2.5 percent of petitions across this period, but note that almost no petitions on this topic were sent prior to 1870, so the share related to the CDAs in the early 1870s was much higher. A similar caveat applies to petitions related to women's suffrage, which were also rare before 1870. It may surprise some to see that marriage with a deceased wife's sister was an important topic for petitions during this period. However, this was an important and controversial issue in the second half of the 19th century, one that was voted on more than a dozen times before the practice was finally legalized in 1907.

Figure B4 plots the number of CDA petitions for vs. against repeal. Clearly almost all CDA petitions were in favor of repeal.

Table B2: Topics with most petitions, 1864-1874

Topic	Petitions	Share
Liquor regulation	38,790	0.263
Education	8,937	0.061
Monastic institutions	4,902	0.033
Burials	4,812	0.033
Marriage with deceased wife's sister	4,513	0.031
Women's suffrage	4,314	0.029
Contagious Disease Acts	3,659	0.025
Irish Church	2,980	0.020
Elections (excl. women's suffrage)	2,928	0.020
Public worship	1,895	0.013
Religion, other	1,743	0.012
Prisons	1,530	0.010

Figure B4: Petitions for vs. against repealing the CDAs



This figure plots the number of petitions for repealing the CDAs and the number of petitions against repealing the CDAs across the study period.

D Balance table for petitions analysis

Here we study factors that predict whether a location was treated by having an LNA rally in the period from 1870-1875. We do this by running a cross-sectional regression where the outcome variable is whether a district had an LNA rally and the set of explanatory variables includes our

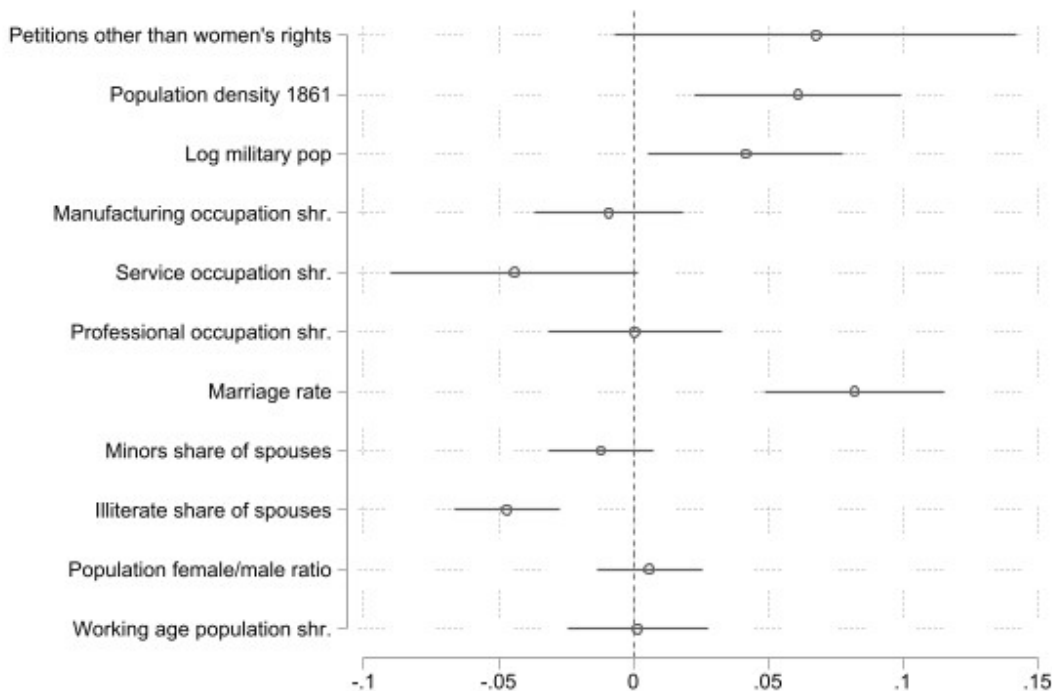
full set of district-level control variables measured in the pre-1870 period.

Figure B5 presents the results. We can see that LNA rally locations had higher population density and more petitions unrelated to women’s rights in the pre-1870 period. This suggests that the LNA targeted more urban and politically active location, consistent with the pattern we expect from the historical record. LNA rallies were also more likely in places with military stations, as indicated by the log number of individuals with military occupations in the data. We do not see a relationship to the share of manufacturing employment or professional occupations in a location, though there is a weak negative correlation with the share of workers in service occupations. There is no relationship to the female to male share of the population or the share of working age population.

Turning to the controls from the marriage data, we see that rallies were more common in locations where more marriages are observed relative to the population.⁴⁰ It is not clear why we observe this relationship. We also see evidence that rallies were less likely in places with higher rates of illiteracy at marriage, but there is no correlation to the share of marriages involving minors

Figure B5: Balance table for full set of control variables

Dep. var.: Whether there was an LNA rally in a location in 1870-75



This table presents the coefficients and 95% confidence intervals estimated from a district-level cross-sectional regression of an indicator for whether a district was the location of an LNA rally in the 1870-1875 period on our full set of control variables observed in the pre-1870 period. Controls based on census information are for 1861, while controls from the Registrar’s data are averaged across the 1864-1869 period. For comparability, all variables have been standardized.

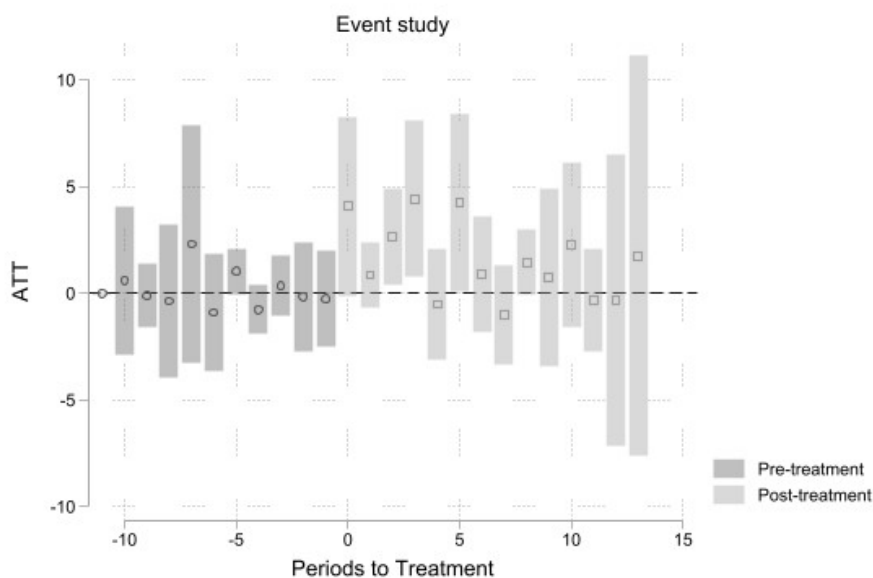
⁴⁰Note that this is the flow of marriages relative to population, not the stock of the population that is married, which we do not observe.

E Petitions results out to 1883

This appendix presents additional results estimated at the district level but using data all the way out to the end of our study period in 1883. We provide event-study results in Figure B6, using our preferred specification with the full set of controls. We can see, first, that there is no evidence of pre-trends in the analysis. Once an LNA rally occurs, we see elevated levels of petitions for several years, but this effect seems to weaken after about 5 years. This suggests that the LNA rallies increased petitioning, but that the effect died out over time.

Table B3 presents ATT estimates for different specifications looking across the full treatment period out to 1883. As expected from the event-study results, looking at treatment effects over longer periods means that we obtain smaller and less statistically significant ATT estimates, since we are averaging the strong effects of LNA rallies in the first couple of years with weaker effects in more distant time periods. However, even so we find estimated effects that are statistically significant at the 90% level in our preferred specification in Column 4.

Figure B6: Event-study estimates of the impact of LNA advocacy on CDA petitions out to 1883



Estimates obtained using the method from Callaway and Sant'Anna (2021) on district-by-year level data for 582 districts and years from 1864-1883. The dependent variable is the number of CDA petitions from a district in a year. The explanatory variable is an indicator for whether the district had been the site of an LNA rally in the year or previous years. The regression includes the following control variables: district population density in 1861, the number of petitions unrelated to women's rights from the district, district working age population share, the female to male population ratio, the share of workers in manufacturing, with professional jobs, or with service jobs, the marriage rate, the illiteracy rate at marriage, and the share of marriages involving minors.

Table B3: Estimated impact of LNA rallies on CDA petitions

	(1)	(2)	(3)	(4)
ATT	3.357*** (0.957)	1.507 (1.174)	1.371 (1.127)	1.645* (0.979)
Controls:				
Pop. density		Yes	Yes	Yes
Other petitions		Yes	Yes	Yes
Economic controls			Yes	Yes
Demographic controls			Yes	

Standard errors in parentheses are clustered at the district level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. N=11,640: 582 districts over 20 years from 1864-1883. This table presents ATT coefficient estimates and standard errors obtained using the method of Callaway and Sant’Anna (2021) including as a control the number of petitions in the last pre-treatment period. Column 1 includes no control variables. Column 2 controls for district population density and the number of petitions unrelated to women’s rights from the district in the pre-period. Column 3 adds economic controls from Census data: the log number of military in the district, and the share of workers in manufacturing, in services, or in professional occupations. Column 4 adds in the female share of the population and the working age share from the Census as well as additional controls from the Registrar’s marriage data: the marriage rate, share of spouses who were minors, and share of those who were illiterate at the time of marriage.

F High-frequency results for other petitions related to women’s rights

Figure B7 presents quarterly event study results where the outcome is other non-CDA petitions by women or related to women’s rights issues. In the top panel, the outcome is petitions by women. In the middle panel, it is petitions related to married womens’ property rights. In the bottom panel it is petitions on women’s suffrage. The key pattern to note here is that none of these show evidence of pre-trends. We also see evidence of an increase in petitions by women’s groups following LNA rallies (which are likely petitions about the CDAs) and weaker evidence of increased petitioning on other women’s rights issues.

G LNA rallies and petitions by women

In this appendix we look at patterns in petitions by women’s groups. Our data allow us to identify petitions sent specifically by women’s groups, but it is important to remember that many other petitions may include women.

It is useful to start with a descriptive graph showing the number of petitions by women across the study period. Figure B8 shows total petitions by women’s groups as well as the number focused either on the CDAs, women’s suffrage, or married women’s property rights. We can see that there are relatively few petitions by women’s groups overall, and almost none before the CDA agitation began in 1870. In the early 1870s and again in the early 1880s, CDA petitions formed a substantial fraction of all petitions by women’s groups, while those related to suffrage expanded in 1873-74.

Figure B9 looks at CDA petitions overall and by women’s groups. We can see that petitions from women’s groups were a relatively small fraction of all CDA petitions, the it is important to note that women may have been involved in many of the other petitions. One thing this tell us is that we will be working with a relatively small sample size when studying the impact of LNA rallies on petitions by women’s groups.

In Table B4, we apply the same analysis approach used in our main analysis but focusing specifically on CDA petitions by women’s groups as the outcome of interest. We do this at the location level. We interpret these results as offering suggestive evidence that LNA rallies increased petitioning by women’s groups related to the CDAs, but we hesitate to draw any strong conclusions given that the results are not statistically significant at standard confidence levels once controls are included.

Table B4: Estimated ATT of LNA rallies on CDA petitions by women’s groups at different treatment distances

Treatment:	No controls			Full controls		
	Rally within 2km (1)	Rally within 5km (2)	Rally within 10km (3)	Rally within 2km (4)	Rally within 5km (5)	Rally within 10km (6)
ATT	0.0533*** (0.0108)	0.0202*** (0.00442)	0.00767*** (0.00203)	0.00313 (0.0334)	0.00920 (0.00576)	0.00555 (0.00637)

Standard errors in parentheses are clustered at the location level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. N=184,844: 16,804 geocoded locations in England and Wales over 11 years from 1864-1874. This table presents ATT coefficient estimates and standard errors obtained using the method of Callaway and Sant’Anna (2021). In Columns 1 and 4, treatment is defined as any location within 2km of an LNA rally. In Columns 2 and 5, it is any location within 5km, and in Columns 3 and 6 it is any location within 10km. Columns 1-3 include no control while Columns 4-6 include the full set of controls. There is one location-level control, the number of petitions unrelated to women’s rights, and we well as the following controls reflecting conditions in the district in which the location was situated: district population density, the log number of military personnel, the share of manufacturing, service, or professional workers, the marriage rate, share of spouses marrying as minors, rate of illiteracy at marriage, female to male population share, and working age population.

H MP votes and LNA rally locations

As a test of the identification assumptions in our analysis of MP votes in Section 6.2, in this appendix we look at whether votes in the 1870 division on the CDAs predicts the number of predicted petitions sent in a constituency based on the timing and location of LNA rallies. Table B5 presents results of regressions where the dependent variable is the number of predicted petitions sent to an MP and the explanatory variable is MP's votes in 1870. We can see that 1870 votes are not a strong predictor of predicted petitions, particularly in Column 2, which includes our full set of control variables. This suggests that predicted petitions is unlikely to be endogenously related to MP attitudes toward the CDAs conditional on controls.

Table B5: MP votes in 1870 and predicted CDA petitions from 1871-73

Dep. var:	Predicted petitions 1870-73 based on LNA rallies within 2km	
	(1)	(2)
CDA vote 1870	0.183 (0.168)	0.0819 (0.134)
Controls		Yes
Observations	260	258
R-squared	0.008	0.419

Standard errors in parentheses clustered by constituency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Sample includes all constituencies in England and Wales where the MP voted in the 1870 vote to repeal the CDAs. The results in Column 2 include the same set of controls as included in our main analysis: MP party, MP age, and whether the constituency includes a CDA location, as well as petitions sent from the constituency from 1864-1869, controls for log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

I Estimates of the relationship between CDA petitions and predicted petitions based on LNA rallies

Table B6 examines the correlation between actual and predicted petitions. Columns 1 and 2 use our preferred measure of predicted petitions where treatment is based on being within 2km of an LNA rally, Columns 3-6 expand this out to 5 or 10km. For each case, we show results of univariate regressions and regressions with our full set of controls.

Table B6: Comparing predicted and actual CDA petitions

DV: CDA petitions by constituency, 1870-1873						
	(1)	(2)	(3)	(4)	(5)	(6)
Pred. pet. 2km (std)	12.91*** (2.547)	10.27*** (2.963)				
Pred. pet. 5km (std)			11.86*** (2.692)	7.775*** (2.873)		
Pred. pet. 10km (std)					5.919*** (2.270)	2.025 (1.595)
Controls		Yes		Yes		Yes
Observations	468	461	468	461	468	461
R-squared	0.470	0.628	0.417	0.567	0.103	0.451

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses are clustered by constituency to account for the fact that the unit of analysis is the MP level but petitions are measured at the constituency level and some constituencies have more than one MP. Predicted petitions are based on the estimated impact of LNA rallies from the specification in Column 4 of Table 4 which include the full set of district-level controls. Columns 2, 4, and 6 include controls for MP party, MP age, and whether the constituency includes a CDA location, as well as petitions sent from the constituency from 1864-1869, controls for log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

Table B7: Additional results for the effect of petitioning on MP votes on the 1873 repeal bill

Treatment distance:	DV: Indicator for vote in favor of repeal			
	Reduced form		Instrumental variables	
	5km	10km	5km	10km
	(1)	(2)	(3)	(4)
CDA Petitions (std)			0.135**	0.0941
			(0.0622)	(0.169)
Predicted CDA petitions – within 5km	0.0690***			
	(0.0249)			
Predicted CDA petitions – within 10km		0.0148		
		(0.0290)		
Controls	Yes	Yes	Yes	Yes
IV F-stat			8.42	2.13
Observations	304	304	304	304
R-squared	0.201	0.173	0.197	0.205

Standard errors are clustered by constituency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Kleibergen-Paap F-statistics are reported for the IV results. The sample is the set of MPs from England and Wales that voted in the 1873 CDA division. The key explanatory variables, CDA Petitions and Predicted CDA Petitions, are for the period 1870-1873. Those variables have been standardized to have a mean of zero and standard deviation of one to facilitate comparability. All columns include controls for MP party, MP age, and whether the constituency includes a CDA location, as well as petitions sent from the constituency from 1864-1869, controls for log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

J Robustness results for MP votes analysis

Table B7 presents robustness results using alternative distances to construct the predicted petitions variable. In particular, in Columns 1 and 3 locations are considered treated if they are within 5km of an LNA rally, while in Columns 2 and 4 the distance is 10km. We can see that results become weaker as we include locations further from LNA rallies, though we continue to observe statistically significant results when using the 5km cutoff.

K Impact of petitions on 1873 CDA vote by party

In this appendix, we explore how these results differ by the MP's party. Table B8 shows the number of CDA petitions and total petitions tabulated by MP party, for all MPs that voted in the 1873 CDA repeal. The main message from this table is that Liberal MP's constituents sent petitions related to the CDAs at roughly double the rate of constituents of Conservative MPs. Interestingly, this pattern is not observed for petitions overall, which are sent at roughly equal rates for MPs of the two parties. Thus, the discrepancy appears to be specifically related to CDA petitions.

Table B8: Petitions by MP party, 1870-73

Party	CDA petitions	Total petitions	MPs voting in 1873	CDA petitions per voting MP	Total petitions per voting MP
Liberal*	2,413	52,326	184	13.11	284.38
Conservative	910	31,086	122	7.46	254.80

*Liberal includes Liberal Unionist MPs. Columns 1 and 2 present the number of CDA petitions and total petitions for each MP summed across all MPs in a party. Note that petitions will be double-counted in constituencies where there is more than one MP. This includes only those MPs who voted in the 1873 CDA repeal vote. Column 3 shows the number of MPs who voted by party. Columns 4 and 5 show the ratio of CDA and total petitions per MP, respectively.

Table B9 looks at the impact of CDA petitions on MP votes in the 1873 repeal division by MP party. In Columns 1-2, the explanatory variable is the actual number of CDA petitions, while in Columns 3-4 it is the predicted number of petitions. All specifications include our standard set of controls for pre-1870 petitions, whether a constituency contained a CDA district, and MP age.

The results in Columns 1-2 suggest that CDA petitions were a better predictor of MP votes for Liberal MPs than for Conservatives. However, we observe the opposite pattern in Columns 3 and 4, where the key explanatory variable is predicted petitions based on LNA rallies. There, we see a large estimated coefficient for Conservatives, though the confidence interval is also quite large.

Table B10 presents multinomial logit regression results broken down by party. For both parties, we see evidence that petitions reduced the chances and MP showed up to vote against repeal and increased the chances they voted for repeal (relative to not voting). With the smaller sample the results are not statistically significant in most specifications.

Table B9: Effect of petitions on 1873 CDA vote by MP party

Party:	DV: Indicator for vote in favor of repeal			
	Liberal (1)	Cons. (2)	Liberal (3)	Cons. (4)
CDA Petitions (std)	0.0810*** (0.0303)	0.00753 (0.0668)		
Predicted CDA petitions (std)			0.0573** (0.0283)	0.337*** (0.0544)
CDA district	-0.312 (0.229)	-0.00205 (0.0813)	-0.344 (0.240)	-0.157 (0.114)
Controls	Yes	Yes	Yes	Yes
Observations	147	121	147	121
R-squared	0.091	0.008	0.048	0.134

Standard errors are clustered by constituency. *** p<0.01, ** p<0.05, * p<0.1. The key explanatory variables, CDA Petitions and Predicted CDA Petitions, are for the period 1870-1873. Those variables have been standardized to have a mean of zero and standard deviation of one to facilitate comparability. All regressions include controls for petitions sent from the constituency from 1864-1869, MP age, and controls for log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

Table B10: Multinomial logit results for the impact of petitions on 1873 CDA repeal votes by party

	Liberal (1)	Conservative (2)	Liberal (3)	Conservative (4)
Baseline category: No vote				
Vote against repeal (relative risk ratios)				
CDA Petitions (std)	.902378 (.2173968)	.962384 (.3070026)		
Predicted CDA petitions (std)			.9446525 (.1669951)	.2651151*** (.1241122)
All pets. pre-1870	1.001324 (.0013281)	.9997635 (.0009353)	1.000953 (.001209)	.999567 (.0008107)
Vote for repeal (relative risk ratios)				
CDA Petitions (std)	1.569387*** (.2590316)	.8474558 (.3261293)		
Predicted CDA petitions (std)			1.294949 (.2451583)	1.498707 (.6928185)
Controls	Yes	Yes	Yes	Yes
N	228	217	228	217

This table presents coefficients, in relative risk ratios, and standard errors, in parenthesis, obtained from multinomial logit regressions. The dependent variable is an MP's vote on the 1873 CDA repeal bill, with the base category being not voting. Standard errors are clustered by constituency. For comparability, both the CDA petitions and predicted petitions variables have been standardized to have a mean zero and standard deviation of one. All columns include controls for MP age, and whether the constituency includes a CDA location, as well as petitions sent from the constituency from 1864-1869, controls for log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

L Multinomial logit analysis of 1873 votes controlling for earlier women’s rights votes

This appendix presents additional multinomial logit regression results looking at MPs vote on the 1873 CDA repeal bill while controlling for a set of earlier votes related to women’s rights. In the first column, we control for whether an MP voted in the 1870 CDA votes (“1870 CDA voted”) and whether they voted yes in the 1870 CDA vote (“1870 CDA yes”). This specification is the same as that in Column 5 of Table 6 except that here we do not include the full set of district-level controls, the idea being that by controlling flexibly for MP votes in earlier women’s rights votes we should be absorbing fixed location-level features that influence MP’s views on women’s rights.

In Column 2, we control instead for MP’s votes in the first of two votes on women’s suffrage (labeled WDB for “Women’s Disability Bill”) in 1870. In Column 3 we control for the second 1870 vote on women’s suffrage. In Column 4, we control for an 1869 vote on the Married Women’s Property (MWP) bill (see Appendix S for additional details about the debate over married women’s property rights). In Column 4, we control for an 1870 vote on a Married Women’s Property Bill. In Column 6, we include all of these previous votes together.

Across all of these specifications, we can see that the impact of predicted petitions on MP’s vote on the 1873 CDA repeal proposal remains: MP’s from constituencies that sent more petitions were less likely to show up and vote against repeal, and more likely to show up and vote in favor.

Table B11: Multinomial logit results for the impact of petitions on 1873 CDA repeal votes controlling for earlier women’s rights votes

	(1)	(2)	(3)	(4)	(5)	(6)
Baseline category: No vote						
Vote against repeal (relative risk ratios)						
Predicted CDA petitions (std)	0.745** (0.105)	0.788 (0.115)	0.780* (0.110)	0.746** (0.108)	0.748** (0.109)	0.764* (0.107)
Conservative	1.401 (0.309)	1.092 (0.232)	1.180 (0.246)	1.187 (0.270)	1.225 (0.270)	1.596* (0.407)
CDA district	0.667 (0.322)	0.804 (0.417)	0.804 (0.430)	0.813 (0.406)	0.786 (0.398)	0.721 (0.364)
1870 CDA voted	2.242*** (0.527)					2.151*** (0.542)
1870 CDA yes	0.101*** (0.053)					0.090*** (0.047)
WDB 1870 voted		2.189** (0.683)				2.139** (0.742)
WDB 1870 yes		0.245*** (0.103)				0.283** (0.145)
WDB 1870(2) voted			1.650** (0.380)			1.096 (0.295)
WDB 1870(2) yes			0.343*** (0.121)			0.592 (0.253)
MWP 1869 voted				0.927 (0.431)		0.636 (0.326)
MWP 1869 yes				1.276 (0.707)		1.963 (1.175)
MWP 1870 voted					0.998 (0.361)	1.469 (0.647)
MWP 1870 yes					1.410 (0.584)	0.978 (0.489)
Vote for repeal (relative risk ratios)						
Predicted CDA petitions (std)	1.274** (0.136)	1.205* (0.127)	1.294** (0.133)	1.245** (0.130)	1.246** (0.121)	1.233* (0.143)
Conservative	0.119*** (0.044)	0.160*** (0.058)	0.154*** (0.056)	0.179*** (0.066)	0.188*** (0.069)	0.176*** (0.072)
CDA district	0.314* (0.216)	0.340 (0.236)	0.245* (0.183)	0.278* (0.202)	0.267* (0.185)	0.335 (0.270)
1870 CDA voted	1.048 (0.349)					0.869 (0.324)
1870 CDA yes	5.487*** (2.193)					7.028*** (3.028)
WDB 1870 voted		3.017*** (1.218)				2.692** (1.130)
WDB 1870 yes		0.795 (0.351)				1.159 (0.585)
WDB 1870(2) voted			1.894** (0.582)			2.055** (0.751)
WDB 1870(2) yes			0.822 (0.336)			0.295** (0.166)
MWP 1869 voted				0.550 (0.615)		0.437 (0.472)
MWP 1869 yes				2.904 (3.303)		1.809 (2.007)
MWP 1870 voted					0.737 (0.609)	0.190* (0.169)
MWP 1870 yes					2.718 (2.302)	6.657** (5.959)
N	485	485	485	485	485	485

This table presents coefficients, in relative risk ratios, and standard errors, in parenthesis, obtained from multinomial logit regressions. The dependent variable is an MP’s vote on the 1873 CDA repeal bill, with the base category being not voting. Standard errors are clustered by constituency.

M Influence of petitions by women’s groups on CDA votes

In Table B12 we separately estimate the impact of CDA petitions from women’s groups and all other CDA petitions. Note that we do not standardize the variables here so that we can compare the effect of one additional petition from women to one additional petition from other groups. Column 1 includes only CDA petitions by women, Column 2 looks at all other CDA petitions, and in Column 3 we include both. While our estimates of the effects of petitions by women are noisier, a consequence of the fact that this variable is based on substantially fewer petitions, these results do not suggest that petitions by women were less effective than other petitions.

Table B12: Effect of petitions on 1873 vote by petitioner identity

DV: Indicator for vote in favor of CDA repeal			
	Women (1)	Men (2)	Both (3)
CDA Petitions – by Women	0.0216* (0.0116)		0.0120 (0.0130)
CDA Petitions – all others		0.00316** (0.00125)	0.00235 (0.00153)
Controls	Yes	Yes	Yes
Observations	296	296	296
R-squared	0.290	0.292	0.293

Standard errors are clustered by constituency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The sample is the set of MPs from England and Wales that voted in the 1873 CDA division. The controls are MP party, petitions sent from the constituency from 1864-1869, MP age, and controls for log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

N Multinomial logit results looking that the 1883 CDA repeal vote

Table [B13](#) presents multinomial logit results looking at the impact of predicted petitions from 1870-1883 on the 1883 CDA repeal vote. Columns 1 and 2 look across all eligible voters, while Columns 3 and 4 focus just on Conservatives or Liberals, respectively.

In Column 1, we see weak evidence that the effect of predicted petitions operated through MPs who might otherwise have abstained from voting instead showing up to vote for repeal. This effect is stronger in Column 2, where we control for the party affiliation of the MP that was voting in 1883. This pattern differs somewhat from the results in our analysis of the 1873 vote, where the primary impact of LNA advocacy was in inducing MPs who might have voted against repeal to abstain from voting. This may be because attitudes toward the CDAs had shifted by 1883, so that the key margin was between abstention and voting in favor of repeal. Alternatively, it may be because the 1883 vote came as something of a surprise and so MPs may have had less opportunity to avoid casting a vote. In Columns 3-4, we break results down by party. We can see that the main impact operates through Conservatives voting for repeal who might otherwise have abstained, though we do observe a quantitatively large but not statistically significant effect on the number of Liberal MPs voting against repeal.

Table B13: Multinomial logit results for the impact of petitions on 1883 CDA repeal vote

MP Party:	Both (1)	Both (2)	Conservative (3)	Liberal (4)
Baseline category: No vote				
Vote against repeal (relative risk ratios)				
Predicted CDA petitions (1870-83)	1.011513 (.1272734)	.9442711 (.1270859)	.898772 (.1755057)	.3276047 (.2938673)
CDA location	1.200938 (.6386646)	1.212953 (.6401204)	1.451004 (.9360774)	1.00e-06*** (1.24e-06)
Conservative in 1873	1.157748 (.3705036)	.566757 (.2220855)	.4336983* (.1960421)	2.229834 (1.56453)
Conservative in 1883		4.060504*** (1.388285)		
Vote for repeal (relative risk ratios)				
Predicted CDA petitions (1870-83)	1.198775 (.1632464)	1.286549* (.1814863)	2.175385* (.9349737)	1.245444 (.2136686)
CDA location	2.46e-07*** (1.41e-07)	1.33e-07*** (7.94e-08)	1.68e-07*** (2.26e-07)	1.40e-07*** (1.04e-07)
Conservative in 1873	.4064734*** (.1405803)	.9485819 (.3514266)	1.051847 (.9141762)	1.049482 (.4262899)
Conservative in 1883		.1399628*** (.0484849)		
Controls	Yes	Yes	Yes	Yes
N	494	494	217	273

This table presents coefficients, in relative risk ratios, and standard errors, in parenthesis, obtained from multinomial logit regressions. The dependent variable is an MP's vote on the 1883 CDA repeal bill, with the base category being not voting. Standard errors are clustered by constituency. The predicted petitions variable has been standardized to have a mean zero and standard deviation of one. All columns also include controls for: petitions sent from the constituency from 1864-1869, log military employment, share of workers in manufacturing, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

O Summary of the 1883 debate

P Estimated effect of LNA rallies on CDA and WS petitions

In our analysis of the impact of LNA advocacy on women's suffrage votes, our key explanatory variable is based on an estimate of the impact of LNA rallies on the combination of CDA and women's suffrage petitions. This appendix presents the estimates behind that predicted petitions variable.

These estimates are based on the specification in Eq. 5 but with the sum of CDA and women's suffrage petitions as the outcome variable. The analysis is conducted over full period from 1864 to 1883, since we want to be able to predict petitions for all of the women's suffrage votes we consider. Figure B11 presents event-study results showing the impact of LNA rallies on combined petitions across the full study period. We can see that there is no evidence of pre-trends in this regression. Once an LNA rally occurs, we observe an increase in petitions lasting for several years but then dissipating. This pattern makes sense since given that we wouldn't expect a rally to result in a higher level of petitioning for ever.

Q Women's suffrage vote multinomial logit results

Table B14 presents multinomial logit results looking at the impact of predicted petitions, based on LNA rallies, on MP's votes on women's suffrage. This analysis is pooled across all women's suffrage votes from 1871 to 1883. Column 1 presents our baseline results. An interesting finding here is that the strongest effect of predicted petitions on women's suffrage votes is through MPs who decided not to vote against women's suffrage and instead did not vote at all. We see relatively little impact on the number of MPs who showed up and voted in favor. We also find that Conservatives were much less likely to choose no vote rather than showing up to vote in favor (in opposition to most of their party) while MPs representing constituencies with large numbers of manufacturing workers show a strong effect on the number of MPs who actually voted in favor. None of the other included controls show strong effects.

In Column 2, we include as a control the number of women's suffrage petitions actually sent from a constituency. This reduces the impact of predicted petitions, but we still observe a statistically significant impact of predicted petitions, suggesting that the updating channel was operating. We can also see that the impact of women's suffrage petitions appears to operate mainly through MPs not voting rather than showing up and voting against women's suffrage.

Table B14: Multinomial logit results for women’s suffrage votes

	(1)	(2)
Baseline category: No vote		
Vote against repeal (relative risk ratios)		
Predicted petitions (CDA and WS)	.8101459** (.0685336)	.8446268* (.0760951)
Women’s suffrage petitions		.8492094 (.1005796)
Conservative	1.083309 (.1420871)	1.086959 (.1428277)
Manuf. workers share	2.263648 (3.647828)	2.816098 (4.53216)
Vote for repeal (relative risk ratios)		
Predicted petitions (CDA and WS)	1.005227 (.056133)	.9760029 (.0549527)
Women’s suffrage petitions		1.057136 (.0536324)
Conservative	.6303089*** (.1048453)	.628484*** (.1045892)
Manuf. workers share	829.9846*** (1184.971)	756.3822*** (1077.416)
Controls	Yes	Yes
N	2799	2799

This table presents coefficients, in relative risk ratios, and standard errors, in parenthesis, obtained from multinomial logit regressions. The dependent variable is an MP’s vote for women’s suffrage, with the base category being not voting. The analysis is conducted across all women’s suffrage votes from 1872 to 1883. Standard errors are clustered by constituency. For comparability, both the Predicted Petitions variable and the actual Women’s Suffrage petitions variables have been standardized to have a mean zero and standard deviation of one. The additional controls include: petitions sent from the constituency from 1864-1869, log military employment, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

R Women’s suffrage vote results by party

Table B15 shows the impact of CDA and women’s suffrage petitions on MP votes on women’s suffrage by party. The two left-hand columns focus on Conservatives. Column 1 shows that predicted petitions have a strong impact on women’s suffrage votes for Conservatives. This falls somewhat in Column 2, when women’s suffrage petitions are included in the regression, but the effect remains large and statistically at the 90% confidence level. Interestingly, Column 3 shows that the effect is much smaller for Liberal MP’s, though we still observe a substantial reduction in the estimated impact when women’s suffrage petitions are included in the regression in Column 4. It is also interesting to note that the coefficient on women’s suffrage is fairly similar and not statistically distinguishable between the two groups, while the share of manufacturing workers in a location mainly operates through Liberals (the party most likely to represent the industrial cities).

Table B15: Petitions and women’s suffrage votes by party

DV: Vote in favor of women’s suffrage				
MP Party:	Conservative	Conservative	Liberal	Liberal
Predicted petitions (CDA and WS)	0.0850** (0.0363)	0.0717* (0.0381)	0.0234 (0.0197)	0.00533 (0.0243)
Women’s suffrage petitions		0.0274 (0.0206)		0.0326* (0.0192)
Manuf. workers share	1.072 (0.779)	0.977 (0.778)	1.696*** (0.538)	1.672*** (0.533)
Observations	752	752	739	739
R-squared	0.102	0.105	0.142	0.146

Standard errors are clustered by constituency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The predicted petitions and women’s suffrage petitions variables have been standardized to have a mean of zero and standard deviation of one to facilitate comparability. In addition to the controls reported above, the regressions include our full set of other controls: petitions sent from the constituency from 1864-1869, log military employment, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

Table B16 presents multinomial logit results by party. The results in Columns 1-2 show that the impact of predicted petitions on Conservatives operates mainly through inducing MPs who might otherwise have voted against women’s suffrage to instead abstain from voting. The results in Column 2 suggest that this effect operates mainly through the updating channel. Interestingly, the direct impact of women’s suffrage petitions in Column 2 seems to operate on a different margin, through Conservative MPs that choose to vote in favor of women’s suffrage rather than abstaining, though this estimate may not reflect a causal effect.

The results in Column 3 suggest that the main impact on Liberal MPs is also inducing some who might vote against women’s suffrage to abstain, though the estimate in this case is not statistically significant. Interestingly, here the coordination channel appears to be stronger, as we can see that the negative impact of predicted petitions on Liberal votes against women’s suffrage completely

Table B16: Multinomial logit results for women’s suffrage votes by party

MP Party:	(1)	(2)	(3)	(4)
	Conservative	Conservative	Liberal	Liberal
Baseline category: No vote				
Vote against repeal (relative risk ratios)				
Predicted petitions (CDA and WS)	.7012715** (.1070626)	.7020152** (.1152123)	.8982642 (.0853631)	1.0042 (.1177743)
Women’s suffrage petitions		.99428 (.1233012)		.6308106* (.1640087)
Manuf. workers share	2.812784 (6.513001)	2.666646 (6.205691)	1.139678 (2.587014)	1.476843 (3.302404)
Vote for repeal (relative risk ratios)				
Predicted petitions (CDA and WS)	1.0119 (.0662734)	.9483926 (.0649753)	1.01683 (.0727506)	1.018823 (.0793948)
Women’s suffrage petitions		1.133324* (.0765996)		.9956565 (.0531461)
Manuf. workers share	428.9253** (1220.662)	261.4004* (745.6707)	2176.515*** (3452.59)	2188.881*** (3491.687)
Controls	Yes	Yes	Yes	Yes
N	1484	1484	1301	1301

This table presents coefficients, in relative risk ratios, and standard errors, in parenthesis, obtained from multinomial logit regressions. The dependent variable is an MP’s vote for women’s suffrage, with the base category being not voting. The analysis is conducted across all women’s suffrage votes from 1872 to 1883. Standard errors are clustered by constituency. For comparability, both the Predicted Petitions variable and the actual Women’s Suffrage petitions variables have been standardized to have a mean zero and standard deviation of one. The additional controls include: petitions sent from the constituency from 1864-1869, log military employment, share of workers in services, share of workers with professional occupations, the marriage rate, the share of marriages involving minors, and the illiteracy rate at marriage.

disappears once we control for women’s suffrage petitions in Column 4.

S The Married Women’s Property Act

In addition to debates over the repeal of the CDAs and women’s suffrage, debate over another set of reforms related to women’s rights took place during our study period. This related to the property of married women and culminated in the passage of the Married Women’s Property (MWP) Act of 1870 and the more far-reaching Married Women’s Property Act of 1882. These acts aimed at reforming the practice of coverture under Common Law, under which a women’s property and income passed to her husband upon marriage. While coverture was regularly evaded through the use of marriage settlements, trusts, or other means (Erickson, 1990), even outside of the wealthy aristocracy, the process was expensive and legally cumbersome.

The Married Women’s Property Act of 1870 gave a married woman the right to own and control her own earnings as well as most property she inherited while married. The 1882 Act extended these rights to include property that the woman brought into the marriage.

Because the debate over the MWP bills took place during our study period, and because this

Table B17: Votes on the Married Women’s Property Act of 1870

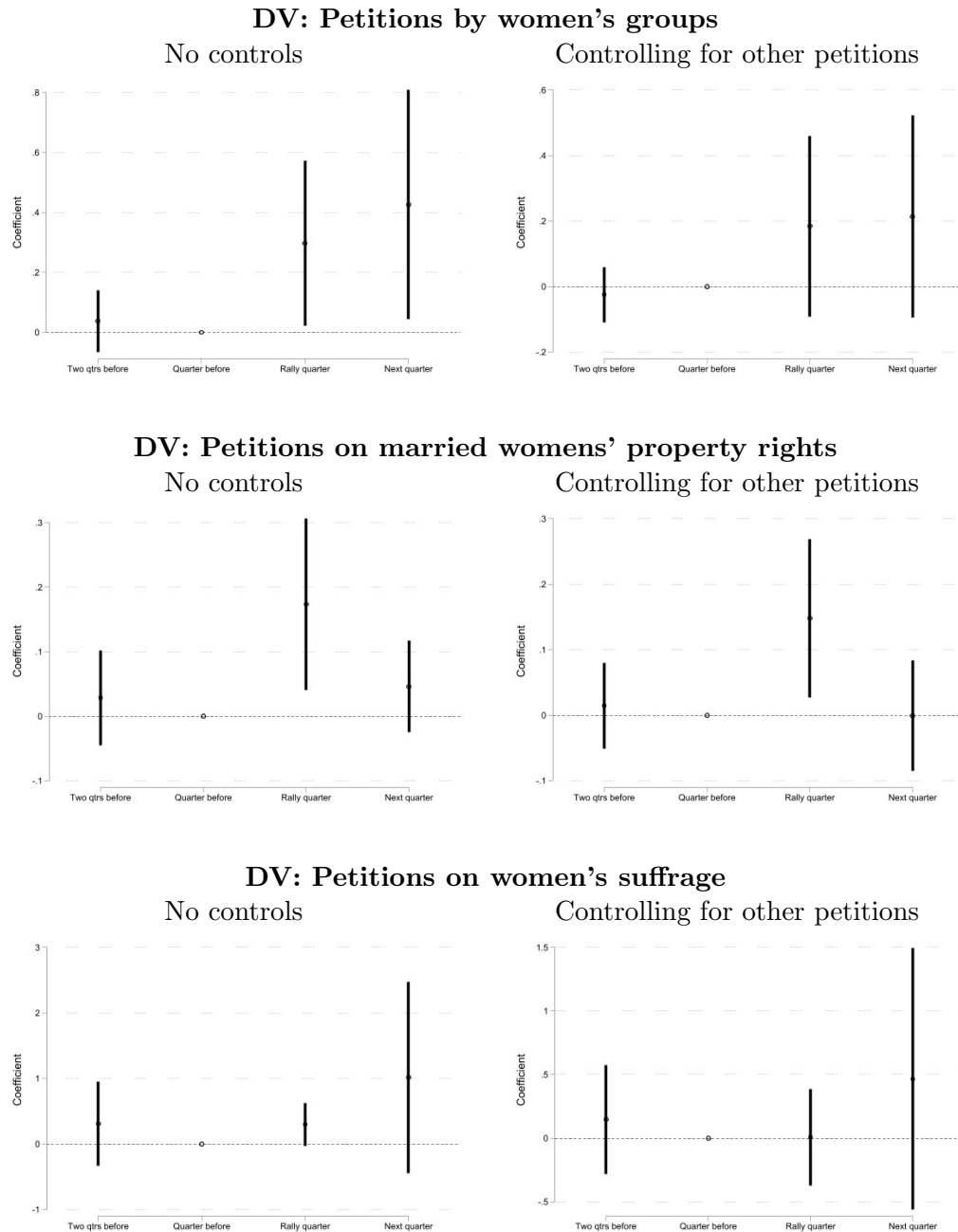
	Against	For
Conservative	32	13
Liberal	1	117
Other	0	1
Total	33	131

topic clearly touched on women’s rights, it is tempting to analyze spillover effects from CDA advocacy to this issue. However, there are a couple of reasons why such an analysis does not make sense. One reason is that the successful passage of the Married Women’s Property Act of 1870 led to a sharp reduction of interest in this issue. The key vote on this took place on July 21, 1869. Since this comes before the beginning of CDA advocacy activity, this makes it nearly impossible to analyze the impact of CDA advocacy on MWP votes or petitions.

Moreover, as Figure B12 shows, the Married Women’s Property bills did not elicit the same level of public engagement as women’s suffrage or the CDAs. As a result, there are few MWP petitions for us to analyze.

The 1870 MPW vote also broke down closer to party lines than the votes on either the CDA repeal or women’s suffrage. This is shown in Table B17 for the key 1869 vote in the Commons. Essentially all Liberals voted in favor of the MWP bill, while only 13 Conservatives broke with their party to vote in favor of the bill. This makes it difficult to identify factors affecting MP attitudes toward the MWP bill beyond party affiliation.

Figure B7: Quarterly analysis of LNA rallies on other petitions related to women’s rights



This figure plots estimated coefficients and 95% confidence intervals for stacked two way fixed effect panel estimates of the impact of an LNA rally in a district on the number of petitions sent by women’s groups (top panel), the number of petitions related to the married women’s property rights (middle panel) or the number of petitions related to women’s suffrage (bottom panel). Treated quarters are the quarter starting from the month in which the rally occurred. Each panel covers all locations treated by an LNA rally in a particular month (treated locations) as well as all other locations (controls) where no rally took place prior to that month or within the two quarter treatment period (i.e., only locations that were never-treated within the four-quarter period covered by a panel). Standard errors are clustered by district to allow serial correlation and account for the fact that locations may appear as more than one panel. The regression in the right-hand panel includes a control for the total number of petitions unrelated to the CDAs or women’s suffrage sent from the district in each quarter.

Figure B8: Petitions by women's groups, 1864-1883

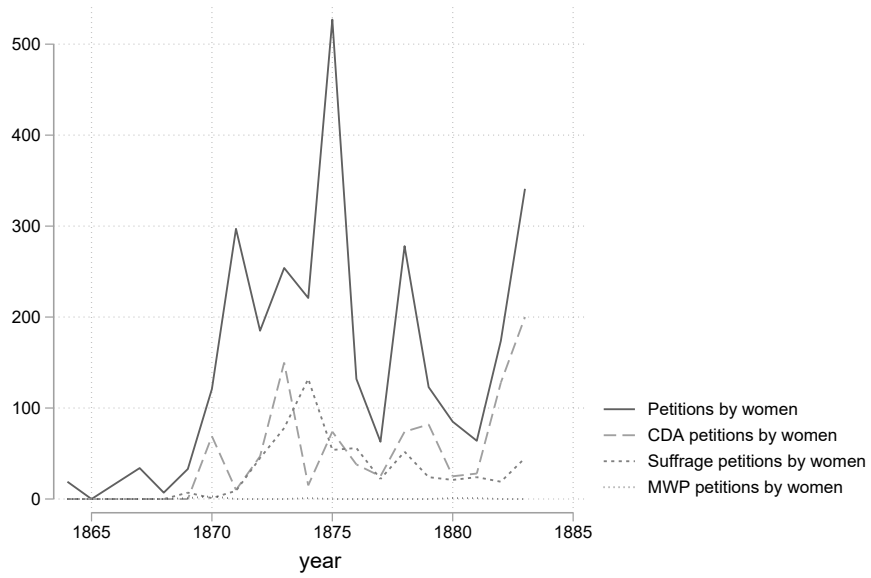


Figure B9: CDA petitions overall and by women's groups, 1864-1883

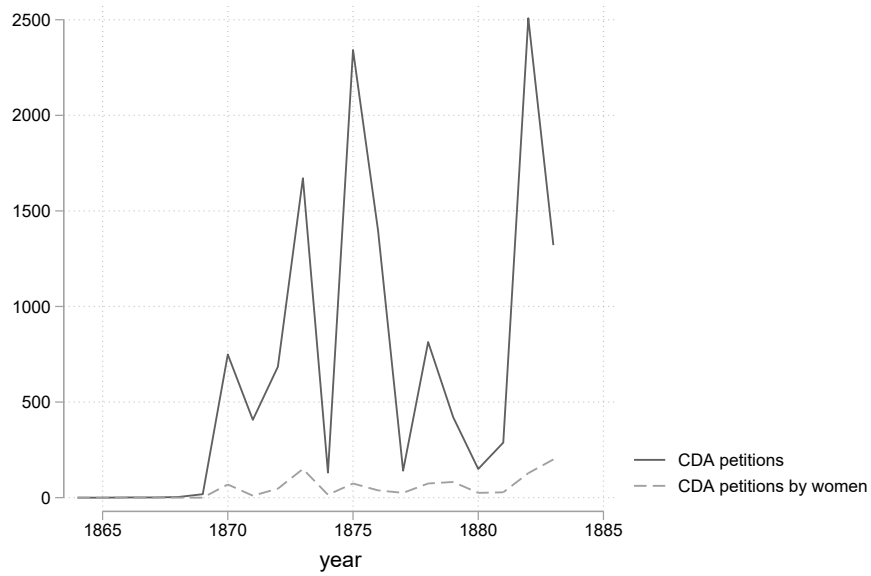


Figure B10: ChatGPT summary of key arguments in the 1883 CDA bill debate

Arguments Against the Contagious Disease Acts:

Violation of Rights and Morality: The Acts are viewed as unjust and oppressive, infringing upon personal freedoms and particularly targeting women unfairly.

Ineffectiveness: Critics argue that the Acts have failed to achieve significant improvements in public health or disease control.

Ethical Concerns: The compulsory examination of women is condemned as a violation of dignity and morality, fostering societal harm.

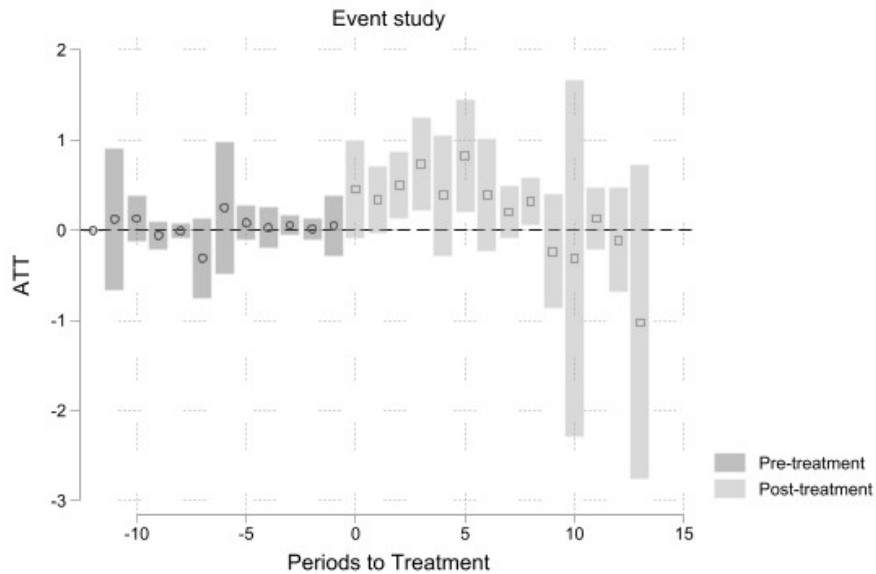
Arguments For the Contagious Disease Acts:

Public Health Protection: Proponents claim the Acts are necessary for controlling disease spread and ensuring safety in specific districts.

Effectiveness: Some argue that the measures have yielded improvements in health outcomes and are thus justified.

Administrative Support: The Acts are seen as part of a longstanding administrative effort, with continued support from multiple administrations.

Figure B11: Event-study estimates of the impact of LNA advocacy on CDA and women’s suffrage petitions combined



Estimates obtained using the method from [Callaway and Sant’Anna \(2021\)](#) on location-by-year level data for 19,787 locations and years from 1864-1883. The dependent variable is the number of CDA or women’s suffrage petitions from a location in a year. The explanatory variable is an indicator for whether the district had been the site of an LNA rally in the year or previous years. Standard errors are clustered by district. The regression includes the following control variables: district population density in 1861, the number of petitions unrelated to women’s rights from the location, log military employment in the location’s district, the working age population share, the female to male population ratio, the share of workers in manufacturing, with professional jobs, or with service jobs, the marriage rate, the illiteracy rate at marriage, and the share of marriages involving minors.

Figure B12: Petitions on various women’s rights issues

