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Analyzing the Agenda of the U.K. Parliament Over the Long Run

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Abstract

This article develops a method for quantitatively tracking the agenda of the British Parliament -- by which I mean the substantive topics on which Parliamentary debate was focused -- from 1810-2005 using descriptions of 1.7 million Parliamentary debates from the Parliamentary Hansard. This provides a new tool for analyzing the evolution of the British political system across nearly two centuries. I describe and validate this new measure and then present an application that focuses on assessing the influence of the party in government on the Parliamentary agenda.

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Abstract

This article develops a method for quantitatively tracking the agenda of the British Parliament – by which I mean the substantive topics on which Parliamentary debate was focused – from 1810-2005 using descriptions of 1.7 million Parliamentary debates from the Parliamentary *Hansard*. This provides a new tool for analyzing the evolution of the British political system across nearly two centuries. I describe and validate this new measure and then present an application that focuses on assessing the influence of the party in government on the Parliamentary agenda.

1 Introduction

Each day that a Parliament meets, one or more substantive topics are on the agenda for discussion. While not all discussions lead to action, examining the set of topics being discussed, and how much time and attention was dedicated to each, can help us better understand the issues that mattered to a Parliament at any point in time, as well as how this importance evolved. The primary contribution of this paper is to offer a new method for measuring and analyzing the substantive issues that occupied the attention of the British Parliament over a long period of time: 1810 to 2004. Measuring the Parliamentary agenda can help us answer a number of interesting historical questions. What topics occupied Parliamentary attention at any point in time? How did the importance of various topics change over time? How did factors, such as a change in the party in government, or the economic cycle, affect the share of attention paid to different topics? Etc.

In order to make progress in answering questions such as these, we first need a way to measure the *agenda of Parliament*, which I define as the set of substantive topics that occupied Parliamentary time and attention.[1] I begin by presenting such a measure, constructed for Britain from 1810 to 2004 using data from the Parliamentary Hansard. While data from the *Hansard* have been used in previous studies (Eggers & Spirling, 2014b,a; Spirling, 2016; Eggers & Spirling, 2018), this paper uses an aspect of the Hansard data that has not been previously exploited. In particular, the *Hansard* includes short descriptions of the substantive topic of each debate that took place in Parliament, as well as the number of words spoken in that debate. These debates range from short questions to long discussions spanning tens of thousands of words, with just over 2.25 billion spoken words in total. These were words spoken in actual debates, not other Parliament activities such as the pro-forma reading of bills. Starting with the debate descriptions for 1810-2004, I apply a keyword-based approach in order to trace out the substantive topics discussed by Parliament during the study period, and then add up the words spoken in debates on each topic to arrive at a measure of the amount of Parliamentary time and attention devoted to different substantive issues over time. The result is an agenda dataset that allows me to trace out, over almost two centuries, the share of Parliamentary time devoted to topics such as electoral reform, taxation, foreign affairs, crime, education, and housing.

After describing the agenda dataset, I provide several validation checks. For exam-

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[1]This should not be confused with the agenda of the governing party, defined as the set of issues the party plans to deal with during a particular period and often set forth in a manifesto.

ple, I show that the topic series match up well to key historical events, and that topics that received more Parliamentary time predict the passage of Acts. The broad trends observed in the series also appear reasonable, with topics like religion, the colonies, and the military declining in importance over time (particularly after WWII), while topics related to health and welfare grew. I also highlight some of the attractive features of the agenda data. For example, the agenda data capture efforts to enact legislation that were ultimately unsuccessful, which would not be captured in data on Acts passed. The agenda data will also reflect efforts that led to important regulations that had little budgetary impact, and so would be missed by data on government expenditure. Thus, the agenda dataset provides a novel long-run perspective that can be used to better understand the development of the British political system during this important period of history.

This data set can potentially be used to address a range of interesting questions. In the second half of the paper, I use the data to address one particular set of questions related to the role of government in determining the agenda of Parliament. In particular, I ask whether the government plays a primarily *proactive* or a primarily *reactive* role in determining the agenda of Parliament. By a *proactive* role, I mean that the government's own preferences and agenda substantially influence the overall agenda of Parliament. In this case, we would expect to see notable changes in the types of topics considered after elections in which the party in government changes; for example, we might expect a Labour victory to be followed by an increase in debate over labor-related legislation. In the British context, we should also expect the relationship between the identity of the party in government and the agenda to strengthen over time, particularly in the second half of the nineteenth century, as the government gained greater agenda-setting power (Cox, 1987). Alternatively, we might think that the government plays a primarily *reactive* role in determining the agenda. This may occur if the topics that demand the attention of Parliament are driven primarily by forces other than the party's own preferences, such as public opinion, economic conditions, or international crises. In this reactive model, we should not expect changes in the party in power to have a substantial effect on the agenda of Parliament.

The difference between whether government plays a primarily reactive or proactive role in determining the agenda of Parliament speaks to a long-running theoretical debate in political economy. In particular, the simple median voter model (Hotelling, 1929; Downs, 1957) predicts that political parties should propose and enact similar policies as they compete for the median voter. In this case, we would expect to observe government playing a reactive role, responding to changes in the preferences

of the median voter, so that the identity of the party in power would not matter. However, if either the preferences of the voters are not perfectly known to politicians (Roemer, 1997) or politicians or parties are unable to make credible commitments to the policies they will enact (Alesina, 1988; Osborne & Slivinski, 1996; Besley & Coate, 1997), then the identity of the winning candidate or party can matter.[2] Given this dichotomy, identifying the extent to which the agenda of Parliament responds to changes in the party in power can help us differentiate between alternative theories.

I take several approaches to providing evidence that can help us differentiate between these alternative models of agenda formation. The first approach focuses on what I call *agenda churn*. Agenda churn reflects the extent to which the share of attention paid to different topics changed in the years just after a particular year t compared to the years just before. By considering windows of varying lengths before and after each year t, we can assess both short and longer-run agenda churn.

I find no evidence that short-run churn increases around years in which the identity of the party in control of Parliament changes. This is not simply a measurement issue; I do find significant evidence of short-run shifts in the agenda around economic downturns. This provides a first piece of evidence in favor of a reactive model of agenda setting. Moreover, I also find no evidence that a change in party control had a stronger impact on the Parliamentary agenda later in my sample period, compared the the first half of the nineteenth century, despite the fact that government had gained additional procedural control over the agenda of Parliament across this period (Cox, 1987; Eggers & Spirling, 2014b). This provides a second piece of evidence in favor of a reactive model of agenda setting.

In a second approach, I analyze how the importance of specific topics changed with the identity of the party in control. In a proactive model of agenda setting, one might expect, say, electoral victory by the Labour Party in the twentieth century to lead to an increase in discussions of issues related to workers, and following a Conservative victory in the nineteenth century we might expect an increase in the discussion of issues related to, for example, land. However, I find very little evidence of a systematic relationship between the identity of the party in government and the substantive topics discussed by Parliament, with the sole exception of a relationship between the Labour Party and debates related to workers and working conditions in the post-WWII period. This provides a third piece of evidence in favor of a reactive model of agenda setting.

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[2]However, even without commitment, in some models repeated elections may cause the identity of the winning party to cease to matter. See Duggan & Martinelli (2017) for further discussion.

Overall, these results suggest that the identity of the party in power did not have a systematic meaningful influence on the set of issues on which the time and attention of Parliament was focused. How can we make sense of this result? In the last section of the paper, I discuss several prominent acts passed during the study period that illustrate reactive agenda setting in action. Perhaps the clearest example is provided by the Second Reform Act, passed by the Conservative government in 1867. This landmark act followed a number of unsuccessful acts introduced by both parties over several years, each of which were discussed at some length in Parliament. This example, together with a number of others provided in Section 7, show that on many important issues Parliament faced pressure, either because of ongoing events or the weight of public opinion, that neither party could avoid. Thus, whether or not an issue was addressed was not dependent on the identity of the party in control.

It is important to recognize that these results do not imply that party identity had no effect on the final policy outcomes of these debates. The party in power may still have played a substantial role in determining the details of the response to a particular issue. However, it does suggest that the extent to which a party in government is able to influence policy is circumscribed by the particular set of issues that demand attention during their time in power. At least at the agenda-setting level, government appears to have played a primarily reactive rather than proactive role.

This study contributes to several existing lines of research. This study relates to an extensive body of work in economics, political science, and history focusing on the evolution of the British political system during the period I study.[3] This topic is of importance both because there is great interest in this specific historical context, as well as because of the influence that the British system exerted on the structure political systems in other countries. Yet missing from this extensive literature is a quantitative measure of how the various topics that occupied the attention of the British Parliament evolved over time. This study fills in this missing piece, providing a new window into the evolution of the British political system, and one with a wide range of potential applications.[4]

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[3]Book-length treatments of this topic by historians and economic historians include Roberts (1960), Taylor (1972), Fraser (1973), MacDonagh (1977), Henriques (1979), Harris (2004), and Boyer (2019). Within political science, the most influential book on this topic, at least in the nineteenth century, is probably Cox (1987).

[4]My data set also complements other recently-created data sets providing alternative views of the long-run evolution of the British political system, such as data on the background of MPs (Fresh, 2018, 2021) or the media environment (Cage & Dewitte, 2021).

One closely related strand of the existing literature, mainly by political scientists, uses quantitative methods and *Hansard* data to study different aspects of the British political system (Eggers & Spirling, 2014b,a; Spirling, 2016; Eggers & Spirling, 2018). This existing research tends to focus on how the political system operated or the behavior of parties or politicians. Eggers & Spirling (2014b), for example, uses the text of debates to show that government ministers became more responsive to the opposition as government control over the daily agenda of Parliament increased in the 1832-1918 period. Goet (2021) use the Hansard speeches to study changes in Parliamentary procedures. Eggers & Spirling (2014a) look at how the competitiveness of an MP's seat affects their behavior (speeches and voting). Spirling (2016) looks at how the Second Reform Act affected the linguistic complexity of speeches. Eggers & Spirling (2018) study the role of the shadow cabinet. All of these studies focus on the structure and operation of the political system. My study is different; it focuses at the substantive topics that government was grappling with over the study period, and how these agenda items were determined. Examining these substantive issues is of particular interest from an economics perspective because they have a direct influence on the types of policies implemented, and thus on welfare.

One reason for the high level of interest in the historical context that I study is the influence that the four major franchise reform acts passed during my study period have had on political economy theory (Acemoglu & Robinson, 2000; Lizzeri & Persico, 2004; Llavador & Oxoby, 2005). Motivated by these theoretical developments, empirical studies have looked at how franchise reforms influenced fiscal policy (Husted & Kenny, 1997; Aidt & Jensen, 2009; Aidt *et al.*, 2010; Chapman, 2018; Corvalan *et al.*, 2020; Chapman, 2020) or political representation (Berlinski & Dewan, 2011; Berlinski *et al.*, 2014). My data allow us to approach the same set of questions from a different perspective, by assessing whether franchise reforms led to substantive changes in the agenda of Parliament that may have favored newly enfranchised voters. I find little evidence that the major expansions of the franchise into the working classes, as a result of the Second and Third Reform Acts, had any meaningful impact on the agenda of government. In contrast, I find evidence that both the First Reform Act (1832) and the period around the Fourth Reform Act (1918) were important turning points in the Parliamentary agenda. This difference may be explained by previous findings suggesting that, despite the large number of working-class voters enfranchised by the Second and Third Reform Acts, established elites retained substantial political power in the late nineteenth century (Berlinski *et al.*, 2014).

The specific application that I present also contributes to a literature, mainly in

political science, interested in the factors that influence political agendas (McCombs & Shaw, 1972; Cobb *et al.*, 1976). Recent work on the U.S. Senate (Quinn *et al.*, 2010) and the European Parliament (Greene & Cross, 2017) have applied automated topic modelling methods to debate texts over recent and relatively short periods in order to study the agendas of these institutions. Relative to these studies, I offer an alternative methodology, which I argue has some advantages over purely automated approaches, and use it to study the agenda of the British Parliament over a longer period than previous work.

2 Data and Methods

This section presents the data used in the analysis and the discusses the method I use to identify agenda topics. After introducing my method, I then include a discussion comparing this approach to other plausible alternative methods, such as topic modelling.

2.1 Hansard data

Starting with the Parliamentary session of 1803-4, two British publishers, T.C. Hansard and William Cobbett began publishing records of the debates of Parliament.[5] Starting in 1808, Hansard became the sole publisher of the series which now bears his name.[6] The *Hansard* was not an official document until 1909, but throughout the 19th century it was published continuously and attained semi-official status by providing the most complete and authoritative description of the debates of Parliament.[7]

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[5]Jordan (1931).

[6]This was not the only publication to offer this service in the early 19th century. *The Mirror of Parliament* provided similar coverage from 1828-41 (Jordan, 1931).

[7]The *Hansard* is not a verbatim report. Rather, it is a lightly-edited and sometimes abbreviated compilation which, particularly in the early years, drew on a variety of sources, mainly the daily papers which covered Parliament debates extensively. Proofs were sometimes sent to speakers for correction though Jordan (1931) reports that Hansard claimed that he refused to make any addition that was not actually spoken. The *Hansard* received a government subsidy starting in 1855 and was subject to additional regulations starting in 1888, such as the requirement that a reporter must be kept constantly in each house. Despite the drawbacks associated with a record that is influenced both by the sources available and the judgment of the editor, the *Hansard* remains by far the most complete and authoritative record of the workings of Parliament in the 19th century. Moreover, even if some material was omitted from the record, there is little reason to believe that substantial topics could have been omitted in a systematic way. Anderson (1997) argues that the *Hansard* is sufficient if "all that is needed is the general shape of the debate" but that it may fall short if one

The *Hansard* data used in this study are scraped from the digitized version of the *Hansard* provided by `hansard.parliament.uk`. That source includes both transcripts of actual debates as well as index pages that describes the main topic of each debate on each day together with the number of words dedicated to each of those debates and whether the debate took place in the House of Commons or the Lords. I scraped each index page to obtain a database that lists descriptions of the topics discussed in each individual debate, as well as the number of words dedicated to each discussion and whether the debate took place in the Commons or the Lords. In most of the analysis I focus on debates in the House of Commons only. One year 1829, is missing from the digitized *Hansard* records and therefore also from my dataset.

The data I use differ from the data used in previous work with the *Hansard*, such as Eggers & Spirling (2014b), Eggers & Spirling (2014a), Spirling (2016), and Eggers & Spirling (2018). Those studies use the text of actual debates. In contrast, I use the topic descriptions that were printed in the original *Hansard* volumes, which reveal the subject being debated, as well as associated information such as the number of words spoken in each debate. The reason that these topic descriptions are useful is that they represent the judgment of a highly informed contemporary expert on the primary subject of a particular discussion. As such, they provide the necessary building block for tracking the types of substantive issues discussed in Parliament over time. Later, I will discuss the advantages and disadvantages of using these topic descriptions relative to alternative methods such as automated topic modelling.

Debates range from very short questions of just a few words to long discussions in which tens of thousands of words were spoken. The mean length across all debates was 1,356. In total, over 2.36 billion words were spoken in the debates covered by my database. Appendix Figure 7 describes the number of words found in the *Hansard* debate records by year. I use the topic information to classify debates into various subjects, while information on the number of words spoken is used as an indicator for the amount of Parliamentary attention it attracted. Figure 1 provides an example of what these debate descriptions look like for one day, together with the topic classifications assigned to each debate. In the next subsection, I describe the procedure used to assign these topic classes

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is interested in the nuances of a particular debate.

Figure 1: Example of debate topics from the *Hansard*, with topic classifications

2.2 The keyword approach

The key step in preparing the data for analysis is classifying the debates into topic categories. To do so, I use a keyword approach. The first step is to parse the debate descriptions into their component words, removing punctuation and common words, so that each debate is associated with a set of individual words. This process generates a list of around 52,000 words that appear in the debate descriptions.[8] From this list, I manually classify the subset of key words associated with at least 10,000 spoken debate words. Out of this set of 10,990 key words, 3,238 can be classified as associated with specific topics, because they are clearly associated with specific issues. Examples of common key words that cannot be associated with specific topics include: bill, clause, new, government, national, amendment.

Table 1 looks at three example topics, education, elections and the franchise, and slavery, which will be discussed in more detail in the validation section below. For each, I present the ten most common keywords associated with each topic and the number of words spoken in debates associated with that keyword in the Parliamentary debates found in the *Hansard* across my study period. Focusing on the first two columns of Table 1, we can see that the keywords associated with the education topic include terms like "education," "schools," "college," "teachers," etc., and that the

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[8]Some of the 50,000 words are misspellings, which I carefully correct, allowing some of those terms to be classified.

Table 1: Example words with classifications

Education		Elections		Slavery	
EDUCATION	14,607,806	REPRESENTATION	3,963,296	SLAVE	871,229
SCHOOLS	2,720,709	ELECTIONS	3,488,691	SLAVERY	611,523
ELEMENTARY	2,223,693	VOTE	3,450,391	SLAVES	226,177
UNIVERSITY	1,796,674	ELECTION	2,484,241	EMANCIPATION	182,620
COLLEGE	1,454,084	FRANCHISE	1,469,219		
SCHOOL	1,417,428	VOTERS	1,331,096		
UNIVERSITIES	1,180,661	VOTING	870,129		
TEACHERS	495,586	BALLOT	747,471		
TRAINING	402,747	ELECTORS	330,208		
EDUCATIONAL	313,093	ENFRANCHISEMENT	316,274		

number of debate words associated with each key word falls off fairly rapidly.

The next set of columns looks at discussions related to elections, voting rules, and the franchise. Again, these words are clearly associated with the topic. One may be concerned that words like "vote" appear in my keyword list. Here it is important to remember that I am focusing on the debate descriptions, not the text themselves. In the text, "vote" is likely to appear in debates over a wide variety of contexts. However, in the debate descriptions, "vote" will appear only if the substance of the debate is about voting. Later, in Section 3, we will see that this elections topic gives very reasonable results.

To help limit concerns about misidentification, when classifying keywords I manually audited the debates associated with those words, as suggested by Gentzkow *et al.* (2019). Specifically, I review a sample of debates associated with each keyword in order to ensure that the debate topics actually fit with the topic category that the keyword is associated with. An alternative quality check to this manual auditing procedure is to validate the results obtained from the keyword approach. That is done in Section 3.

Using keywords to classify the debate descriptions into topics, and then using the number of words associated with each debate to track to attention paid to different topics over time, has two advantages. First, this approach is fairly transparent, in that the keywords associated with each topic can be observed and evaluated. Second, it is flexible, in that it is easy to add or drop keywords and examine the robustness of results to various alternatives. However, it is important to recognize that both the

Table 2: Most common topics of debate based on debate words

Rank	Topic	Words	Rank	Topic	Words
1	FOREIGN AFFAIRS	113.31	16	LAND	27.79
2	BUDGET	87.96	12	JUDICIAL	26.45
3	FINANCIAL	74.10	13	ENERGY	25.36
4	EDUCATION	58.04	14	AGRICULTURE	25.15
5	MILITARY	55.09	15	TRADE	23.67
6	IRELAND	51.56	16	RELIGION	21.86
7	CRIME	51.48	17	COLONIES	21.80
8	HEALTH	50.71	18	INFRASTRUCTURE	19.91
9	LOCAL GOVERNMENT	50.48	19	MEDIA	18.41
10	TRANSPORTATION	48.09	20	BUSINESS	17.34
11	INDUSTRY	46.87	21	OLD AGE	15.24
12	HOUSING	36.13	22	INDIA	14.54
13	TAXES	32.69	23	WAR	14.17
14	ELECTIONS	29.93	24	ENVIRONMENTAL	13.23
15	EMPLOYMENT	28.99	25	NAVY	13.11

choice of main topics and the matching of keywords to main topics relies on judgment and an understanding of the historical context.

Table 2 describes the 30 most important topics across the full study period, ranked based on the number of words spoken in debates on each issue. The list, topped by foreign affairs, the budget, finance and monetary policy, education, the military (excluding the Navy, but including the Army, ordinance, and various militias), and crime, seems to correspond reasonably well to those topics that we expect. Of course, this list would look substantially different in the early nineteenth century than in the late twentieth. Later, I will examine the main changes in the importance of topics over time.

It is important to note that debates may be classified into more than one topic. So, for example, a debate over education in Ireland will be classified under both the education topic and the Ireland topic. This is a useful feature, particularly with regard to the location-based topics, because it will allow me to separate, say, debates related to education in Ireland or India from those focused on Britain.

Not all debates are classified using the key word approach. Some were on procedural issues or were of a general nature, such as the "Queen's Speech" or "King's Speech" that starts off each session of Parliament. Others were on such specific topics that they defy classification. My procedure classifies between 70 and 90 percent of the

words spoken in Parliament in each year into a debate on one or more specific topics, with the classified share roughly constant across the study period (see Appendix C for further details).

2.3   Discussion of methods

Having now described the approach that I will use, it is useful to assess the advantages and disadvantages of this approach relative to other available alternatives. The most prominent of these alternatives are various topic modelling approaches which have been applied in similar contexts by studies such as Quinn *et al.* (2010) and Greene & Cross (2017).

Regardless of the approach used, the goal in my context is to identify and categorize the primary subject being discussed in any particular Parliamentary debate. It is useful to think about this as involving two steps, though these steps may be completed simultaneously in some procedures: (1) identifying the subject of a debate, and (2) categorizing related subjects into a parsimonious set of topic categories.

In my approach, the first step relies on the topic descriptions provided by knowledgeable contemporary observers available in the original Hansard documents. These draw on the actual debate text and may also be based additional information not included in that text. For example, the Hansard observers would have almost certainly known that a debate was over a particular bill even if the actual title of the bill is never explicitly mentioned in the debate. The second step is done using the keyword procedure described above.

In contrast, a topic modelling approach will typically start with the actual debate text and then apply machine learning methods to parse and categorize the text. In identifying the subject of a debate based on the debate text, a recent review of these methods by Gentzkow *et al.* (2019) highlights the substantial disadvantages of machine learning methods relative to knowledgeable human readers; "When humans read text, they do not see a vector of dummy variables, nor a sequence of unrelated tokens. They interpret words in light of other words, and extract meaning from the text as a whole...virtually all of the analysis of text in the social sciences, like much of the text analysis in machine learning more generally, ignores the lion's share of this complexity." This disadvantage is even greater in my context, since the contemporaries assigning topic descriptions had access to additional information not included in the actual debate texts. Given this, it seems clear that there are substantial advantages in identifying the subject matter of debates using the topic descriptions based

on knowledgeable human judgement rather than the raw text. Unfortunately, once we move to the debate descriptions, topic modelling approaches cannot be effectively applied for categorization because the descriptions are quite short, with little of the overlap needed to build up topic categories.

One might think that a topic modelling approach provides an advantage in terms of transparency, flexibility, and replicability, relative to the approach I propose, since the algorithm can be observed and adjusted in the original replication files. It is true that the methodology followed by the contemporaries who decided on the debate topic descriptions cannot be observed and so that element of my approach suffers from a lack of transparency, though this likely does not outweigh the advantages of relying on human judgement to identify topics, particularly when those contemporaries were likely drawing on additional information not included in the debate texts. In the categorization phase, my method is also quite transparent, because the key words included in each category can be easily reviewed, and flexible, because they can be easily adjusted, and replicable, because similar procedures could be easily applied in other contexts.

Given these considerations, I conclude that my approach is preferable to more automated alternative approaches in the context I study. Of course, were topic descriptions produced by knowledgeable contemporaries not available, the extremely high cost of reproducing such descriptions would make automated methods much more attractive.

2.4   Acts data

The other major data set used in this study covers all of the Public General Acts passed by Parliament from 1820-1885. For each act, a short description was digitized from the printed compendiums of the Public General Statutes, which are available for the 1820-1885 period. In total, this dataset covers all 6,751 Acts passed during this period.

The descriptions are fairly similar, in terms of the level of detail, to the debate descriptions provided by the *Hansard* data. Thus, they naturally lend themselves to the same keyword approach used to classify the *Hansard* debates. Using exactly the same keywords as used for the *Hansard* data, I classify the Acts into topic groups. Using this approach, 90% of the Acts can be classified into one more more topic groups.[9] Perhaps not surprisingly, those topics that attracted the most attention in

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[9]Appendix Table 11 describes to top twenty topics found in the Acts data.

debates also tended to be associated with the number of acts passed. Later, I will examine this relationship in more detail. However, it is interesting to note that some topics, such as foreign affairs and the military, account for a smaller share of acts than of debate words. In the first case, this reflects that foreign affairs were often conducted without the need for passing a new act, while much of the debate over the military surrounded the size of budgets which were included as components in broader budgeting acts. This highlights an important advantage of the *Hansard* debates data relative to studying the set of acts passed.

3 Validating the agenda data

This section looks at whether the data I have constructed are accurately picking up variation in the agenda of Parliament across the study period. One way to do this is to compare the patterns observed for specific topics to well-known legislative turning points. A second approach involves studying the relationship between the topics debated in Parliament and the passage of Public General Acts.

3.1 Examining individual series

Figure 2 describes one topic series, the "Elections" topic which includes terms related to voting and the franchise, which can be compared to well-documented historical events. In the figure, we can see four major spikes in interest in this topic, corresponding to the four major electoral reform acts that took place during this period, indicated by the vertical lines in 1832, 1867, 1884, and 1918. We can also see spikes corresponding to other important events, such as the Ballot Act of 1872, which introduced the secret ballot. Clearly, the *Hansard* data are reflecting the fact that the debates over the four landmark reform bills attracted a substantial attention from Parliament in those years. Perhaps just as important, the data in Figure 2 also pick up failed attempts at reform, such as the failed electoral reform efforts of 1859-60 that set the stage for the Second Reform Act of 1867. The fact that my data can pick up these important, if unsuccessful, efforts to pass legislation, is a valuable feature that illustrates how this measure can enrich our understanding beyond what could be learned from successful legislation alone.

Figure 3 presents a second topic, slavery, that can be compared to well-documented historical events. I focus on the 19th century, when this was an important issue for debate. The vertical lines mark key historical points in anti-slavery legislation in

Figure 2: Share of debates words dedicated to elections, voting, and the franchise
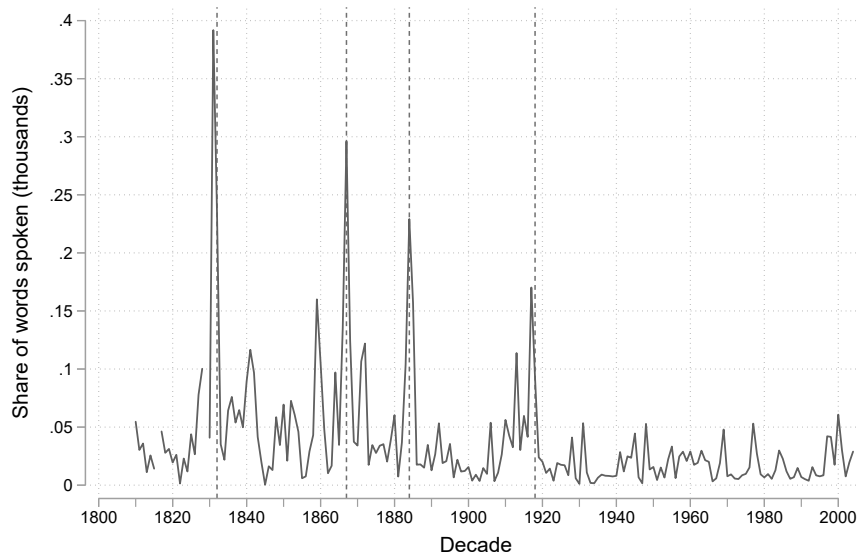
Britain. The first, in 1823, marks the founding of the London Anti-Slavery Society. We can see that this was followed by an increase in the intensity of debate over slavery in Parliament. The second vertical line denotes the abolition of slavery (outside of India), passed in 1833, and the third line, in 1838, marks the year at which abolition came into effect. These events are clearly reflected in the *Hansard* data. One might be surprised by the spike in interest in the topic of slavery in 1876. This spike reflects the debate over the "Fugitive Slave Circulars," controversial directives issued by the Admiralty instructing British Navy ships to return fugitive slaves to their masters. This touched off such a hot debate that it led to the formation of a Royal Commission.

A third example, in Figure 4, shows the number of words in debates associated with the topic of religion, with vertical lines indicating the dates of the disestablishment of the Irish Church (1869) and the Welsh Church (1914). Both of these important events were associated with increased debate over religious issues. A high level of debate over religious issues is also apparent in the late 1840s and early 1850s. This debate was related to the election of the first Jewish MP in 1847. It is worth noting here that another major law related to religion was the Catholic Relief Act

Figure 3: Words in debates over slavery
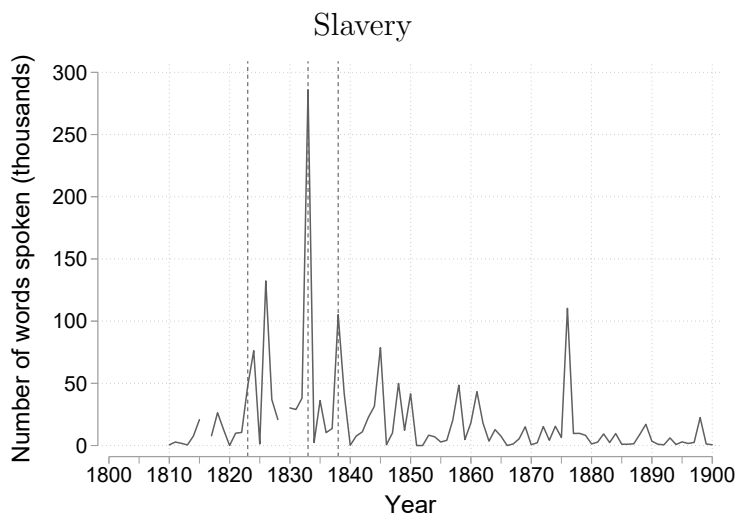
Slavery

The vertical lines in the top figure indicate key historical points in anti-slavery legislation in Britain. The first, in 1823, marks the founding of the London Anti-Slavery Society, the second marks the abolition of slavery (outside of India), passed in 1833, and the third line, in 1838, marks the year at which abolition came into effect.

passed in 1829. However, recall that 1829 is missing in my database because no digitized *Hansard* records are available for that year, so we cannot see whether debate over religions topics increased at that point as well.

3.2 Comparing to Acts passed

A second approach to validating the *Hansard* data is to conduct a broad comparison between all of the topics identified and some outcome of interest. To do so, I draw on the Acts data and run regressions comparing the share of attention paid to various topics to the number of Acts passed related to that topic in each year. Table 3 presents regression results looking at the association between the share of words spoken in the *Hansard* debates on a particular topic in a particular year and whether an Act related to that topic was passed in that year. These estimates reveal a strong relationship between the topics debated in Parliament and the passage of Acts related to those topics. While not unexpected, this evidence shows that the *Hansard* debates, rather than simply being "hot air," were closely related to concrete legislation.

Figure 4: Words in debates associated with the topic of religion
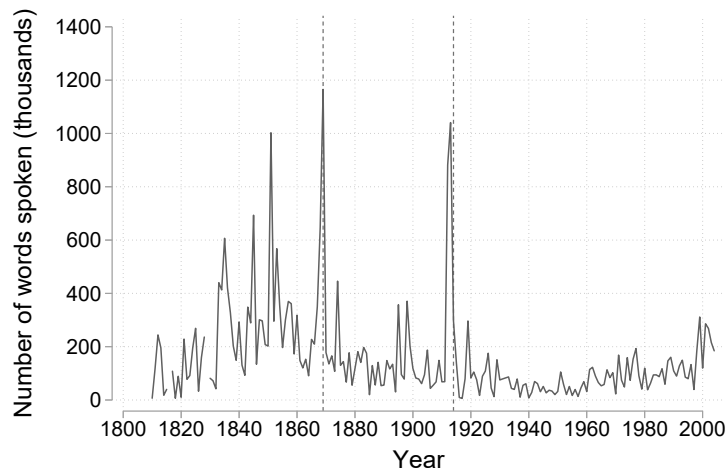
The vertical lines indicate the disestablishment of the Church of Ireland in 1869 and of the Church of Wales in 1914.

Table 3: Regressions comparing debate data to Acts passed

	OLS Regressions		Poisson (incident rate ratios)	
Dep. Var: Number of Acts passed in a year by topic				
	(1)	(2)	(3)	(4)
Share of debate words	8.419***	8.934***	2.989**	3.602***
	(2.451)	(2.306)	(1.422)	(1.614)
Topic FEs	Yes	Yes	Yes	Yes
Year FEs.		Yes		Yes
Observations	4,485	4,485	3,575	3,575
R-squared	0.717	0.746		

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parenthesis.

4 Rise and fall of topics over time

From a historical perspective, one primary object of interest in the agenda data set is how the relative importance of different topics evolved across the study period. This section examines these patterns for a subset of the more important topics, or those that show the most dramatic changes.

One interesting set of topics to consider are those that showed marked declines in importance across the study period. This set is described in Table 4. The topic that saw the most consistent decline in importance was religion. Another class of topics that appear to have attracted less attention later in my study period were those related to budgeting, tariffs, and taxes. These issues were of central importance during Britain's laissez-faire period in the middle of the nineteenth century, but they seem to be less important (in relative terms) to more recent Parliaments. Another, more expected, class of topics are those related to military spending and warfare. Discussions of these issues peaked in the period from 1860-1910 and declined precipitously after 1970. Finally, two of the most important topics in the early nineteenth century, Ireland and India, have also become much less important, for reasons that are easy to understand.

Table 4: Topics of declining importance over the study period

	Budget	Elections	Emmigration	India	Ireland	Military
1810-1850	0.0859	0.0747	0.0025	0.0358	0.1604	0.0470
1860-1910	0.1907	0.0577	0.0014	0.0306	0.1517	0.1065
1920-1960	0.1033	0.0217	0.0005	0.0181	0.0137	0.0783
1970-2000	0.0537	0.0214	0.0001	0.0018	0.0395	0.0339
	Navy	Religion	Slavery	Tariffs	Taxes	War
1810-1850	0.0228	0.1185	0.0141	0.0141	0.0728	0.0204
1860-1910	0.0428	0.0409	0.0018	0.0109	0.0504	0.0297
1920-1960	0.0162	0.0069	0.0003	0.0051	0.0329	0.0274
1970-2000	0.0039	0.0088	0.0001	0.0006	0.0409	0.0037

Each column corresponds to a topic and each cell describes the share of total debate words associated to that topic in various periods out of all debate words associated with at least one topic.

Table 5 presents topics that have experienced notable increases in importance over time. Perhaps the most notable commonality across these topics is the extent to which they relate directly to the welfare of average citizens. Topics such as children's welfare, employment, fertility and sexuality, health, and housing show some of the largest increases across the period. Energy and the environment have also attracted a growing share of attention, as have sports and entertainment, and the media. Not surprisingly, immigration has grown into a major topic of debate, particularly since 1970. Local government has always been an important topic, but debate over this topic (which includes devolution) has consistently increased. Transportation is another topic that

has grown in importance, particularly air travel, which was obviously not an issue in most of the nineteenth century. Another fairly new topic is nuclear energy and nuclear weapons.

Table 5: Topics of increasing importance over the study period

	Air transp.	Children	Employ.	Energy	Envir.	Fert./Sex	Health
1810-1850	0.0000	0.0027	0.0032	0.0024	0.0015	0.0009	0.0137
1860-1910	0.0014	0.0055	0.0118	0.0132	0.0034	0.0009	0.0303
1920-1960	0.0157	0.0093	0.0453	0.0402	0.0091	0.0035	0.0505
1970-2000	0.0136	0.0207	0.0365	0.0343	0.0259	0.0104	0.0757
	Housing	Immig.	Local Gov.	Media	Nuclear	Sport/Ent.	Land trans.
1810-1850	0.0051	0.0048	0.0270	0.0065	0.0000	0.0009	0.0218
1860-1910	0.0312	0.0063	0.0533	0.0059	0.0000	0.0014	0.0299
1920-1960	0.0445	0.0072	0.0410	0.0207	0.0039	0.0078	0.0592
1970-2000	0.0405	0.0148	0.0701	0.0252	0.0071	0.0136	0.0516

Each column corresponds to a topic and each cell describes the share of total debate words associated to that topic in various periods out of all debate words associated with at least one topic.

Finally, it is interesting to look at those topics which have either continued to be important throughout the almost two century period covered by this study, or which show other interesting patterns. Some of these are described in Table 6. This group reflects a set of major topics – agriculture, the regulation of business, education, finance and monetary policy, foreign affairs, infrastructure (excluding transportation-related), judicial affairs, and trade – that seem to have been of perennial interest to Parliament. Within these broad trends, however, there are some interesting patterns. Crime (which includes terrorism), for example, shows clear declines from the early nineteenth century through the mid-twentieth, followed by resurgent concerns starting in the 1970s. On finance and monetary policy, we see a spike in interest in the period from 1920-1960, reflecting Britain's struggles to bring monetary and financial policy under control during this period. The poor were a particularly important topic of debate in the early nineteenth century, when the New Poor Law was enacted, though this has remained an important issue throughout, as has the closely related topic of pensions and old age support.

Table 6: Topics of importance throughout the study period

	Agric.	Business	Crime	Education	Finance/Monetary	Foreign aff.
1810-1850	0.0102	0.0186	0.0736	0.0462	0.0542	0.1331
1860-1910	0.0196	0.0139	0.0641	0.0776	0.0655	0.1243
1920-1960	0.0412	0.0160	0.0377	0.0416	0.1013	0.1414
1970-2000	0.0241	0.0266	0.0838	0.0688	0.0690	0.1234
	Infrast.	Judicial	Maritime	Old age/Pens.	Poor	Trade
1810-1850	0.0099	0.0535	0.0188	0.0079	0.0606	0.0340
1860-1910	0.0268	0.0377	0.0186	0.0133	0.0165	0.0213
1920-1960	0.0191	0.0190	0.0148	0.0217	0.0096	0.0443
1970-2000	0.0259	0.0427	0.0114	0.0182	0.0107	0.0249

Each column corresponds to a topic and each cell describes the share of total debate words associated to that topic in various periods out of all debate words associated with at least one topic.

5   Measurement: Agenda churn

This section introduces the measure of *agenda churn* which will be used later in the analysis. The agenda churn measure reflects the extent to which the topics considered by Parliament were changing in the years just before compared to just after some year t. Analyzing the evolution of this measure can help us identify key political turning points, i.e., periods in which the types of issues that received the attention of Parliament shifted in meaningful ways.

Define the rate of agenda churn in the topics considered by Parliament in a year t comparing over periods of length τ as,

$$CHURN_t(\tau) = \sum_i \left| AVGSHR_{i,t+1,t+\tau+1} - AVGSHR_{i,t-1,t-\tau-1} \right|$$

where,

$$AVGSHR_{i,t+1,t+\tau+1} = \frac{\sum_{j=t+1}^{t+1+\tau} SHARE_i}{\tau}$$

In this formulation, $AVGSHR_{i,t+1,t+\tau+1}$ is the average across the years from $t+1$ to $t+1+\tau$ of the share of words spoken in debates related to topic i ($SHARE_i$).[10]

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[10]There is a question here about whether to use the share of total words spoken in a year, or the share of words spoken in debates that can be classified into a topic. In the main analysis I focus on

$CHURN_t(\tau)$ is then a measure of the overall change (in absolute value) in these shares occurring around year t summed across all topics. This measure is based on observations stretching for τ years on either side of year t (with year t itself omitted), which allows me to consider both short-run (1-2 year) and longer-run (5, 10, or 15 year) shifts. This is desirable in part because we might think that it may take several years for some events to be translated into a shift in the agenda of government.

It is also worth noting that the methodology described above involves calculating the share of words within each year related to a topic and then averaging those shares across years. This means that years where Parliament was in session for a relatively short period of time are given the same weight as years where the session was lengthy. An alternative approach is to sum all of the words spoken on a particular topic across a window of length τ and then calculate the share of total words spoken in that window related to each topic. That alternative approach differs in that relatively short sessions of Parliament, with few words spoken, will have less impact on the churn rate. Ultimately, both approaches deliver similar results (see Appendix F).

Another thing to note is that I use years, rather than Parliamentary sessions, as the unit of observation. In the vast majority of cases this makes no difference, since most Parliamentary business was conducted on an annual basis. It also reflects the fact that in years in which an election took place in the summer, very little was likely to be accomplished in the truncated sessions on either side of the election.

The churn rates used in my main analysis are obtained using only topics that accounted for at least 0.5% of total debate words across the study period, yielding 48 total topics.[11] Alternatively, I have examined results using cutoffs ranging from 0.25% (59 topics) to 2% (21 topics). None of the results presented below are sensitive to the choice of cutoff level.[12]

As a preliminary step in using the agenda churn measure, it is useful to study the pattern of agenda churn over time. Figure 5 graphs the agenda churn rate over time for τ equal to 1 year, 5 years, and 15 years when measured over all topics (left panels) or just over domestic topics (right panels). The results for domestic topics only exclude debates related to foreign affairs, the colonies, Ireland, India, the military, and warfare. As a point of comparison, the four major franchise reform acts are

the share of words spoken that can be classified into a topic. Ultimately, however, both approaches yield very similar results.

[11]When looking only at domestic topics only, a topic must account for at least 0.5% of debate words after dropping words spoken in debates over non-domestic topics in order to be included in the analysis. It turns out that 48 domestic topics satisfy this criterion.

[12]Additional results with alternative cutoff values are available upon request.

marked in vertical lines on the graph. Note that churn will be mechanically declining over time simply because more words are being spoken, which reduces random noise in the measure and therefor the churn rate. Given this feature, one should focus attention on the local peaks and troughs in the series.
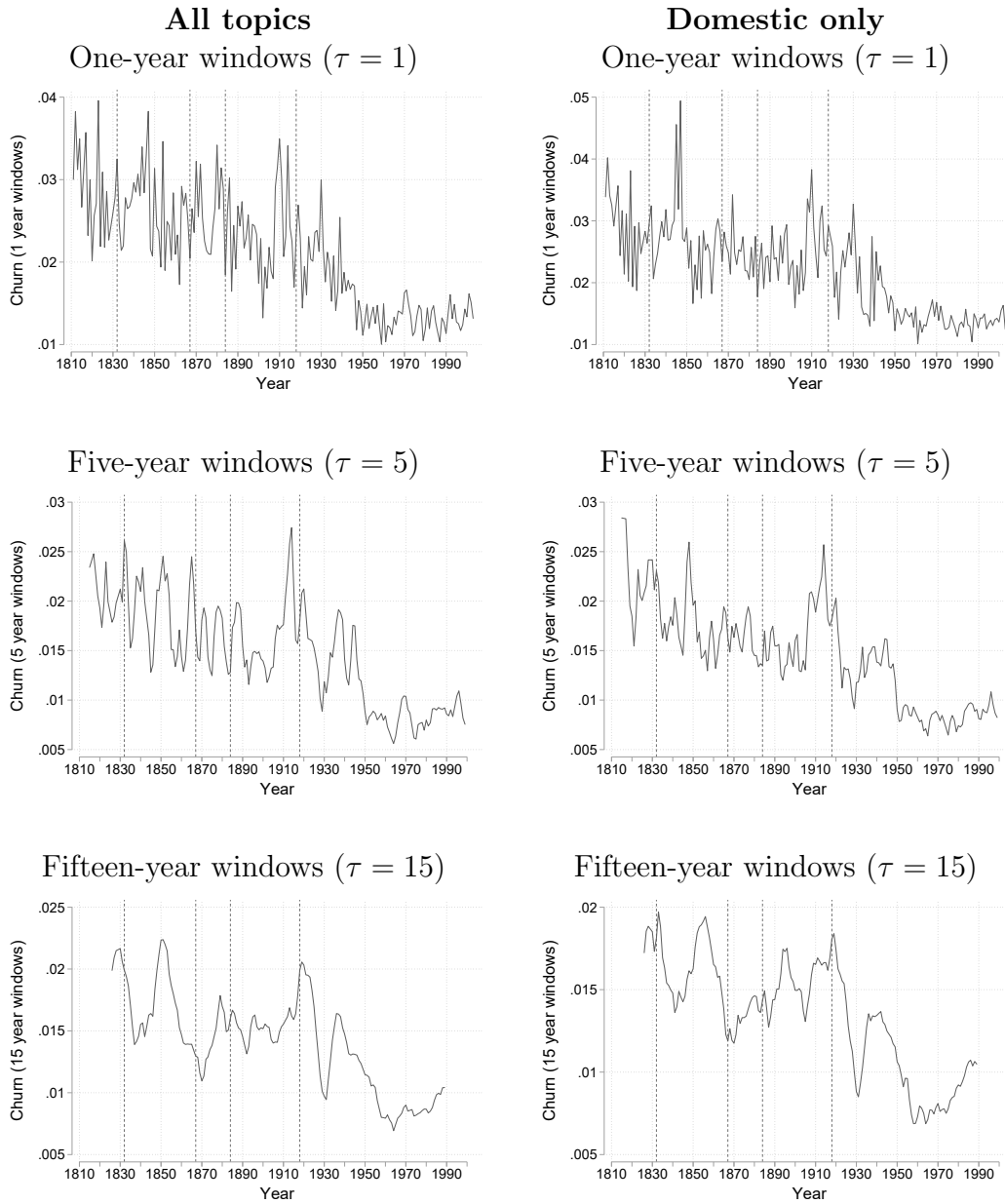
Several points in history show particularly high rates of churn. The earliest of these roughly corresponds to the passage of the First Reform Act in 1832. This event is associated with a substantial change in the agenda over both the short and medium-run windows. Notably, however, no similar spikes are found near the 1867 and 1884 franchise reforms. While the cause of this difference deserves further investigation, one likely explanation is that the 1832 reform brought a relatively well-off segment of society into the franchise, a group that included many with the resources need to stand for office. In contrast, the working class men brought into the franchise in 1867 and 1884 were relatively less affluent and, as a result, existing elites retained substantial power in Parliament before WWI (Berlinski *et al.*, 2014).

A second key turning point in the agenda of Parliament appears in the late 1840s. This spike appears when focusing on either all topics or only on domestic issues, and it appears when looking at shifts over one, five, or fifteen year periods. The timing of this spike corresponds with the repeal of the Corn Laws, which split the Conservative Party, as well as the Revolutions of 1848 on the Continent, which increased pressure on the British government through the Chartist movement. The evidence in Figure 5 indicates these events corresponded to the most pronounced shift in the agenda of Parliament observed during the nineteenth century.

The most notable period of elevated agenda churn occurs in the period from roughly 1908 to 1920. We know that this was a major period of reform for the British state, which encompassed the fight over the People's Budget, the weakening of the power of the House of Lords, the enormous disruptions of the First World War, and the passage of the Fourth Reform Act in 1918 which extended the franchise to women over 30 and all men over 21. It is not surprising that this tumultuous period appears as the most important turning point in the agenda of Parliament in the twentieth century. There is also evidence of an elevated rate of churn in the 1930s, with short-run measures suggesting a spike in churn in exactly 1930, while longer-run measures push the change closer to the middle of the 1930s with elevated rates into the early 1940s. This pattern is almost certainly due to the onset of the Great Depression and the run-up to WWII.

A final pattern that is of interest in Figure 5 is the very low level of churn observed after WWII. While that will be due in part to the continued increase in the number

Figure 5: Agenda churn using comparison windows of one, five and fifteen years

All topics

One-year windows ($\tau = 1$)

Domestic only

One-year windows ($\tau = 1$)

Five-year windows ($\tau = 5$)

Five-year windows ($\tau = 5$)

Fifteen-year windows ($\tau = 15$)

Fifteen-year windows ($\tau = 15$)

Churn rate is calculated using all topics that account for at least a 0.5% share of words spoken across the full study period. Only debates in the Commons, but not in the Lords, are included. As a point of reference, vertical lines mark the years of the four major franchise reform acts, in 1832, 1867, 1884, and 1918.

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of words spoken, the onset of this period of low churn represents a departure from the previous downward trend, suggesting that some fundamental change took place which reduced the extent to which topics rose and fell in importance across that period.

6   Determinants of the agenda

This section examines the determinants of the agenda of Parliament, with a particular focus on the extent to which the identity if the party in power affects this agenda. I begin by examining how changes in the party in government affected the churn rate, before turning to look at whether certain parties were systematically related to the importance of certain topics.

Analyzing the impact of the party in power on outcomes is simplified by the fact that two parties, the Whigs or Liberals (including the Radicals) and the Tories or Conservatives dominated politics during roughly the first half of the period I study, and the Conservatives and Labour dominated during the second half. Thus, in broad terms it is reasonable to analyze changes in party control in the context of what was effectively a two-party system, with the Tory/Conservative Party on one side and on the other the Whig/Liberal party up through 1922 and Labour starting in 1924.[13] While I begin by analyzing the entire period, I also split my data into various subperiods, which can better accommodate changes in the two dominant parties over time.

To study whether elections in which the identity of the party in power changed were systematically associated with elevated (short-run) churn rates, I use the following simple regression approach:

$$CHURN_t^\tau = \beta_1 PARTY_t + FRANCHISE_t\,\lambda + \eta_t + \epsilon_t$$

where $PARTY_t$ is an indicator for years when the party in control of the Prime Ministership changes, $FRANCHISE_t$ is a vector of four indicator variables reflecting each of the four major franchise reform bills (with λ as the estimated coefficient vector), and η_t is a set of decade fixed effects that are included in some specifications to absorb medium-run changes in the churn rate.

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[13]After 1846, I classify periods in which Peelites held the office of Prime Minister as the same as those when the Whigs/Liberals were in control. In the early part of my study period there was a rift within the Tory party, between the free trade Canningites and the rest. Despite these disagreements, I classify the period when the Canningites held the Prime Ministership (1827-28) as a period of Conservative control.

Regression results are presented in Table 7, with results using all topics in the top panel and those focused only on domestic topics in the bottom panel.[14] These estimates look across τ's of one, two, and five years, and for each I present results with and without decade fixed effects. None of these regressions provide evidence of unusual agenda churn around years in which party control switched. The coefficients on party control are uniformly small, statistically insignificant, and often negative. While all of these results include controls for the four major reform acts, the inclusion of those controls does not meaningfully affect the estimated importance of changes in party control (see Appendix Table 12). Overall, the main message from the results in Table 7 is that changes in the party in control do not appear to be associated with substantial shifts in the churn rate.

These results also provide some evidence that the First Reform Act was associated with a significant increase in the churn rate. Results for the Second and Third Reform Acts are mixed but tend to be negative. Results for the Fourth Reform Act are mixed, but difficult to identify given that it corresponded with the end of the First World War. However, the results looking at these reforms should all be taken with some caution since each estimate is based on only one reform event.

A natural question here is whether the impact of a change in party control mattered more in particular periods. For example, we might expect the party in control to matter more later in the study period, when parties were becoming more powerful (Lowell, 1902; Berrington, 1968) and elections more national (Hanham, 1978; Jenkins, 1996). However, when I split the sample and look at the impact of party in various sub-periods, in Table 8, I continue to find no evidence that changes in party control were associated with unusual levels of churn in the agenda of Parliament.

We may also be concerned about whether these results are simply reflecting that the churn measure is too coarse to show a robust relationship with even potentially important explanatory variables. One way to check this is to compare agenda churn to another plausible explanatory variable, for example by looking at how agenda churn responds to the economic cycle. To examine this, I use GDP data covering the period from 1830 to 2004 from Mitchell (1988) and the Federal Reserve's FRED database to identify years in which GDP declined. I then study the relationship between these recession years and the agenda of Parliament.

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[14]The Durban-Watson statistics presented at the bottom of each panel indicate that serial correlation is not likely to be a major concern for any of these specifications, with the possible exception of those presented in Columns 3, 5 and 6. Given this, I estimate results using robust standard errors. Note that adjusting for potential serial correlation will only reduce the chances that I observe a statistically significant result in these regressions.

Table 7: Impact of changes in party control on churn for various τ

	All topics					
Window:	$\tau = 1$		$\tau = 2$		$\tau = 5$	
	(1)	(2)	(3)	(4)	(5)	(6)
Party control chg.	0.000783	-0.000807	0.000308	-0.000952*	0.000225	-0.000635
	(0.00120)	(0.000778)	(0.000946)	(0.000565)	(0.000876)	(0.000558)
First Reform Act	0.0116***	0.00652***	0.00643***	0.000174	0.0115***	0.00573***
	(0.000598)	(0.000912)	(0.000546)	(0.000981)	(0.000457)	(0.000978)
Second Reform Act	-0.00122	-0.00358***	0.00322***	0.00135	0.00214***	0.000227
	(0.00105)	(0.00128)	(0.000773)	(0.00107)	(0.000747)	(0.00147)
Third Reform Act	-0.00241***	-0.00825***	-0.00291***	-0.00832***	-0.00183***	-0.00461***
	(0.000598)	(0.00193)	(0.000546)	(0.00148)	(0.000457)	(0.000972)
Fourth Reform Act	0.00243***	-0.00266	0.00409***	-0.00184	0.00323***	-0.00305**
	(0.000598)	(0.00206)	(0.000546)	(0.00165)	(0.000457)	(0.00137)
Decade FEs		Yes		Yes		Yes
Observations	191	191	189	189	183	183
R-squared	0.017	0.721	0.011	0.783	0.030	0.768
DW stat.	0.61	2.01	0.40	1.59	0.19	0.71
	Domestic topics only					
Window:	$\tau = 1$		$\tau = 2$		$\tau = 5$	
	(1)	(2)	(3)	(4)	(5)	(6)
Party control chg.	0.000946	-0.000248	-0.000159	-0.000956	-7.40e-05	-0.000196
	(0.00129)	(0.000910)	(0.00105)	(0.000701)	(0.000842)	(0.000404)
First Reform Act	0.00793***	0.00279**	0.00507***	0.000349	0.00857***	0.00393***
	(0.000610)	(0.00130)	(0.000550)	(0.00167)	(0.000432)	(0.000927)
Second Reform Act	0.000800	-0.00252**	0.000964	-0.00245***	0.00191***	-3.73e-05
	(0.00114)	(0.00128)	(0.000891)	(0.000934)	(0.000723)	(0.000729)
Third Reform Act	-0.00397***	-0.00591***	-0.00233***	-0.00433***	-0.000969**	-0.00162***
	(0.000610)	(0.00104)	(0.000550)	(0.00142)	(0.000432)	(0.000575)
Fourth Reform Act	0.00752***	0.00117	0.00962***	0.00247	0.00369***	-0.00247***
	(0.000610)	(0.00175)	(0.000550)	(0.00175)	(0.000432)	(0.000866)
Decade FEs		Yes		Yes		Yes
Observations	191	191	189	189	183	183
R-squared	0.016	0.690	0.017	0.723	0.021	0.830
DW stat.	0.70	2.15	0.47	1.62	0.17	0.95

Churn rate is calculated using all topics that account for at least a 0.5% share of words spoken across the full study period. Only debates in the Commons, but not in the Lords, are included.

Table 8: Impact of changes in party control by period

	One-year churn windows			
	1810-1859	1860-1909	1910-1969	1970-2004
Party control chg.	-0.00137	-0.000179	-0.000637	-9.13e-05
	(0.00238)	(0.00108)	(0.00210)	(0.000814)
	Two-year churn windows			
	1810-1859	1860-1909	1910-1969	1970-2004
Party control chg.	-0.00260	-0.00129	-0.00175	0.000239
	(0.00181)	(0.00105)	(0.00136)	(0.000869)
	Five-year churn windows			
	1810-1859	1860-1909	1910-1969	1970-2004
Party control chg.	-0.00106	-0.000545	-0.00216*	-0.00114**
	(0.00110)	(0.000651)	(0.00109)	(0.000453)

Domestic topics only. Churn rate is calculated using all domestic topics that account for at least a 0.5% share of words spoken across the full study period. Only debates in the Commons, but not in the Lords, are included.

The results, in Table 9, look at whether recession years are associated with elevated agenda churn. These results focus on short-run (one year) churn patterns, since I expect recessions to elicit a rapid policy response, and they focus only on churn over domestic topics, the set that are likely to respond to concerns about economic conditions.[15] The *Recession* variable here is an indicator for years in which GDP declined relative to the previous year. I also include a second variable, *Post-war* that captures post-war years in which GDP declined, which I expect to differ from other types of recession years in important ways.[16]

The results in Table 9 indicate that in general recession years featured higher rates of short-term agenda churn. The negative coefficient estimates on the *Post-war recession* variable, which are similar in magnitude to the recession variable, indicate that no similar pattern of churn is observed in years in which GDP contracts following major wars. The consistent relationship between economic contractions and agenda churn contrasts with the relationship between churn and changes in the identity of the party in government. As in the previous results, changes in the party in control

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[15]No statistically significant relationship is observed for churn rates over period longer than one year.

[16]These correspond to the GDP contractions following the Boer War, in 1902-3, the First World War, which was followed by an economic contraction lasting from 1919-21, and the Second World War, which was followed by an economic contraction lasting from 1944-47.

does not appear to be systematically related to short-run agenda churn. Thus, agenda churn appears to be related to salient economic factors, but not to the identity of the party in power.

Table 9: Agenda churn and the economic cycle

| | DV: Agenda churn (domestic topics only) | | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Recession year	0.00343***	0.00452***	0.00434***	0.00423***	0.00226**	0.00236**
	(0.00130)	(0.00151)	(0.00147)	(0.00152)	(0.00106)	(0.00102)
Post-war recessions		-0.00486**	-0.00454**	-0.00436**	-0.00251	-0.00431**
		(0.00196)	(0.00196)	(0.00200)	(0.00170)	(0.00174)
Party control chg.			0.00130	0.00136	-0.00103	-0.000542
			(0.00117)	(0.00121)	(0.000867)	(0.000834)
Reform Act cont.				Yes	Yes	Yes
Time trend cont.					Yes	Yes
Decade FEs						Yes
Observations	174	174	174	174	174	174
R-squared	0.043	0.062	0.069	0.083	0.594	0.709
DW stat	0.63	0.63	0.64	0.68	1.40	1.98

Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The Reform Act controls are a set of fixed effects identifying years in which one of the four major reform acts were passed. The time trend controls include linear, quadratic, and cubic time trends.

Perhaps it isn't a change in the party in control that matters for the agenda, but rather just whether an election took place, or possibly the extent to which the election altered the balance of power in Parliament.[17] These possibilities are examined in Table 10. Columns 1-3 look at the impact of elections on agenda churn over windows of one, two, and five years, while Columns 4-6 look at how the majority obtained by the governing party following an election relates to agenda churn.[18] Neither of these appear to have any clear association with elevated short-run agenda churn.

An alternative way to look at the impact of party on the agenda of Parliament is to study whether particular topics are more likely to be on the agenda when a particular party is in control. Focusing on the major topics, those that accounted for

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[17]Of course, elections may not change the party in power, nor, in the nineteenth century, did changes in the party in power necessarily require an election.

[18]Elections years and the majority of the party in power come from Rallings & Thrasher (2007).

Table 10: Impact of elections on churn for various τ

	All topics					
Window:	$\tau = 1$	$\tau = 2$	$\tau = 5$	$\tau = 1$	$\tau = 2$	$\tau = 5$
	(1)	(2)	(3)	(4)	(5)	(6)
Election	0.000614	0.000367	-0.000338	0.00100	0.000618	-0.000131
	(0.000694)	(0.000523)	(0.000553)	(0.00101)	(0.000667)	(0.000738)
Gov. majority				-4.40e-06	-2.84e-06	-2.39e-06
				(6.84e-06)	(4.10e-06)	(5.94e-06)
Observations	172	171	168	172	171	168
R-squared	0.716	0.761	0.744	0.717	0.761	0.744
	Domestic topics only					
Window:	$\tau = 1$	$\tau = 2$	$\tau = 5$	$\tau = 1$	$\tau = 2$	$\tau = 5$
	(1)	(2)	(3)	(4)	(5)	(6)
Election	0.000216	2.91e-05	-0.000269	0.000330	0.000293	-8.71e-05
	(0.000862)	(0.000651)	(0.000362)	(0.00143)	(0.000959)	(0.000517)
Gov. majority				-1.29e-06	-2.98e-06	-2.11e-06
				(1.13e-05)	(7.29e-06)	(2.96e-06)
Observations	172	171	168	172	171	168
R-squared	0.688	0.717	0.822	0.688	0.717	0.822

Churn rate is calculated using all topics that account for at least a 0.5% share of words spoken across the full study period. Only debates in the Commons, but not in the Lords, are included. All regressions include controls for the four major franchise reform years as well as decade fixed effects, though none of these substantially affect the results.

at least 0.5% of total words spoken during the study period, I study this issue using the following regression specification,

$$SHARE_{it} = \alpha_i TORY_t + X_t \Lambda + \epsilon_{it} \qquad (1)$$

where $SHARE_{it}$ is the share of words spoken in debates on topic i in year t, $TORY_t$ is an indicator variable for whether the Tory or Conservative party was in government during the session, and X_t is a set of cubic time-trend control variables included to account for the fact that some topics were trending over time. I also check the robustness of my findings to focusing on sub-periods of the analysis and alternative sets of time controls.

Figure 6 present estimated coefficients and confidence intervals looking at the topics associated with particular political parties across the study period. We can see that most of the estimated coefficients are clustered around the zero line, indicating that they were just as likely to attract attention whether the Conservatives were in government or the Liberal/Labour parties. A relatively small number of topics show statistically significant associations with one party or the other. However, I have run 48 regressions here, and so one would expect a number of them to be statistically significant by pure chance. In fact, the number of estimates showing statistically significant effects in Figure 6 are just about the number one would expect by pure chance, with no partisan effect at all. Consistent with this point, when I apply simple adjustments for multiple hypothesis testing (Romano & Wolf, 2005), I find no evidence that any topic retains a statistically significant relationship with the party in power; the *lowest* estimated p-value across all 48 topics after adjusting for multiple hypothesis testing is 0.49.

Additional robustness results, in Appendix Figure 13, using either quadratic time controls or decade fixed effects, deliver results that are essentially the same as those described above. In neither case is there strong evidence that partisan control boosted the attention paid to any particular topic.

I have also studied patterns within sub-periods of the data. Appendix Figure 14 presents results splitting the data into four sub-periods. In all of the sub-periods before 1945, there is no evidence that the identity of the party in power had a statistically significant relationship with the types of issues debated in Parliament. However, after 1945 there is evidence that party identity was becoming somewhat more salient. In particular, I observe a statistically significant relationship, after accounting for multiple hypothesis testing, between the presence of the Labour party in power and one topic: discussions of issues related to laborers (e.g., related to working conditions,

29

Figure 6: Estimated partisanship of particular topics
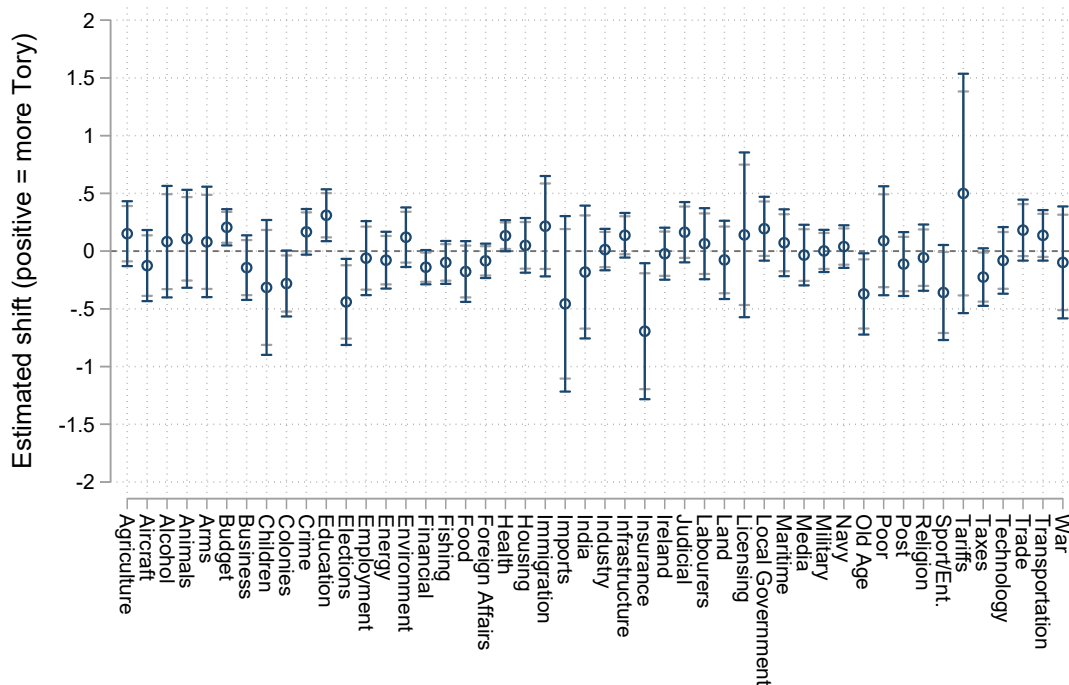
Coefficients, 90% and 95% confidence intervals obtained when applying the specification in Eq. 1 to data for each of the 48 topics that are associated with debates accounting for at least 0.5% of the words spoken during the study period. Analysis includes only debates in the House of Commons.

worker housing, etc.).

The results presented in this section suggest that there is no strong relationship between the identity of the party in power and the issues debated in Parliament across most of the study period, with the possible exception of debates related to workers in the period after 1945. For no other topics or time periods do I find evidence of a clear relationship between the identity of the party in government and the topics discussed in Parliament, nor do I find any evidence that changes in the party in control were associated with elevated levels of agenda churn. As with all null results, it is important to keep in mind that the fact that I do not find a clear effect of party on the agenda in the pre-WWII period does not rule out a small relationship, only a large and clear association.

7 Reactive government in historical context

Reviewing a few historical examples can help us understand why we do not find evidence that the identity of the party in government substantially influenced the agenda of Parliament. Consider, for example, the effort that led to the Second Reform Act in 1867. The first precursor of the 1867 Act was an 1851 Bill, introduced by the Radicals against the desires of the Whig government of Lord John Russel (Smith, 1966, p. 30). A following unsuccessful bill, in 1859, was introduced by the Earl of Derby's Conservative government, with Disraeli playing a key role. In 1866, with Russell (now Earl Russell) back in office, there was another push for reform, but Disraeli managed to defeat the bill and bring down the government. This opened the way for a new Conservative government, led by the Earl of Derby and Disraeli, which pushed through a surprisingly extensive Reform Act.

The experience of the Second Reform Act therefore provides a prime example of the parties maneuvering around an issue that they seemed unable to avoid, rather than setting their own agenda. This is only one of many such examples during the nineteenth century. Cannadine (1999) provides another example related to local government reform (p. 156-7):

> By the mid-1880s, it was generally accepted that the government of the counties by quarter sessions could not continue indefinitely...In Gladstone's second ministry, Dilke and Chamberlain were much preoccupied with schemes for such reform, but the congestion of the parliamentary timetable meant that no measure was actually introduced. And so, ironically, it was Lord Salisbury's Conservative government that introduced the reform...

Similarly, in the realm of education, the key first step toward a public system came in the form of Foster's Act of 1870, passed under Gladstone's Liberal government. This allowed the opening of local school boards. This was followed soon after by Lord Sandon's Act, passed under Conservative leadership, which extended the reach of local school attendance committees to locations left out by the 1870 Act. With the government back in Liberal hands in 1880, Mundella's Act completed the system by requiring school boards to impose compulsory primary school attendance. Later, another key example is provided by the Provision of Meals Bill of 1906, the first of the famous 'Liberal Welfare Reforms.' While passed under the new Liberal government of Henry Campbell-Bannerman, the issue had been raised in Parliament the previous year under Arthur Balfour's Conservative government, with a resolution passed in favor of providing meals to poor children in schools.

All of these cases show a common pattern: Parliament was presented with a set of issues that neither party seemed to be able to avoid addressing. While the ultimate outcome of any particular bill likely depended on the party in power at any point in time, whether the issue came before Parliament appears to have been largely outside of the control of the governing party, consistent with the pattern of reactive government described in my main analysis.

8 Conclusions

This paper introduces a method for tracking the agenda of a Parliamentary government and applies it to study the British Parliament across almost two centuries. The data and methods developed here have the potential to help researches address a range of questions about the evolution of government over the long-run. The substantive results help extend our understanding of the history and development of British government.

The primary substantive result to emerge from this investigation is that changes in the party in control of government appear to have had little impact on the actual topics that occupied the time and attention of Parliament. This finding may be surprising at first, and perhaps dispiriting for supporters of a newly-elected party hoping to see dramatic change. However, if we look back of the past two decades we can identify numerous forces largely outside of the control of political parties, including 9/11, the Great Recession, Covid-19, and the Russia-Ukraine war, that exerted enormous influence on the political agenda. Other issues, such as immigration, or the wars in Iraq and Afghanistan, demanded the attention of Parliament for many years regardless of the party in control. This recent experience is consistent with the long-run findings presented in the analysis above, which indicate that on average Parliament's agenda was primarily *reactive*, responding to the pressing issues of the day, rather than *proactively* pursuing issues of the governing party.

One implication of this model is that limitations in the governing party's ability to choose the set of issues that must be addressed will naturally limit the ability of the government to radically alter policy in its preferred direction. Of course, this does not mean that the governing party has no influence; the identity of the party in government may have substantial effects on the nature of the response to any particular issue. The governing party may also be able to put off action for a limited time. Still, these results do suggest that governing parties faced important limitations in their ability to choose the types of issues confronted while they were in power.

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A Additional data descriptives

Figure 7 describes the number of words found in the *Hansard* debate records by year. The patterns described in this graph are of some historical interest. For example, there is a relatively low volume of debate from 1810-1830, followed by a substantial increase in 1830-32, just before the Great Reform Act. This provides a quantitative reflection of what A.V. Dicey (1917) called the period of "Legislative Quiescence" in the decades before 1830. From 1830 to the late 1870s there is a higher but stable level of discourse, with between 2 and 4.5 million words spoken in any given session. A new phase begins in the late 1870s and 1880s, with words spoken jumping as high as 7 million per year. This corresponds with Gladstone's Midlothian Campaign, which some consider to be the first modern British political campaign, followed closely by the passage of the Third Reform Act in 1884. This growth continued until WWI, followed by a period of stability during the inter-war period. From WWII through roughly 1970, the number of words spoken continued to increase. However, this period was unique in that much of the increase was due to more words spoken in debates in the Lords, as can be seen in Figure 8.

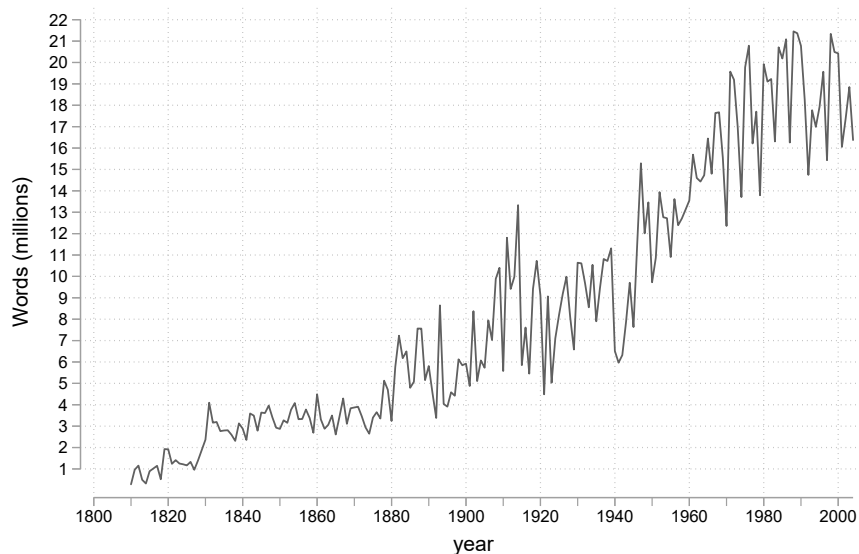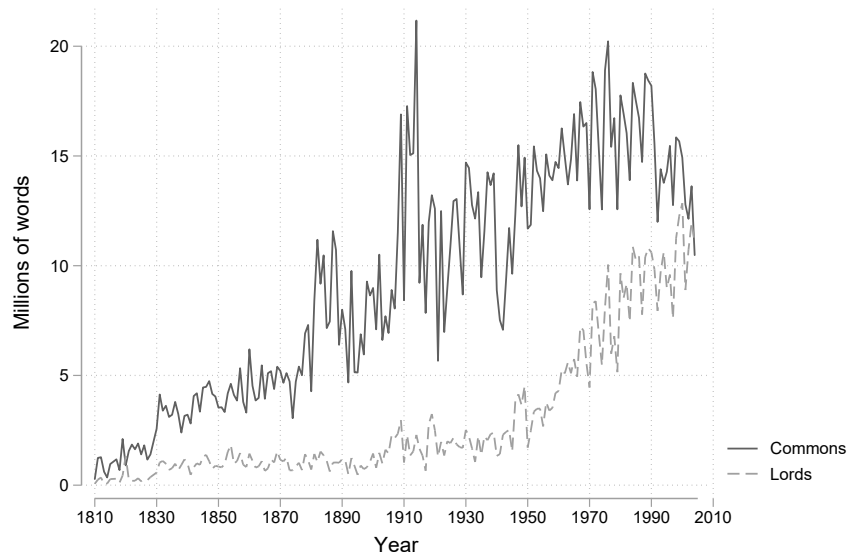Figure 7: Words spoken per year, 1810-1914

Figure 8: Words spoken per year by sitting, 1810-2004

B   Key words appendix

The next two pages present additional examples of the mapping between key words
and major topics. For each of the top 36 topics of debate (based on the word count
of each debate) I present the top ten keywords.

Figure 9: Top 10 keywords for major topics of debate

BUDGET	CRIME	EDUCATION	HEALTH	HOUSING	JUDICIAL
ESTIMATES	CRIMINAL	EDUCATION	HEALTH	HOUSING	JUSTICE
SUPPLY	POLICE	SCHOOLS	HOSPITAL	RENT	COURT
REVENUE	CRIME	SCHOOL	SAFETY	BUILDING	COURTS
BUDGET	OFFENCES	TRAINING	MEDICAL	HOUSES	EVIDENCE
EXPENDITURE	TERRORISM	TEACHERS	TREATMENT	BUILDINGS	JURISDICTION
CONSOLIDATED	CHARGE	UNIVERSITY	POLLUTION	RENTS	MAGISTRATES
EXPENSES	PRISONERS	ELEMENTARY	NHS	HOMES	APPEALS
ACCOUNTS	PRISON	COLLEGE	HOSPITALS	EVICTED	JUDICIAL
SALARIES	PRISONS	UNIVERSITIES	DISEASES	CARAVAN	TRIAL
APPROPRIATION	PUNISHMENT	EDUCATIONAL	DISEASE	DWELLINGS	ARBITRATION

FOREIGN	MILITARY	INDUSTRY	TRANSPORTATION	LAND	ELECTIONS
EUROPEAN	ARMY	INDUSTRY	TRANSPORT	LAND	VOTE
FOREIGN	DEFENCE	INDUSTRIAL	ROAD	ALLOTTED	REPRESENTATION
INTERNATIONAL	MILITARY	MINES	TRAFFIC	TENANTS	ELECTIONS
AFRICA	FORCES	STEEL	RAILWAY	ESTATE	ELECTION
UNITED	FORCE	INDUSTRIES	RAILWAYS	TENANT	FRANCHISE
OVERSEAS	MILITIA	IRON	ROADS	TITHE	BALLOT
TREATY	SOLDIERS	SHIPBUILDING	VEHICLES	LANDLORD	VOTING
EGYPT	TROOPS	FACTORIES	RAIL	TITHES	VOTERS
CHINA	RECRUITMENT	COTTON	PASSENGER	LEASEHOLD	REFERENDUMS
PEACE	COLONEL	MINING	CONGESTED	ALLOTMENTS	ELECTORAL

FINANCIAL	IRELAND	LOCAL GOV.	TAXES	TRADE	EMPLOYMENT
FINANCE	IRELAND	LOCAL	TAX	TRADE	EMPLOYMENT
FINANCIAL	IRISH	PLANNING	DUTIES	COMMERCE	UNEMPLOYMENT
MONEY	DUBLIN	AUTHORITY	DUTY	IMPORT	WAGES
LOANS	CONSTABULARY	TOWN	RATES	MERCHANT	EMPLOYERS
BANK	BELFAST	AUTHORITIES	RATING	TRADING	WAGE
CREDIT	ULSTER	MUNICIPAL	RATE	EXPORT	EMPLOYEES
INTEREST	GALWAY	METROPOLITAN	TAXATION	IMPORTATION	HIRE
LOAN	CLARE	COUNCILS	VALUATION	IMPORTS	EMPLOYED
MONETARY	EIRE	TOWNS	EXCISE	EXPORTS	JOBSEEKERS
INFLATION	CARLOW	DISTRICT	TAXES	MERCANTILE	JOB

Figure 10: Top 10 keywords for major topics of debate (cont.)

ENERGY	RELIGION	MEDIA	OLD AGE	LABOURERS	ENVIRONMENTAL
COAL	CHURCH	BROADCASTING	PENSIONS	LABOUR	ENVIRONMENT
ELECTRICITY	ECCLESIASTICAL	TELEVISION	PENSION	HOURS	ENVIRONMENTAL
ENERGY	CATHOLIC	TELECOMMUNICATIONS	SUPERANNUATION	WORKERS	FORESTRY
GAS	EASTER	FILMS	RETIREMENT	WORKMENS	PARKS
OIL	CHRISTMAS	PRESS	PENSIONERS	MANPOWER	WILDLIFE
FUEL	RELIGIOUS	CINEMATOGRAPH	ELDERLY	LABOURERS	NOISE
PETROLEUM	OATHS	WIRELESS	OLDER	STRIKE	SUBSIDENCE
ELECTRIC	MAYNOOTH	BBC	PENSIONABLE	SERVANTS	RIVERS
PETROL	CLERGY	NEWSPAPER	PENSIONER	WORKMEN	FOREST
HYDROCARBON	WORSHIP	FILM	CONTRIBUTORY PEN.	FRIENDLY	CONSERVANCY

AGRICULTURE	INFRASTRUCTURE	WAR	INDIA	POOR	TECHNOLOGY
AGRICULTURE	WATER	WAR	INDIA	POOR	SCIENCE
AGRICULTURAL	TUNNEL	RAID	INDIAN	WELFARE	TECHNOLOGY
RURAL	DOCK	INDEMNITY	BURMA	DISTRESS	TELEGRAPH
FARM	CANAL	REQUISITIONED	PAKISTAN	SETTLEMENT	SCIENTIFIC
LIVESTOCK	STREET	DEMOBILISATION	BENGAL	REMOVAL	TELEPHONE
FARMING	DRAINAGE	WARFARE	OUDE	POVERTY	EMBRYOLOGY
CROFTERS	PORT	BLOCKADE	BOMBAY	UNEMPLOYED	MACHINERY
HORTICULTURE	PORTS	CASUALTIES	PUNJAB	HOMELESS	LIGHTING
FARMERS	HARBOURS	REPARATIONS	RAJAH	GUARDIANS	TELEGRAPHS
HORTICULTURAL	DOCKS	REPRISALS	INDIANS	HOMELESSNESS	TELEGRAPHY

COLONIES	BUSINESS	NAVY	FOOD	MARITIME	CHILDREN
COMMONWEALTH	COMPANIES	NAVY	FOOD	SHIPPING	CHILDREN
COLONIAL	CORPORATIONS	NAVAL	MILK	SEA	CHILD
RHODESIA	INVESTMENT	ADMIRALTY	MEAT	MARINE	CHILDRENS
CANADA	CAPITAL	SUBMARINE	BEEF	NAVIGATION	JUVENILE
IMPERIAL	BANKRUPTCY	MARINES	MEALS	SHIPS	ORPHANS
EMPIRE	DEREGULATION	ADMIRAL	DAIRIES	MARITIME	NURSERY
COLONIES	NATIONALISATION	IMPRESSMENT	BUTTER	VESSELS	MINOR
FALKLAND	PRIVATISATION	SQUADRON	BACON	SHIP	PARENTS
NYASALAND	INSOLVENCY	CRUISERS	DAIRY	SEAMEN	PARENT
TRANSVAAL	MONOPOLIES	SUBMARINES	BEET	PILOTAGE	INFANT

C Share of words classified

Figure 11 describes the share of words spoken in each year that are classified into one or more specific topics. This figure shows that in a typical year, between 70 and 90 percent of the words spoken in Parliament can be classified into a debate on one or more specific topics. There is a notable dip in the share of debates in the Lords classified in 1820 which can be used to illustrate the types of discussions that defy classification. Much of the debate in that session was over the Pains and Penalties Bill through which King George IV attempted to end his marriage with Queen Caroline and strip her of the title of Queen. This provides a good example of the types of idiosyncratic issues sometimes dealt with by Parliament leading to debates that cannot be classified under a particular topic. However, in general a substantial majority of debates can be classified into one or more topic categories.

Figure 11: Share of words spoken in each year that can be classified into a topic
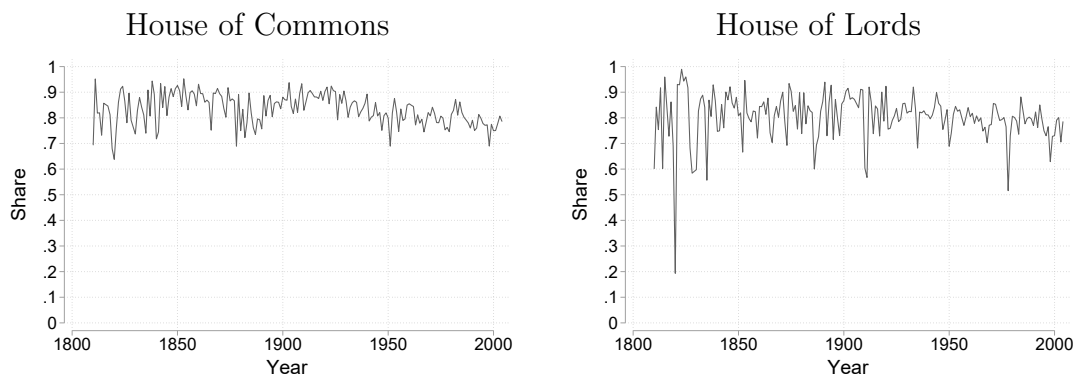
D Topics of Acts passed

Table 11 describes the topics associated with the largest number of Public General Acts passed between 1820 and 1885.

Table 11: Most common topics by Acts passed

Rank	Topic	No. Acts	Rank	Topic	No. Acts
1	IRELAND	1317	11	RELIGION	409
2	JUDICIAL	984	12	FOREIGN AFFAIRS	393
3	CRIME	828	13	MARITIME	269
4	TAXES	744	14	POOR	266
5	INFRASTRUCTURE	665	15	TRADE	262
6	BUDGET	599	16	HEALTH	243
7	MILITARY	573	17	EDUCATION	223
8	LAND	480	18	INDUSTRY	165
9	LOCAL GOVERNMENT	439	19	COLONIES	158
10	FINANCIAL	414	20	ELECTIONS	153

E   Additional analysis robustness checks

Table 12 shows that the inclusion of controls for the four major franchise reforms that took place during the study period has essentially no impact on my results.

Table 12: Impact of changes in party control on churn without reform controls

	All topics					
Window:	$\tau = 1$		$\tau = 2$		$\tau = 5$	
	(1)	(2)	(3)	(4)	(5)	(6)
Party control chg.	0.000675	-0.000862	0.000335	-0.000799	0.000186	-0.000646
	(0.00117)	(0.000771)	(0.000919)	(0.000560)	(0.000852)	(0.000553)
Decade FEs		Yes		Yes		Yes
Observations	191	191	189	189	183	183
R-squared	0.002	0.709	0.001	0.773	0.000	0.757
	Domestic topics only					
Window:	$\tau = 1$		$\tau = 2$		$\tau = 5$	
	(1)	(2)	(3)	(4)	(5)	(6)
Party control chg.	0.000889	-0.000258	-0.000219	-0.000952	-0.000107	-0.000231
	(0.00125)	(0.000884)	(0.00101)	(0.000688)	(0.000817)	(0.000396)
Decade FEs		Yes		Yes		Yes
Observations	191	191	189	189	183	183
R-squared	0.003	0.685	0.000	0.719	0.000	0.825

Churn rate is calculated using all topics that account for at least a 0.5% share of words spoken across the full study period. Only debates in the Commons, but not in the Lords, are included.

F Alternative churn rate results

This appendix provides results from an alternative measure of the agenda churn rate. This alternative measure differs from the one in the main text because rather than calculating the share of words dedicated to each topic in each year and then taking the average of those shares across a window of length τ, I instead sum up the words dedicated to each topic over the window of length τ and then calculate the share of total words spoken in that window accounted for by each topic. Effectively, this difference amounts to down-weighting the impact of sessions of Parliament in which relatively fewer words were spoken.

Specifically, this alternative measure of agenda churn, $CHURNALT_t(\tau)$ is given by,

$$CHURNALT_t(\tau) = \sum_i \left| ALTSHR_{i,t+1,t+\tau+1} - ALTSHR_{i,t-1,t-\tau-1} \right|$$

where,

$$ALTSHR_{i,t+1,t+\tau+1} = \frac{\sum_{j=t+1}^{t+1+\tau} WORDS_{ij}}{\sum_i \sum_{j=t+1}^{t+1+\tau} WORDS_{ij}}$$

and $WORDS_{ij}$ is the number of words spoken in debates on topic i in year j.

Churn rate graphs generated using this alternative approach are shown in Figure 12. In general, the patterns shown in these graphs are very similar to those presented in Figure 5 (note that for $\tau = 1$ the two measures are identical by construction).

Table 13 presents regression results using the alternative measure of agenda churn, $CHURNALT_t$. This alternative measure delivers results that are very similar to those obtained from my primary churn measure and reported in the main text.

Table 13: Impact of changes in party control on alternative churn measure

	All topics					
Window:	$\tau = 1$		$\tau = 2$		$\tau = 5$	
	(1)	(2)	(3)	(4)	(5)	(6)
Party control chg.	0.000783	-0.000807	0.000315	-0.000949*	0.000257	-0.000525
	(0.00120)	(0.000778)	(0.000951)	(0.000550)	(0.000867)	(0.000555)
First Reform Act	0.0116***	0.00652***	0.00788***	0.00169*	0.0113***	0.00562***
	(0.000598)	(0.000912)	(0.000551)	(0.000969)	(0.000460)	(0.00100)
Second Reform Act	-0.00122	-0.00358***	0.00333***	0.00154	0.00232***	0.000157
	(0.00105)	(0.00128)	(0.000775)	(0.00103)	(0.000734)	(0.00148)
Third Reform Act	-0.00241***	-0.00825***	-0.00265***	-0.00838***	-0.00111**	-0.00394***
	(0.000598)	(0.00193)	(0.000551)	(0.00145)	(0.000460)	(0.000818)
Fourth Reform Act	0.00243***	-0.00266	0.00410***	-0.00170	0.00297***	-0.00377***
	(0.000598)	(0.00206)	(0.000551)	(0.00164)	(0.000460)	(0.00129)
Decade FEs		Yes		Yes		Yes
Observations	191	191	189	189	183	183
R-squared	0.017	0.721	0.014	0.776	0.029	0.766
	Domestic topics only					
Window:	$\tau = 1$		$\tau = 2$		$\tau = 5$	
	(1)	(2)	(3)	(4)	(5)	(6)
Party control chg.	0.000946	-0.000248	-0.000209	-0.000995	-0.000185	-0.000186
	(0.00129)	(0.000910)	(0.00107)	(0.000706)	(0.000874)	(0.000412)
First Reform Act	0.00793***	0.00279**	0.00747***	0.00274	0.00847***	0.00371***
	(0.000610)	(0.00130)	(0.000561)	(0.00170)	(0.000459)	(0.00104)
Second Reform Act	0.000800	-0.00252**	0.000744	-0.00247***	0.00176**	-0.000404
	(0.00114)	(0.00128)	(0.000914)	(0.000861)	(0.000744)	(0.000703)
Third Reform Act	-0.00397***	-0.00591***	-0.00306***	-0.00526***	-0.000917**	-0.00126**
	(0.000610)	(0.00104)	(0.000561)	(0.00139)	(0.000459)	(0.000613)
Fourth Reform Act	0.00752***	0.00117	0.00944***	0.00192	0.00507***	-0.00164**
	(0.000610)	(0.00175)	(0.000561)	(0.00200)	(0.000459)	(0.000706)
Decade FEs		Yes		Yes		Yes
Observations	191	191	189	189	183	183
R-squared	0.016	0.690	0.020	0.713	0.021	0.843

Churn rate is calculated using all topics that account for at least a 0.5% share of words spoken across the full study period. Only debates in the Commons, but not in the Lords, are included.

G Additional results for the partisanship of particular topics
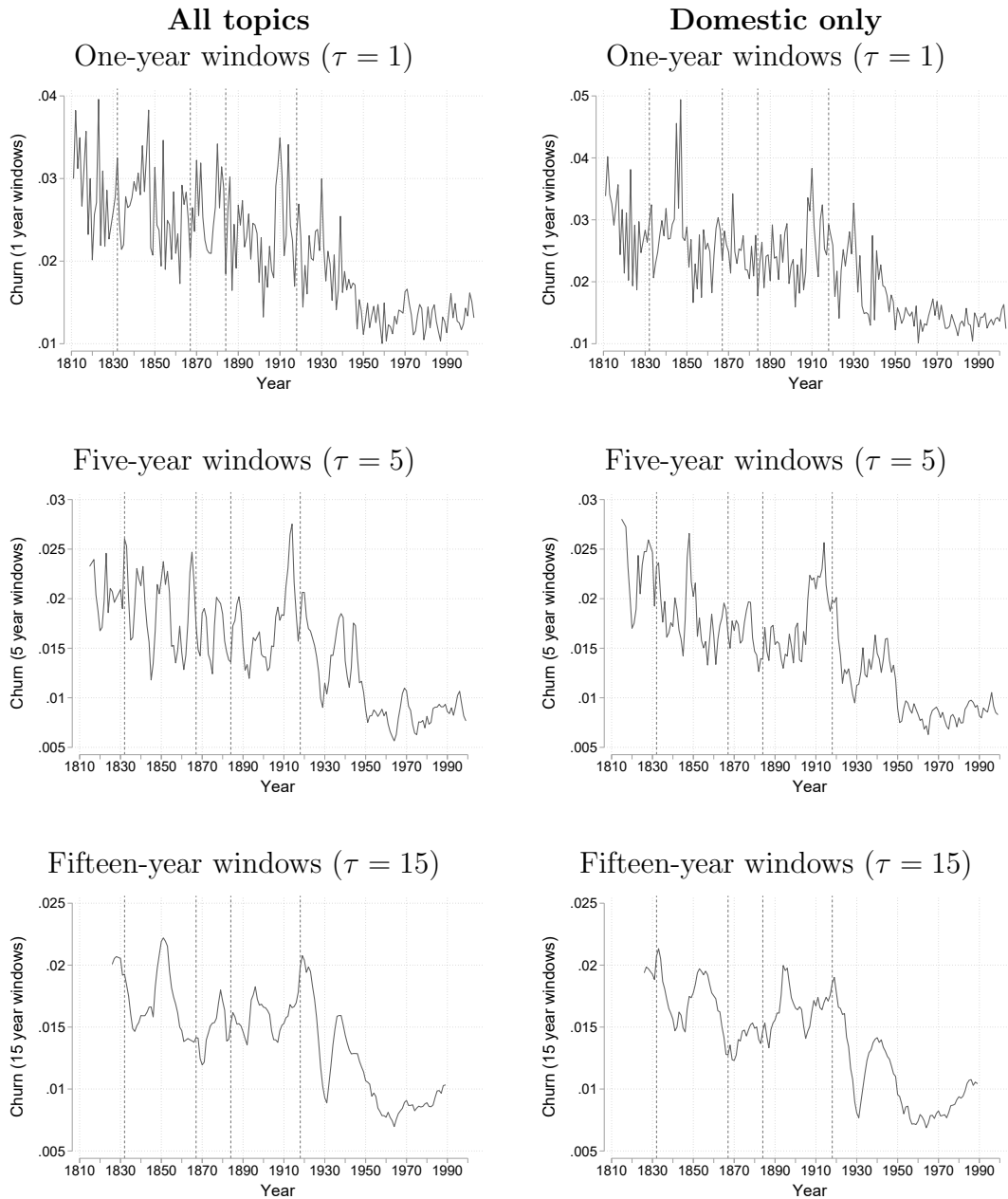
Figure 13 presents additional partisanship results using two alternative estimation strategies. In the top panel, I use quadratic time controls rather than cubic. In the

bottom panel, I replace the cubic time controls with decade fixed effects. Neither of these alternatives deliver results that are substantially different than those presented in the main text. In both cases, none of the coefficients are even close to statistically significant after adjusting for multiple hypothesis testing.

One concern in my analysis of the partisan association of particular topics is that the parties may have evolved to such an extent across the study period that using the full sample hides important relationships occurring in particular sub-periods. To examine this, I split the sample in into four sub-periods, allowing me to retain sufficient power for analysis while looking at the extent to which clearer patterns are obtained when looking over shorter time periods. Figures 14-15 presents these results. In general, these figures don't show evidence of strong patterns. There are some statistically significant coefficients. For example, in the pre-1860 period, we see that there were more debates over trade when the Tories were in power, which includes Peel's first administration leading up to the repeal of the Corn Laws.

Only in the post-1945 period do we begin to see more evidence of the party in power affecting the agenda of Parliament. In that period, we begin to see a very strong relationship between issues related to laborers and the presence of the Labour party in power (a result that survives at the 95% confidence level even after adjusting for multiple hypothesis testing), while the Conservative party is strongly associated with arms, education, infrastructure (non-transportation), local government, and transportation. Though these do not survive after multiple hypothesis testing, the contrast with the labourers topic will survive. Thus, there is reason to believe that party identity became more salient for the agenda of Parliament after 1945.
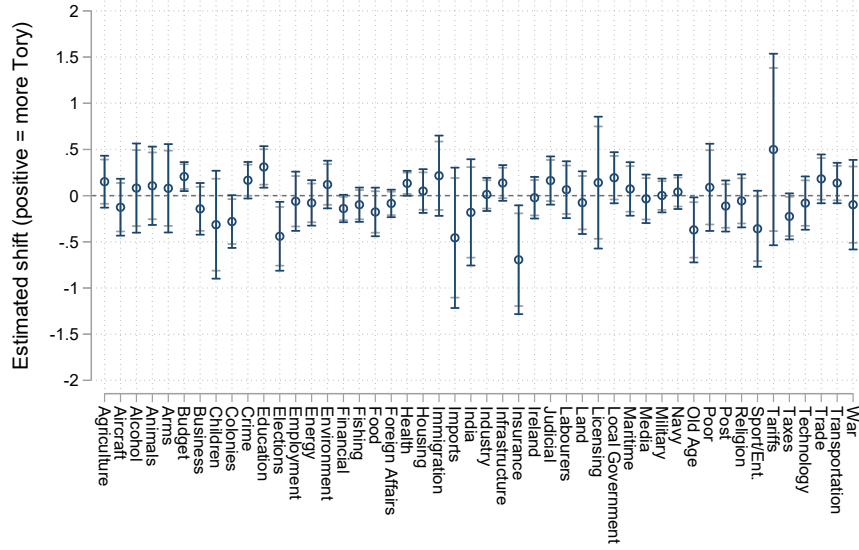
Figure 12: Agenda churn using an alternative approach

All topics
One-year windows ($\tau = 1$)

Domestic only
One-year windows ($\tau = 1$)

Five-year windows ($\tau = 5$)

Five-year windows ($\tau = 5$)

Fifteen-year windows ($\tau = 15$)
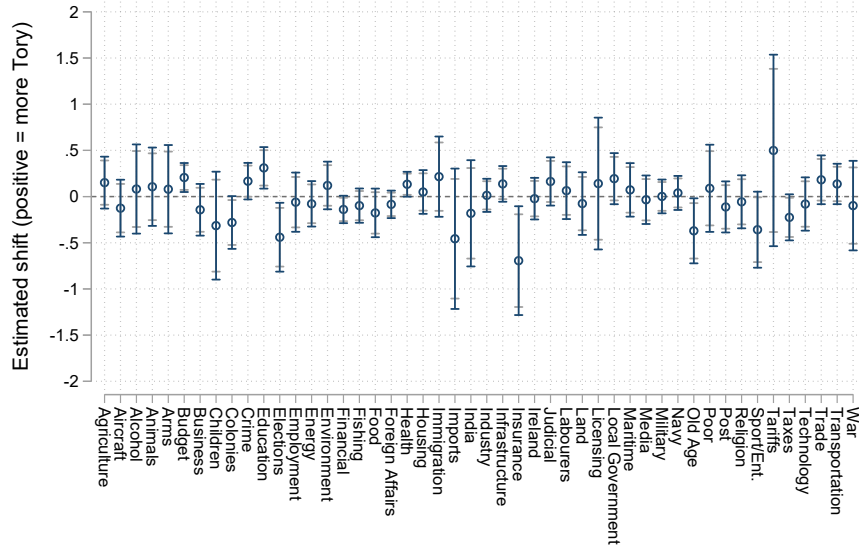
Fifteen-year windows ($\tau = 15$)

Churn rate is calculated using all topics that account for at least a 0.5% share of words spoken across the full study period, a total of 41 categories. As a point of reference, vertical lines mark the years of the three major franchise reform acts, in 1832, 1867, and 1884.

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Figure 13: Partisanship regressions using alternative time controls
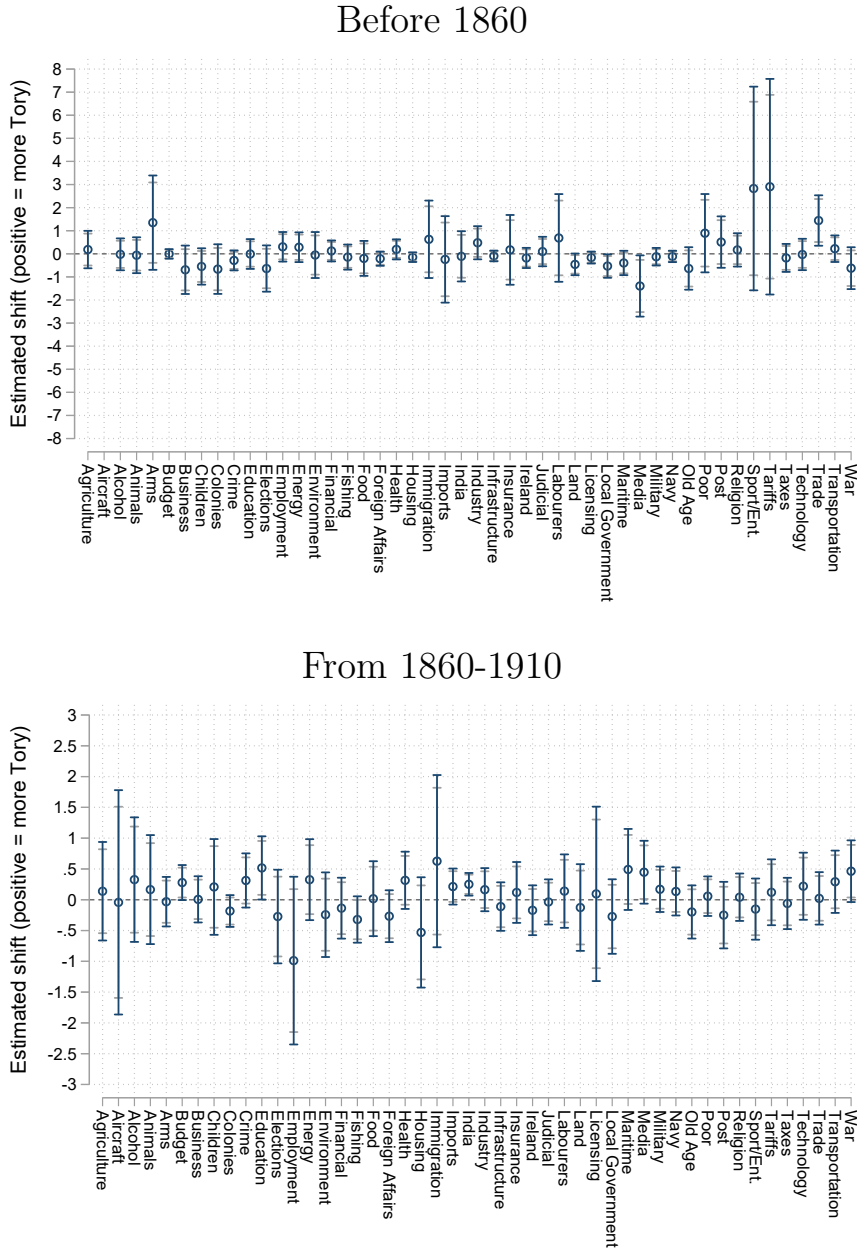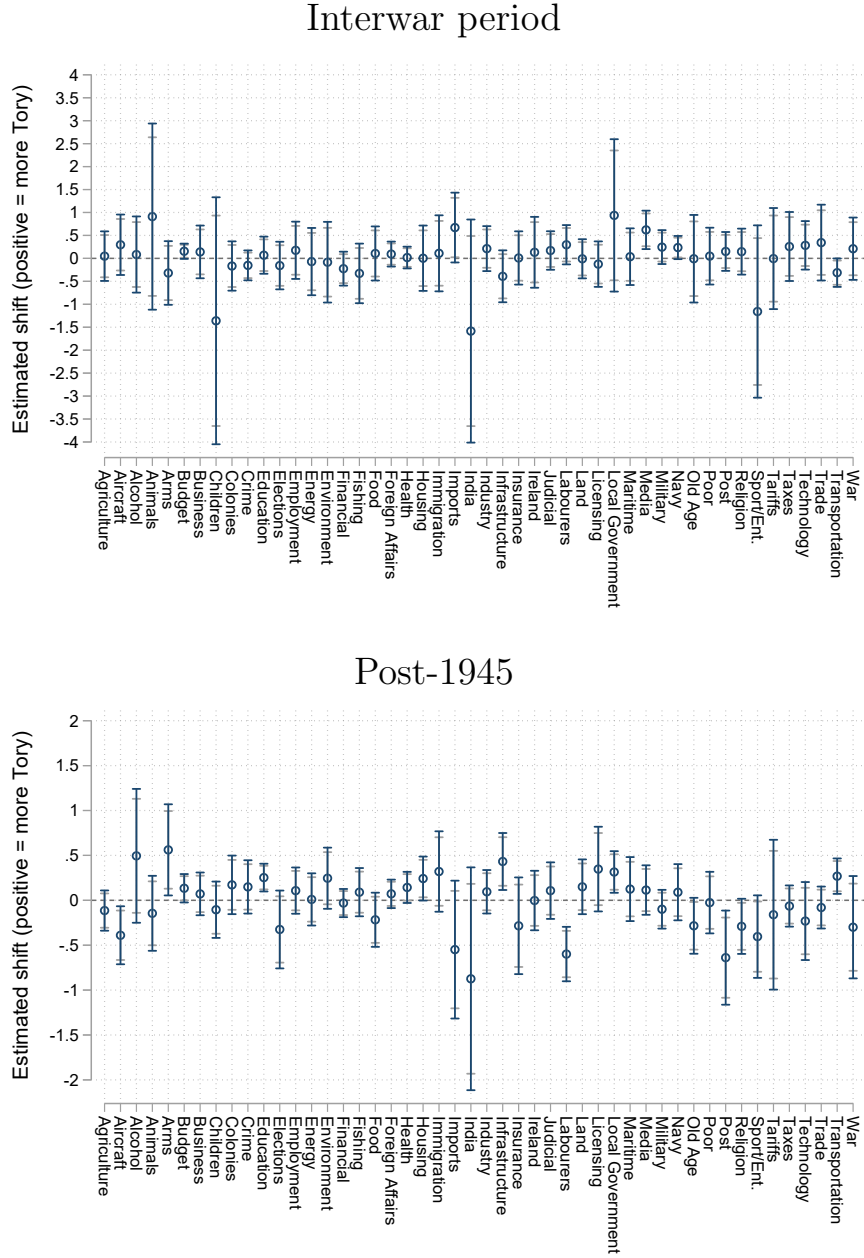
These figures present coefficient estimates, 90% and 95% confidence intervals (using robust standard errors) for regressions looking at how the identity of the political party is related to the share of debate words dedicated to a topic.

Figure 14: Partisanship regressions by sub-period (pre-WWI)

Before 1860

From 1860-1910

This figure presents coefficient estimates, 90% and 95% confidence intervals (using robust standard errors) for regressions looking at how the identity of the political party is related to the share of debate words dedicated to a topic.

Figure 15: Partisanship regressions by sub-period (post WWI)

Interwar period

Post-1945

This figure presents coefficient estimates, 90% and 95% confidence intervals (using robust standard errors) for regressions looking at how the identity of the political party is related to the share of debate words dedicated to a topic.