Strategy of the Commons: Evidence from a Lottery in UK Parliament

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October 2025

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Abstract

How do politicians secure top government positions? We exploit a natural experiment in the UK House of Commons, where politicians enter a lottery to win the opportunity to introduce legislation of their choosing. First, we verify that winning this lottery improves career outcomes, leading to a 65% (12 percentage point) increase in ministerial appointments five years after treatment. Next, we present a model of the choice of bill that lottery winning MPs make. To verify predictions from our model, we use Natural Language Processing techniques to analyse the content of the bills presented by lottery winners. We provide evidence that politicians who strategically use this opportunity to push party objectives see a larger boost to their careers.

JEL: D72, D78, P16

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‡We would like to thank Matt Lowe, Elliot Ash, Eleonora Guarnieri, Marc Sangnier, Quentin Lippmann, Oliver Hauser, Daniele Rinaldo, Rakesh Banerjee, Max Posch and Sarah Schneider-Strawczynski as well as participants of the Fourth Scotland and Northern England Conference in Applied Microeconomics, the Text-as-data in Behavioural Economics Workshop, the Fourth Behavioural Public Policy Conference, the Irish Economic Association Annual Conference 2025, and the South West Economics PhD Conference for their helpful comments and suggestions.

1 Introduction

How do politicians achieve career progression? While the electorate votes to decide which politicians reach office, the ranking and responsibilities of those politicians are often determined by internal party processes — for example, in parliamentary systems like the UK or Australia, party leaders decide who becomes a cabinet minister, while in the United States, party members in Congress choose their own leadership teams and decide who chairs key committees. Politicians who care about advancing their careers therefore have an incentive to build favour within their party. Yet the ways in which politicians accumulate favour are often unobservable to researchers. In this paper, we exploit a setting where an observable and strategic choice made by politicians has a substantial impact on their future career outcomes.

First, we provide causal evidence that a random opportunity to introduce legislation improves the political careers of Members of Parliament (MPs). In the UK House of Commons, the best chance that individual MPs have to introduce legislation is randomly assigned via a lottery known as the Ballot for Private Members' Bills[1]. Exploiting this random assignment, we track the careers of Labour and Conservative MPs who entered the PMB ballot. Five years later, ballot winners are 45% more likely than losers to hold any job (38% vs 27%) and 65% more likely to hold ministerial office (30% vs 18%)[2].

Next, we explore why this opportunity boosts the careers of MPs. One potential explanation is that MPs use the opportunity to legislate to signal competence by successfully passing a bill. To test whether this is the case, we exploit another element of randomisation in this context: MPs drawn early in the ballot (the first seven of twenty total slots) are allocated substantially more parliamentary time to debate

[1]Most bills that become law in the UK House of Commons are Government Bills (https://www.parliament.uk/site-information/glossary/public-bills/?id=32625). However, it is possible for individual MPs to introduce bills known as Private Members' Bills (PMBs) (https://www.parliament.uk/site-information/glossary/private-members-bills/). Each session, twenty MPs are randomly selected via a lottery (ballot) and are allocated time to introduce a bill

[2]Ministerial office includes government and shadow frontbench posts at Minister of State rank or above, including Secretaries of State and (Shadow) Cabinet roles. Any job includes ministerial and shadow roles as well as other party offices such as PPS and whips.

their bill. This means that those randomly drawn early in the lottery are twice as likely to have their bill become law (from 20% to 40%). Despite the large difference in bill passage, we find no evidence that early-drawn MPs enjoy better career outcomes than later-drawn MPs. We find null effects both when we simply compare the career outcomes of the two groups, and when we use coming early in the ballot as an instrument for bill passage.

We then examine whether these improved career outcomes can be explained by the type of legislation proposed by MPs. In this setting, MPs need not decide the title, topic, or content of their proposed bill until several weeks after the lottery is drawn. This procedural context means that MPs who win the lottery receive suggestions about what to propose from party colleagues and the government. For example, as Conservative MP Gavin Barwell explains in the second reading of his PMB in 2012:

> "*When my name came high up in the ballot for private Members' Bills, I was inundated by e-mails and phone calls suggesting issues that I might like to take up. Some might have found favour with my hon. friends on the Front Bench, and others might have been less well regarded*"

Why would MPs choose to introduce legislation suggested by their colleagues or the government? We argue that doing so can help MPs build what we refer to as political capital[3]. In the UK, as in many democracies, promotions and appointments to influential positions are determined by party colleagues. MPs who, given this rare opportunity, choose to introduce legislation proposed to them by colleagues may be viewed more favourably within their party, helping their chances of appointment when senior positions become available.

To structure our analysis, we present a model that formalises the choice facing ballot-winning MPs over what legislation to introduce. In our model, MPs choose the extent to which they 'sell' their bill to their party (providing them with political capital) versus 'consuming' it for themselves. Selling the bill in this context can be thought of as introducing a bill based on suggestions from colleagues or the government. While consuming the bill can be thought of as choosing a bill that aligns with

[3]What MP Gavin Barwell refers to as "favour" in his speech.

the MP's own policy preferences. MPs marginally trade off period utility from bill consumption with future benefits made possible by political capital. Our model yields several predictions about which politicians are more likely to sell their bill.

To test the predictions of our model, we measure the extent to which ballot winners sell their bill. We use natural language processing methods to compare the content of each MP's bill to all parliamentary speeches in the five years before the bill's presentation. This approach allows us to assess whether an MP proposed a bill on a topic they had previously discussed in Parliament, or whether their bill more closely aligns with the speeches of their party members. We use the text of all ballot bills since 1997 and all parliamentary speeches since 1991, in total calculating over 100 million cosine similarities. An MP is considered to have 'sold' their bill if their past speeches are less similar to their bill's content than the speeches of other members of their party.

We find that, on average, ballot bills more closely resemble the past parliamentary speeches of the MP who submitted them than the speeches of their peers. However, bills that align more closely with the speeches of the MP's party members than with their own (i.e., bills that were sold) are more likely to pass and become law. Based on our measurement, a bill which is completely sold (meaning the MP who presented the bill has the least similar speeches to their bill, compared to their party colleagues) is 18 percentage points more likely to pass than a bill completely consumed.

We provide evidence in support of our political capital building mechanism: among ballot winners, those who sell their bill are more likely than those who consume it to have a job in their party after they win the ballot. An MP who sold their bill completely is 21 percentage points more likely to hold a job in their party five years after the ballot, than an MP who consumed their bill completely. This effect, although attenuated, still persists when controlling for MP characteristics such as age, gender, and previous experience.

The types of MPs who sell their bill match several of the predictions of our model. Younger MPs (who have longer career time horizons to consider) are more likely to sell their bill[4]. As our model predicts, we also see that MPs drawn early in the ballot

[4]Note that this is not due to younger MPs having fewer speeches in parliament before the ballot: we consider speeches in the five years before the ballot and restrict the sample to MPs with at least

are *less* likely to sell their bill.

This paper's primary contribution is to the literature on party discipline and the incentives of politicians. A large body of work shows that parties reward loyalty by allocating resources or institutional advantages. For example, Curto-Grau and Zudenkova (2018) develop a model in which party leaders use government spending to compensate loyal legislators, and Asmussen and Ramey (2018) provide evidence that party leaders use committee assignments to reward loyalty in the US Congress. Much of this literature focuses on access to government spending and pork-barrelling (Fabre & Sangnier, 2025). An exception is Kam et al. (2010), who study ministerial selection in the UK and show that promotions depend on proximity to the collective preferences of backbench MPs. We add to this literature by showing that promotions and career advancement more broadly can serve as rewards for party-serving behaviour.

Our second major contribution to this literature is methodological. Existing measures of party loyalty typically rely on politicians' voting behaviour (Slapin et al., 2018). We adapt text-as-data methods, inspired by Hoberg and Phillips (2016), to measure loyalty using the content of MPs' legislative proposals. Specifically, we compare each ballot bill to the sponsor's past parliamentary speeches and to those of their party colleagues. This builds on a growing literature applying natural language processing to legislative speech: Gentzkow et al. (2019) review applications of text as data across economics, Ash and Hansen (2023) and Hassan et al. (2025) survey recent advances in algorithmic and applied methods, Gennaro and Ash (2022) study emotion and reasoning in political language, while Schwarz et al. (2017) and Goet (2019) use parliamentary debates to estimate intra-party preferences and polarization. Our application is novel in using text similarity to compare speeches to bills to quantify whether MPs "consume" legislative opportunities for themselves or "sell" them by advancing party priorities.

Finally, we contribute to the literature that exploits natural experiments to study political careers. A growing set of studies leverages random assignment in parliamentary institutions. Williams and Indridason (2018) examine the ballot for member bills in New Zealand and find that lottery winners experience improved electoral outcomes. Kumar et al. (2024) exploit random assignment of questions at UK Prime

50 speeches.

Minister's Questions to study gender difference. Closest to our setting, Horiuchi and John (2017) use the UK PMB ballot and find no short-term effects on careers within one year of the draw, consistent with our evidence that effects emerge in the medium run. We contribute by providing robust causal evidence that the opportunity to introduce legislation causally improves the careers of politicians in the UK.

The remainder of the paper is organized as follows. In Section 2 we describe the setting of our study and present descriptive statistics. Section 3 presents causal evidence from the ballot on career outcomes. Section 4 presents a model of the choice of bill MPs make. In Section 5 we test the predictions of our model. Section 6 concludes.

2 Context & Data

2.1 Private Members' Bills

In the UK House of Commons individual MPs who are not government ministers can introduce public bills - these are known as Private Members' Bills (PMBs). There are three channels through which PMBs can be introduced by MPs in the House of Commons: Presentation, Ten Minute Rule, and the Ballot. Any member may introduce a bill via Presentations or Ten Minute Rule, however these do not have any pre-allocated time and rarely become law. Ballot Bills can only be presented by the 20 winners of the Ballot for Private Members' Bills. This is a process in which MPs can submit their name to a ballot where 20 winners are randomly drawn. Ballot Bills have 13 Fridays that are pre-allocated in the Parliamentary session for second readings, vastly increasing the probability that these bills are debated in the House of Commons.

Table 1 shows the percentage of bills that become law when submitted, and the percentage of total bill PMB submissions for each bill type. Ballot Bills are by far the most likely form of PMB to become law: from 1997-2024, 29.1% of ballot bills have achieved Royal Assent and became law. This is significantly higher than the percentage of Presentation, and Ten Minute Rule bills that become law (1.7% and 0.5% respectively). In total only 15% of the bills introduced by private members in

Table 1: Pass rate and proportion of all PMBs, by PMB type, 1997-2024

	% Successfully Pass	% of PMB Introduced
Ballot	29.1%	15%
Presentation	1.7%	39%
Ten-minute Rule	0.5%	46%

Notes: The table reports the percentage of Private Members' Bills (PMBs) that passed into law and the share of total PMB submissions, by bill type (Ballot, Presentation, Ten Minute Rule), for 1997–2024.

the House of Commons were Ballot Bills, but 83% of Commons' PMBs that became law were introduced via the ballot. This demonstrates that Ballot Bills offer MPs a uniquely effective opportunity to pass legislation.

2.2 The Ballot for Private Members' Bills

There is a standard procedure in each Parliamentary session by which the Ballot for PMBs is conducted[5]. All MPs who are not currently government ministers are able to enter the ballot for PMBs. The Ballot is drawn on the second sitting Thursday in the session. On the fifth sitting Wednesday of the session, Ballot winners present the title of their Ballot Bill and nominate a date for a second reading[6]. There are 13 Fridays set aside for PMBs in the Parliamentary session. The first 7 of these Fridays are set aside for second readings, while the other 6 Fridays are prioritised for later stages of the process of turning bills into laws (report stage and third readings).

The order in which dates are nominated are determined by the position in the Ballot the MPs are drawn. Once a Ballot winner chooses a date, they are added to the end of the order of second readings for that particular Friday. Consequently, those MPs drawn in the top 7 of the Ballot will likely choose to have their bills debated first on each of the first 7 Fridays, while the other 13 Ballot winners ranked 8 to 20 will only have their second reading once the second reading of a top 7 Ballot winner has concluded. Therefore, there is an advantage to coming in the top 7 of Ballot

[5]https://guidetoprocedure.parliament.uk/collections/yeRi50lc/private-members-bill-ballot

[6]A second reading is where the bill is debated in the Commons chamber.

winners in terms of the progression of the bill past a second reading and towards gaining Royal Assent[7].

The Ballot Bills that MPs can introduce cannot be laws to enact major changes to government taxation and spending, but otherwise can address any topic[8]. MPs are free to choose any bill. Some MPs choose to present a bill related to personal causes they champion or can accept ideas for bills suggested by other MPs or lobbyists[9]. Finally, the government may offer what is known as a 'Handout Bill' to Ballot winners. Handout Bills often receive government assistance and support throughout the process of converting the bill into law.

We combine several sources for information on: MPs who submitted to the ballot, MPs who won the ballot, and the content of the bills the winning MPs submitted. The list of MPs who submitted their names to the ballot is available from 2016 onward in the House of Commons Business Papers[10]. A report published in the House of Commons Library documents the 20 winners of the ballot in each parliamentary session since 1997/98[11]. This report also includes the title of each bill as presented. We download the full text of each bill (as presented) from the parliamentary bills website[12]. Additional information about collecting and processing this data can be found in Appendix Section A.2.

2.3 MP Characteristics and Outcomes

To supplement the information about MPs who submit their names to the Ballot, we compile additional data on MP characteristics and career outcomes from a variety of sources. These characteristics include gender, date of birth, ethnicity, and roles within government and opposition.

Gender and date of birth data are obtained from the Members' Names Information

[7] https://commonslibrary.parliament.uk/research-briefings/sn04055/

[8] https://guidetoprocedure.parliament.uk/collections/F8ne28KA/rules-on-private-members-bills

[9] MPs may be 'contacted by pressure groups, other organisations and their own colleagues who will suggest subjects and offer draft bills'. Source: https://www.parliament.uk/globalassets/documents/commons-information-office/l02.pdf

[10] commonsbusiness.parliament.uk/search?SearchTerm=ballot

[11] commonslibrary.parliament.uk/research-briefings/sn04055

[12] bills.parliament.uk

Service, which provides basic biographical details for all MPs. Ethnicity data for MPs is not directly available. We code each MP as either BAME (Black, Asian and Minority Ethnic) or white using their photos and surnames. First, we analyze the official portraits of MPs hosted on the UK Parliament website to predict ethnicity using AI image recognition software (Serengil & Ozpinar, 2024). We then cross-check this with a model that predicts nationality based on MPs' last names (Park, 2020). MPs with surnames coded as non-British and faces coded as non-white are coded as BAME, while MPs whose surnames are British and faces coded as white are coded as not BAME. For MPs where ethnicity is coded as non-British and Ethnicity as white (and vice versa) we manually code ethnicity. On aggregate our approach matches closely to diversity reports in the House of Commons, for example 10% of MPs being from minority ethnic backgrounds in 2019 (Uberoi & Carthew, 2023).

We use reports from the House of Commons Library to identify which MPs were in the Cabinet from 1997 onward. For government and opposition positions we collect data from the UK Parliamentary Data Platform, accessed using the pdpr package in R (Hawkins, 2020). This provides the full job titles for each role, as well as the start and end dates of their roles. Using this information, we identify MPs who served in government as ministers, and in the opposition as shadow ministers and shadow cabinet. Specifically, we classify shadow cabinet members by matching their positions to the names of role in the Shadow Cabinet, e.g., "Leader of the Opposition." Similarly, ministers are identified by whether their job title contains "Minister of State."

Table 2 shows descriptive statistics of the MPs submitting to the Ballot for PMBs for the 2016-17, 2017-19, 2019-21, 2021-22 and 2022-23 Parliamentary sessions, sorted into treatment (Ballot winners) and control (those that submitted to the Ballot but did not win). We find no statistically significant differences in the characteristics of these groups.

3 Winning the Ballot and Career Outcomes

In this section we provide causal evidence of the effect of winning the Ballot for PMBs on MPs' career outcomes. We use data on MPs who submitted to the ballot

Table 2: Characteristics of MPs who submit to the Ballot for PMB (2016-2022)

Variable	Control	Treated	Difference
Labour	0.365	0.350	-0.015
	(0.010)	(0.048)	(0.049)
Conservative	0.511	0.500	-0.011
	(0.011)	(0.050)	(0.051)
BAME	0.070	0.070	0.000
	(0.005)	(0.026)	(0.026)
Female	0.342	0.310	-0.032
	(0.010)	(0.046)	(0.049)
Age	50.139	51.687	1.548
	(0.245)	(1.144)	(1.168)
Previously Cab or Min	0.363	0.420	0.057
	(0.010)	(0.050)	(0.049)
N	2184	100	

Notes: The table reports the mean characteristics of ballot losers (control group) and ballot winners (treated group). Standard errors are shown in parentheses. BAME is an indicator for whether the candidate is from a Black, Asian, or Minority Ethnic background. Previously Cab or Min is an indicator for whether the candidate has ever previously served as a cabinet minister or minister, including opposition positions.

from 2016-2020. First we show which MPs submit to the ballot for PMBs. Next, we compare the career outcomes of MPs who randomly won the ballot, to those that lost. Next, using data on ballot winners from 1997-2020, we compare the career outcomes of those that were drawn highly in the ballot — getting more Parliamentary time for their bill — to those that were drawn lower.

3.1 Who Submits to the Ballot?

We first document which MPs submit to the ballot for PMBs. This determines for which group of politicians we estimate the average treatment effect of winning the ballot in Section 3.2. In order to submit, MPs must sign their name in person (or get a colleague to sign on their behalf) in the ballot book. This book is open for two days the week after the state opening of parliament, which marks the start of each parliamentary session. Table C.12 shows characteristics of MPs that submit to the ballot compared to those that do not for all from 2016-2022. Here, observations are at MP-year level, so the same MP may appear multiple times, if they had multiple opportunities to enter the ballot.

We document two key facts: only backbench MPs submit to the ballot, and the majority of eligible MPs submit to the ballot. As shown in Table C.12, MPs holding government posts are essentially absent from the pool of submitters, consistent with the convention that only backbench MPs submit to the PMBs ballot. The only exceptions are three instances of the Second Church Estates Commissioner, a largely ceremonial role. We also see that the majority of eligible MPs for the ballot choose to enter, with more than 80% of eligible MPs entering the ballot in our sample. we take this as evidence for the appeal of the ballot for backbench MPs, for example, this 80% is much higher than the participation for divisions where MPs vote on bills in the House of Commons.

3.2 Ballot Winners vs Losers

Here we look at whether MPs hold jobs in their parties in the years following their submission to the ballot. While all MPs are employed to represent their constituencies, some are selected for additional responsibilities within their party. These roles

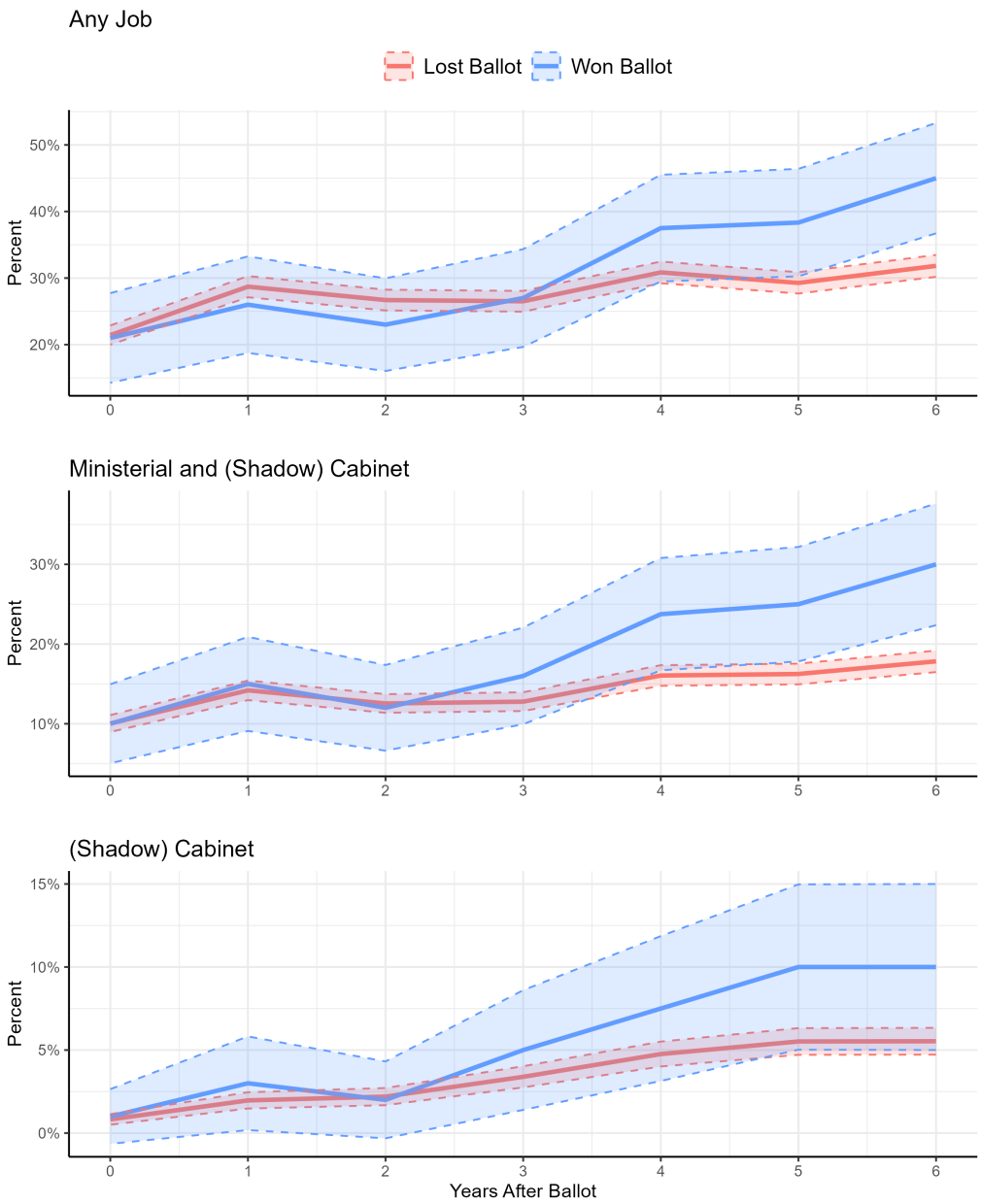
range from relatively junior positions — such as Parliamentary Under-Secretary — through to senior leadership roles. Ministerial posts involve executive responsibilities and influence over legislation, while Cabinet positions confer greater authority still, with collective responsibility for major policy decisions. Both ministerial and Cabinet roles carry additional pay compared to the base MP salary. The party with the second most seats in the House of Commons mirrors the jobs available to MPs in the party in government. These opposition jobs are known as *shadow* roles. The opposition party cannot directly change policy, so the role of these shadow positions is to scrutinise the work of the government. For example, the Shadow Foreign Secretary scrutinises the work of the government's Foreign Secretary. Additionally, these roles acts as a government-in-waiting: those with senior shadow positions tend to be appointed to their government counterpart if their party wins the next general election.

Figure 1 plots the percentage of MPs who have any job, a ministerial job, or a cabinet job in their party. We restrict our sample to members of the Conservative and Labour parties, the only parties in government or opposition during the sample period. For all definitions of jobs we include both government or opposition roles. Initially, there is no difference between MPs who win the ballot and those that submit and do not win. On the date that they submit to the ballot, 20% of both ballot winner and losers have a job in their party, with 10% being in the (shadow) cabinet or have (shadow) minister jobs, and less than 1% for both groups in the (shadow) cabinet. Given the random assignment of the ballot, the lack of a difference is unsurprising.

Over time, the difference in the percentage of ballot winners and losers holding jobs in their parties increases. Noticeable differences in means do not seem to appear until at least three years after the ballot. This lagged effect could be for several reasons. Firstly, it may take time for job vacancies to emerge, with jobs in the UK Parliament rarely changing hands. Secondly, the skills demonstrated from the opportunity to present a bill may take time to accumulate and signal, since it can take bills several years to pass. Finally, the ballot may allow winners to build their network within their party, and it may take several years to exploit this improved network.

To test the causal effect of winning the ballot on the probability of holding a high-ranking job we use OLS regression models. Our outcome variables are equal to 1 if MP i held one of these jobs five years after they submitted to the ballot

Figure 1: Percentage of MPs with Jobs in their Party after Submitting to the Ballot



Note: The figure plots the proportion (and 90% confidence intervals) of MPs with party jobs in the years following their submission to the Ballot for Private Members' Bills. Results are shown separately for ballot winners and losers. Any Job is inclusive of Ministerial and Cabinet jobs .

and zero otherwise. We choose to look at five year outcomes as this guarantees a general election has taken place since the MP submitted to the ballot[13]. The use of 5 year outcomes means that we can only use the 2016, 2017 and 2020 ballots as data for estimating the causal effect. We provide a restricted balance table (Table C.11) for these three treatment years in the appendix. The OLS models we estimate are outlined in Equation 1.

$$\text{Job}_i = \beta \, WonBallot_i + \boldsymbol{\delta} X_i + \boldsymbol{\gamma} \text{Year} \cdot \text{Party} + \epsilon_i \tag{1}$$

$WonBallot_i$ is equal to 1 if MP i won the ballot and was randomly selected for a PMB. We control for MP characteristics (X_i), including: gender, age, age squared, ethnicity, and if they have previously held a high-ranking job. We also include fixed effects for the interaction between the MPs party and the year that the MP submitted to the ballot ($\gamma Year \cdot Party$). Since the same MP can submit to the ballot in multiple years, we cluster standard errors at the MP level.

Table 3 shows the results from estimating Equation 1. Columns (1), (3), and (5) report the results from regressions that include only year fixed effects, while (2), (4), and (6) include the controls and party fixed effects outlined in Equation 1. As illustrated in Figure 1, the impact of winning the ballot on political appointments five years later are large in magnitude. Ballot winners are roughly 44% (11.9 percentage points) more likely to have any job in their party, and 65% (12.3 percentage points) more likely to hold a ministerial role. The effects on cabinet appointments are also large relative to the control mean (a 5.6% point increase against a control mean of 6.3%), however these differences are not statistically significant. Table C.13 repeats this analysis using logistic regressions. The estimated effects are similar in magnitude but are more statistically significant.

3.3 Differential Effect by Ballot Position

Now we look at the effect of placing high in the ballot on the career outcomes of ballot winners. As discussed in Section 2, the order in which dates are nominated are

[13]This is because the maximum term of a parliament is five years, and a general election must take place before each parliamentary term begins

Table 3: Effect of Winning the Ballot on Binary Job outcome 5 years later

	Dependent variable:					
	Any Job		Cabinet or Minister		Cabinet	
	(1)	(2)	(3)	(4)	(5)	(6)
Won Ballot	0.109	0.119*	0.116*	0.123**	0.057	0.056
	(0.069)	(0.065)	(0.064)	(0.059)	(0.045)	(0.044)
Control Mean	0.271	0.271	0.185	0.185	0.063	0.063
Controls	No	Yes	No	Yes	No	Yes
R-squared	0.005	0.125	0.008	0.108	0.003	0.044
Sample Size	1192	1180	1192	1180	1192	1180

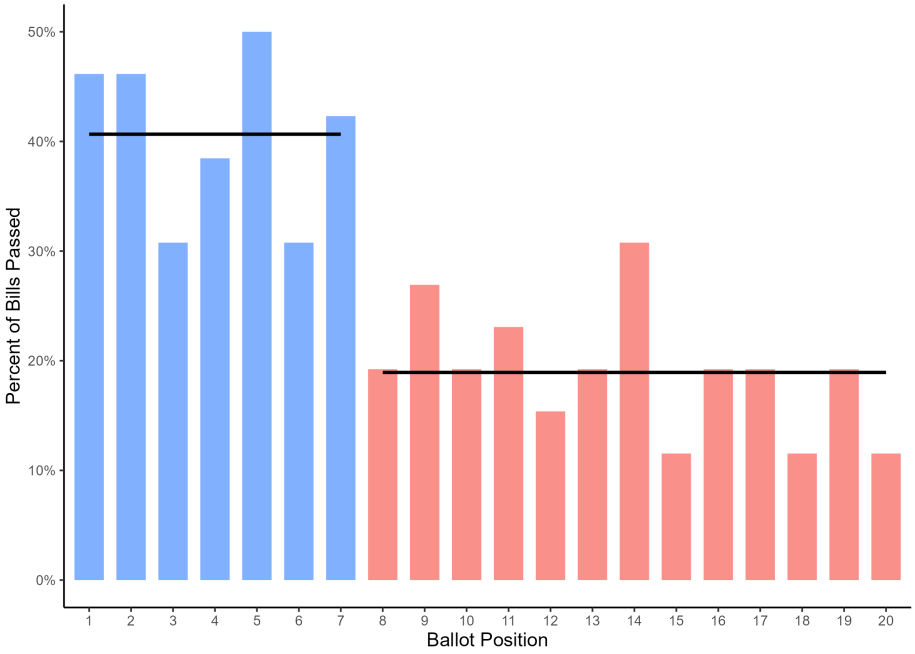
Notes: The table reports OLS regression estimates of the effect of winning the Ballot for Private Members' Bills on MPs' career outcomes five years later. Outcomes are binary indicators for whether the MP holds (government or opposition): (i) any party job, (ii) a cabinet or ministerial job, or (iii) a cabinet job only. Controls include gender, age, age squared, ethnicity, and prior high-ranking job, as well as party-year fixed effects. Standard errors are clustered at the MP level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

determined by the position in the ballot the MPs are drawn. The gives an advantage to the MPs drawn in the first seven of the ballot. As explained by the Deputy Speaker Eleanor Laing during the ballot draw in 2021:

> "*The relevance of the Top Seven is that they will be guaranteed a full days debate on their bill*"

The guaranteed time in Parliament has a large effect on the success of the bills presented. Figure 2 plots the percentage of bills that pass, for each position in the ballot. The sharp discontinuity here is clear, with bills presented by MPs drawn in the top seven passing twice as often as bills presented by MPs drawn later.

Figure 2: Bill Pass % by position in the Ballot



Note: This figure plots the proportion of Ballot Bills that passed and became law between 1997 and 2020 for each position in the ballot. The top 7 positions, who are guaranteed extra parliamentary time, are shown in blue, while the bottom 13 ballot positions are in red.

To test the causal effect of placing in the top seven of the ballot on the probability of holding a high-ranking job, we use OLS regression models. As in Section 3.2, our

outcome variables are equal to 1 if MP i held one of these jobs five years after they submitted to the ballot and zero otherwise. Given the random nature of the ballot order, our comparison is between MPs who placed in the top seven and those who placed in the bottom thirteen among ballot winners. The OLS models we estimate are outlined in Equation 2.

$$\text{Job}_i = \beta \mathit{Top7}_i + \boldsymbol{\delta} X_i + \boldsymbol{\gamma} \text{Parliament} \cdot \text{Party} + \epsilon_i \tag{2}$$

Table 4: Effect of Being Drawn in the Top 7 of the Ballot on Binary Job outcome 5 years later

	Dependent variable:					
	Any Job		Cabinet or Minister		Cabinet	
	(1)	(2)	(3)	(4)	(5)	(6)
Top 7	−0.037	−0.013	−0.021	−0.008	−0.011	−0.006
	(0.036)	(0.037)	(0.032)	(0.035)	(0.020)	(0.023)
Control Mean	0.197	0.197	0.124	0.124	0.041	0.041
R-squared	0.143	0.268	0.117	0.178	0.043	0.076
Sample Size	452	407	452	407	452	407

Notes: The table reports OLS regression estimates of the effect of being drawn in the top 7 positions of the Ballot for Private Members' Bills on MPs' career outcomes five years later. Outcomes are binary indicators for whether the MP holds (government or opposition): (i) any party job, (ii) a cabinet or ministerial job, or (iii) a cabinet job only. Controls include MP characteristics and parliament-by-party fixed effects. Standard errors are clustered at the MP level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

$\mathit{Top7}_i$ is equal to 1 if MP i placed in the top 7 of the ballot. Now we use data from 1997 to 2020 on all ballot winners, and their position in the ballot. Instead of year fixed effects, we now include fixed effects for the parliamentary term in which the MP submitted to the ballot ($\gamma \mathit{Parliament} \cdot \mathit{Party}$), which accounts for differences across parliaments that might influence career trajectories.

Table 4 shows the results from estimating Equation 2. Despite the large effect of placing in the top seven on the probability the bill passes, there is no evidence for a

differential effect on the career outcomes for ballot winners drawn in the top seven. In regression models with and without controls, the effects of placing in the top seven on career outcomes five years later are not statistically significantly different from zero. In Section B.3 we use placing in the Top 7 as an instrumental variable for bill passage, similarly finding null results on career outcomes.

4 A Model of Political Capital

In this section, we present a model describing the preferences and decisions of Members of Parliament (MPs) and their Party regarding the allocation and consumption of Ballot Bills and political capital. The structure of this model is organized as follows:

4.1 Players and Action Space

There are two types of agents in this model: MPs and the Party. The MP can take the following actions:

- If endowed with a unit of Ballot Bill (denoted by $\epsilon = 1$), consume a fraction of their Ballot Bill b for immediate utility, where $b \in [0, 1]$.
- Sell the remaining fraction $1 - b$ of their Ballot Bill to the Party in exchange for political capital $i = \Delta k$ at a price ϕ, which the MP takes as given.

The Party's action is to allocate its endowment of one unit of political capital to purchase Ballot Bills from MPs to maximize its period utility. The Party consumes the fraction of the bill from the MP not consumed by the MP, denoted by b^P, such that $b^P = 1 - b$. The Party also chooses a price that converts political capital to bill consumption, where $\phi > 0$ represents the price of one unit of a Ballot Bill in terms of units of political capital. Hence, $k^P = \phi b^P$.

4.2 Payoffs

The utility of MPs depends on two factors:

- The immediate utility from consuming a fraction b of their Ballot Bill. This occurs with probability p, which captures the probability of the bill passing.
- The future utility derived from the political capital k' accumulated by selling a fraction $(1-b)$ of their Ballot Bill.

The payoff of a young MP who wins a Ballot Bill is represented by:

$$V^y(k, \epsilon = 1) = p \ln(b) + \beta \ln(k'), \tag{3}$$

This is subject to the MP's political capital constraints:

$$k' = k + i, \quad i = \phi\,(1-b). \tag{4}$$

where $b \in [0,1]$ is the proportion of the Ballot Bill consumed, $\beta \in [0,1]$ is the intertemporal discount factor, $k > 0$ is initial political capital and $k' > 0$ is the political capital carried forward.

This simple structure of the young MP's value captures several concepts. MPs trade off the ability to consume their bill today with potential future benefits. These future benefits could come in different forms. First, greater political capital in the future may increase the likelihood of getting government jobs, which may involve introducing government bills. Second, greater political capital may improve the probability that the MP can get future Ballot Bills passed. Finally, the probability of a bill passing p allows us to capture differential probabilities of the Ballot Bill passing across different MPs.

The payoff of an old MP who wins a Ballot Bill can be recovered by setting $\beta = 0$:

$$V^o(k, \epsilon = 1) = p \ln(b) \tag{5}$$

The Party's utility W is given by:

$$W = \max_{\phi, \mathbf{b^P}} \sum_{j=1}^{N} b_j^P, \tag{6}$$

where b_j^P is the fraction of each MP's Ballot Bill consumed by the Party, and N is the number of MPs in the party with Ballot Bills. This is subject to the Party's political capital expenditure constraint:

$$\sum_{j=1}^{N} k_j^P = 1. \tag{7}$$

4.3 Information Structure

MPs and the Party operate under the following information:

- At the start of the period, MPs observe whether they have won a Ballot Bill ($\epsilon = 1$) or not ($\epsilon = 0$). The Party also observes which MPs have won the Ballot.
- MPs know their initial political capital k, their probability of the bill passing p and the price ϕ set by the Party.
- The Party observes the distribution of political capital across MPs and the cohort of the MP (young or old). The Party sets a single price ϕ that applies to all MPs.

4.4 Timing

The sequence of events in each period is as follows:

1. MPs are born (becoming young MPs) with an initial level of political capital k.
2. MPs learn whether they have won a Ballot Bill and the probability with which this passes, p.
3. The Party observes how many MPs in their Party have won a Ballot Bill, consider the best responses of these MPs and set a price ϕ to maximise their period utility.
4. MPs who win a Ballot Bill observe ϕ and decide the fraction b to consume and sell the remaining fraction $(1 - b)$ to the Party in exchange for political capital.
5. Old MPs die and young MPs become old.

4.5 Solution Concept

Given a distribution of political capital and probabilities of the bills passing among MPs $(\mathbf{k}, \mathbf{p})$ and a number of young MPs N_y, an equilibrium in this model is a set of choices $(\mathbf{b}, \phi, \mathbf{b^P})$ such that:

- MPs choose b to maximize their expected lifetime utility V, subject to their Ballot Bill and political capital constraints:

$$k' = k + i, \quad i = \phi\,(1 - b). \tag{8}$$

- The Party chooses ϕ (and by extension $\mathbf{b^P}$) to maximise its utility W, subject to its political capital constraint:

$$\sum_{j=1}^{N} k_j^P = 1. \tag{9}$$

- The Ballot Bill market clears.

4.6 MP's decision

The decision of the MP takes the price as given. Notice that old MPs gain no utility from future political capital, as $\beta = 0$. The result of this is that an old MP fully consumes their Ballot Bill: $b_o^* = 1$, so necessarily $b_o^P = 0$.

Therefore, the Party can only convince young MPs to part with some fraction of their bill. Turning to the decision of young MPs:

Proposition 1 *The optimal choice of b_y is increasing in k_y and p, and decreasing in ϕ and β.*

The first order necessary condition for the MP is given by:

$$\frac{d\,V^y(k_y, \epsilon = 1)}{d\,b_y} = \frac{p}{b_y} - \frac{\phi\beta}{k_y + \phi(1 - b_y)} \tag{10}$$

Setting to zero and solving for b_y, the MP's optimal choice of b_y is:

$$b_y^* = \frac{p(k_y + \phi)}{\phi(p + \beta)} \tag{11}$$

For b_y^* to be bounded between zero and one, the young MP's initial political capital must be sufficiently small: $k_y < \frac{\phi\beta}{p}$. Where this holds, the following proposition holds:

Proposition 2 *Young MPs sell more of the bill than old MPs:* $b_y^* < b_o^* = 1$.

4.7 Toy model: two agent model with heterogenous p

Suppose we simplify the model such that there are only two young MPs, $N_y = 2$. These MPs have different probabilities of passing their bill, such that $p_1 < p_2$. When solving for an equilibrium, the following proposition holds:

Proposition 3 *The MP with a higher probability of passing their bill optimally chooses to sell less of their bill:* $b_{y_1}^* < b_{y_2}^*$.

The intuition for this follows from the first-order condition for the MP. The marginal benefit of bill consumption, $\frac{p}{b_y}$, is increasing linearly in p, while the marginal cost, $\frac{\phi\beta}{k_y+\phi(1-b_y)}$, stays the same as p increases. Given that MPs take the price ϕ as given, MPs with a higher probability of passing their bill marginally increase their consumption of the bill when p increases.

5 Selling a Bill

As outlined in our model in Section 4, one mechanism for the career boost for ballot winning MPs is that they may *sell* their bill to their party. Given the opportunity to propose a piece of legislation of their choosing, MPs may choose to propose legislation that advances the goals of their party. In the three weeks between MPs winning the ballot and submitting the title of their bill, documentation produced by the House of Commons[14] suggests that MPs may choose to take so-called *Handout Bills*, and that "*they will be contacted by their own colleagues who will suggest subjects and offer*

[14]https://www.parliament.uk/documents/commons-information-office/l02.pdf

draft bills". Motivated by our model of political capital, we suggest that MPs who decide to sell their bill to their party (rather than proposing legislation that aligns more closely with their preferences) may be rewarded by their party with jobs.

5.1 Measuring Selling

To assess whether MPs use ballot bills to advance personal priorities or to push party goals, we measure how closely each MP's prior parliamentary speeches resemble their submitted bill, relative to speeches by other members of their party. Hansard provides a record of every speech made in the House of Commons[15], offering a comprehensive view of the issues MPs choose to emphasise in Parliament. Unlike voting records, which capture revealed choices on a narrow set of proposals, speeches reflect a broader set of priorities: what MPs spend time talking about and how they position themselves relative to their colleagues. Aggregated across members, this discourse also conveys the themes and objectives prioritised by each party. In this way, Hansard offers a rich and systematic record of political preferences, which we can then analyse using text-based methods.

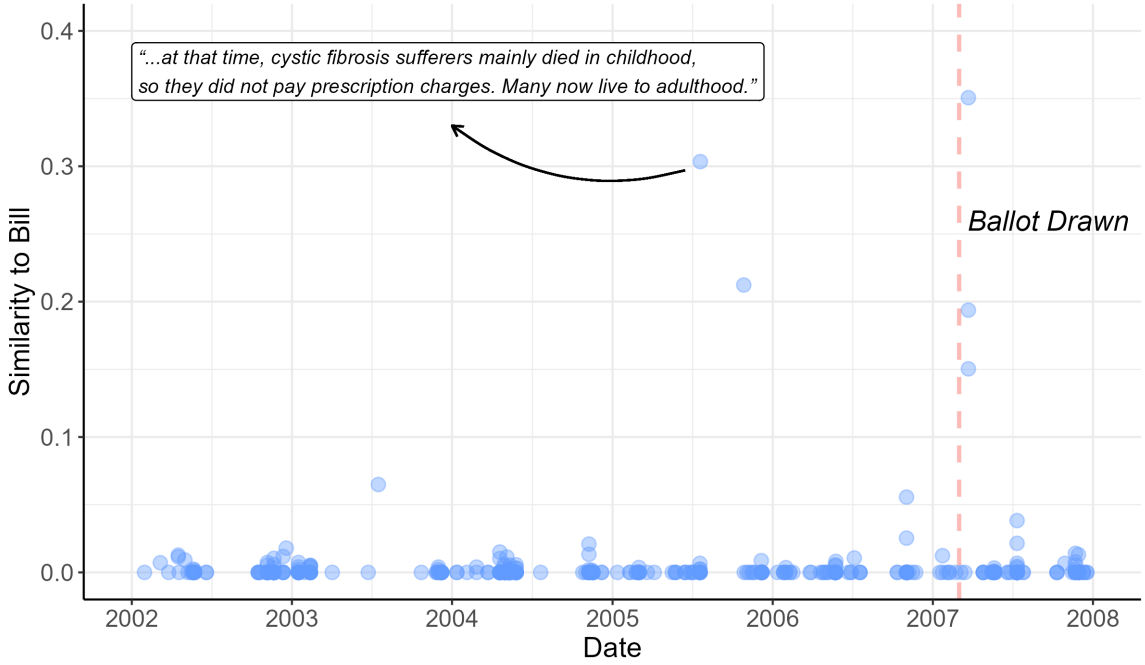
Our objective is to create a variable that captures how much MPs 'sell' their ballot bill. For each ballot bill, we calculate the cosine similarity (see Section A for additional details) between the bill text and all parliamentary speeches delivered since 1991. Focusing on the 5-year period before the ballot draw (to avoid capturing speeches about the bill), we calculate the average cosine similarity of the top 1% most similar speeches for every member of the submitting MP's party to the bill. The submitting MP is then assigned a percentile rank based on where their average similarity falls within the distribution of their party colleagues' average similarity. Here a high rank indicates that the bill is more similar to the speeches of the submitting MP's peers, rather than their own. A low rank implies that the bill is more similar to the MP's previous speeches, than the speeches of their peers.

Take for example the bill "*Cystic Fibrosis (Exemption from Prescription Charges)*" proposed by Conservative MP John Hayes after he placed 14^{th} in the ballot of the

[15]The speeches made are recorded and stored on the website of the UK Parliament (https://hansard.parliament.uk/search).

2006-07 session[16]. The speech with the highest cosine similarity to this bill made in the 5 years before the ballot draw in 2006-07 was by John Hayes himself, two years prior, where he talked in parliament about making cystic fibrosis medication exempt from prescription charges, as shown in Figure 3. This means that for this Bill, John Hayes' measure of selling is 0. Evident from his speeches in Parliament, the topic of cystic fibrosis prescription charges is one that he personally cares about, more than anyone in his party.

Figure 3: John Hayes' Bill and his Speeches in the House of Commons



Note: This figure plot every speech made by John Hayes in the five years before he won the ballot for PMBs. On the y-axis is the cosine similarity of the speech to his bill.

We repeat this exercise for all ballot bills presented since from 1997 to 2020. We restrict our sample to bills presented by MPs in the two main parties in the UK: the

[16]The start of this bill can be seen in Figure C.8.

Labour Party and the Conservative Party. To ensure that there are sufficient speeches to compare to the bill, we only include bills from MPs with at least 50 speeches in the last five years. Additionally there were several ballot winners who did not present bills, for example the 2019 session was unusually short due to the snap election called, so even though the ballot was drawn, winning MPs did not get the opportunity to present bills. After these restrictions, we have information on 306 ballot bills from 1997 to 2020. We create a dictionary of stopwords that we remove from all bills and speeches. This includes common stopwords (e.g., "*the*", "*is*", "*a*"), Parliamentary stopwords (e.g., "*honourable*", "*friend*", "*member*"), and legislative stopwords (e.g., "*bill*", "*amendment*", "*clause*").

Figure C.5 plots the distribution of our measure of selling for the 306 bills we compare to Parliamentary speeches. Our measure is positively skewed, implying that most ballot winners choose to present bills that are more closely aligned to their own speeches, than to the speeches of their party members.

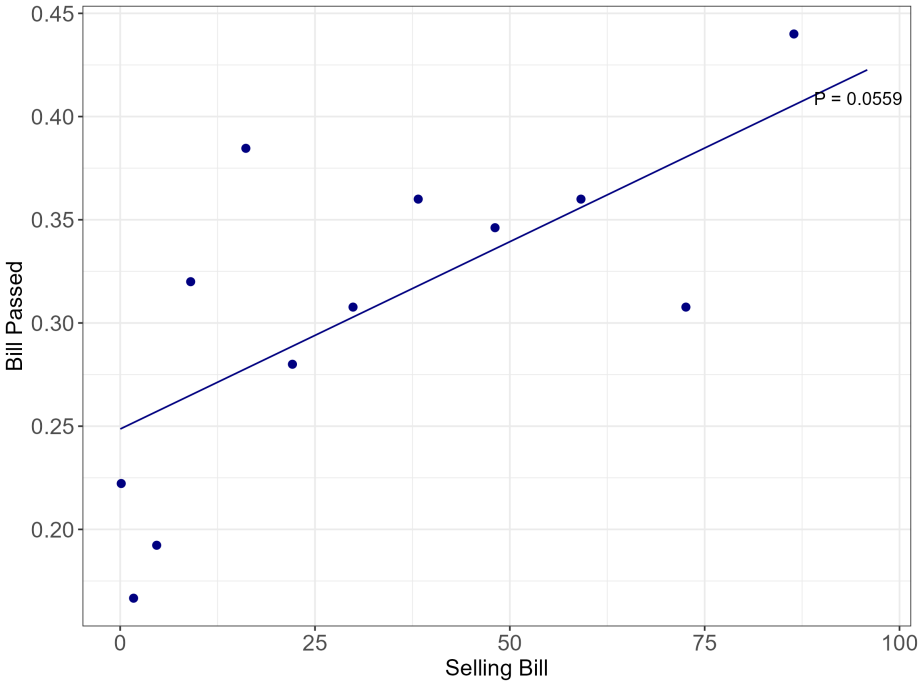
5.2 Selling and Bill Passage

Next, we consider whether bills that are 'sold' more (according to our measure) are more likely to pass and become law. Figure 4 shows that there is a strong positive correlation between the two: bills which are sold are more likely to pass. In order to pass and become law, bills must get a majority vote in their second reading in the House of Commons. Therefore, having the support from other MPs is required. There are several reasons that sold bills may receive additional support from the ballot-winning MP's party.

First, ballot bills measured as higher on our measure of being sold may be the result of direct suggestions from party colleagues. Ballot winners who take a direct suggestion are likely to receive support from the MP(s) that gave the suggestion. This support may increase the probability that the bill passes. The supporting MP(s) may help with drafting the legislation, and ensuring attendance of favourably voting MPs during the bill's second reading.

Even absent a direct suggestion, ballot bills measured as being more sold may receive additional support. A bill may be measured as being more sold if the ballot-

Figure 4: *Binned Scatterplot of Bill Sold* and Bill passage



Note: This figure shows a binned scatterplot (Cattaneo et al., 2024) of our measure of bill sold and a binary variable for if the bill passed and became law .

Table 5: Bill Sold and Passage

	Dependent variable: Bill Passed		
	Full Sample	Out of Gov	In Gov
	(1)	(2)	(3)
Bill Sold	0.0018*	0.0006	0.0025*
	(0.0009)	(0.0012)	(0.0014)
Constant	0.249***	0.179***	0.318***
	(0.040)	(0.048)	(0.061)
Observations	306	142	164
Note:			*p<0.1; **p<0.05; ***p<0.01

winning MP strategically chooses a bill topic that aligns with the policy preferences of their party. In this case, the bill is likely to receive additional votes during its second reading from MPs in the ballot-winning MPs party.

Table 5 presents the relationship between bill passage and our measure of bill selling across different subsets of MPs. Column (1) reports results for the full sample; Column (2) restricts the sample to MPs whose party was in opposition; and Column (3) shows the estimates for MPs whose party was in government at the time of their ballot bill. For the whole sample a bill completely sold to the ballot-winning MP's party is 18% more likely to pass than a bill completely consumed. This effect is mostly driven by MPs whose party are in government. By definition, the government has the majority of MPs in the House of Commons. Therefore, a bill being sold to the party in government (who are able to mobilise more votes in the second reading) gives a larger increase in the probability the bill passes.

5.3 Selling and Political Careers

Motivated by the model introduced in Section 4, we propose that MPs will be rewarded for selling their bill with *political capital*. One way this political capital may benefit MPs is through promotions within their party. In this section we test the

Table 6: Bill Sold and Binary Job Outcomes

	Dependent variable:			
	Any Job		Cabinet or Minister	
	(1)	(2)	(3)	(4)
Bill Sold	0.0021***	0.0013*	0.0008	0.0004
	(0.0007)	(0.0007)	(0.0006)	(0.0006)
Controls	No	Yes	No	Yes
Mean Dep. Var.	0.173	0.173	0.114	0.114
N	306	306	306	306

Notes: The table reports OLS regressions of MPs' job outcomes on the extent to which they sold their ballot bill. Outcomes are binary indicators for holding (government or opposition) (i) any party job, or (ii) a cabinet or ministerial job five years after the ballot. Selling Bill is a continuous measure ranging from 0 (fully consumed) to 100 (fully sold). Standard errors are in parentheses. $*p < 0.10, **p < 0.05, ***p < 0.01$.

relationship between job outcomes and our measure of the extent to which a ballot bill was sold. Table 6 shows the relationship between our measure of bill sold and binary job outcomes[17] for the ballot-winning MP.

We provide evidence that MPs who sell their ballot bill have improved career outcomes within their party. MPs who sell their bill completely, compared to MPs that consume their bill completely, are 21% points more likely to have a job in their party 5 years after winning the ballot bill ($p < 0.001$). While muted, this correlation persists when controlling for MPs characteristics and party-parliament fixed effects (column (2)). For senior job outcomes, shown in columns (3) and (4), the correlations are directionally as predicted, but are statistically insignificant.

[17]As in Section 3.2 we use job outcomes five years after the day of the ballot draw, as this ensures at least one general election has taken place.

5.4 Who Sells their Bill?

Here we take our model to the data and test predictions about which MPs will sell more of their ballot bill. Table C.9 presents the estimates of OLS regression models predicting *Bill Sold* using observable characteristics of ballot-winning MPs.

Age: We find strong and robust evidence that older MPs sell less their ballot bills. A one year increase in the age of an MP is associated with a fall in our measure of selling of $0.50 - 0.56$ ($p < 0.01$). This is robust to different fixed effects and controls. This result is consistent with the model introduced in Section 4: in the two period model *old* MPs gain no benefit from future political capital, and therefore consume their bill. This simple intuition can be extended to continuous age where the present value of future political capital decreases as MPs get closer to retirement.

Political Capital: We provide evidence that MPs with higher levels of initial political capital, sell less of their bill. We use several proxies of political capital.

First, we consider the size of the majority that an MP received in the last general election. Political parties have a strong influence over which candidates contest each constituency. This allows them to place candidates with high political capital into so-called 'safe seats', where the party is likely to win by a large margin due to the constituency's demographic and historical voting patterns — a process known as parachuting. This practice is common in both the Labour and Conservative parties; for example, Tony Blair and Keir Starmer were selected for the Labour safe seats of Sedgefield, and Holborn and St Pancras respectively, while David Cameron was chosen to contest the safe Conservative seat of Witney. We find that a 1% point increase in the majority the MP had at the last election is associated with selling their bill 0.27 less.

Next, we find that male MPs sell less of their ballot bill—on average by 8 to 10 units. One possible explanation is that male politicians may be endowed with higher levels of political capital when they enter Parliament. In the UK this might be the case because of their access to elite, male-only institutions such as Eton and Harrow, where influential political networks are formed. For instance, Eton has produced

20 British Prime Ministers and MPs such as David Cameron, Boris Johnson, Rishi Sunak, Kwasi Kwarteng, and Jacob Rees-Mogg all attended the school[18]. Table C.10 shows the relationship between gender and MPs selling their ballot bill by party. The aggregate result that men sell less of their bill is driven mainly by MPs in the Conservative Party.

Although we cannot observe political capital directly, we find that several observable characteristics that are likely to be correlated with political capital, are negatively correlated with how much a ballot-winning MP sells their bill. This is consistent with the model introduced in Section 4: because we assume diminishing marginal returns to political capital, MPs endowed with higher levels of political capital have less to gain from selling their bill.

6 Discussion & Conclusion

We exploit random variation in MPs' opportunities to propose legislation, to estimate the causal effect that this has on their career outcomes. MPs randomly drawn in the ballot for Private Members' Bills are significantly more likely to be in high ranking political jobs five years later than their peers who submit to the ballot but do not win. We find no evidence that this effect is driven by MP demonstrating competence by passing legislation. By comparing the text of the bills to MPs' speeches, we provide exploratory evidence that the boost to MPs' careers may be related to our notion of political capital.

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[18]Historically, out of the main political parties, the Conservatives have consistently had the largest proportion of its MPs being privately educated. Source: https://www.suttontrust.com/our-research/parliamentary-privilege-2024/

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A Additional Details on Natural Language Processing

A.1 Text Data and Preprocessing

Additional information on speeches and bills

All speeches and legislative bills are preprocessed prior to analysis. We exclude speeches containing fewer than ten words. Texts are then cleaned by removing numerical digits, punctuation, and clause identifiers (e.g., "5(a)") from both speeches and bills. All text is converted to lowercase, and common stopwords are deleted. Stopwords include the standard English stopword list from the `tm` package in R and an extended set of domain-specific terms frequently used in parliamentary and legislative contexts. These legislative and parliamentary stopwords are: *will, hon, make, house, take, need, member, friend, bill, debate, amendment, minister, secretary, committee, constituency, government, parliament, vote, legislation, prime, lord, speaker, chamber, gentleman, gentlemans, treasury, opposition, bench, clause, propose, motion, election, party, constituent, welcome, thank.*

For legislative bills, we additionally remove boilerplate legal phrases that appear identically across documents, such as:

> *"BE IT ENACTED by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:"*

Finally, all remaining words are lemmatized to their base forms using the `textstem` package in R. Lemmatization reduces words to their dictionary root form, ensuring that different inflections are treated as the same term (for example, "running" becomes "run" and "better" becomes "good").

A.2 Calculating Cosine similarity and 'Bill Sold'

Here we explain how we measure the textual similarity between ballot-winning bills and parliamentary speeches, and how we use these similarities to measure the extent

to which ballot winners sold their ballot bill.

After preprocessing, we first combine the text from all bills and speeches into a single corpus and construct a unified vocabulary of unique words used across all documents. Each document is then represented as a vector of term frequency–inverse document frequency (TF–IDF) weights. This vector is the same length as the number of unique words in the corpus. These vectors summarize the relative importance of each remaining term in the document, adjusted for how commonly the term appears across the corpus. All TF–IDF vectors are normalized to unit length, and we compute pairwise cosine similarity between each bill and each speech. The cosine similarity measures the angle between two normalized vectors, calculated as the dot product between them.

For each ballot-winning bill, we consider all speeches made by members of the presenting MP's party during the five years prior to the draw for Private Members' Bills. This ensures that only speeches delivered before the bill's introduction are included in the analysis. Each speech is associated with a cosine similarity score with the text of the bill, based on the TF-IDF representation described above. For each MP, we calculate the average similarity across their top one percent of speeches (or at least one speech if fewer than one hundred). These average top-similarity scores are then used to rank MPs within the presenting MP's party.

Let R_i denote the rank position of MP i in descending order of their average cosine-similarity score, and N the total number of MPs in the party with qualifying speeches. The rank position is converted into a *Bill Sold* value according to:

$$BillSold_i = \frac{R_i - 1}{N - 1} \times 100,$$

This normalisation was taken so that $BillSold_i \in [0, 100]$, where $BillSold_i = 0$ is a ballot bill 'completely consumed', and $BillSold_i = 100$ is a ballot bill 'completely sold'. For example, if there are 101 MPs in the party and the presenting MP (i) ranks fifth in similarity (i.e., four MPs in their party have have higher similarity scores), then $BillSold_i = 4$. Conversely, an MP (j) in the same party with a rank 101 (i.e., they have the least similar speeches to their bill out of their party colleagues), then $BillSold_j = 100$.

B Additional Analysis

B.1 Effect of Winning the Ballot for PMB on re-election

Here we examine the effect of winning the ballot for a Private Member's Bill on MPs' subsequent electoral performance. To do this we combine data on results in general elections[19] with data on ballot winners and losers. From this we construct two outcome variables for: i) vote share at next election (note that MPs who did not run in the next general election this is missing), and ii) whether the candidate won the next election. Here the 'next election' is the first general election after the MP submitted to the ballot for PMBs.

We conduct analysis similar to that in Section 3.2, where we estimate Equation 1, however with the electoral performance variables instead of career outcomes. Table B.7 reports estimates from regressions of future electoral outcomes on ballot success. The dependent variable in Columns (1)–(2) is the MP's vote share in the next general election, while Columns (3)–(4) is whether the MP was re-elected. Across all specifications, the estimated coefficients are small and statistically indistinguishable from zero. Winning the ballot is associated with only a 0.5–0.9 percentage point increase in vote share and a 2.6–3.7 percentage point higher probability of re-election, neither of which reach conventional significance levels.

These null effects persist after controlling for MPs' previous electoral performance and including party fixed effects. The absence of an electoral premium suggests that voters may be largely unaware of, or unresponsive to, MPs' success in the ballot. With the evidence presented in Section 3.2, we take this to support that the benefits of winning the ballot are primarily within Parliament, rather than with the electorate.

B.2 Heterogenous Treatment Effects

To analyze the difference in treatment effect by different groups we estimate Equation 12:

[19]This data is published on the UK Parliament website for elections since 2010 https://electionresults.parliament.uk/

Table B.7: Winning the Ballot and Election Performance

	Dependent variable:			
	Next election vote share		Won next election	
	(1)	(2)	(3)	(4)
Won Ballot	0.005	0.009	0.026	0.037
	(0.014)	(0.013)	(0.053)	(0.050)
Previous vote share		0.235***		0.550***
		(0.044)		(0.146)
Control group mean	0.445	0.445	0.715	0.715
Party FE	No	Yes	No	Yes
Observations	1,913	1,901	2,284	2,265

Notes: Robust standard errors clustered at the MP level in parentheses. Columns (1)–(2) use only MPs who re-contested the next election. A small number of MPs did not contest the previous general election (for example, if they win a by-election), and are therefore dropped when controlling for vote share in the previous general election. *p<0.1; **p<0.05; ***p<0.01.

$$\text{Job}_i = \beta_1 \mathit{WonBallot}_i + \beta_2 \mathit{Characteristic}_i + \beta_3 \mathit{WonBallot}_i \cdot \mathit{Characteristic}_i + \delta X_i + \gamma \cdot \mathit{Year} \cdot \mathit{Party} \quad (12)$$

Here β_3 is our coefficient of interest which shows the differential treatment effect between MPs with $\mathit{Characteristic}_i$ equal to 1, compared to MPs with this equal to 0. We also remove related covariates depending on $\mathit{Characteristic}_i$. For example, we remove age and age^2, when looking at heterogeneity, between the youngest 25% of MPs and the oldest 75%. Figure C.6 shows the value of β_3 for different characteristics. In general, we are unable to provide evidence of heterogenous treatment effects. This is due in part to our small sample of treated MPs, meaning that even large differences in treatment effects are statistically insignificant.

B.3 Being Drawn Early in the Ballot as an Instrument for Bill Passage

Evidence of successfully passing legislation could be one mechanism for the career boost observed for ballot winners. Passing legislation may demonstrate to party leadership skills that are required for ministerial positions. Furthermore, the process of passing a bill may facilitate interactions between the MP and party leadership. Given this, the career boost associated with winning the ballot may be driven by MPs whose bills pass. However, testing the effect of passing a bill on career outcomes is empirically challenging. The probability of an MP's bill becoming law is likely to be driven by factors that also affect career outcomes. For example, MPs who are higher ability or have more political capital may be more likely to pass a bill and also more likely to be in a ministerial role in the future.

To address this endogeneity issue, and estimate the causal effect of passing a bill on MPs career outcomes, we use an instrumental variable. MPs who are randomly drawn in the first seven positions of the ballot are much more likely to have their bill pass. This is because bills drawn in the top seven of the ballot are guaranteed parliamentary time for their second readings. Ballot Bills by MPs who ranked lower than seventh will have their second readings scheduled on Fridays where they will not

be the first to be debated[20], meaning that if there is not time, their bill may not be debated at all.

The first stage of this instrument is visualized in Figure 2. This plots the percentage of Ballot Bills that have passed from 1997-2024 for each position in the ballot. There is a clear discontinuity in terms of bills passing between those proposed by MPs in the top seven in the ballot compared to those in the bottom thirteen. MPs placed in the top seven of the ballot are 20 percentage points (100%) more likely to have their bill become law. The first stage is set out in equation 13.

$$\text{First stage:} \quad \text{PassBill}_i = \pi_0 + \pi_1 \text{Top7}_i + \nu_i \tag{13}$$

$$\text{Second stage:} \quad \text{Job}_i = \beta_0 + \beta_1 \widehat{\text{PassBill}}_i + u_i \tag{14}$$

The second stage is set out in Equation 14. Results for estimating β_1 are show in Table B.8 for two binary outcomes: having a (shadow) cabinet *or* minister job five years after the ballot, and having a (shadow) cabinet job five years after the ballot. The estimates for the effect of passing their Ballot Bill on career outcomes is not statistically significantly different from 0, suggesting that the career boost seen for ballot winning MPs is not driven by those that pass bills.

A key assumption underlying this instrumental variable approach is that MPs do not react to their position in the ballot when choosing what bill to submit. As there are several weeks between the ballot being drawn, and when MPs need to submit the title of their bill, it is possible that MPs who are drawn lower than seventh in the ballot choose to present a different bill than if they were in the top seven. ... So despite that ballot position is randomly assigned, the fact that MPs have time to react to their position may invalidate the exclusion restriction.

C Additional Figures and Tables

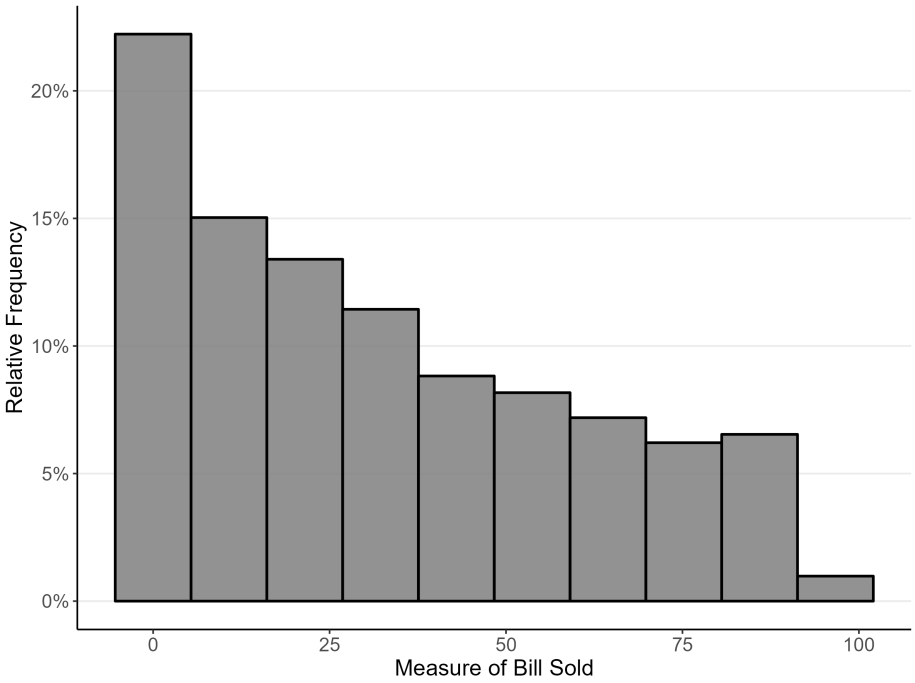
[20]https://www.parliament.uk/documents/commons-information-office/l02.pdf

Table B.8: 2SLS Results: The effect of passing Ballot Bill on Career Outcomes

	Dependent variable:		
	Any Job	Cabinet/Minister	Cabinet
Bill Passed (Top 7 IV)	−0.121	−0.062	−0.025
	(0.165)	(0.141)	(0.085)
Constant	0.197***	0.124***	0.043*
	(0.048)	(0.041)	(0.024)
First-stage F-statistic	30.2	30.2	30.2
Observations	520	520	520

Notes: The table reports 2SLS instrumental variable estimates of the effect of passing a Ballot Bill on MPs' career outcomes five years later. The instrument is whether the MP was randomly drawn in the top 7 positions of the ballot, which substantially increases the probability of bill passage. Outcomes are binary indicators for holding (i) any party job, (ii) a cabinet or ministerial job, or (iii) a cabinet job only. Standard errors are clustered at the MP level. $*p < 0.10, **p < 0.05, ***p < 0.01$.

Figure C.5: Histogram of our Measure of *Bill Sold*



Note: The figure shows the distribution of our Bill Sold measure $N = 303$ (1997–2020), which ranks ballot bills by whether they are more similar to the presenting MP's own speeches or to those of their party colleagues.

Table C.9: Who Sells their Ballot Bill?

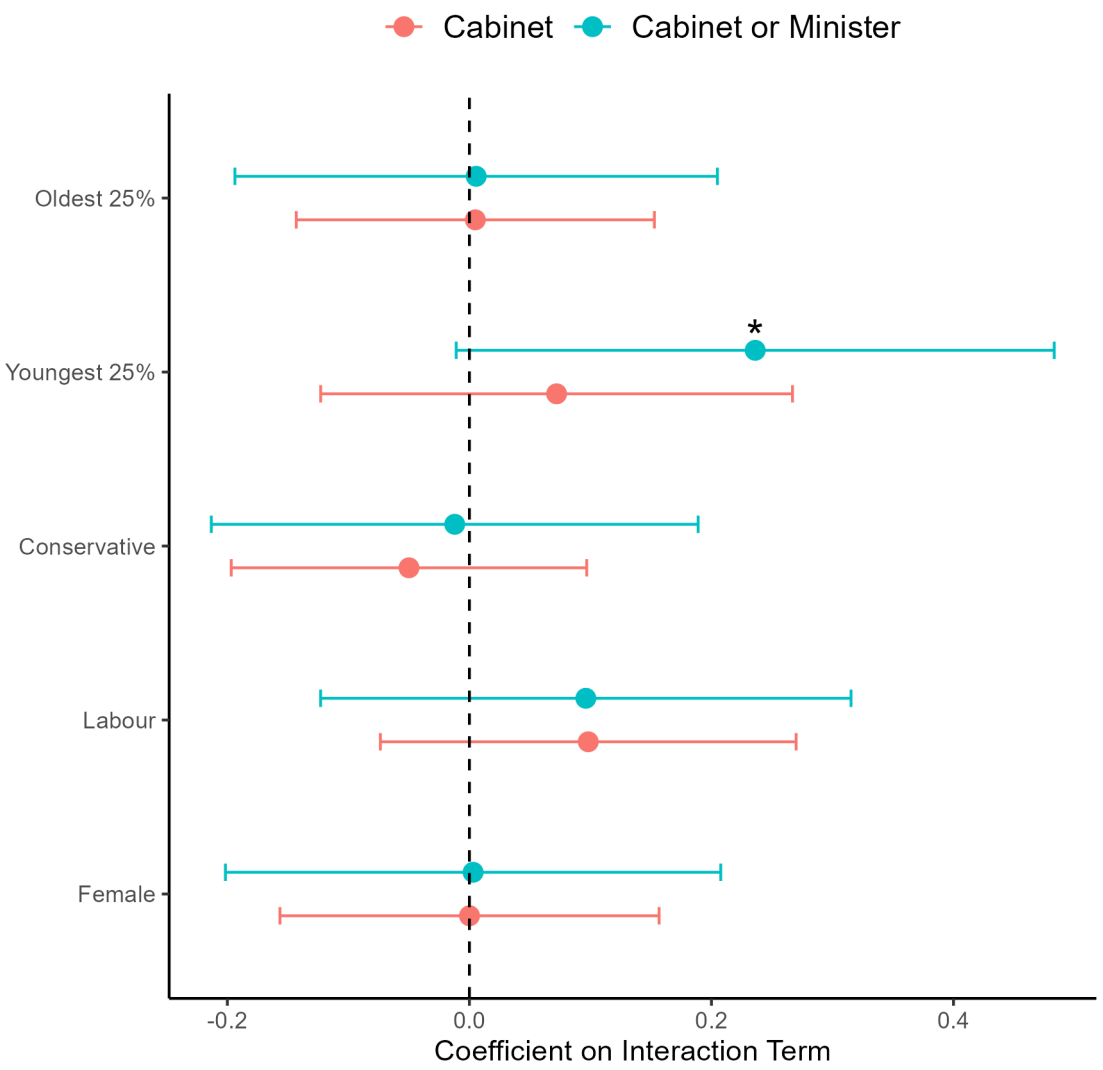
	Dependent variable: Bill Sold			
	(1)	(2)	(3)	(4)
Male	−12.717***	−9.419**	−8.372**	−8.232*
	(4.402)	(4.162)	(4.249)	(4.290)
Age	−0.565***	−0.503***	−0.523***	−0.539***
	(0.174)	(0.182)	(0.181)	(0.184)
Top 7		−1.543	−2.313	−2.030
		(3.325)	(3.299)	(3.370)
Majority at last election		−0.279**	−0.270**	−0.273*
		(0.131)	(0.124)	(0.142)
# Ballot winners in session & party		4.860		
		(3.843)		
Party in Government		−0.426		
		(0.825)		
Parliament FE	No	Yes	Yes	No
Party FE	No	No	Yes	No
Party × Parliament FE	No	No	No	Yes
Sample Size	340	320	320	320

Note: *p<0.1; **p<0.05; ***p<0.01

Table C.10: Who Sells their Ballot Bill by Party

	Dependent variable:			
	Conservative		Labour	
	(1)	(2)	(3)	(4)
Age	−0.550**	−0.458*	−0.706**	−0.625**
	(0.220)	(0.239)	(0.273)	(0.288)
Male	−13.803**	−13.096**	−6.153	−4.303
	(6.490)	(6.569)	(5.625)	(5.730)
Top 7		−6.629		2.438
		(4.907)		(4.529)
Last Majority		−0.382*		−0.204
		(0.217)		(0.189)
Control Mean	40.674	40.674	39.696	39.696
R-squared	0.126	0.156	0.127	0.134
Sample Size	178	171	162	149
Note:				*p<0.1; **p<0.05; ***p<0.01

Figure C.6: Heterogeneity Analysis



Note: The figure plots estimated coefficients (β_3) from regressions testing heterogeneity in the effect of winning the Ballot across subgroups of MPs (e.g., by age, gender, party). Coefficients reflect the differential treatment effect of winning the Ballot for MPs with the specified characteristic relative to those without. 95% Confidence intervals are shown.

Table C.11: Balance Table with 3 treatment years (2016, 2017 and 2020)

Variable	Control	Treated	Difference
Labour	0.393	0.367	-0.027
	(0.014)	(0.063)	(0.065)
Conservative	0.487	0.467	-0.021
	(0.014)	(0.065)	(0.066)
BAME	0.070	0.050	-0.020
	(0.007)	(0.028)	(0.034)
Female	0.341	0.333	-0.008
	(0.013)	(0.061)	(0.063)
Age	49.645	50.133	0.489
	(0.314)	(1.598)	(1.494)
Previously Cab or Min	0.343	0.400	0.057
	(0.013)	(0.064)	(0.063)
N	1305	60	

Notes: The table reports mean characteristics of MPs who submitted to the Ballot in 2016, 2017, and 2020. Control group are ballot losers and the treated group are ballot winners. Standard errors in parentheses. BAME is Indicator for Black, Asian, or Minority Ethnic MPs. Previously Cab or Min is an Indicator for ever having a cabinet or ministerial role.

Table C.12: Characteristics of MPs who submit to the ballot for PMBs, compared to those that do not in 2016-2022

Variable	Non-submitters	Submitters	Difference
Labour	0.271	0.364	0.094***
	(0.014)	(0.010)	(0.018)
Conservative	0.591	0.511	-0.080***
	(0.016)	(0.011)	(0.019)
BAME	0.056	0.070	0.014
	(0.007)	(0.005)	(0.010)
Female	0.298	0.341	0.043**
	(0.015)	(0.010)	(0.018)
Age	51.461	50.174	-1.287***
	(0.320)	(0.239)	(0.424)
Previously Cab or Min	0.559	0.366	-0.193***
	(0.016)	(0.010)	(0.019)
Gov job	0.480	0.001	-0.479***
	(0.016)	(0.001)	(0.011)
Opp job	0.239	0.214	-0.026
	(0.014)	(0.009)	(0.016)
N	969	2276	

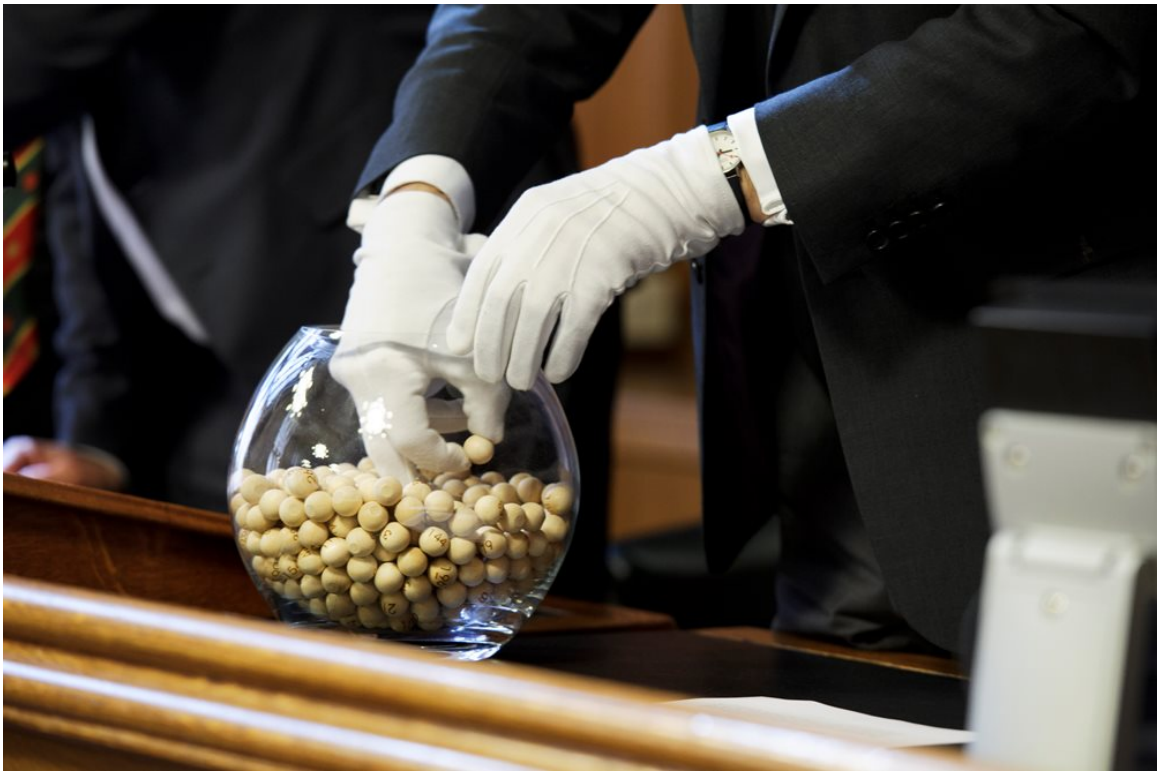
Notes: The table compares characteristics of MPs who submitted to the Ballot for Private Members' Bills with those who did not (2016–2022). BAME is an indicator for Black, Asian, or Minority Ethnic MPs. Previously Cab or Min is an indicator for ever having a cabinet or ministerial role. $*p < 0.10, **p < 0.05, ***p < 0.01$.

Table C.13: Logit: Effect of Winning the Ballot on Binary Job outcome 5 years later

	Dependent variable:					
	Any Job		Cabinet or Minister		Cabinet	
	(1)	(2)	(3)	(4)	(5)	(6)
Won Ballot	0.503*	0.654*	0.645**	0.760**	0.706	0.753*
	(0.297)	(0.337)	(0.311)	(0.355)	(0.438)	(0.454)
Control Mean	0.271	0.271	0.185	0.185	0.063	0.063
Controls	No	Yes	No	Yes	No	Yes
Sample Size	1192	1180	1192	1180	1192	1180

Notes: The table reports logit regression estimates of the effect of winning the Ballot on MPs' career outcomes five years later. Dependent variables are binary indicators for holding (i) any party job, (ii) a cabinet or ministerial job, or (iii) a cabinet job only. Controls include gender, age, age squared, ethnicity, and prior high-ranking job, as well as party-year fixed effects. Control mean shows the outcome mean for ballot losers. $*p < 0.10, **p < 0.05, ***p < 0.01$.

Figure C.7: UK Private Members' Bill Ballot Draw Ceremony



Source: UK Parliament News, https://www.parliament.uk/business/news/2023/november-2023/private-members-bill-ballot-to-be-drawn-on-thursday-16-november/

Figure C.8: Example Ballot Bill: "*Cystic Fibrosis (Exemption from Prescription Charges) Bill*" introduced by John Hayes

A

BILL

TO

Exempt persons with cystic fibrosis from charges for drugs, medicines, appliances and pharmaceutical services; and for connected purposes.

BE IT ENACTED by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1 Amendment of the National Health Service Act 2006

(1) The National Health Service Act 2006 (c. 41) is amended as follows.

(2) In section 173 (exemptions from general charging)—

(a) after paragraph (1)(d), insert—

"(e) the supply of any drug, medicine, appliance or pharmaceutical service for a person with a valid exemption certificate issued by the Secretary of State on the ground that he is suffering from cystic fibrosis.".

(b) after subsection (3), insert—

"(4) A valid exemption certificate for the purposes of sub-paragraph (1)(e) above shall be in such form as the Secretary of State may by regulations prescribe.".

2 Amendment of the National Health Service (Wales) Act 2006

(1) The National Health Service (Wales) Act 2006 (c. 42) is amended as follows.

(2) In section 122 (exemptions from general charging)

Source: https://publications.parliament.uk/pa/cm200607/cmbills/030/2007030.pdf

Figure C.9: Example List of MPs that submitted to the Ballot for PMBs (page 1, 2016)

MEMBERS ENTERING FOR THE BALLOT FOR BILLS

WEDNESDAY 25 MAY 2016

1 Mr Virendra Sharma
2 Graham Jones
3 Jeff Smith
4 Jim Fitzpatrick
5 Richard Fuller
6 Angela Crawley
7 Sir Roger Gale
8 Alison McGovern
9 Alex Cunningham
10 Kevin Foster
11 Roger Mullin
12 Sir Simon Burns
13 Bridget Phillipson
14 Holly Lynch
15 Antoinette Sandbach
16 Andrew Bridgen
17 Angus Brendan MacNeil
18 David Mackintosh
19 Mike Gapes
20 Nic Dakin
21 Mr Barry Sheerman
22 Dr Liam Fox
23 Mr Robert Syms
24 Liz Saville Roberts
25 Heather Wheeler
26 Paul Blomfield
27 Carolyn Harris
28 Diana Johnson
29 Rebecca Pow
30 Damian Green
31 Craig Mackinlay
32 Chris Davies
33 Zac Goldsmith
34 Craig Whittaker
35 Jonathan Reynolds
36 Angela Rayner
37 Mr Bernard Jenkin
38 Mr Stephen Hepburn
39 Dr Tania Mathias
40 Alison Thewliss
41 Ian Austin
42 Stuart Blair Donaldson
43 Tim Loughton
44 Daniel Kawczynski
45 Sir Oliver Heald
46 Chris White
47 Kirsten Oswald
48 Jason McCartney
49 Mary Robinson
50 Stephen Metcalfe
51 Siobhain McDonagh
52 Karen Lumley
53 Andrew Bingham
54 Tom Brake
55 Steve McCabe
56 Drew Hendry
57 Tommy Sheppard
58 Alec Shelbrooke
59 Mike Weir
60 Mr David Hanson
61 Deidre Brock
62 Fiona Mactaggart
63 Andy McDonald
64 Gareth Johnson
65 John Mc Nally
66 Kit Malthouse
67 Jo Churchill
68 George Kerevan
69 Vicky Foxcroft
70 Mrs Anne-Marie Trevelyan
71 Stuart Andrew
72 Justin Madders
73 Mr David Davis
74 Craig Tracey
75 Iain Stewart
76 Emma Reynolds
77 Jim Shannon
78 Anna Turley
79 Sir Alan Duncan
80 Patrick Grady
81 Dr Paul Monaghan
82 Peter Kyle
83 Chris Elmore
84 Gill Furniss
85 Martyn Day
86 Scott Mann
87 Amanda Milling
88 Philip Boswell
89 Susan Elan Jones
90 Stewart Malcolm McDonald
91 Cat Smith
92 Liz McInnes
93 Christian Matheson
94 Barbara Keeley
95 Mhairi Black
96 Stephen Doughty
97 David Rutley
98 Natalie McGarry
99 Graham Evans
100 Edward Argar
101 Valerie Vaz
102 Ian Blackford
103 Mark Durkan
104 Ronnie Cowan
105 Mr Douglas Carswell
106 Tom Tugendhat
107 Brendan O'Hara
108 Bob Blackman
109 Mr Peter Lilley
110 Sarah Champion
111 Norman Lamb
112 John Pugh
113 Mr Keith Simpson
114 Henry Smith
115 Mr Robin Walker
116 Mr Jeffrey M. Donaldson
117 Wendy Morton
118 Sir David Amess
119 Stephen Hammond
120 Mr Alan Mak
121 Nigel Huddleston
122 Mr Andrew Turner
123 Jack Dromey

Source: https://publications.parliament.uk/pa/cm201617/cmagenda/bfb160526.pdf