

Communicative Power, Inequality and Representation

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Abstract

How can we evaluate the distribution of political power and the quality of democratic representation when public opinion is influenced by elite communication? I argue that, in such contexts, a key component of political power is ‘communicative power’, or the power to influence public opinion. Correspondingly, an equal distribution of communicative power is a necessary condition for political equality. The extent of inequalities in communicative power is well-captured by the degree of ‘communicative representation’ – or how much, across issues, elite communication proportionately reflects and responds to citizen opinion. I introduce an empirical strategy for measuring how far communicative representation actually obtains. To illustrate its feasibility, I use this approach to analyze communicative representation on redistribution and immigration in the United Kingdom (UK) between 2010 and 2019. Cumulatively, this study breaks new ground in theoretical and empirical research on political representation and inequality, and joins efforts to bridge the two.

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1 Introduction

Political equality, or an equal distribution of political power, is a widely held commitment among theorists of liberal democracy and political representation (Beitz, 1989; Mansbridge, 2003; Christiano, 2008; Urbinati, 2019). This commitment also drives much empirical research on the quality of electoral representation in democracies (Krook and O'Brien, 2012; Schakel and van der Pas, 2021; Butler and Broockman, 2011; McClendon, 2016; Lupu and Warner, 2022). At the same time, empirical political scientists have amassed considerable evidence that public opinion both influences and is influenced by elite speech.¹ The possibility of such 'opinion endogeneity' introduces additional sources of political inequality. This has important implications for the study of representation, which have received little attention from researchers thus far. Insofar as an individual (or group) is able to influence public opinion in line with their own preferences, this is an important source of political power for that individual (or group). For instance, although citizens can choose who to elect, once elected, representatives can potentially use their privileged position to reshape citizens' opinions in a direction more consistent with their own interests or values. I argue that the standard mechanisms of representative democracy cannot eliminate this concern. Consequently, existing approaches to the study of political (in)equality and representation in democracies overlook an important component of the distribution of effective political power in a polity: the presence and influence that individual political actors have within public political debate, and therefore over public opinion. In other words, their 'communicative power'.

In this article, I argue that a full consideration of how effective political power is distributed in a polity must thus therefore take into account inequalities in communicative power as well. The extent of this inequality is captured by the degree of 'communicative representation' in that polity – or the degree to which, across issues, political speech by

¹A small selection of relevant studies include Lenz (2009), Tesler (2018), Barber and Pope (2019), and Slothuus and Bisgaard (2021). More evidence is discussed and listed in Section 2.1.

elite actors proportionately reflects, as well as responds to, the opinions of individual citizens. Moreover, I propose an empirical strategy for measuring how far communicative representation, thus defined, obtains in actually existing polities. Finally, to illustrate the feasibility and validity of my suggested empirical strategy, I apply this approach to characterize the level of communicative representation on two key issues, redistribution and immigration, in the United Kingdom (UK) between 2010 and 2019.

My argument proceeds as follows. If the policy opinions and factual beliefs of citizens are, to some extent, influenced by elite political communication, any assessment of the political power exercised by individual citizens in a democracy must also take into account their communicative power, or presence and influence within public political debate. As such, an equal distribution of communicative power – i.e. a high degree of communicative representation – is a necessary precondition for the full realization of political equality. The level of communicative representation in a polity, in turn, reflects the distribution of communicative power within that polity. This is because low communicative representation implies that elite actors with certain opinions, and the citizens who share them, have disproportionate presence and influence in public debate, and so disproportionate political power over public opinion. Conversely, if communicative representation is high, the preferences of voters must be more proportionately represented within elite discourse, implying greater political equality.

I advance and validate an empirical strategy to measure the degree of communicative representation in a polity that is concrete, replicable and scalable to a large number of countries, issues and years. My proposed measure of communicative representation has two components: ‘communicative congruence’ – i.e. the extent to which, across issues, the entire distribution of voter preferences is proportionately reflected in elite speech – and ‘communicative responsiveness’ – i.e., the extent to which changes in the distribution of voter preferences (appear to) produce corresponding changes in the preferences

expressed in elite speech. I also propose three additional statistics that provide deeper insight into the degree and sources of unequal communicative representation in a polity: the extent of ‘communicative malapportionment’ in a polity, the ‘relative communicative presence’ of different social groups within an electorate, and elites’ ‘relative communicative responsiveness’ to these social groups. By helping us identify which social groups are relatively under- or over-represented in elite speech (and by how much), and whether elites are disproportionately responding to changes in the preferences of certain groups, these latter two statistics provide particular insight into the sources of any inequalities of communicative power that we identify.

As proof of concept, I apply this empirical strategy to study communicative representation on two key issues, redistribution and immigration, in the United Kingdom (UK), using parliamentary speech as a proxy for elite speech. My analysis covers the period between May 2010 and July 2019 – a time frame including three general elections, four governments, and one fateful referendum on the UK’s membership of the European Union.

The contributions of this article are fourfold. First and foremost, by taking on the question of how one can even characterize, and therefore evaluate, the distribution of political power in the presence of opinion endogeneity, this article breaks new ground in normative analyses of political representation and inequality. Although contemporary theorists of representation have long recognized and even lauded the role of ‘discursive processes’ within representative relationships (Mansbridge, 2003; Saward, 2010; Disch, 2015), the question of what such processes imply for how we can, and should, assess the distribution of political power in a polity has received minimal attention within this longstanding research tradition.² In answer to this question, I propose that what has been

²My concept of ‘communicative power’ relates closely to the notion of ‘ideological power’, the ‘third face of power’ identified by Lukes (1974). However, to my knowledge, subsequent research building on Lukes’ seminal account of the nature of power has not answered the question of who, in a setting where opinions are endogenous, can be said to have more or less (ideological or communicative) power than others – as I seek to do here.

missing thus far is consideration of how ‘communicative power’, or individuals’ presence and influence within public political debate, is distributed within a polity. This is, in turn, reflected by the level of ‘communicative representation’ in a polity.

Second, by proposing and validating a concrete, replicable and scalable empirical strategy to examine the level of communicative representation in a polity, I add to the repertoire of potential measures empirical researchers can use when assessing the quality of political representation in a polity. Existing empirical research on representation – more focused on evaluating policy responsiveness (Powell, 2000; Gilens, 2012; Sabl, 2015), pledge fulfillment (Stokes, 2001; Matthieß, 2020), retrospective voting (Powell and Whitten, 1993; Hobolt, Tilley and Banducci, 2013; Healy and Malhotra, 2009) or descriptive representation (Chauchard, 2014; Carnes and Lupu, 2015) in a given context – has not previously considered how countries perform on this criterion.

Third, my analysis of the UK constitutes the first attempt to empirically estimate patterns in communicative representation in a polity. I find evidence of significant communicative malapportionment on both issues, alongside some overall communicative responsiveness. Moreover, across issues, we find that the opinions of women and low education voters are consistently *under*-represented in legislative speech. Meanwhile, the (more left-wing) opinions of working-class voters on redistribution, and the (more right-wing) opinions of white working-class and older voters on immigration are also consistently under-represented in speech throughout. Remarkably, I find that a very high and statistically significant correlation between the relative communicative presence of a group on an issue and legislators’ communicative responsiveness to changes in the opinions of that group on that issue – suggesting that these measures are cumulatively informative about a group’s relative communicative power. The patterns that I uncover align well with previous research on unequal representation in established democracies – and in particular, the descriptive and substantive under-representation of female, working-class

and low education voters – including in the UK.

Last but not least, this enterprise adds to recent efforts to place democratic theory on more ‘realistic’ foundations (Williams, 2005; Galston, 2010; Knight and Johnson, 2011; Bagg, 2018b; Bächtiger and Parkinson, 2019).³ I contend that my proposed measure of communicative representation in a polity provides a useful and important barometer of how and how far its political environment deviates from one crucial aspect of the democratic ideal of political equality at any given moment. Moreover, performance on this measure also provides us with a criterion which we can use to rank actually existing democracies, to compare their performance against a benchmark of ‘perfect’ communicative representation, and to explore the correlates of any variation in performance across countries and over time (so as to better understand the sources of variation in political inequality). Further, by offering a strategy to evaluate not just *whether* communicative power is unequally distributed, but *for the benefit of whom*, this enterprise can help us evaluate the effectiveness of various strategies which have been proposed to reduce political inequality, or to identify new ones. As such, it also responds to calls for a more ‘problem-based’ approach to democratic theory (Warren, 2017), as well as a ‘comparative’ approach to normative political theory and institutional design (Sen, 2009; Ganghof, 2013; Blum and Zuber, 2016).

2 The Importance of Communicative Representation

2.1 Political Equality and Opinion Endogeneity

Political equality, or an equal distribution of political power, is a widely held normative commitment among theorists and proponents of liberal democracy. For many, the

³Although Wolkenstein and Wratil (2021) also seek to bridge normative and empirical research on political representation, they are more concerned with empirically operationalizing existing conceptions of representation advanced by normative theorists. My enterprise is distinct, as my intended contribution is to normative democratic theory as well.

democratic ideal is synonymous with political equality, and the intrinsic value and moral authority of democracy follows from its egalitarian character.⁴ If political power is understood as the “the opportunity to influence political decisions, which usually take the form of laws and other directives that are regularly enforced against, or widely considered binding for, [a] group’s members” (Viehoff 2019, 5), equal political power in turn requires that all citizens have an equal opportunity to influence political decisions.⁵

This egalitarian commitment is also shared by many, if not most, scholars of political representation. For instance, Mansbridge (2003) discusses the normative criteria implied by various ‘models’ of political representation in terms of their implications for political equality⁶, while Urbinati (2019) cites equality as her ‘guide’ in analysing and evaluating current ‘interpretations’ of political representation. The same impulse has motivated much empirical research on representation, producing a vast literature that documents significant inequalities in political representation by income and social class (Gilens, 2012; O’Grady, 2019; Elsässer, Hense and Schäfer, 2021; Lupu and Warner, 2022), educational background (Hakhverdian, 2015; Schakel and van der Pas, 2021), gender (Paxton, Hughes and Painter, 2010; Krook and O’Brien, 2012) and ethnicity (Griffin and Newman, 2007; Butler and Broockman, 2011; McClendon, 2016).

⁴As discussed in Viehoff (2014), the claim that democracy is intrinsically valuable *because* it grants all citizens an equal say in lawmaking, is held by (among others) Charles Beitz (1989), Jane Mansbridge (1980), Joshua Cohen (1997) and Jeremy Waldron (1999), while Thomas Christiano (2004, 2008) is a prominent recent advocate of the claim that the moral authority of (at least some) democratically made laws follows from the egalitarian nature of democratic procedures.

⁵Of course, with good reason, representative democracies delegate actual decision-making power to certain elites, such as legislators and bureaucrats, and so some inequalities of political power are both inevitable and desirable (Viehoff, 2019; Beramendi, Besley and Levi, 2022). This has motivated many political philosophers to define political equality instead as entailing ‘equal consideration’ (Anderson, 1999; Verba, 2003; Beramendi, Besley and Levi, 2022). However, I argue later in Section 2.2 that, first, a conceptualization of ‘political power’ in terms of *opportunities* to influence political decisions and not actual influence, as in Viehoff (2019), does not face the same objection. Second, an interpretation of political equality in terms of equal *consideration* still leads us to the same conclusion regarding the value of equalizing communicative power, and thus for improving communicative representation (ref. fn 9).

⁶To be more precise, she describes and evaluates these models in terms of their implications for the exercise of roughly equal coercive power (the aggregative ideal), and the absence of (coercive) power (the deliberative ideal).

At the same time, decades of empirical research by political scientists has established that citizens' policy opinions and beliefs are, at least to some degree, influenced by elite political communication, with potential consequences for electoral behavior and outcomes ('opinion endogeneity'). A large body of work has documented the tendency of citizens to adapt their policy opinions based on partisan cues and framing, in experimental settings (Levendusky, 2010; Bolsen, Druckman and Cook, 2014; Broockman and Butler, 2017; Barber and Pope, 2019) as well as in real-world contexts (Lenz, 2009, 2012; Slothuus and Bisgaard, 2021). Studies have also found evidence for the susceptibility of citizens' factual beliefs and interpretation to elite communication, including from partisan sources, finding an effect of elite cues on beliefs regarding seemingly objective conditions like the existence of climate change (Tesler, 2018), the prevalence of electoral fraud (Clayton et al., 2021), and the state of the economy (Bisgaard and Slothuus, 2018).⁷

Such opinion endogeneity introduces the potential for additional sources of political inequality that would not exist if citizen opinion was fully exogenous. In particular, it introduces new asymmetries of power into the principal-agent relationship that links representatives with their constituents: given that there is asymmetric and incomplete information, although the citizen can choose who to elect, once elected, the representative can use their position to reshape citizens' opinions in a direction more consistent with their own (perhaps newly acquired) interests or values. As Mansbridge and others have argued, this may often be normatively justified and desirable.⁸ Naturally, given constraints of

⁷A separate line of research has considered the evidence for 'priming', whereby campaign and media messages, through their issue emphases or framing, can alter the issues that voters prioritise when evaluating parties and politicians (Druckman and Holmes, 2004; Tesler, 2015; Matthews, 2019). There is also a vast literature on media persuasion and framing effects – for example, see Ladd and Lenz (2009), Barnes and Hicks (2018), Grossman, Margalit and Mitts (2022) and Basu (2023). The endogeneity of citizens' issue priorities to elite cues and of public opinion to media frames and attention are outside the immediate scope of this study, but also have implications for the study of political inequality.

⁸For example, Mansbridge (2003) sees an important positive role for 'mutually educative communication' in electoral representation, with the opinions of the represented being reshaped by their representatives but only in a direction that, given more information and time for reflection, the represented would approve. Meanwhile, theorists belonging to the 'constructivist turn' have especially embraced the more 'discursive, interpretative and conflictual aspects' of political representation, emphasizing the ways in which the 'representative relationship' is fundamental to the 'construction of the democratic political

time, information and expertise, many citizens will want to defer to the expertise of more informed and engaged citizens (including elected representatives). They then award those citizens more influence over their own opinions than they wield over the opinions of others. In many cases, given more information and time for reflection, they would even approve of how their opinions have been reshaped through this fundamentally unequal relationship.

However, these same power asymmetries mean that voters do not subsequently receive either the time or the information to determine whether their new opinions are more aligned with their underlying interests and values than previously. It is also not possible for a citizen to determine *ex ante* if, in a counterfactual universe where she had received different information and arguments from her representatives, she would arrive at the same judgment regarding her newly acquired opinions.

These concerns are not fully addressed by what Landa and Pevnick (2020), for instance, label the ‘selection’ and ‘treatment’ mechanisms of representative democracy. Landa and Pevnick (2020) argue that, in a ‘well-designed’ representative democracy, elected representatives will be motivated to exercise their power with due care and consideration for the interests of ordinary citizens, being aware of their pivotality in policy-making and also disciplined by electoral incentives (the ‘treatment mechanism’). Additionally, repeated elections will aid voters in filtering out biased or incompetent representatives (the ‘selection mechanism’). However, when citizens lack information about which policies are consistent with their underlying interests and values, there is no obvious reason why these mechanisms would motivate representatives to provide this information. It is likely that, were a voter to become aware that she has been receiving biased or incomplete information from her representative, she would be inclined to punish them at the ballot box. But, it is very difficult for citizens who are not already fully informed to determine if the information they have received so far from their representatives is biased

space’, of ‘political subjectivity’ and ‘the self-understanding of the represented’ (Castiglione and Pollak, 2019; Saward, 2010; Disch, 2015).

or incomplete. This means that they cannot use elections to either discipline or select representatives who will provide unbiased and complete information effectively.

2.2 Political Equality and Communicative Representation

I contend that, if the policy opinions, issue priorities and factual beliefs of citizens are indeed endogenous to elite political communication, then any measure of the political power exerted by an individual citizen must also take into account their presence and influence within public political debate, and thus over public opinion. This is because the presence and influence that any individual citizen has within public debate – even if only indirectly, via their representative(s) – materially affects the opportunities they have to influence political outcomes, via their influence on the opinions of others. As the political power possessed by each citizen is constituted by their opportunities to influence political decisions, it follows that their presence and influence within public debate (or their ‘communicative power’) is a core component of any measure of their effective political power over other citizens, including their representatives. It also follows that an equal distribution of communicative power is a prerequisite for the full realization of political equality.

Moreover, I contend that the degree of ‘communicative representation’ in a polity reflects, and is therefore informative about, how communicative power is distributed in that polity. Here, I define the level communicative representation in a polity as the extent to which speech by elite actors proportionately reflects, *and* responds to changes in, the entire distribution of individual preferences on each issue. If communicative representation is low, it must by definition be the case that elite actors with preferences shared by a subset of the electorate have disproportionate presence in public debate, which provides them and those whose views they represent greater opportunity than others to influence public opinion, and ultimately, political outcomes. On the other hand,

high communicative representation would imply that elite opinions have a presence and influence in public debate largely in proportion to the number of citizens who share these views, implying a more equal distribution of communicative power among citizens.

The aforementioned logic holds even though the views of citizens that are therefore being represented by elites are, inevitably, themselves formed endogenously, through political and other processes. At any given moment, insofar as changes in the opinions of any individual citizen on any issue are as likely to be reflected in subsequent elite speech as changes in the preferences of other citizens, we can say that that individual has equal communicative power to all other individuals in that polity – in that, as an individual, they have as much presence and influence within public debate as any other citizen at that moment. This is true even if the policy opinions, beliefs or priorities that the individual concerned currently espouses reflect the opinions and information they have received from others within their social and political environment.

It is important to stress that a high degree of communicative representation thereby constitutes a necessary but not sufficient condition for equality of political power. This is because the opportunities citizens have to influence political decisions are not only determined by their opportunities to influence public opinion, but also other parameters governing the processes that link public opinion and policy outcomes – for example, the institutions that influence how bills become law in a given setting, or the preferences of bureaucrats delegated with implementing the law. Moreover, the criteria that have been the focus of much empirical research on representation – such as policy responsiveness, the strength of the economic vote, or improved descriptive representation – present complementary conditions which are also necessary but not sufficient conditions for political equality.

Nonetheless, I contend that the degree of communicative representation in a polity still provides a useful and important barometer of how far the political environment

of that polity fails to satisfy one important aspect of political equality at any given moment. Serious deficiencies in communicative representation would imply an unequal distribution of political power over public opinion, and so significant deviations from the ideal of political equality.

2.3 Costs of Communicative Representation

At the same time, even if we accept that the degree of communicative representation in a polity is informative regarding the distribution of political power over public opinion, and therefore the nature and extent of political inequality, there are undoubtedly costs associated with improving communicative representation as well. Improving communicative representation may require that we increase, for instance, the presence and influence of nativists or authoritarians in public debate, or the representation of opinions which would not be admissible in an ideal deliberative setting (for not being based in fact or being exclusionary). It would also demand that we do not over-represent the views of experts within public debate – such as economists, climate scientists or medical doctors – even at the cost of the public interest. By increasing the communicative power of those with illiberal and anti-democratic views, it may even threaten democratic stability and cohesion. Moreover, research suggests that there are substantial differences between the preferences citizens would have if they were ‘fully informed’ and those they express in surveys (Althaus, 1998; Luskin, Fishkin and Jowell, 2002; Kuziemko et al., 2015) – compounding doubts as to whether focusing on the representation of citizens’ *actual* (uninformed) preferences is wise.

For these and other reasons, most if not all democratic theorists reject a ‘simple responsiveness criterion for democratic quality’ (Sabl, 2015, 349). Responding to some of these concerns, theorists of deliberative democracy have instead stressed the need for institutions and practices that might, through ‘the force of the better argument’

(Habermas, 1996, 103), might reduce the prevalence of the least informed and moral opinions in the electorate (Mansbridge, 2003, 524). Knowing themselves and others to be less than fully informed or moral, voters may also not even *demand* perfect communicative representation from their representatives. Indeed, recent research finds that ‘technocratic attitudes’ are pervasive among European electorates (Bertsou and Caramani, 2022). A theory of representation attentive to how voters *want* to be represented – as Rehfeld (2009) argues is important, for instance – might want to incorporate and respond to these concerns.

2.4 The Value of Communicative Representation

Nonetheless, I argue that a more equal distribution of communicative power, and thus improved communicative representation, is a worthwhile normative objective, albeit one that should not be prioritised over all other normative objectives.

My argument proceeds in two steps. First, any arguments against equalizing communicative power which rely on claims regarding the epistemic or moral inferiority of some citizens also imply that we should have reservations about equalizing their non-communicative power as well. Second, many of the standard arguments for political equality imply that we should strive for equality of both communicative power *and* non-communicative power. In this sense, discussions about the equality of communicative and non-communicative power are inseparable, and turn on each other. Therefore, a commitment to egalitarian principles – based on, for instance, a commitment to equal moral respect for all persons, a core prior commitment within the liberal tradition – should produce a commitment to equalizing communicative power alongside non-communicative power.

First, consider the view that citizens with illiberal, anti-democratic, nativist, or poorly informed opinions should have less communicative power than others within democracies,

because of what this might imply for democratic stability or for the quality of policy-making. It is immediate that the same concerns arise when it comes to equalizing the *non-communicative* political power held by these citizens as well. For instance, eliminating bans against fascist and other anti-democratic associations and parties would increase the voting power of citizens who support these parties, but also has potential consequences for minority rights and democratic stability in those societies. Thinking along related lines, political philosophers Daniel Bell and Jason Brennan have recently and prominently argued for institutional innovations like centralized political meritocracy or franchise qualifications, respectively, intended to reduce the *non-communicative* power of citizens agreed to be less virtuous or competent, so as to improve the epistemic quality of policy-making (Bell, 2015; Brennan, 2016). The merits of these and other epistocratic proposals have been extensively debated by democratic theorists (Estlund, 2008; Landemore, 2012; Bagg, 2018b), and as I will go on to elaborate shortly, many of the counter-arguments against these kinds of epistocratic arrangements – and therefore in favor of equalizing non-communicative power in democracies – also produce arguments for equalizing communicative power as well.

Second, many standard arguments for political equality evidently imply that we should strive for equality of both communicative *and* non-communicative power.⁹ The first of these arguments follows from the recognition that, in any society, there is widespread, inevitable and reasonable disagreement over the ranking of different moral priorities, as well as over the nature of the expertise relevant for resolving this disagreement (i.e. what

⁹ Many prominent thinkers, such as Elizabeth Anderson and Sidney Verba, have argued that equal consideration, rather than equal power, is a more compelling and coherent understanding of political equality (Anderson, 1999; Verba, 2003) – due to the built-in asymmetric distribution of ‘vertical’ power between citizens and elected officials in representative democracies (Dworkin, 1987). However, I contend that if we interpret the aspiration to equal political power as an aspiration towards equal *opportunities* to influence political decision-making (as in Viehoff, 2019), then the requirements of ‘equal consideration’ and ‘equal power’ appear more similar (e.g. reducing inequalities in political participation or descriptive representation, as discussed by Beramendi, Besley and Levi, 2022). Moreover, if we accept Sidney Verba’s definition of equal consideration as a scenario where ‘voices are equally expressed and given an equal hearing’ (Verba 2003, 677), then equal communicative power even appears to be a *pre-requisite* for equal consideration.

Valentini (2013) describes as ‘the truth conditions of claims about justice’). Then, there can be no ‘generally acceptable view of expertise’ (Valentini, 2013, 184) – an observation that underlies, for example, the ‘disagreement objection’ used to criticise epistocratic proposals (Christiano, 2008; Landa and Pevnick, 2020). An implication of this claim is that there can also be no generally acceptable basis by which we can determine who should have more or less (communicative or non-communicative) political power – as this requires reasonable agreement on, for instance, standards for competence, expertise or virtue. This also responds to the challenge that we are not morally obligated to respond to ‘unconsidered’ public opinion, as agreement on whose opinions are more ‘considered’ also presupposes an agreement on expertise that cannot be reached.¹⁰ Then, a commitment to equal respect for persons – a core prior commitment within the liberal tradition – demands that we also commit to equalizing communicative power.

A second (epistemic) argument for political equality builds on the claim that more egalitarian decision-making procedures are ultimately better at accessing moral and political truths than, for instance, epistocratic procedures, due to their ability to draw on a wider range of perspectives, heuristics and reasons (Bohman, 2006; Estlund, 2008). Most recently and notably, Landemore (2012) has argued that the higher ‘cognitive diversity’ of a randomly selected group of individuals will lead that group to outperform a group of individuals selected on the basis of ability – the ‘Diversity Trumps Ability’ theorem.¹¹ Estlund’s parable of the blind men and the elephant, whereby the men successfully identify the animal only by combining their individual sense data, has a similar flavor (2008, 233-6). Insofar as we accept this or related claims, it is immediate that improved commu-

¹⁰Deliberative opinion polls, citizens’ assemblies and other mini-publics may help us to identify what ‘considered public opinion’ might look like in many cases (Luskin, Fishkin and Jowell, 2002; Fishkin and Luskin, 2005; Gerber et al., 2018). However, research suggests that citizens are unlikely to view policy responsiveness to recommendations made by such bodies as equally legitimate to those made by authorized and formally accountable representatives selected through elections (Goldberg and Bächtiger 2023; see also Lafont 2019). This echoes the concern that general prior agreement on whose opinions are sufficiently considered is unlikely to be achievable.

¹¹The internal validity of the ‘Diversity Trumps Ability’ theorem has subsequently been challenged (Thompson, 2014; Ancell, 2017), and is the subject of some ongoing debate.

nicative representation should also increase the diversity of elite discourse (and possibly also of elites themselves), even as it reduces the communicative power of experts.

A third (also epistemic) argument for political equality builds on the claim that any system which awards greater political influence to individuals based on some agreed notion of competence – such as education – inevitably introduces bias, and thus also has epistemic costs. This is because, even if the individuals thus selected are entirely motivated by altruistic considerations, their perspectives will inevitably be biased by the characteristics and interests (aside from competence) that they also do not share with the public at large. This reasoning underlies the ‘demographic objection’ to many epistocratic proposals (Estlund 2008, 215; see also Young (2002) and Christiano 2008, 120-21). As an unequal distribution of communicative power means that elite speech must be dominated by the perspectives of a minority of citizens (who, inevitably, differ from the public at large on some characteristics), it follows that low communicative representation entails similar epistemic costs. Then, cumulatively, whether the epistemic advantages of improved communicative representation outweigh the costs of reduced expert influence is far from immediate.

A fourth and final argument for political equality emphasizes a different instrumental value of democratic decision-making: as the best available means for preventing elite entrenchment, and thus resisting the capture of the state by minority interests. This argument has most recently and prominently been made by Bagg (2018b), who observes that competitive elections, universal suffrage, and discretionary state power – three core features of democracy – all render state capture more difficult than in non-democracies. To this, I add that improved communicative representation also provides an additional line of defence against state capture. By definition, low communicative representation means that the viewpoints of certain groups are *over*-represented within elite discourse, and so disproportionately influential on public opinion. This provides existing elites, and

those individuals who share their views, disproportionate opportunity to influence public opinion in a direction more favorable to their own policy preferences or material interests – facilitating their continued political dominance and the potential (mis)use of the state in defense of their own narrow interests. High communicative representation, on the other hand, mitigates these risks to a significant degree.

Then, insofar as we accept any or all of these four arguments as valid, it follows that egalitarian considerations should motivate us to pursue a more equal distribution of communicative power as well.

2.5 Some Additional Challenges

Finally, I consider and argue against two additional counter-arguments to my defense of communicative power as a key component of political power, and of the value of my understanding of communicative representation more broadly.

The Quantity vs. Quality of Opinions

The first challenge is the claim that the quality, and not just the quantity, of opinions should be taken into account when determining the extent of communicative representation in a polity. That is, rather than requiring proportional representation of all views on all issues in elite speech, political equality is consistent with higher quality opinions receiving more elite representation, and so having more influence over public opinion. This is because, ultimately, higher quality opinions will have more influence on public opinion, as, through ‘the unforced force of the better argument’ (Habermas, 1996, 306), good reasons are more likely to defeat bad ones. Moreover, this operates without undermining the equal standing of all involved, as this occurs through deliberation and by consent rather than coercion.

I have three responses to this challenge. First, I observe that it is unclear that we

should expect good reasons to necessarily, or even more often, defeat bad ones when ideal deliberative conditions do not obtain (as seems unlikely, outside of specific settings like citizens' assemblies and other mini-publics). Second, as a consequence, we must judge which opinions are higher quality (and so more deserving of communicative representation) without knowing which are more likely to survive the 'force of the better argument'. This returns us to the dilemma of arriving at a reasonable agreement regarding which opinions are higher quality, which presupposes some reasonable agreement on general expertise (as above).

Third, suppose for a moment that ideal deliberative conditions do generally obtain in elite fora (e.g. in legislatures, during electoral campaigns), and so the disproportionate representation of certain opinions by elites reflects their greater quality. If so, then we should expect these opinions to ultimately grow in prevalence among the general public, as elites successfully persuade citizens of their merits. Then, high communicative representation will ultimately be consistent with the predominance of higher quality opinions in elite speech.

Alternatively, suppose instead that much of the general public is not persuaded by the opinions disproportionately expressed in elite speech (and one reason may be because of the poor quality of deliberation in the public sphere). Then, asking that elites disproportionately represent particular viewpoints which are not shared by the public, and asking citizens to accept those elites as their legitimate representatives, would require that citizens 'blindly defer' to the judgments of these elites, without knowing that they would have arrived at the same conclusions following the same deliberations (Lafont, 2020).¹² As such, it stands in tension with the requirements of political equality.

¹²Lafont (2020) makes this argument in the context oflottocratic minipublics, but it also applies here.

Communicative Sufficiency as an Alternative Criterion

A second challenge to my argument is the view that, for the requirements of political equality to be met, it is sufficient to ensure that each possible viewpoint receives some consideration, rather than proportionate consideration. In other words, that the requirements of equal communicative power can be met via communicative *sufficiency*, rather than communicative representation. However, I contend that, in order to ensure each individual has an equal opportunity to influence public opinion, and therefore political decisions, only the proportionate representation of opinions will do. In other words, communicative power is best understood as a ‘positional good’, where its absolute value ‘depends... on how much of it one has compared to others’ (Brighouse and Swift, 2006, 474-475). As such, the arguments for equalizing communicative power presented above justify proportionate representation and not just some representation of all opinions.

This is because, all else equal, it seems natural that the probability an individual will be persuaded by an opinion is increasing in the frequency with which they hear that opinion. Then, if an individual’s opinions receive less than proportional representation in elite discourse, it follows that they have less communicative power than those individuals whose views are then disproportionately aired. This intuition is supported by research on mass communication and persuasion which finds that the ‘accessibility’ of a consideration or frame increases with repeated exposure, especially for less knowledgeable individuals (Iyengar et al., 1984; Higgins, 1996; Chong and Druckman, 2007). It is also consistent with findings that voters are far more likely to change their opinions when exposed to skewed rather than balanced messaging (Druckman, Peterson and Slothuus, 2013; Amsalem and Zoizner, 2022; O’Grady, 2022).

The point remains that the pursuit of equal communicative power may have negative consequences for other outcomes that we value, such as the epistemic quality of decisions that are reached, democratic stability or societal cohesion. However, I have argued that,

to the extent that we prize political equality, equal communicative power, and thereby communicative representation, is a normatively desirable objective. This is not to say that there are no legitimate grounds on which we can argue for an unequal distribution of communicative power in some cases. However, I contend that this debate should turn on the importance we assign to egalitarian commitments *in general* vis-a-vis other normative objectives, and on the existence of reasonable grounds for prioritizing other objectives in some cases – a debate which is beyond the scope of this article.

3 Measuring Communicative Representation

My proposed measure of communicative representation has two components: communicative congruence – the proportionate reflection of the entire distribution of voter preferences, across issues, in elite speech – and communicative responsiveness – that changes in the distribution of voter preferences (appear to) produce corresponding changes in the preferences expressed in elite discourse.

The level of communicative congruence and communicative responsiveness in a country on various political issues can be calculated by combining survey data on the distribution of voter preferences on these issues and text data on elite speech on these issues. Using established text scaling methods, the discourse of an elite actor, such as a legislator or newspaper columnist, on a particular issue, can be classified on a ideological scale – measuring, for instance, how left or right-wing the discourse is on this issue. By combining this with survey data on public opinion and using a bridging approach I discuss below, elite discourse on various sources can be compared to public opinion. For instance, we can infer how much of the public has a more progressive opinion on an issue than the opinion expressed by an individual elite actor, and how much of the public has a more conservative opinion. Moreover, we can analyze the ideological distribution of elite discourse on an issue and how this compares to the distribution of public opinion – e.g.

what fraction of discourse is very left wing compared to the views held by most of the public, and what fraction of discourse is very right wing relative to public opinion.

Then, by combining data on elite discourse and survey data on public opinion from multiple time periods, communicative congruence and responsiveness on an issue can be calculated, as I describe in detail below. In brief, communicative congruence is the extent to which, in a given time period, the distribution of elite discourse on an issue ideologically mirrors the distribution of public opinion on the issue. Communicative responsiveness is the extent to which changes in public opinion on an issue are followed by similar changes in elite discourse. As I discuss below, it is also possible to use this approach to measure the relative communicative power of various social groups: that is, the extent to which elite discourse mirrors and responds to changes in the preferences of these groups.

Evidently, in order to measure communicative congruence, responsiveness and the distribution of communicative power in practice, we need to decide which sources of elite discourse to compare to public opinion. In this article, I consider legislative discourse (specifically discourse in the United Kingdom House of Commons) as a proxy for the distribution of elite discourse in the UK. I justify the use of discourse in the legislature as a rough proxy for elite discourse below, although analysis of other elite discourse, such as in traditional and social media, is in principle possible and warranted.

Combining this legislative speech data with survey data on public opinion and measuring communicative congruence and responsiveness on an issue then ultimately involves six distinct steps, which I now describe in detail. (1) identifying the distribution of voter preferences on that issue; (2) identifying elite speech on that issue in a particular domain; (3) estimating the ideological slant of elite speech on that issue using text scaling methods; (4) rescaling elite speech and voter preferences so that they are on the same, comparable, scale; (5) calculating communicative congruence using the distribution of voter preferences and elite speech on the issue; (6) measuring the correlation between

(lagged) changes in the distribution of voter preferences and changes in elite speech.

Step 1: Measuring Voter Preferences on an Issue

To first measure the preferences of voters on a range of issues, I use survey data, using sampling weights where available to ensure that the distribution of preferences I obtain is representative of the electorate at large. Ideally, survey questions where respondents were asked to place themselves as well as political parties on specific issues are preferred, as we can then use voter placements of parties to anchor legislators and voters on the same scale (Step 4). Such questions are commonly included in national election studies (e.g. the British Election Study, the German Longitudinal Election Study, and the American National Election Study) as well as some cross-national studies (e.g. the European Election Study).

Step 2: Identifying Elite Speech on that Issue

In order to study elite speech on these issues in the same time frame, I use legislative speech as a proxy for elite speech, as this has already been labelled and digitized by researchers for a large number of countries and years – for instance, in the ParlSpeech dataset (Rauh and Schwalbach, 2020), the ParlEE Plenary Speeches dataset (Sylvester, Greene and Ebing, 2022), and the Congressional Record dataset compiled by Gentzkow, Shapiro and Taddy (2018). Thus, a similar approach can easily be allowed to other issues, countries and periods for which labelled and digitized legislative speech data exists. However, in principle, the same approach (Steps 3-6) can straightforwardly be applied to elite speech by other actors and in other domains as well (e.g. press statements by political parties, social media output, or mass media content).

Unlike political communication through various media outlets, legislative speech is not ‘public-facing’ and so ostensibly intended to communicate one’s policy positions to

other legislators and not to the public at large. Then, it might appear an odd forum in which to evaluate the presence and influence of opinions within public debate. However, most previous research on the politics of parliamentary debate has argued that legislators principally use legislative speech as a means of ‘public communication’, to ‘send policy signals when competing for votes’ (Proksch and Slapin 2015, 21; see also Bäck and Debus 2016), and so speak with the intention of having key extracts from their speeches disseminated to the broader public by their parties, by journalists, as well as through their own social media accounts.¹³ Researchers have also identified various correlates of parliamentary speech which are hard to understand except if legislative speech is understood as a form of public communication, an effort to either reveal or justify one’s political positions to the electorate (Martin and Vanberg, 2008; Herzog and Benoit, 2015). Thus, while legislative speech is far from the only important domain through which social and political elites may have an influence on public opinion, it still constitutes an important domain through which influential members of the political elite (legislators) communicate with, and so potentially influence the opinions of, the general public.

Step 3: Estimating the Ideological Slant of Elite Speech

In order to estimate the policy preferences on an issue that are expressed in each legislator’s parliamentary speech, we require text scaling methods. In this article, I employ Wordscores, a supervised text scaling procedure (Laver, Benoit and Garry, 2003; Lowe, 2008). Wordscores compares a set of texts whose positions are unknown (“virgin texts”) with texts whose positions on a scale are assumed to be known to the analyst *a priori* (reference texts). Virgin documents are then scored by the procedure based on their similarity to the reference texts in terms of their word usage – in particular, the frequency

¹³A cursory review of UK legislator Twitter accounts reveals that many tweets, perhaps even the majority, seek to highlight extracts from (typically their own) parliamentary speeches, while Proksch and Slapin (2015, 22) note that the *Frankfurter Allgemeine Zeitung*, a leading German newspaper, has published on average more than one article on each parliamentary session since 1950 (73 articles per year).

with which they use words also used in the reference texts. In my case, for each issue and period, generating these reference texts requires the researcher to identify legislators whose speeches can be considered to express the extreme left and extreme right positions on that issue. Wordscores has previously been successfully applied to a variety of political text corpora (Klemmensen, Hobolt and Hansen, 2007; Bernauer and Bräuninger, 2009; Klüver, 2009; Hjorth et al., 2015), including parliamentary speech on welfare spending in the UK (O’Grady, 2019), and, in Section 4 and in Appendix A, I also present several pieces of evidence validating its performance in my case.¹⁴

Step 4: Jointly Scaling Voter Preferences and Legislator Speech

In order to be able to compare the distribution of voter preferences on an issue with the distribution of preferences expressed in legislator speech, it is essential to place the two on a common scale. I do this by creating hypothetical anchor legislators who are assigned a score on both the Wordscores scale (of legislator speech) and on the survey response scale (of voter opinions) on each issue and for each period. I then use these anchor legislators to map all other legislators to a position on the survey response scale, based on the position of their speech on the Wordscores scale.

For each issue and period, I first create two anchor legislators who represent hypothetical extreme left and right legislators. I assign these two legislators positions on the survey response scale equal to the extremes of those scales, and Wordscores positions equal to the weighted average of scores received by extreme left and right legislators on those issues (again weighted by words spoken). These extreme left and right legislators are also those legislators whose speech was used to generate reference texts for the Wordscores procedure.

¹⁴An alternative might be an unsupervised text scaling procedure, like Wordfish (Slapin and Proksch, 2008) or Wordshoal (Lauderdale and Herzog, 2016). While these procedures have performed well in a number of contexts, I found that they performed poorly in my case, with Wordscores producing a more plausible ordering of legislators on both issues.

I also generate several additional anchor legislators corresponding to ‘typical’ members of parties in the system concerned. These legislators are assigned positions on the survey response scale based on how attentive survey respondents placed their parties, on average, on that issue and in that period.¹⁵ Specifically, for each issue and period, I assigned these legislators a score on the Wordscores scale equal to the weighted average of all Wordscore scores received by legislators from the same party in that period (weighted by number of words spoken).

Finally, for each period and issue, I run a bivariate linear OLS regression regressing the survey response positions of these anchor legislators on their Wordscores positions. The resulting estimates provide a linear mapping from the Wordscores scale to the survey response scale, for each period and issue, which I then use to place all legislators on the survey response scale, based on their estimated positions on the Wordscores scale. This approach assumes, first, that the rank ordering of legislators on the Wordscores scale reflects their ideological location on the survey response scale, as revealed in their parliamentary speech, and second, that the loss of cardinal information from a linear mapping between the two scales is minimal. In Appendix A.3, I discuss evidence that both these assumptions seem reasonable in my case.

My approach differs from earlier efforts to ‘bridge’ or jointly scale legislators and voters developed by scholars of American politics and subsequently applied to other contexts like Europe (Bakker et al., 2014; Lo, Proksch and Gschwend, 2014) and Latin America (Saiegh, 2015) – whereby two disjoint sets of roll call or survey data are connected using common survey items. However, these approaches all require joint surveys of elites and voters, limiting our attention to cases where such surveys have already been fielded, or requiring new and costly data collection efforts. Although less precise, an advantage of my approach over these earlier approaches is that it only requires that there are surveys

¹⁵For this analysis, ‘attentive individuals’ were those who were among the top 25% of respondents in terms of self-reported political attention in each wave.

where voters are asked to place parties *and* themselves on the same issue, allowing us to use historical survey data to locate legislators and voters on a common scale across a much larger number of countries, years and issues, including backwards in time.

Step 5: Measuring Communicative Congruence

As my interest is in the representation of voter preferences in political *speech*, I compare the distribution of voter preferences on each issue to the estimated distribution of legislative *discourse* on this issue. I do this by reporting the proportion of legislative speech delivered by legislators assigned to different bins on the survey response scale, and not only the proportion of legislators assigned to each bin. This gives greater weight to the expressed preferences of legislators who had more floor time – for instance, party leaders and frontbenchers (Proksch and Slapin, 2012, 2015) – and consequently, more presence and influence in public debate.

Based on this information, to summarize the level of communicative congruence that exists between legislators and voters on a particular issue, I develop a measure of ‘communicative malapportionment’. This measure builds on that of electoral malapportionment proposed by Samuels and Snyder (2001), and is calculated using the following formula:

$$M_{jt} = \frac{1}{2} \sum_{i=1}^N |D_{ijt} - v_{ijt}| \quad (1)$$

where M_t denotes the degree of communicative malapportionment that exists in country j at time t , i denotes the bins on the survey response scale, D_{ijt} the proportion of legislative discourse in each bin i at time t , and v_{ijt} the proportion of voters placing themselves in each bin i at time t . This quantity captures the proportion of legislative speech on an issue that is delivered by legislators who would not have received any floor time if there were perfect communicative congruence on that issue.

Step 6: Measuring Communicative Responsiveness

However, communicative congruence alone is insufficient as an indicator of the distribution of communicative power in a polity, as we might observe high levels of congruence just because opinions are highly endogenous and communicative power is monopolized by elites. For this reason, we also need to analyse the level of communicative responsiveness on each issue – or, the extent to which changes in the distribution of voter preferences (appear to) produce corresponding changes in the distribution of legislative speech. This provides us with an indication of how much the congruence we observe is driven by elite influence on public opinion rather than vice versa.

To facilitate this analysis, I compute legislators’ ‘gap responsiveness’ to voters, by regressing the change in the proportion of legislative speech in each bin between periods t_0 and t_1 on the gap between the proportion of legislative speech and the proportion of voters in that bin in period t_0 . This captures whether legislator speech in subsequent periods moves towards the preferences of voters who were especially under-represented in speech in the previous period, so as to reduce the extent of under-representation of these voters in subsequent periods. As such, if there is a high level of gap responsiveness, legislative speech tends to evolve over time in a direction that diminishes the overall level of communicative malapportionment.

It is important to note that this measure of responsiveness is still likely to be biased due to the very endogeneity of public opinion that we are concerned with. For example, it is possible that both legislators and voters are both responding to the views of experts, and so my measures of responsiveness do not capture the true level of communicative responsiveness by legislators to voters (a form of ‘omitted variable bias’). This ‘endogeneity problem’ is distinct from the issue that was the focus of Section 2, which concerned the implications of opinion endogeneity for the distribution of political power within a polity.

However, for two reasons, bias of this kind does not pose a significant problem for my

measures of communicative representation. First of all, my use of lags when measuring responsiveness addresses the most likely sources of omitted variable bias, such as factors that shift legislator opinion either before or simultaneously with that of voters (e.g. the influence of expert opinions or the media on both). Second, although my estimates of communicative responsiveness are likely biased, they are almost certainly biased upwards (by forces causing legislator and voter opinion to trend in a similar direction that are not captured by these lags). The only circumstances under which we might observe low communicative responsiveness when the true value is high is if there are factors pulling legislator and voter opinion in opposite directions. However, in those circumstances, we should also observe low communicative congruence. Therefore, even if these measures do not provide unbiased estimates of the true level of communicative representation on an issue, a finding of low communicative representation (i.e. low communicative congruence *and* responsiveness) is still informative about inequalities of communicative power in a polity.

Additional Statistics

I also propose two additional statistics that provide deeper insight into the degree and sources of unequal communicative representation in a polity.

First, as a measure of relative communicative presence, I calculate the extent to which different opinions and social groups are over-represented in legislative speech relative to their numbers in the electorate as a whole. The relative communicative presence p_i of opinion group i (where an opinion group is e.g. voters who place themselves at ‘2’ on immigration) is given by:

$$p_i = \frac{\text{fraction of legislators with opinion } i}{\text{fraction of voters with opinion } i}$$

The relative communicative presence P_j of a social group j is then:

$$P_j = \sum_i p_i \times \text{fraction of social group } j \text{ with opinion } i$$

This measure relates closely to the measure of ‘relative opinion presence’ developed by Basu and Heberer (2023), and can be interpreted similarly. When the relative communicative presence a group has is below 1, members of the group are under-represented in legislative speech relative to the representation received by a typical voter. Conversely, when it is above 1, the group is over-represented in speech relative to the typical voter.¹⁶

However, as with communicative representation overall, we may find that a social group has disproportionate communicative presence relative to another merely because the opinions of its members are especially influenced by, and therefore similar to, those expressed by elites. For this reason, I also calculate the extent to which legislators respond disproportionately in their speech to changes in the opinions of particular social groups – i.e. their ‘relative communicative responsiveness’ to different social groups. This is calculated by the same approach as ‘gap responsiveness’, discussed above, except that it is the gap the changes in legislative speech are regressed upon is the gap between the percentage of legislative speech and the percent of a sub-group adhering to each position, rather than the gap between the percent of speech and the percent of all voters at each position. These measures of the relative communicative presence of a group, and of legislators’ relative communicative responsiveness to that group, are cumulatively informative regarding that group’s ‘relative communicative power’.

¹⁶As an example, if we calculate that graduates have a relative communicative presence of 1.48, this means that the preferences of graduates receive 48% more representation in legislative speech than would be warranted by their numbers within the electorate.

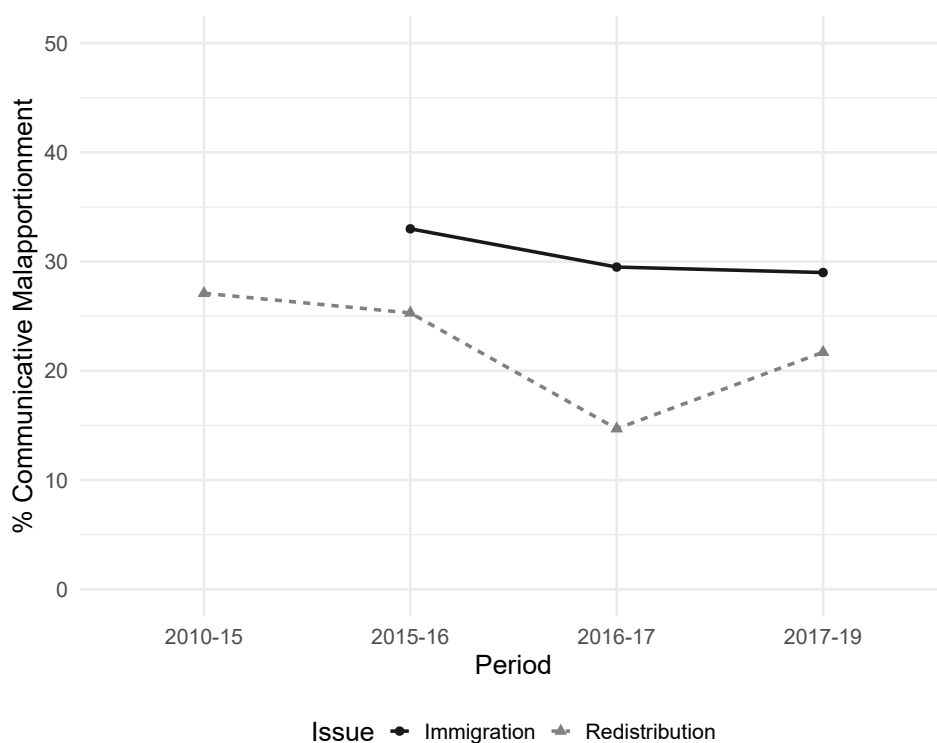
4 Communicative Representation in the UK

In this article, as proof of concept, I analyze communicative representation on redistribution and immigration in the UK between 2010 and 2019 – a time frame which includes three general elections, four governments, and one fateful referendum on Britain’s membership of the European Union (culminating in a narrow vote for Leave). I split the years between 2010 and 2019 into four distinct sub-periods, punctuated by changes of government: May 2010 to May 2015 (Conservative-Liberal Democrat coalition government); May 2015 to June 2016 (Conservative majority government led by David Cameron); June 2016 to June 2017 (Conservative majority government led by Theresa May); June 2017 to July 2019 (Conservative minority government led by Theresa May). This tumultuous period in British politics also witnessed the election of Jeremy Corbyn as leader of the Labour party, a longstanding rebel on the left of the party. Details on the application of the empirical strategy described in Section 3 to this case, including information on data sources, the scaling of legislator speech using Wordscores, and the choice of anchor legislators for bridging, are reported in Appendix A.

Figure 1 presents the estimated level of communicative malapportionment in the UK between 2010 and 2019, on redistribution (in grey) and on immigration (in black). These estimates are generated by comparing the proportion of legislators and voters assigned to each bin on the survey response scale, according to the formula given in equation (1). In Appendix B, I also present the full estimated distributions of citizen preferences, the expressed preferences of speaking legislators, and the preferences expressed in legislative discourse, calculated by the approach described in Section 3.

I find evidence of significant communicative malapportionment on both issues, but a higher level of malapportionment throughout on immigration as compared with redistribution. In both cases, communicative malapportionment appears to decline slightly over the period considered. In particular, while 27.1% of legislative speech on redistribution

Figure 1: Communicative Malapportionment in the UK, 2010-2019



could be attributed to malapportionment in 2010-15 – or speech delivered by legislators who would not have received any floor time if there was perfect communicative congruence on this issue – this decreases somewhat to 25.3% in 2015-16, and even further to 14.7% in 2016-2017 and 21.7% in 2017-19. Meanwhile, I estimate 33.0% of legislative speech on immigration as reflecting malapportionment in 2015-16, decreasing to 29.5% in 2016-17 and 29.0% in 2017-19.

Next, in order to obtain deeper insight into the sources of this communicative malapportionment that we observe, Figures 2 and 3 plot trends in the relative communicative presence of different sub-electorates in this period, on redistribution and immigration respectively. As discussed in Section 3, the relative communicative presence of a sub-electorate captures the extent to which the opinions of members of a particular group are over- or under-represented in legislative speech relative to the opinions of a typical voter,

Figure 2: Relative Communicative Presence of UK Sub-Electorates on Redistribution

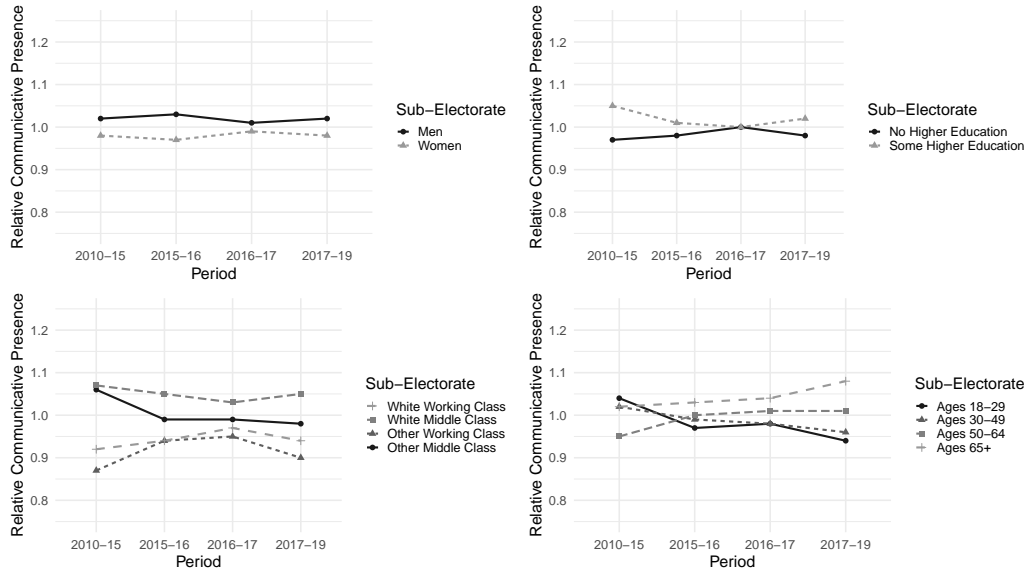
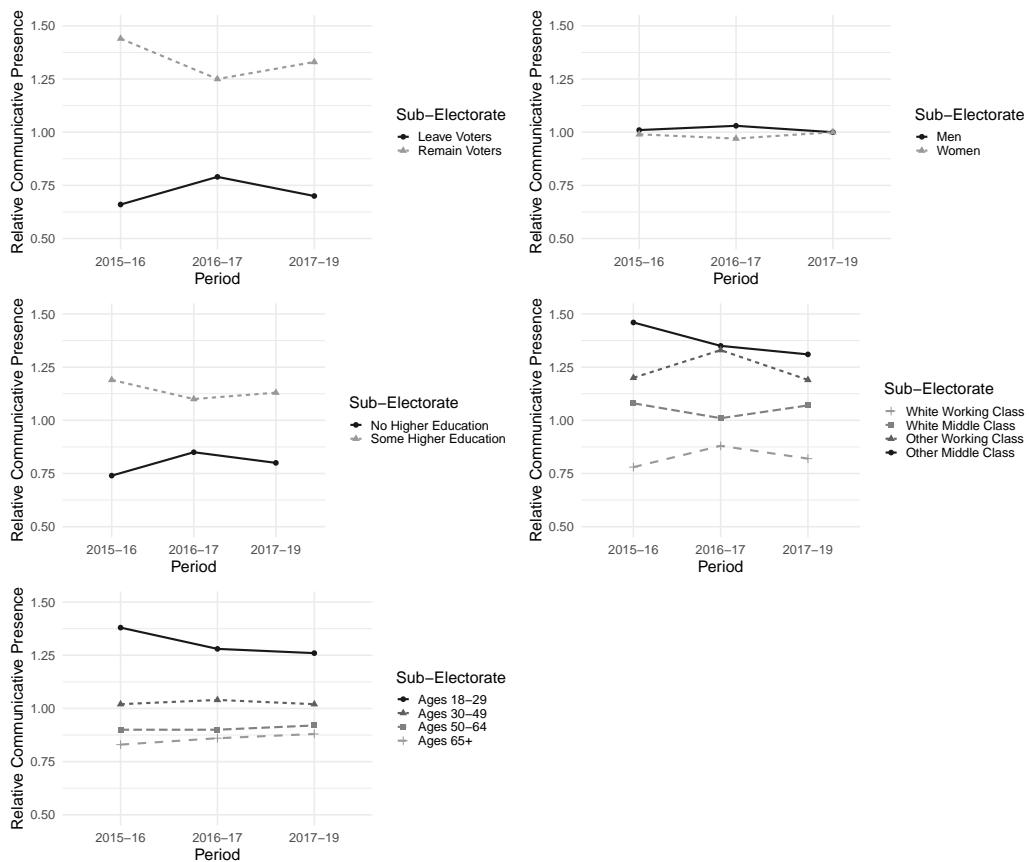


Figure 3: Relative Communicative Presence of UK Sub-Electorates on Immigration



and so their numbers in the electorate as a whole. To aid interpretation, in Appendix B, I also plot the distribution of opinions on each issue by sub-electorate and by period.

Overall, we find higher disparities in relative communicative presence on immigration compared with redistribution, consistent with the patterns in communicative malapportionment already observed (ref. Figure 1). Yet, there are also some commonalities in the relative communicative presence of various sub-electorates across the two issues. On both immigration and redistribution, we find that the opinions of men and of high education voters are over-represented in legislative speech, relative to those of women and of low education voters.

These differences are especially stark when it comes to education, and especially on the issue of immigration: I find, across this period that the (more right-wing) opinions of low education voters on the issue received, on average, 20% less representation than their numbers would warrant, whereas the (more left-wing) opinions of high education voters received about 15% *more* representation than warranted.¹⁷ This disparity is only slightly smaller than that which I uncover based on voters' Brexit vote intention (recalled vote after 2016) – with the views of Leave voters receiving, on average, about 30% less representation than warranted, and those of Remain voters receiving, on average, about 35% more representation than warranted.

On the other hand, patterns in relative communicative presence by age and by ethnicity and social class are less consistent across the two issues. I find that the (more left-wing) opinions of working class British voters on redistribution are slightly under-represented in legislative speech throughout, though by a slightly smaller margin after

¹⁷These patterns build, in turn, on patterns in the relative communicative presence of different opinions in parliamentary speech in this period, reported in Figures B.3 and B.4 in Appendix B. In Figure B.4, I show that left-wing opinions on immigration are consistently over-represented throughout. Moreover, that low education voters are substantially more conservative on the immigration issue than are high education voters is immediate from Figure B.11 in Appendix B. In 2015, I estimate that almost 50% of voters without any higher education selected the most right-wing option when asked whether the UK should allow in many fewer or many more immigrants; this response was chosen by half as many (25%) voters with some higher education.

2015. This is especially the case for working class voters of ethnic minority origin, who report more left-wing preferences on redistribution than any other sub-electorate. Even after the election of Jeremy Corbyn as Labour leader, the opinions of ethnic minority working class voters receive 5-10% less representation in parliamentary speech than warranted by their numbers. However, on immigration, the (more left-wing) views of this sub-electorate are significantly over-represented throughout, receiving, on average, about 25% more representation in parliamentary speech than warranted by their numbers. In a similar vein, although I do not identify substantial inequalities of relative communicative presence on the redistribution issue by age, I find very large disparities by age on the immigration issue – with the (more left-wing) views of young voters on immigration receiving, on average, about 30% *more* representation than warranted by their numbers, and the (more right-wing) views of elderly voters receiving, on average, about 15% *less*.

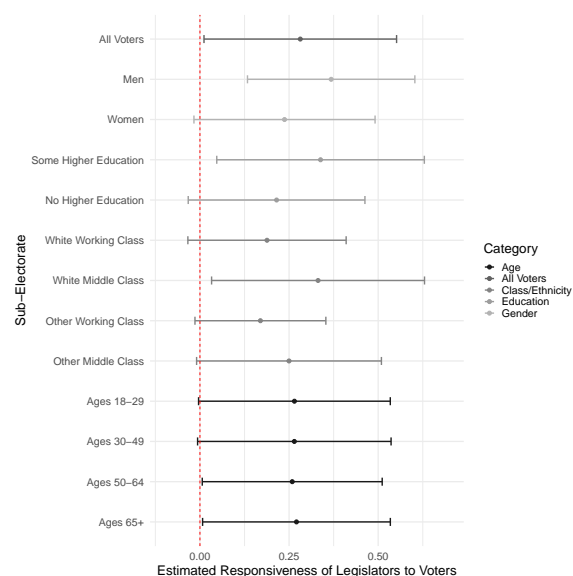
However, as discussed in Section 3, we cannot draw strong inferences about the relative communicative power of different groups, or about the level of communicative representation overall, based on measures of communicative malapportionment (or congruence) and relative communicative presence alone. For instance, it may be that the level of communicative malapportionment we observe is lower than warranted because opinions are highly endogenous and communicative power is monopolized by elites. Similarly, it may be that the views of men are over-represented in legislative speech because their opinions are especially influenced by, and therefore similar to, those expressed by elites. For this reason, I also estimate legislators' communicative *responsiveness* to voters following the approach described in Section 3.

Figure 4 presents the results from these regression analyses (reported in full in Appendix B.3), displaying the estimated communicative ('gap') responsiveness of legislators overall (i.e. to all voters), as well as to individual sub-electorates, on redistribution and on immigration respectively. We find some evidence for legislators' overall communicative

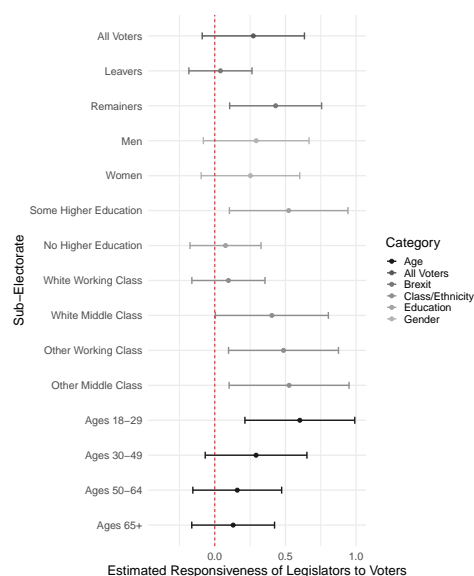
responsiveness to voters. The estimated coefficient on responsiveness is almost identical across the two issues, but only statistically significant at the 5% level on redistribution. However, our analyses of communicative responsiveness on immigration rely on fewer periods, and therefore observations, potentially explaining this result.¹⁸

Figure 4: Communicative Responsiveness of Legislators to UK Voters, 2010-2019

(a) Issue: Redistribution



(b) Issue: Immigration



At the same time, my estimates of legislators’ relative communicative responsiveness to different sub-electorates clearly indicate that legislative speech is much more responsive to some sub-electorates than to others. To a remarkable extent, it turns out that legislative speech is relatively more responsive to changes in the opinions held by the same groups that also have more relative communicative presence on an issue. For example, legislative speech is much more responsive to changes in the opinions of high education voters on both issues, a group that also have high relative communicative presence on both issues. This consistent pattern is confirmed by a Spearman’s correlation test, where I estimate a (highly statistically significant) rank-order correlation between a

¹⁸In many cases, the estimated coefficients on responsiveness for immigration are still statistically significant at the 10% level (ref. Table B.1 in Appendix B.3.)

group's (average) relative communicative presence and legislators' relative communicative responsiveness to that group of 0.76 ($p < 0.001$).¹⁹

These results suggest that these measures *are* cumulatively informative about a group's relative communicative power, as there is no obvious (other) reason to expect these measures of congruence and responsiveness to be so highly correlated. As with relative communicative presence, we sometimes find that legislators are more responsive to the views of a group on one issue compared with the other. For instance, we find that legislative speech responds much more strongly to changes in the opinions of ethnic minority voters and young voters on immigration, and to those of white middle class voters on redistribution. However – as these groups also have disproportionate relative communicative presence on the same issues – these results may reflect that the relative power of these groups to influence elite communication differs across issues. This may occur, for instance, if the immigration issue is much more salient to ethnic minorities and young voters, and redistribution to white middle class voters.

Overall, these patterns align well with previous research on unequal representation in established democracies, including in the UK. The disconnect between the socio-economic background of most British parliamentarians – overwhelmingly degree-holders from middle and upper-class backgrounds – and the backgrounds of their constituents has previously been documented (O'Grady, 2019), and similar patterns have been observed in the Netherlands (Hakhverdian, 2015) and Germany (Elsässer, Hense and Schäfer, 2021) as well. The descriptive under-representation of working-class and low education voters in parliament – which may, in turn, lead legislators to be especially poorly informed about their views (Broockman and Skovron, 2018; Hager and Hilbig, 2020; Benoit-Pilet et al., 2023) – may be one factor contributing to their poor communicative representation in

¹⁹A Pearson's correlation test still estimates a moderately high correlation between these two quantities ($\rho = 0.43$, $p < 0.05$). However, as my estimates of groups' relative communicative presence are far from normally distributed, the Spearman correlation test is arguably more robust to outliers than the Pearson correlation in my case.

parliament.

5 Conclusion

How should we evaluate the distribution of political power in a polity, if public opinion both influences and is influenced by elite communication? I have argued that the possibility of such ‘opinion endogeneity’ introduces additional sources of political inequality, which have hitherto received little attention in the literature on representation. As a result, existing research on political inequality and representation in democracies overlooks a key component of the distribution of effective political power within a polity: communicative power.

In this article, I have argued that a full consideration of how effective political power is distributed in a polity must thus therefore take into account inequalities in communicative power as well. The extent of this inequality is captured by the degree of ‘communicative representation’ in that polity – or the degree to which, across issues, political communication by elite actors proportionately reflects, as well as responds to, the opinions of individual citizens. Moreover, I introduce an empirical strategy for measuring how far communicative representation, thus defined, obtains in actually existing polities. Finally, to illustrate the feasibility and validity of my suggested empirical strategy, I apply this approach to characterize the level of communicative representation on two key issues, redistribution and immigration, in the United Kingdom (UK) between 2010 and 2019. I find evidence of significant communicative malapportionment on both issues, as well as some overall communicative responsiveness. I also identify significant inequalities in relative communicative power, particularly based on gender and education.

This article contributes to multiple overlapping fields and literatures. First and foremost, by asking and answering the question of how one can characterize, and therefore evaluate, the distribution of political power in the presence of opinion endogeneity, this

article breaks new ground in normative analyses of political representation and inequality. Second, by proposing and validating a concrete, replicable and scalable empirical strategy to assess the level of communicative representation in a polity, I add to the toolkit available to empirical researchers studying the quality of representation in a polity. Third, my analysis of the UK case presents an initial assessment of patterns in communicative representation and relative communicative power in one prominent, established, democracy. Last but not least, the enterprise I have embarked on in this paper also continues efforts to bridge normative political theory and empirical democracy research, and so place democratic theory on more ‘realistic’ foundations (Bagg, 2018b; Bächtiger and Parkinson, 2019).

In future work, researchers could build on these efforts to examine and compare patterns in communicative representation across a larger number of countries, issues and years. Based on such analyses, future research could explore the correlates of any variation in performance that we observe, broadening our understanding of the sources of variation in political inequality. Although I rely on legislative speech as a proxy for elite discourse in this article, my approach can, in principle, be straightforwardly applied to elite communication by other actors and in other domains as well (e.g. press statements by political parties, social media output, or mass media content). By doing so, one could assemble a fuller picture of inequalities in communicative power within a polity, taking into account a broader range of elite actors and fora for public political debate.

Moreover, the measure of communicative representation developed in this article introduces a strategy to evaluate which groups currently have disproportionately little influence over public opinion, and by how much. This can also help us evaluate the effectiveness of various strategies which have been proposed to reduce political inequality, or to identify new ones, such as deliberative innovations or improvements in descriptive representation. Deliberative bodies have been found to be contaminated by pre-existing

inequalities to some degree (Young, 2001; Bagg, 2018a; Gerber et al., 2018). For example, a recent analysis of ‘real-world deliberation’ in South Indian village assemblies found that women remained at a disadvantage relative to men – being less likely to speak, set the agenda, or receive a response from elected officials (Parthasarathy, Rao and Palaniswamy, 2019). Analyses of communicative representation within deliberative assemblies, and of the relative communicative presence of different groups in these assemblies, can help us identify inequalities over public opinion within these fora. The same applies to policies and institutions directed at improving descriptive representation, such as quotas. An assessment of imbalances of power over public opinion may help identify circumstances under which improved legislative representation (for example) has not translated into improved representation within legislative debate. It may also reveal constituencies which are particularly marginalized in terms of their relative communicative power, and which may then benefit from increased descriptive representation.

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Appendices

A Data and Empirical Strategy for UK Analysis

A.1 Measuring the Preferences of British Voters

To measure the preferences of British voters on redistribution and immigration in this period, I use data from the British Election Study (waves 1, 7, 11 and 14, fielded in February–March 2014, April–May 2016, April–May 2017 and May 2018 respectively). Specifically, I analyse responses to the following two questions:

- Some people feel that government should make much greater efforts to make people’s incomes more equal. Other people feel that government should be much less concerned about how equal people’s incomes are. Where would you place yourself and the political parties on this scale? (0 = extreme left)
- Some people think that the UK should allow *many more* immigrants to come to the UK to live and others think that the UK should allow *many fewer* immigrants. Where would you place yourself and the parties on this scale? (0 = extreme right)

The question on immigration is only available from wave 7 (2016) onwards. In both cases, respondents were presented with an 11 point scale (0 to 10). I use the sampling weights provided to ensure that the distribution of preferences I obtain is representative of the British electorate.

In every wave, the BES also includes information on respondents’ gender, their highest educational qualification (wave 1) or university attendance (wave 7 onwards), ethnicity, social grade and age, as well as their vote intention/recalled vote choice in the 2016 Brexit referendum. I use this information to divide respondents into sub-electorates based on

their gender (male vs. female)²⁰, education (some vs. no higher education), social class and ethnicity, age, and Brexit vote intention/choice (Leave vs. Remain). Individuals belonging to households with the social grades A, B and C1 were classed as ‘middle class’, and those from C2, D and E households, classed as Meanwhile, when dividing respondents into sub-electorate by ethnicity, white British respondents were considered ‘white’, and all others (including, for instance, those of white European background) were classed as ‘other’.

A.2 Measuring the Preferences Expressed in British Legislative Speech

To measure the preferences expressed on these issues in elite speech, I rely on the ParlEE Plenary Speeches dataset (Sylvester, Greene and Ebing, 2022). The ParlEE dataset contains all speeches which were delivered in the UK House of Commons in this period, already classified by topic at the sentence-level according to the Comparative Agendas Project coding scheme (Froio, Bevan and Jennings, 2017). To identify relevant speeches, I first extract sentences classified as relating to immigration, macroeconomics and social welfare. As the CAP scheme does not specifically identify speech on redistribution, to reduce measurement error, I ultimately base my estimates of legislator expressed preferences on this issue to references to redistribution within these extracts.²¹

As discussed in Section 3, to apply Wordscores, we need to first to identify legislators taking an extreme position on each issue, whose speeches can then be used as reference texts. To represent the extreme pro-redistribution position, I constructed a reference document containing all speeches made by members of the “Socialist Campaign Group”

²⁰The few respondents who refused to answer this question were classed as female.

²¹Specifically, I extract ten word windows surrounding mentions of “tax*”, “*fair*”, “benefit*”, “poverty”, “*justice”, “unjust”, “inequality”, “unequal”, “taxpayer”, “rich*”, “redistribut*”, “austerity”, “cuts”, “universal credit”.

(SCG) of Labour MPs between 2010 and 2019.²² The SCG is an organized faction within the Labour party, generally considered to include legislators espousing views on the far left of the party, including on redistribution (Cowley, 2002). In this period, it included Jeremy Corbyn, leader of the Labour party between 2015 and 2019, and other prominent figures on the Labour left, such as Diane Abbott, John McDonnell, and Dennis Skinner. A total of 34 Labour MPs were part of the SCG at some point during this period. To anchor the other end of the spectrum on redistribution, I use speeches made by members of the ‘Free Enterprise Group’ (FEG), an organized faction of Thatcherite MPs within the Conservative party, founded in 2011. 65 Conservative MPs were linked to the FEG at some point during this period, including prominent right-wing MPs such as Liz Truss, Kwasi Kwarteng, Nadhim Zahawi and Priti Patel.

To represent the extreme left position on immigration, I use speeches by legislators who voted against the 2014 Immigration Act, which enshrined in law various policies intended to help identify and deport illegal immigrants residing in the UK. Only 18 legislators voted against (of whom two lost their seats in 2015), as the official Labour party position on the vote was to abstain on the third reading of the bill.²³ Meanwhile, to represent the extreme right position on immigration, I use speeches by the 60 still-serving legislators who supported Nigel Mill’s 2014 amendment to extend transitional controls on Romanian and Bulgarian migrants to Britain – an amendment mainly supported by the Conservative party’s *right* flank (along with assorted representatives from the Democratic Unionist Party) – legislators who thought that the Conservative party’s proposed restrictions on future immigration did not go far enough. Prominent members of this group included Philip Hollobone, formerly member of a group which supported the voluntary repatriation of ethnic minorities, as well as Douglas Carswell, who defected to the radical

²²Pooling all speeches into a single document maximizes the length and linguistic diversity of the reference document, which improves the performance of Wordscores (Lowe, 2008; O’Grady, 2019).

²³Their number included some prominent members of the SCG, like Jeremy Corbyn and Diane Abbott, as well as some MPs from the Scottish National Party and Plaid Cymru.

right party UKIP in 2014.

A.3 Jointly Scaling UK Voter Preferences and Legislator Speech

As discussed in Section 3, in order to compare the distributions of legislator speech and voter preferences on an issue, we need to place them on a common scale. In order to apply the approach described in Section 3, I create six hypothetical anchor legislators who are assigned a score on both the Wordscores scale (of legislator speech) and on the 11 point BES scale (of voter opinions) on each issue and for each period. I then use these six anchor legislators to map all other legislators to a position on the BES scale, based on the position of their speech on the Wordscores scale. Four of these anchor legislators correspond to ‘typical’ members of the four major British parties – Labour, the Conservatives, the Liberal Democrats and the Scottish National Party. I assign positions on the BES scale for these four anchor legislators based on how attentive BES survey respondents placed these four parties, on average, on the BES scale for that issue and in the relevant survey wave. Specifically, I assign these four anchor legislators a score on the Wordscores scale equal to the weighted average of all Wordscore scores received by legislators from the same party in that period (weighted by number of words spoken).

For each issue and period, I also create two additional anchor legislators representing hypothetical extreme left and right legislators. I assign these two legislators BES positions equal to the extreme of the BES survey scales, and Wordscores positions equal to the weighted average of scores received by extreme left and right legislators on those issues (again weighted by words spoken).²⁴ Finally, for each period and issue, I run a bivariate linear OLS regression regressing the BES positions of these six anchor legislators on their Wordscores positions. The resulting estimates provide a linear mapping from the

²⁴For example, in each period, I construct a hypothetical extreme left legislator on redistribution by taking the weighted average of scores received by SCG MPs in that period. This legislator is assigned a score of 0 on the BES scale, representing the most extreme left survey response on redistribution.

Wordscores scale to the BES scale, for each period and issue, which I then use to place all legislators on the BES scale, based on their estimated positions on the Wordscores scale.

As already discussed in Section 3, this approach assumes, first, that the rank ordering of legislators on the Wordscores scale reflects their ideological location on the BES survey scale, as revealed in their parliamentary speech. I find that this assumption seems reasonable in my case, based on the estimated location of known MPs on each issue, as well as formal statistical comparisons between different groups of MPs with known divergent views on these issues (details available on request).

Second, this approach also assumes that the loss of cardinal information from a linear mapping between the two scales is minimal. This also seems a reasonable assumption in my case, as I consistently find that the proportion of variance in MP BES locations explained by a linear mapping from their Wordscores locations is above 0.9, and in most cases above 0.95. Moreover – and in part, as a consequence — using a non-linear (quadratic or cubic) mapping does not qualitatively change the results.

B Additional Results

B.1 Comparing Voter Preferences and Legislative Speech

Figures B.1 and B.2 plot the estimated distribution of citizen preferences, the preferences expressed by speaking legislators, and of legislative discourse on redistribution and immigration, respectively, calculated according to the strategy discussed in Section 3. For each bin on the survey response scale, the proportion of Labour voters and MPs is given in red; Conservative voters and MPs in blue, and abstainers or those linked to other parties are given in gray. In both cases, the patterns we observe provide considerable face validity to the overall approach. Meanwhile, Figures B.3 and B.4 report the (logged) relative communicative presence of different opinions on redistribution and immigration, respectively, in parliamentary speech in this period.

First, consider Figure B.1. We observe a clear partisan divide in the preferences expressed by speaking legislators and in legislative discourse, with Labour MPs taking a consistently more pro-redistribution line than Conservative MPs – as may be expected on what is typically considered to be the primary dimension of political conflict in the UK. The partisan divide in redistributive preferences among voters is less clear cut, particularly after the 2016 EU referendum, in line with evidence of growing partisan realignment along Leave/Remain lines during this period (Fieldhouse et al., 2021; Ford et al., 2021). Particularly during the 2010-2015 coalition government, center-right redistributive preferences appear over-represented in parliamentary speech. Notably, we observe an increase in improvement in the representation of the most pro-redistribution voters after the election of left-wing stalwart Jeremy Corbyn as leader of the Labour party in 2015. Although 17.5% of voters selected the most left-wing position on redistribution in 2014, this position was represented by less than 5% of legislators and legislative discourse in the 2010-15 parliament. Parliamentary representation of such views approximately doubles after 2015,

and increases further after the 2016 EU referendum, when SCG members were elevated to the shadow cabinet in greater numbers.²⁵ Consistent with these patterns, Figure B.3 shows that center-right opinions on redistribution are over-represented throughout, while the representation of left-wing views improves after 2015. Moreover, I find that while 27.1% of legislative speech on redistribution could be attributed to malapportionment in 2010-15 – or speech delivered by legislators who would not have received any floor time if there was perfect communicative congruence on this issue. This decreases somewhat to 25.3% in 2015-16, and even further to 14.7% in 2016-2017 and 21.7% in 2017-19 (ref. Figure 1).

Turning to immigration (ref. Figure B.2), we observe greater evidence of communicative malapportionment throughout (as in Figure 1). Across parliaments, we observe that a substantial section of the British electorate favored the view that the UK should admit ‘many fewer’ immigrants than currently (35% of the electorate in 2016, diminishing to 25% of the electorate by 2018). However, prior to the 2016 referendum, this view is consistently expressed by fewer than 10% of speaking legislators and by an even smaller proportion of legislative discourse. Meanwhile, center-left and left-wing opinions on immigration receive disproportionate attention in parliament, including after 2016 (also confirmed by Figure B.4). However, parliamentary representation of extreme right views on immigration more than doubles between 2016 and 2017, possibly due to the increased political salience of immigration, and also greater elite awareness of the prevalence of anti-immigration views within the British electorate (though this is not matched by the same increase in anti-immigrant parliamentary discourse). At the same time, the proportion of voters supporting no change to levels of immigration to the UK – presumably, continued free movement from the EU – also increases during this period, from about 15% of the electorate in 2014 to more than 20% of the electorate in 2018. This coin-

²⁵Following a large number of resignations from the first Corbyn shadow cabinet after the 2016 referendum outcome, for which many Labour MPs blamed Corbyn to some degree.

Figure B.1: Comparing Voter Preferences and Legislative Speech on Redistribution

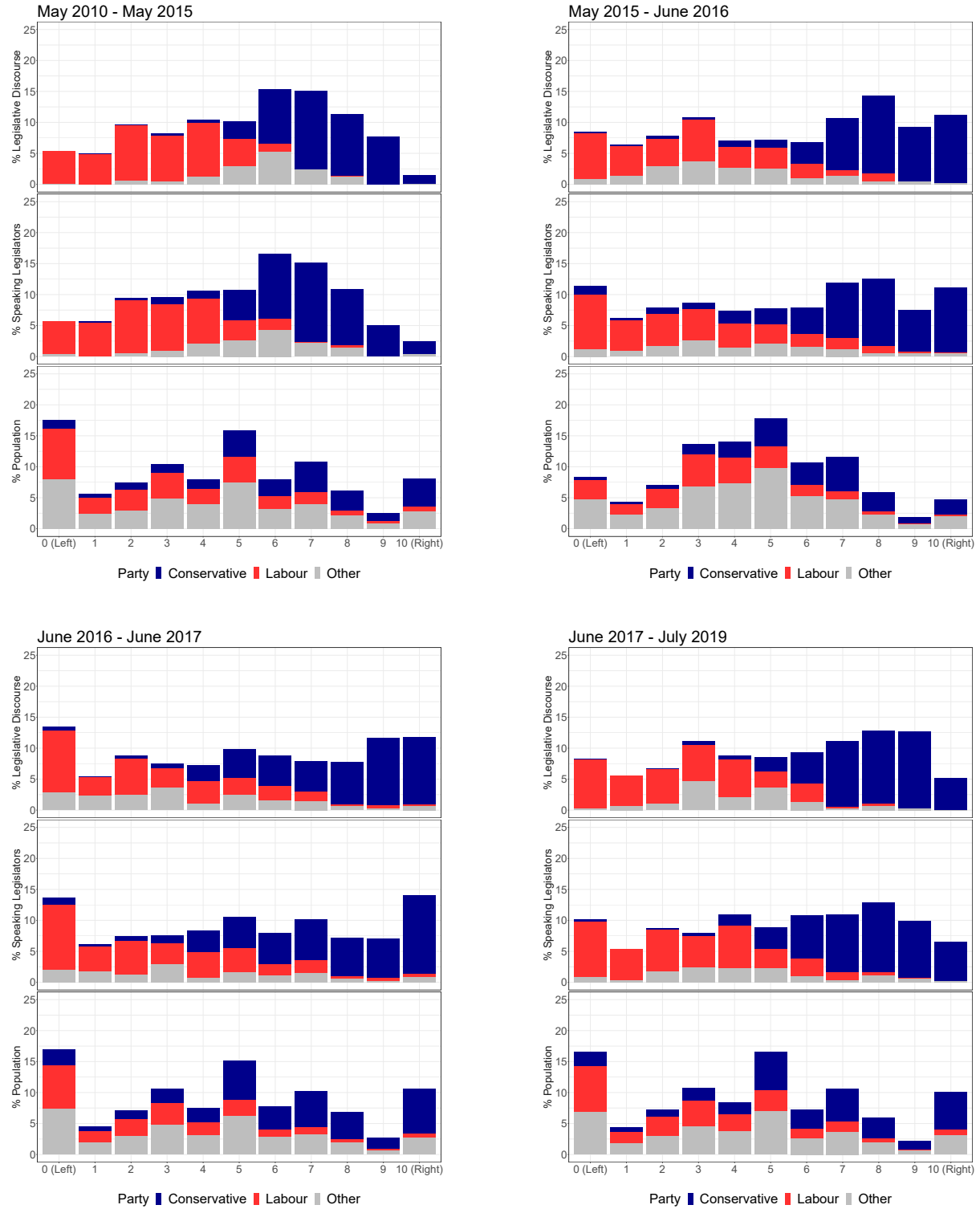
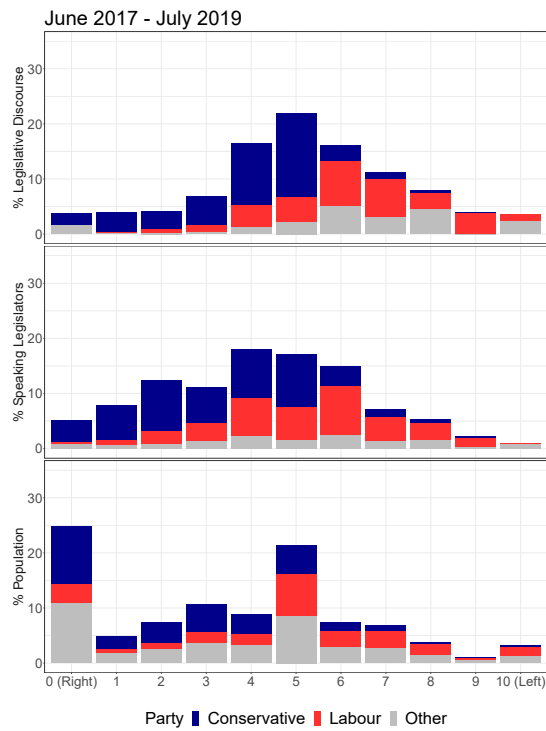
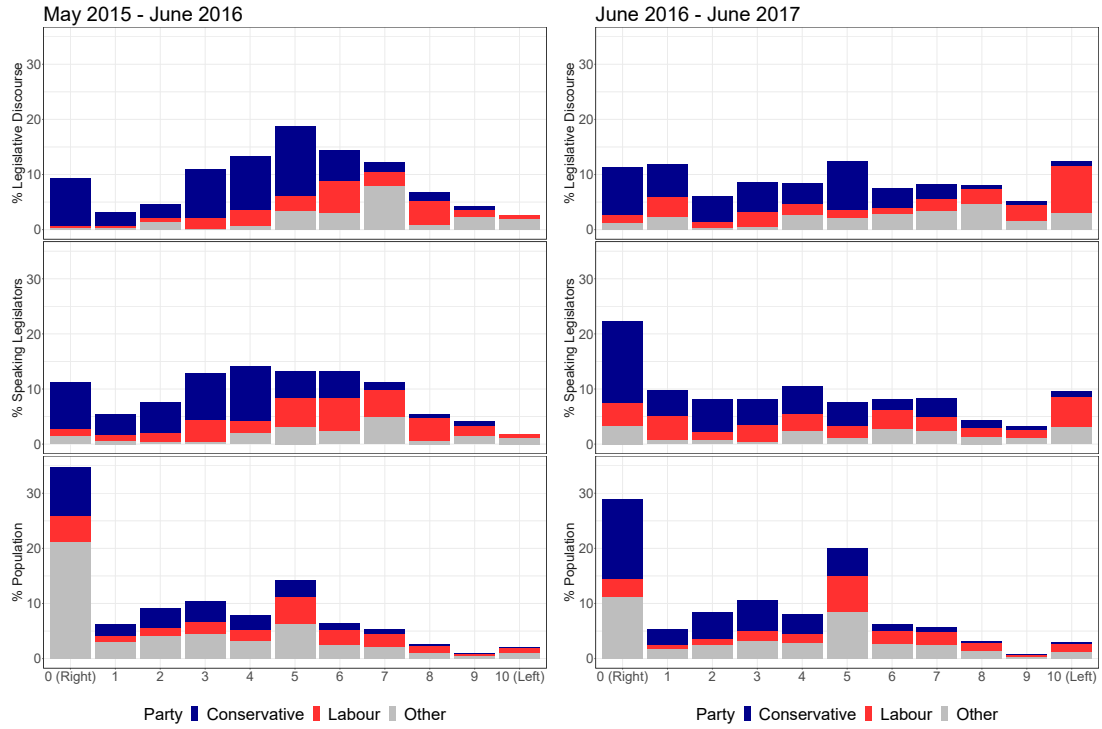


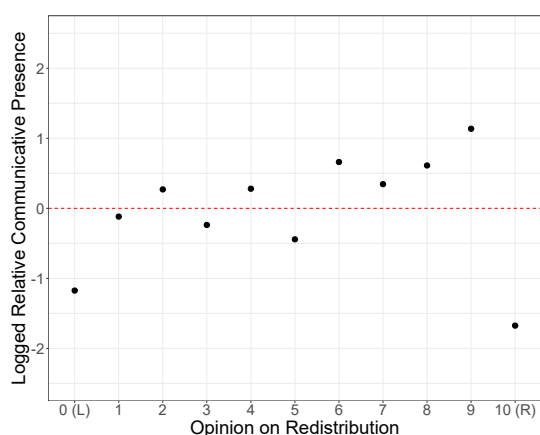
Figure B.2: Comparing Voter Preferences and Legislative Speech on Immigration



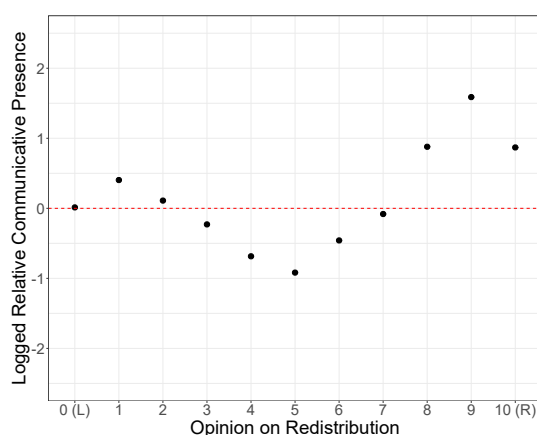
cides with improved representation of such views in the 2017-19 parliament. In line with these patterns, we also find that communicative malapportionment was somewhat higher throughout on immigration than on redistribution, with 33.0% of legislative speech on immigration reflecting malapportionment in 2015-16, decreasing to 29.5% in 2016-17 and 29.0% in 2017-19.

Figure B.3: Relative Communicative Presence of Opinions on Redistribution in the UK

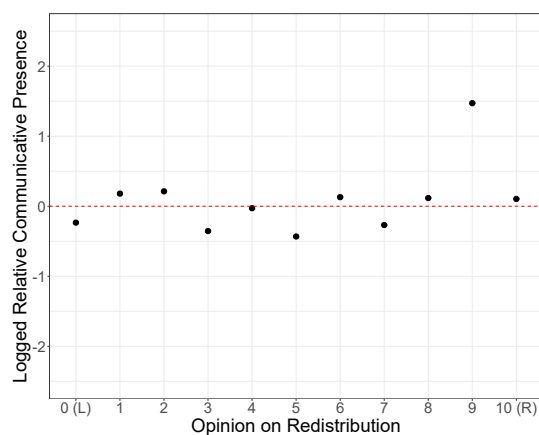
(a) May 2010 – May 2015



(b) May 2015 – June 2016



(c) June 2016 – June 2017



(d) June 2017 – July 2019

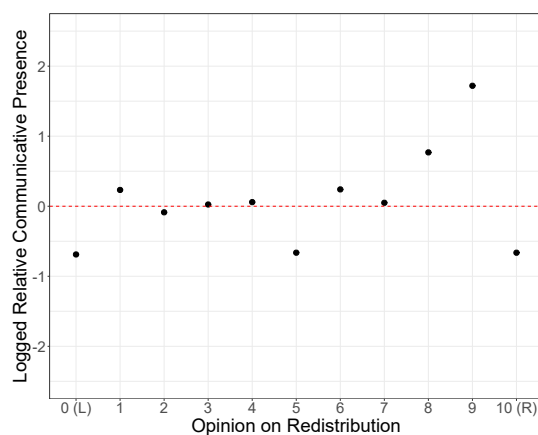
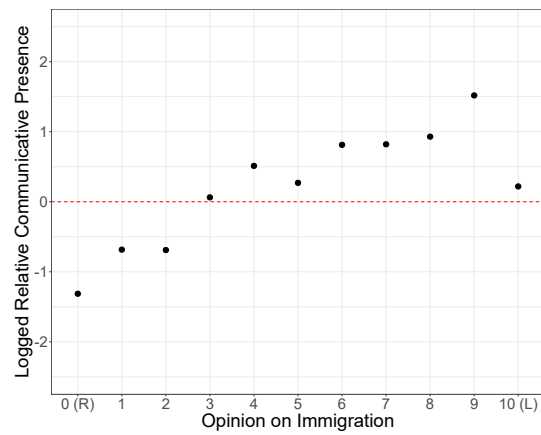
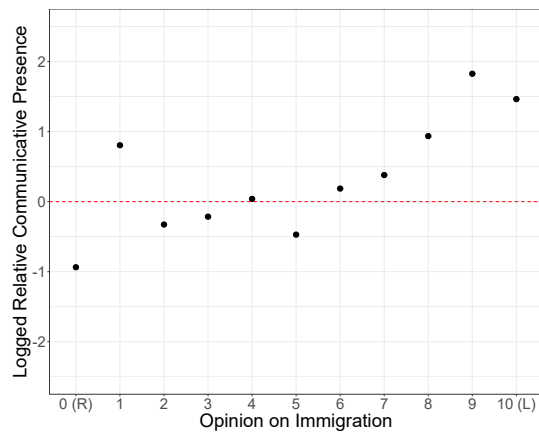


Figure B.4: Relative Communicative Presence of Opinions on Immigration in the UK

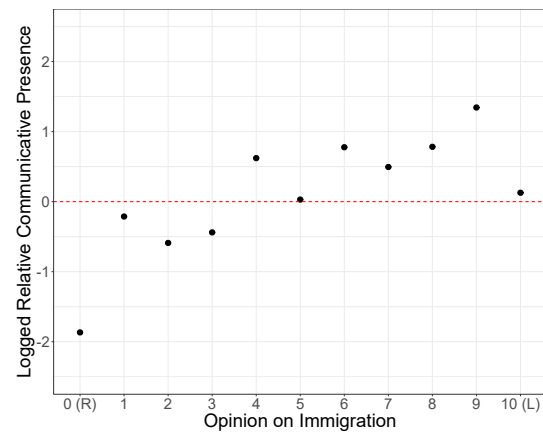
(a) May 2015 – June 2016



(b) June 2016 – June 2017



(c) June 2017 – July 2019

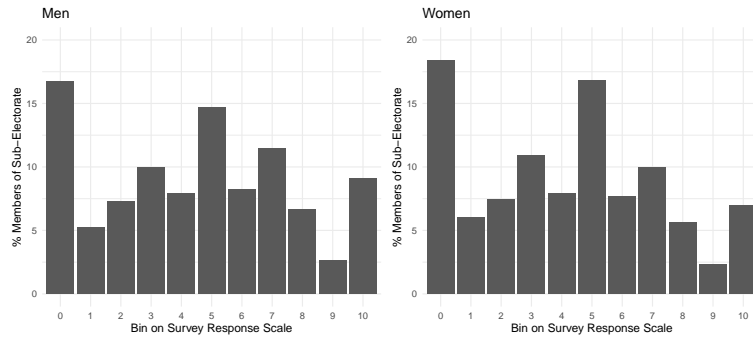


B.2 Distributions of Voter Opinions by Sub-Electorate

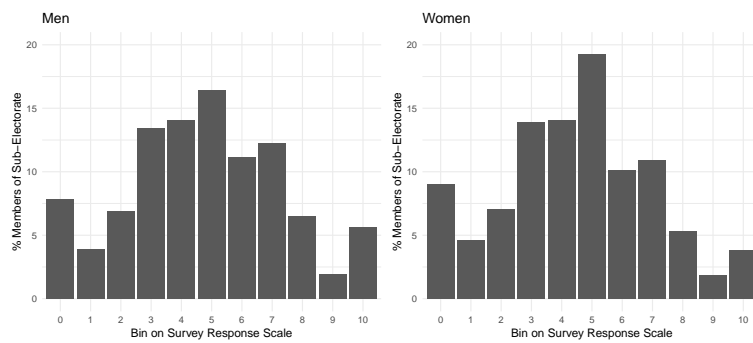
Figures B.5–B.13 present the distributions of voter opinion on two issues, redistribution and immigration, by sub-electrates based on gender, education, class and age. In all cases, the distributions of voter opinion are generated based on data from the British Election Study (as discussed in Appendix A.1), after including the sampling weights provided to ensure that the distribution of preferences obtained is representative of the British electorate.

Figure B.5: UK Voter Opinion on Redistribution by Gender, 2010-19

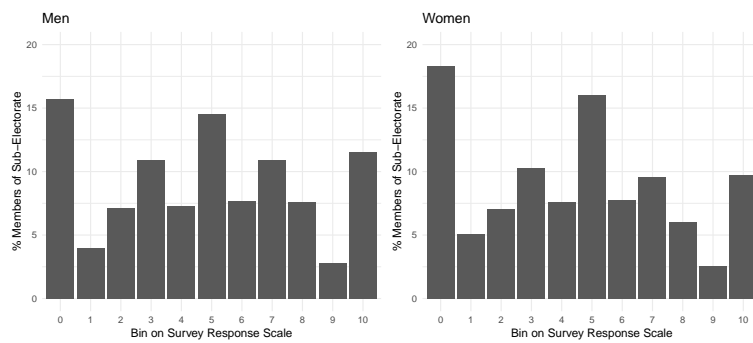
(a) May 2010 – May 2015



(b) May 2015 – June 2016



(c) June 2016 – June 2017



(d) June 2017 – July 2019

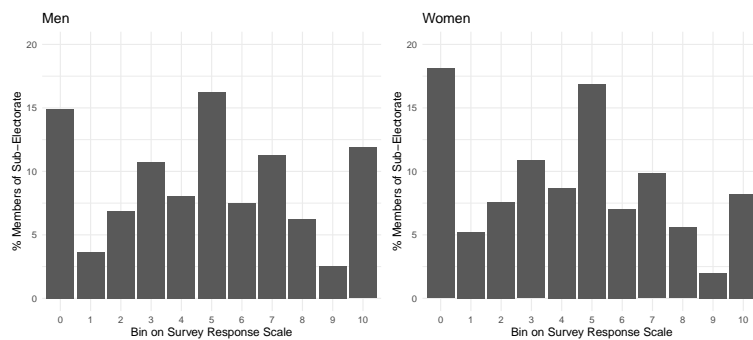
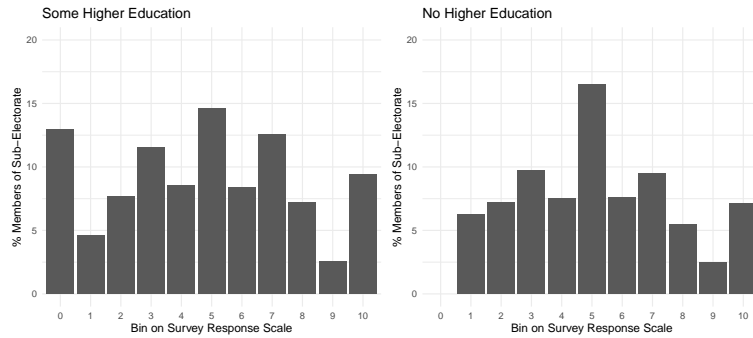
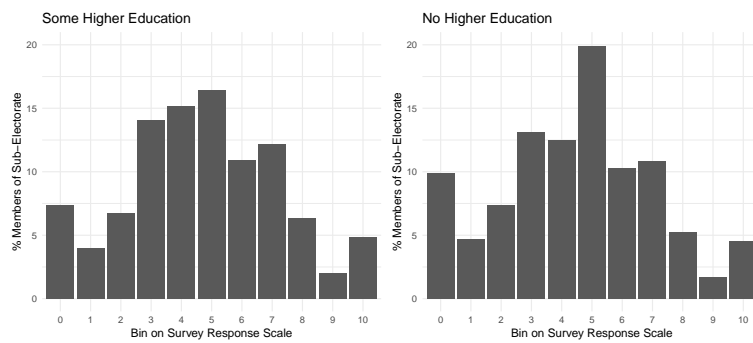


Figure B.6: UK Voter Opinion on Redistribution by Education, 2010-19

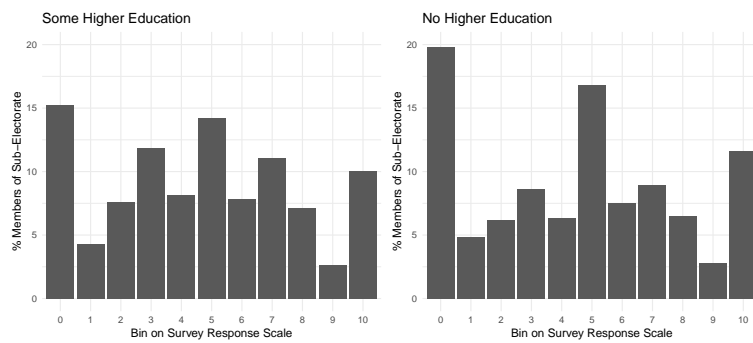
(a) May 2010 – May 2015



(b) May 2015 – June 2016



(c) June 2016 – June 2017



(d) June 2017 – July 2019

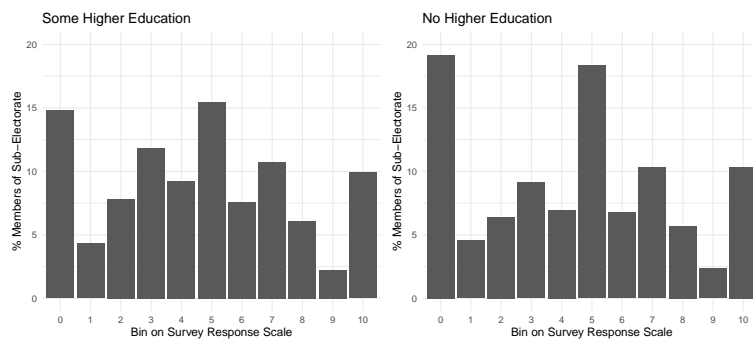
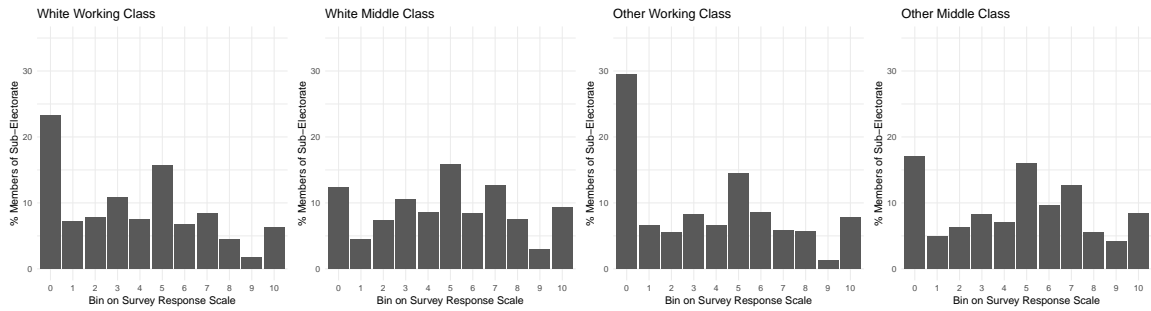
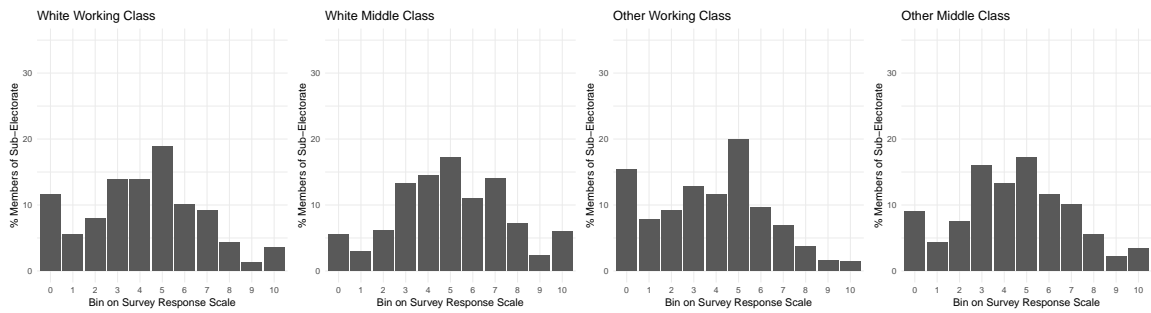


Figure B.7: UK Voter Opinion on Redistribution by Class, 2010-19

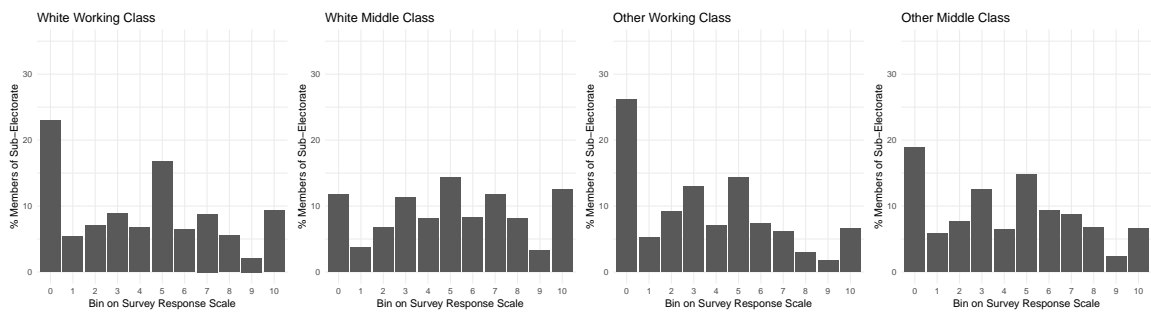
(a) May 2010 – May 2015



(b) May 2015 – June 2016



(c) June 2016 – June 2017



(d) June 2017 – July 2019

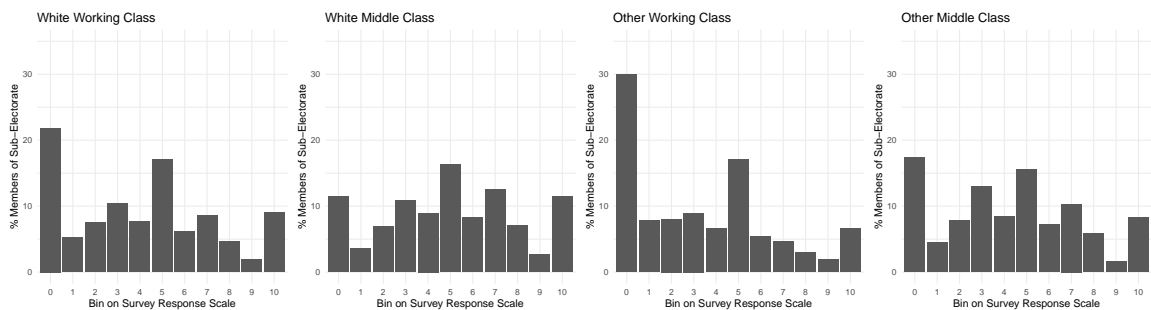
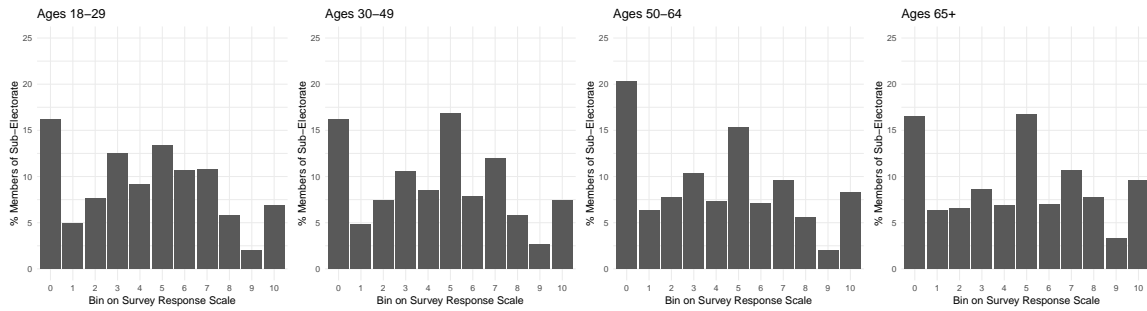
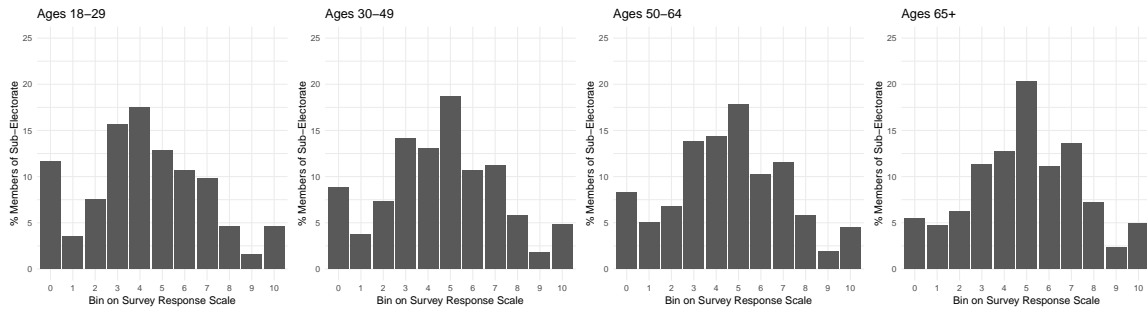


Figure B.8: UK Voter Opinion on Redistribution by Age, 2010-19

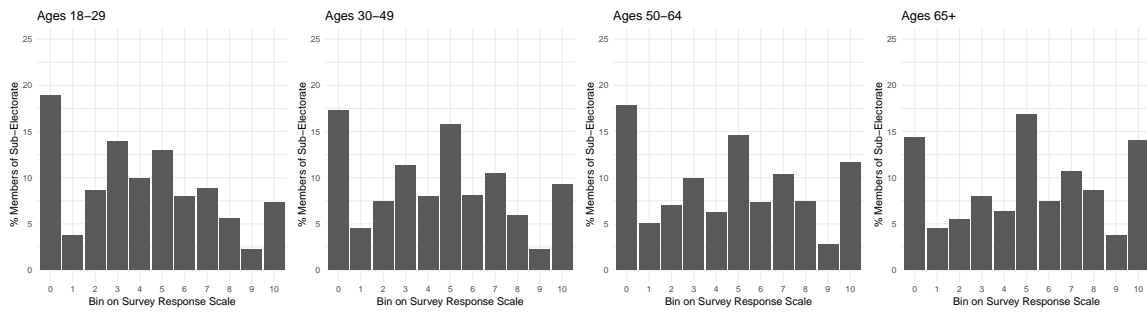
(a) May 2010 – May 2015



(b) May 2015 – June 2016



(c) June 2016 – June 2017



(d) June 2017 – July 2019

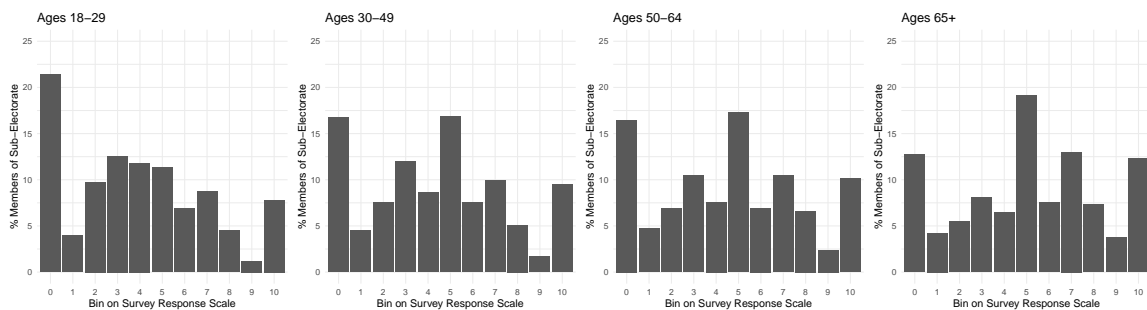
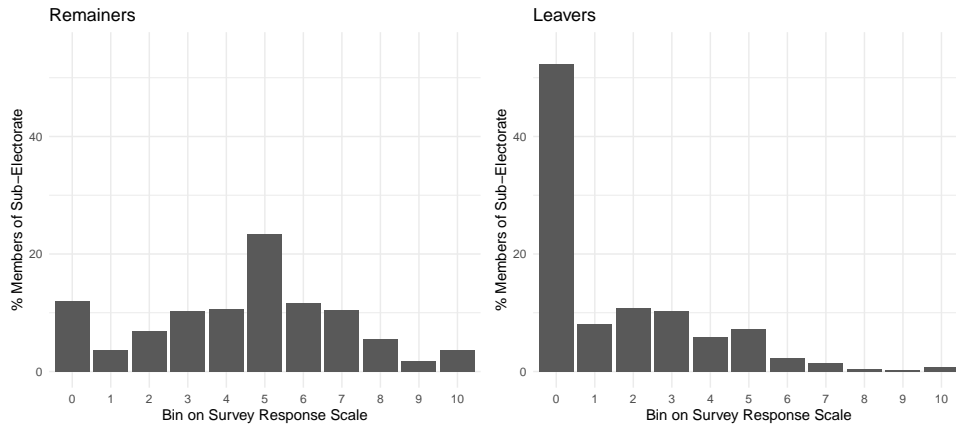
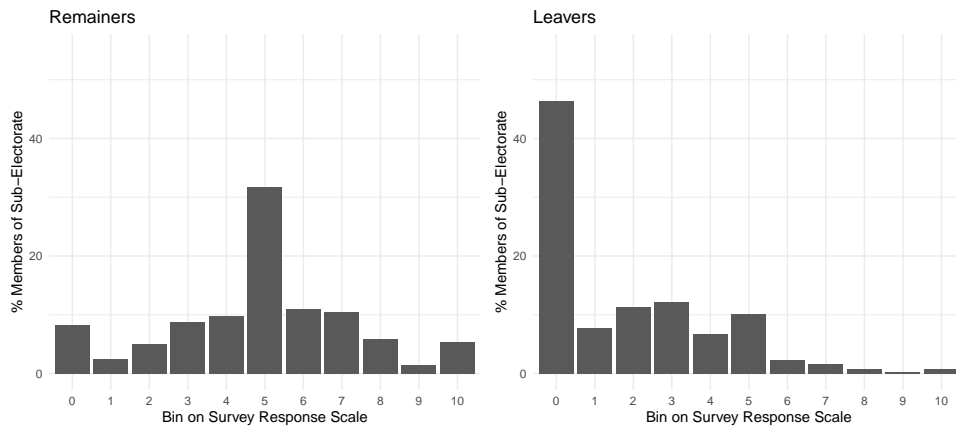


Figure B.9: UK Voter Opinion on Immigration by Referendum Vote, 2015-19

(a) May 2015 – June 2016



(b) June 2016 – June 2017



(c) June 2017 – July 2019

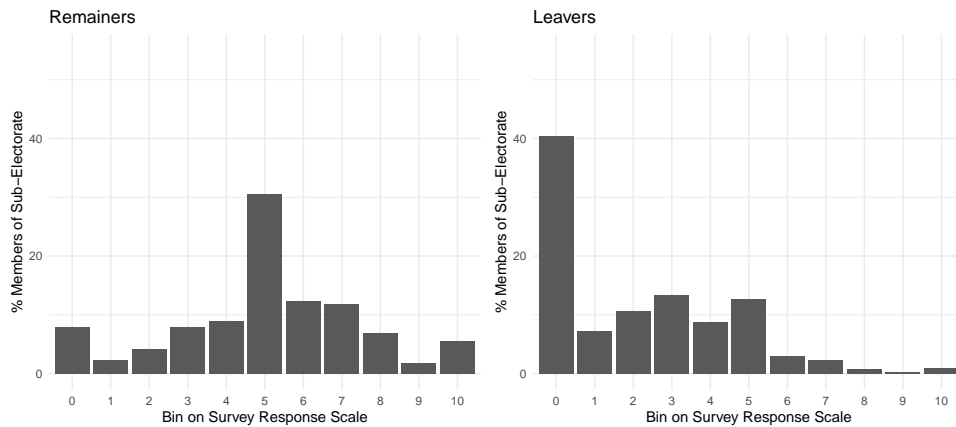
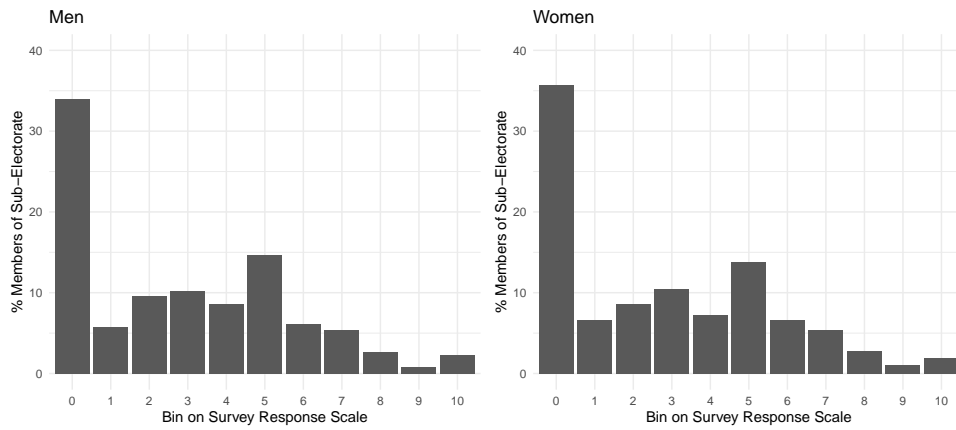
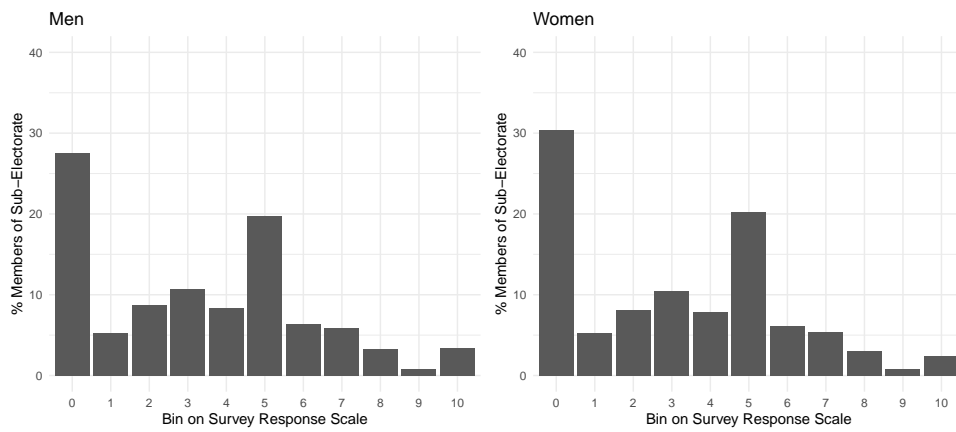


Figure B.10: UK Voter Opinion on Immigration by Gender, 2015-19

(a) May 2015 – June 2016



(b) June 2016 – June 2017



(c) June 2017 – July 2019

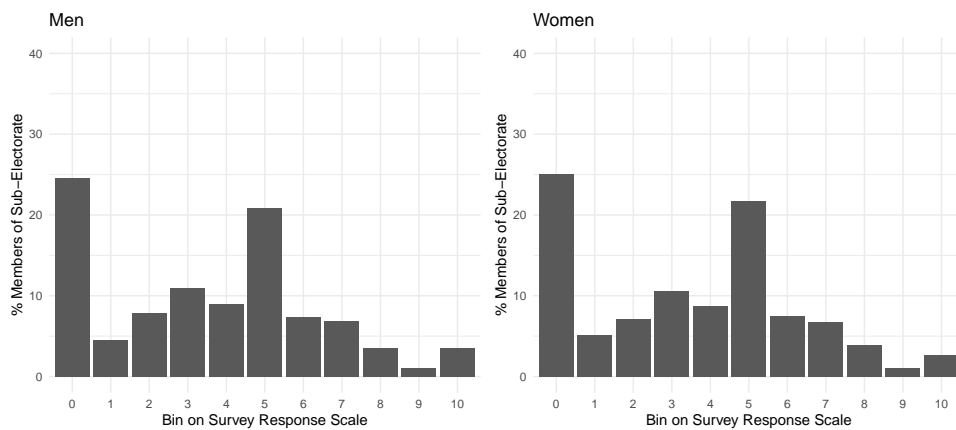
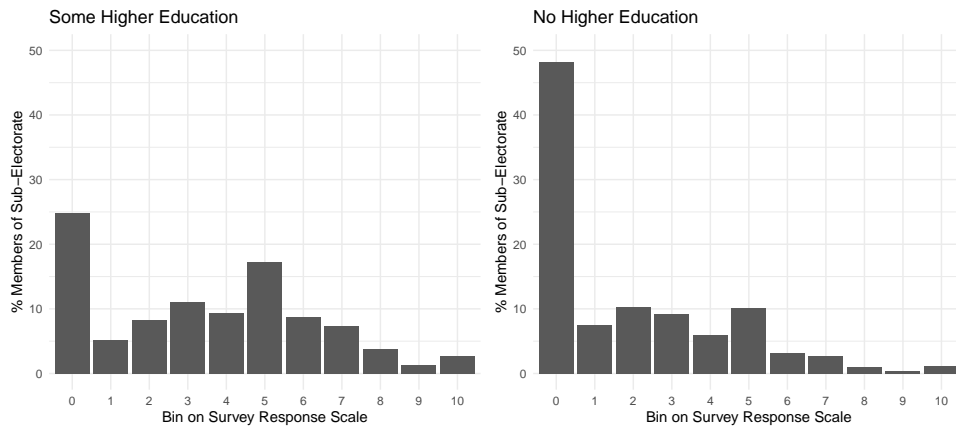
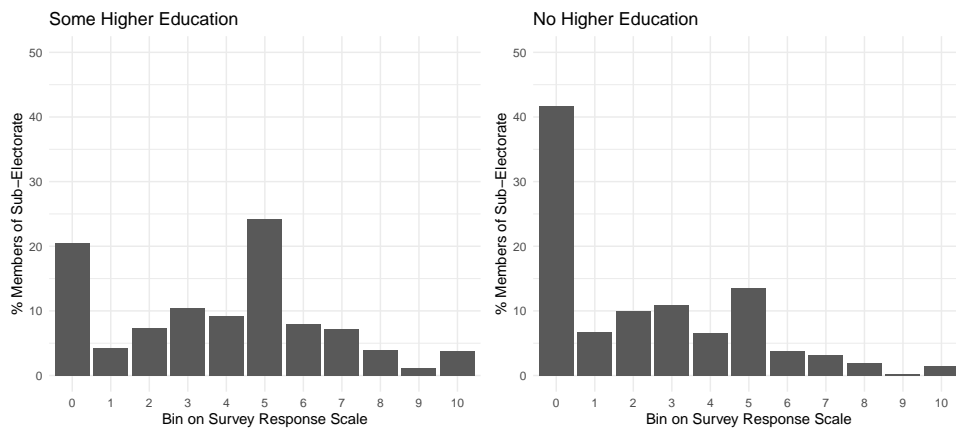


Figure B.11: UK Voter Opinion on Immigration by Education, 2015-19

(a) May 2015 – June 2016



(b) June 2016 – June 2017



(c) June 2017 – July 2019

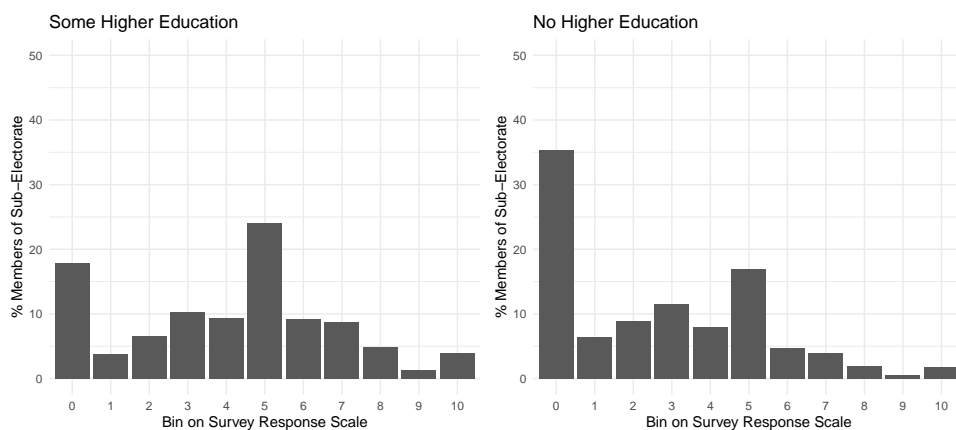
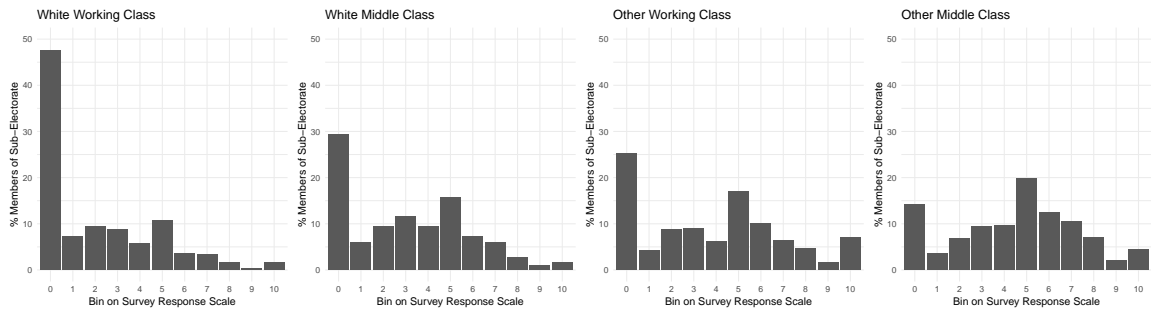
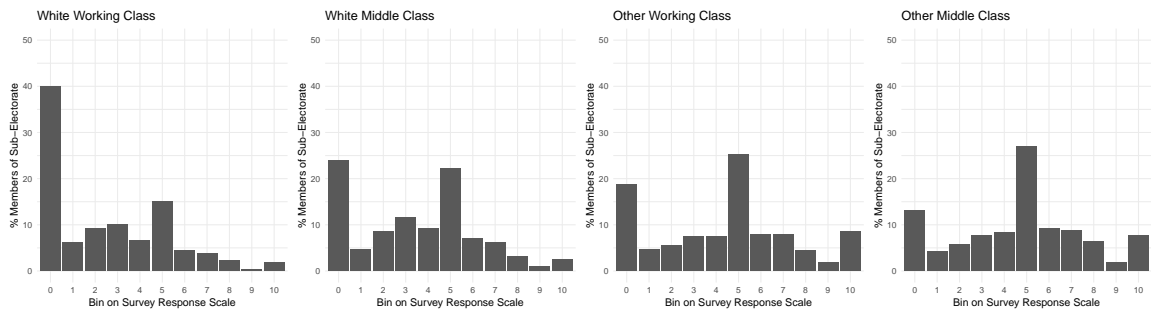


Figure B.12: UK Voter Opinion on Immigration by Class, 2010-19

(a) May 2015 – June 2016



(b) June 2016 – June 2017



(c) June 2017 – July 2019

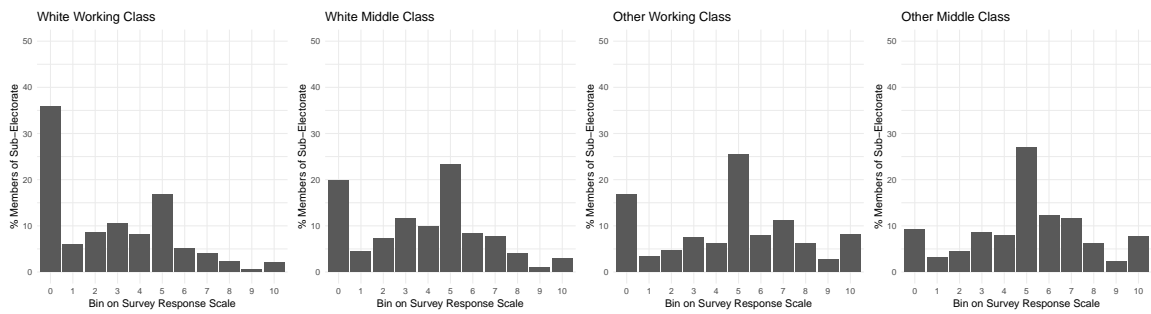
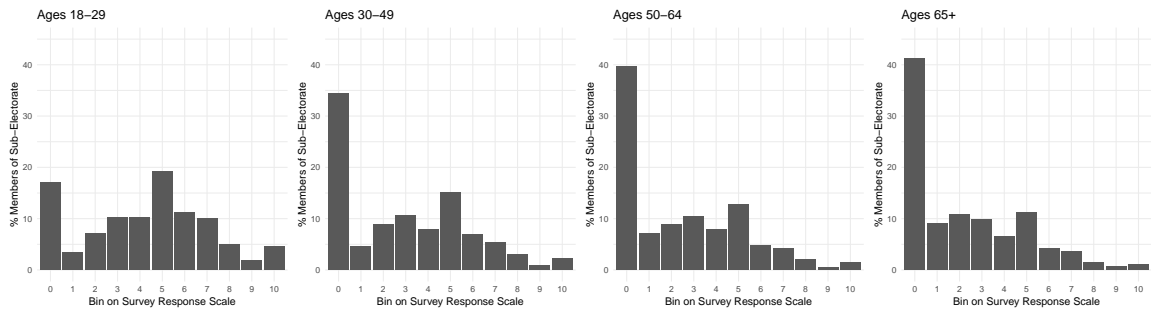
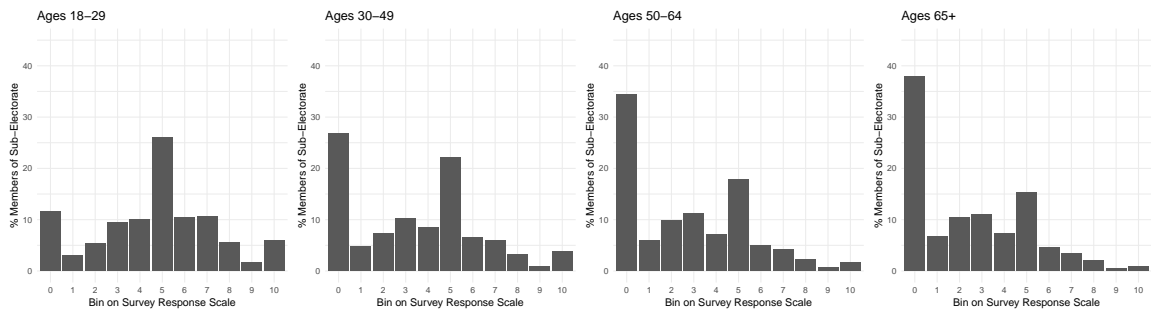


Figure B.13: UK Voter Opinion on Immigration by Age, 2010-19

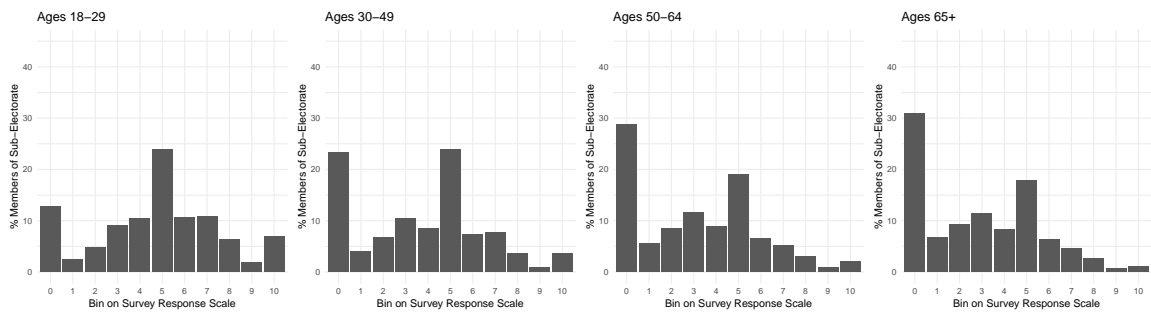
(a) May 2015 – June 2016



(b) June 2016 – June 2017



(c) June 2017 – July 2019



B.3 Regression Results

Table B.1 presents results from regression analyses estimating the overall communicative responsiveness of legislators to voters by issue, as well as their relative communicative responsiveness to particular sub-electorates. Overall communicative responsiveness and relative communicative responsiveness are measured as described in Section 3.

Table B.1: Legislators' Communicative Responsiveness to UK Voters, 2010-2019

Dependent Variable: Δ % Legislative Speech in Bin i at t_i ; Issue: Redistribution													
	(1) All Voters	(2) Men	(3) Women	(4) Some HE	(5) No HE	(6) WWC	(7) WMC	(8) Other WC	(9) Other MC	(10) Ages 18-29	(11) Ages 30-49	(12) Ages 50-64	(13) Ages 65+
Representation Gap in Bin i at t_0	0.281* (0.138)	0.368** (0.120)	0.237* (0.130)	0.338* (0.149)	0.215* (0.126)	0.188 (0.113)	0.331* (0.152)	0.170* (0.094)	0.250* (0.132)	0.265* (0.137)	0.265* (0.138)	0.259 (0.129)	0.271* (0.134)
Constant	0.014 (0.643)	0.019 (0.600)	0.012 (0.651)	0.017 (0.634)	0.011 (0.655)	0.010 (0.656)	0.017 (0.638)	0.009 (0.651)	0.013 (0.648)	0.014 (0.647)	0.014 (0.648)	0.013 (0.644)	0.014 (0.644)
Observations	33	33	33	33	33	33	33	33	33	33	33	33	33
R ²	0.119	0.234	0.098	0.143	0.085	0.082	0.132	0.096	0.103	0.107	0.106	0.115	0.116
Adjusted R ²	0.090	0.209	0.068	0.116	0.056	0.052	0.104	0.066	0.074	0.079	0.077	0.087	0.087

*p<0.1; **p<0.05; ***p<0.01

Dependent variable: Δ % Legislative Speech in Bin i at t_i ; Issue: Redistribution															
	(1) All Voters	(2) Men	(3) Women	(4) Some HE	(5) No HE	(6) WWC	(7) WMC	(8) Other WC	(9) Other MC	(10) Ages 18-29	(11) Ages 30-49	(12) Ages 50-64	(13) Ages 65+	(14) Leavers	(15) Remainers
Representation Gap in Bin i at t_0	0.273 (0.185)	0.293 (0.191)	0.252 (0.178)	0.523* (0.214)	0.076 (0.128)	0.097 (0.132)	0.404 (0.204)	0.486* (0.198)	0.526* (0.216)	0.602** (0.198)	0.292 (0.184)	0.159 (0.160)	0.130 (0.149)	0.040 (0.114)	0.431* (0.166)
Constant	-0.000 (1.241)	0.000 (1.236)	0.000 (1.246)	-0.000 (1.147)	-0.000 (1.295)	-0.000 (1.290)	0.000 (1.195)	0.000 (1.146)	0.000 (1.148)	-0.000 (1.081)	0.000 (1.231)	-0.000 (1.276)	-0.000 (1.283)	-0.000 (1.303)	-0.000 (1.130)
Observations	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
R ²	0.098	0.106	0.091	0.230	0.017	0.026	0.164	0.231	0.228	0.315	0.112	0.047	0.036	0.006	0.252
Adjusted R ²	0.053	0.061	0.046	0.191	-0.032	-0.023	0.122	0.192	0.189	0.281	0.068	-0.001	-0.012	-0.044	0.214

*p<0.1; **p<0.05; ***p<0.01

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