

CHRIS HANRETTY
University of East Anglia
BENJAMIN E. LAUDERDALE
London School of Economics and Political Science
NICK VIVYAN
Durham University

Dyadic Representation in a Westminster System

Is policy representation in contemporary Westminster systems solely a function of programmatic national parties, or does the election of legislators via single-member districts result in MPs whose policy positions are individually responsive to public opinion in their constituencies? We generate new measures of constituency opinion in Britain and show that, in three different policy domains and controlling for MP party, the observed legislative behavior of MPs is indeed responsive to constituency opinion. The level of responsiveness is moderate, but our results do suggest a constituency-MP policy bond that operates in addition to the well-known bond between voters and parties.

Introduction

For countries that elect their legislators using single-member districts (SMDs), one fundamental form of substantive representation (Pitkin 1967, 222–24) is the degree to which the policy positions of legislators reflect the policy preferences of their constituents—a form of representation that has become known as dyadic representation (Weissberg 1978, 536). To the extent that SMD elections are contested by “responsible” (Katz and Wildenmann 1987, 7)—i.e., cohesive and programmatic—national parties, some degree of dyadic representation is guaranteed: If each constituency chooses between candidates based on their party’s programme, and each legislator faithfully supports their party’s programme, this by itself will lead to an association between constituency opinion and legislator policy position (Ansolabehere, Snyder and Stewart 2001; Miller and Stokes 1963). But does the electoral linkage between individual legislators and their constituents created by

SMDs also result in *within-party* policy responsiveness, whereby the policy positions of individual legislators within the same party co-vary with opinion in their particular constituencies?¹

In the United States, where the vast majority of research on dyadic representation has been conducted, the answer appears to be a qualified yes (Ansolabehere, Snyder and Stewart 2001; Clinton 2006, 401; Kastellec, Lax and Phillips 2010; Krimmel, Lax and Phillips 2016). Yet outside of the United States research on dyadic representation is much less developed (Powell 2004, 283–84). Indeed, with some rare exceptions (Converse and Pierce, 1986), scholars have yet to empirically demonstrate the existence of dyadic representation in many countries that have SMD electoral systems, much less establish whether any dyadic representation that does emerge is entirely due to responsible national parties or at least in part due to within-party policy responsiveness. This is unfortunate because the United States is somewhat unusual among SMD systems, with its relatively weak party cohesion and more individualistic electoral competition (Bawn and Thies 2003; Carey and Shugart 1995; Dalton, Farrell and McAllister 2011), making it an environment particularly conducive to within-party policy responsiveness.

Westminster systems appear to present a far more challenging environment for within-party policy responsiveness, characterized as they are by parliamentary government with strong executive agenda-setting powers, resulting in highly disciplined parties that compete electorally on national policy platforms (Bawn and Thies 2003; Cox 1987). Focusing on the United Kingdom as a case study, this article asks whether party dominance completely precludes within-party policy responsiveness in a Westminster system, or whether, even accounting for party, there remains some association between the policy positions of individual Members of Parliament and policy opinion in the constituencies they represent.

While we are not able to establish a causal mechanism here, even establishing the descriptive fact that such an association exists speaks to important normative and practical debates about the merits of Westminster systems. This is because the “strong voter-member linkages” purportedly fostered by SMDs in Westminster systems are commonly highlighted by opponents of electoral reform as one of the main reasons why the well-acknowledged costs of SMD elections—chiefly, high levels of disproportionality (Carey and Hix 2011)—are worth bearing (Norris 2001, 877).² Studies have documented evidence that such voter-member linkages are manifest with respect to MPs’ non-policy, constituency service-type behaviors (Cain, Ferejohn and Fiorina 1987; Norton and Wood 1993; Rush 2001; Searing 1994) and with

respect to the policy issues that MPs choose to attend to (Blidook and Kerby 2011; Soroka, Penner, and Blidook, 2009). However, research on voter-member linkages with respect to policy *positions* has to date been impeded by a lack of the required empirical measures.

Establishing the existence of within-party policy responsiveness would also point toward a previously underappreciated channel for policy representation in Westminster systems. Kam et al. (2010) have provided evidence that the policy positions of backbench MPs in the Commons significantly constrain party leaders, the actors assumed to dominate the policymaking process in Westminster systems. They speculate (301) that this influence of rank-and-file MPs could mean that nonmarginal constituencies have more influence in the policymaking process than previously thought (Kam et al. 2010, 201). Of course, this only holds if it can be shown that, within a party, MPs' policy positions reflect those of their constituents.

There are two main reasons why it has previously been so difficult to directly test for within-party policy responsiveness. First, it is expensive to obtain accurate estimates of constituency policy opinion through mass surveys. Although the per-respondent cost of opinion surveys has decreased over time, sampling even a small number of respondents in each of the 632 constituencies in mainland Britain quickly yields total sample sizes in the hundreds of thousands. Second, it is difficult to measure individual legislators' policy positions. The British Representation Study (e.g., Norris and Lovenduski 1992, 1997, 2001) has surveyed prospective parliamentary candidates at many recent general elections and asked them to indicate their position on different policy dimensions; however, these measures suffer from low response rates (Kam et al. 2010) and cannot be linked to particular constituencies because they are always collected on the condition that "individual replies will be treated in the strictest confidence" (Kam et al. 2010, xx). Strong party discipline also means that differences of opinion between members of the same party are often reconciled privately (Cowley 2002, 183; Norton 1999), or, if they are made visible in legislative votes, are only done so in ways incompatible with the models of sincere voting upon which many scaling techniques rely (Spirling and McLean 2007).

In this article, we capitalize on recent methodological advances to overcome these two difficulties. We use methods of small-area estimation to generate estimates of constituency opinion both on a general left-right economic scale and on specific issues (same-sex marriage and the European Union). We then show how variation in constituency opinion is associated with within-party variation in MP positions as revealed by scaled Early Day Motion signatures ("unobtrusive measures" of

backbench policy positions [Franklin and Tappin 1977]), votes of conscience, unwhipped votes, and whipped votes. Finally, we lay out an agenda for future research into the possible causes of within-party policy responsiveness in a Westminster system.

Dyadic Representation in Comparative Perspective

Most existing empirical studies of dyadic representation focus on the United States. In their seminal article, Miller and Stokes (1963) examine the House of Representatives and find that legislator responsiveness to constituency opinion varies across policy dimensions, although subsequent analyses of their data suggest that responsiveness is less variable across policy dimensions (Achen 1978) and generally greater in magnitude (Erikson 1978) than they originally concluded. More recently, scholars have utilized innovative joint-scaling techniques to measure legislator and constituency positions on the same metric (Bafumi and Herron 2010; Masket and Noel 2012), concluding that legislator positions are often extreme compared to the median voter in their constituency. Of most relevance for this article are those US studies that distinguish between dyadic representation due to responsible national parties and that due to within-party policy responsiveness (Ansolabehere, Snyder, and Stewart 2001; Clinton 2006; Kastellec, Lax, and Phillips 2010; Krimmel, Lax, and Phillips 2016; Masket and Noel 2012). While these studies do yield evidence of within-party responsiveness—Ansolabehere, Snyder, and Stewart (2001), Clinton (2006, 401), Kastellec, Lax, and Phillips (2010), and Krimmel, Lax, and Phillips (2016) all find a clear positive association between legislator positions and constituency opinion for legislators from the same party—they also demonstrate that partisan factors remain of considerable importance to the representational process.

When we consider this US-focused literature from a comparative perspective, we are forced to conclude that the prospects for within-party policy responsiveness in other countries with SMD elections are unpromising. Within-party policy responsiveness is likely to be a product of electoral selection (each constituency electing a legislator whose preferences are aligned with its own) or electoral sanction (each legislator following what they perceive to be the will of their constituency to increase their re-election chances) or both (Miller and Stokes, 1963). It should therefore be at its strongest when electoral contests depend more on the personal attributes of individual legislative candidates, as in the United States, and weaker when electoral contests depend more on their party affiliation, as is the case in many other SMD systems (Bawn and

Thies 2003; Carey and Shugart 1995; Dalton, Farrell, and McAllister 2011).

Yet at present, we simply lack evidence as to whether or not this expectation is borne out because there is a paucity of empirical research on dyadic representation outside of the United States. The main exception is Converse and Pierce's (1986) study of the French Fifth Republic. They find that the roll-call voting of French deputies, elected from SMDs via a two-round run-off system, is responsive to constituency opinion. However, they do not establish whether this responsiveness has a within-party component, or whether it emerges solely due to partisan competition.

We contribute by testing for within-party responsiveness to constituency opinion in the UK House of Commons. Of all countries with SMD legislative elections, those with Westminster systems like the United Kingdom are where the selection and sanctioning mechanisms apt to produce within-party responsiveness are arguably at their weakest. In Carey and Shugart's (1995) ranking of electoral systems according to incentives to cultivate a personal vote, the system used in the United Kingdom is ranked lowest of all SMD systems, with only closed-list PR systems generating weaker incentives for a personal vote. Compounding this, the agenda-setting power of the executive in a Westminster system means that voters tend to think of elections more as an opportunity to choose a national party for government rather than an opportunity to choose an individual to represent them in parliament (Bawn and Thies 2003; Cox 1987).

Still, there are reasons to believe that even in a Westminster system like the British one, some within-party responsiveness to constituency policy opinion may emerge. Although British election campaigns are primarily focused on national parties, they have in recent decades become more localized (Johnston and Pattie 2014). At the same time, the partisan and class-based attachments of the British electorate have declined (Clarke et al. 2004, 2009). Both of these developments offer scope for some electoral connection between individual MPs and their constituents. Indeed, British MPs believe that there is an electorally consequential "personal vote" that derives from their actions as individual representatives and that can offer some defense against fluctuations in the electoral popularity of their party (Cain, Ferejohn, and Fiorina 1987). Although apolitical constituency service activities are viewed as the most efficient means of attracting such a vote (Cain, Ferejohn, and Fiorina 1987; Norton and Wood 1993), an MP can also attract extra votes through legislative activities (Kam 2009), and there is even voter-level evidence that voters hold MPs partially accountable for their Commons

voting record (Vivyan and Wagner 2012). In other words, British MPs interested in re-election have at least some incentive to adopt policy positions amenable to their local constituencies. These incentives may not be large, and may not alter the position of the United Kingdom within Carey and Shugart's (1995) classification of the incentives to cultivate a personal vote, but they are not zero.

In addition to these *ex post* electoral sanctioning mechanisms, *ex ante* selection mechanisms may also play a role in Britain. First, recent research finds that British voters are more likely to support parliamentary candidates who live closer to them (Arzheimer and Evans 2012). If candidates with more local links are more likely to share the political views of their constituents, then voters' propensity to favor these local candidates would lead to the election of MPs whose preferences are better aligned with those of their constituents. Second, Buttice and Milazzo (2011) show that local party organizations in safe British seats tend to select more ideologically extreme parliamentary candidates, while those in more marginal seats—acting strategically—tend to select more moderate candidates. To the extent that constituency marginality correlates with constituency ideological moderation, this behavior on the part of local parties has the effect of increasing the chances that moderate constituencies elect moderate MPs (from whichever party) and that more extreme constituencies elect more extreme MPs.

Do these selection and sanctioning mechanisms combine to yield within-party responsiveness to constituency opinion in the British system? The literature on what might be termed the “constituency role” of legislators in Westminster systems provides some circumstantial evidence. There is general agreement that in the United Kingdom this role—which involves “looking after the collective and individual interests of those they represent” (Rush 2001, 22) or “acting as agent to protect and advance the interests of ordinary citizens” (Searing 1994, 122)—has increased over time (Norton 1994, 1999); is increasingly regarded by MPs as their most important role (Campbell and Lovenduski 2014; Heitshusen, Young, and Wood 2004; Rush 2001, 216–17); and is also regarded by constituents as the role that *ought* to be most important for MPs (Campbell and Lovenduski 2014). The problem is that this broad notion of a “constituency role” can cover nonpolicy constituency service activities and does not necessarily imply policy responsiveness in the sense defined above. Indeed, one investigation of MPs' roles found that although MPs regarded their constituency role as their most important, in “deciding how to act and vote in Parliament,” MPs said that they were more strongly influenced by the “advice of... party leadership” and “personal opinion” than “constituency opinion” (Rush 2001, 218).

There has been some recent research that examines more explicitly the link between the policy positions of MPs and policy opinion in their respective constituencies. But this relies without exception on proxies for constituency opinion, which both obscures the difference between interests and preferences, and elides many other unobserved constituency characteristics. For example, Hibbing and Marsh (1987) and Baughman (2004) both use the religious composition of constituencies—specifically, the percentage of Roman Catholics—to explain MPs' free votes on abortion and homosexuality. In Canada, Soroka, Penner, and Blidook (2009) used the presence of a military base in a constituency to explain the rate at which MPs asked questions about defense policy at Question Period; Blidook and Kerby (2011) extended this logic to a range of demographic constituency covariates.

The lack of good measures of constituency opinion has inhibited research on dyadic representation and within-party policy responsiveness in Westminster systems—but this literature is also limited because there is little variation in parliamentary outcomes to explain. Levels of legislative cohesion in parliamentary systems in general are high compared to the United States, and levels of party unity in Westminster systems, including the United Kingdom, are higher still (Carey 2007). The strong pressure exerted by party whips means that votes do not reveal differences in ideology, but rather differences in levels of government support (Spirling and McLean 2007). Consequently, research into dyadic representation in the Commons must solve these twin problems.

Measuring Constituency Opinion

To examine whether MPs are responsive to constituency opinion, we need measures of constituency opinion. In the past, the difficulty of obtaining such measures has limited research on dyadic representation: If opinion in a given constituency can only be elicited through a survey of a moderately large representative sample of the population of that constituency, then the cost of eliciting opinion across all constituencies quickly becomes prohibitive. Here, we overcome this problem by using “multilevel regression and post-stratification” (MRP), a technique for estimating opinion within small areas using large *national* survey samples in conjunction with auxiliary information about the small area characteristics (Hanretty, Lauderdale, and Vivyan 2016; Lax and Phillips 2009; Park, Gelman, and Bafumi 2004; Selb and Munzert 2011; Warshaw and Rodden 2012).

The MRP strategy we employ to estimate opinion in UK parliamentary constituencies begins with data from a reasonably large

national survey sample measuring respondents' constituency location, demographic characteristics, and opinion on the topic of interest. Disaggregating this national survey sample by constituency yields 632 constituency subsamples. Although these subsamples do provide us with some information, we cannot rely on them alone to estimate constituency opinion because the subsamples are small—disaggregating even a large national survey sample of 10,000 respondents would leave less than 20 respondents per constituency. Instead, we use MRP to supplement these constituency subsamples with four types of additional information.

First, we supplement each constituency subsample with information from the wider national survey sample, estimating a multilevel model of respondent opinion with constituency random effects. This “global smoothing” shrinks estimates based on constituency subsamples alone toward the national sample average.

Second, we add to the multilevel regression constituency-level predictors for the constituency random effects. To the extent that these constituency-level variables are associated with respondent opinion, our estimate for a given constituency is smoothed more toward average opinion among respondents from all constituencies with similar characteristics (Gelman and Hill 2007, 269). Since we have a large number of constituencies, we were able to include a broad set of constituency-level predictors in our MRP models with the aim of explaining as much variation in opinion as possible.³ The constituency-level characteristics we include are: logged population density; percent nonwhite residents; logged median earnings; religious composition (Christian, non-Christian, or refused to answer census religion question); percent female; mean age; median education level; percent married; percent homeowners; median social grade; percent working in private sector; government office region; and the vote shares of the three main national parties (Conservative, Labour, Liberal Democrat) in the constituency at the preceding (2010) general election.⁴ Further details on the source for these predictors can be found in Appendix C of the online supporting information.

Third, we incorporate respondent demographic characteristics as individual-level predictors in the multilevel regression model of opinion and then poststratify to the distribution of these demographic characteristics in each constituency population. Thus, our estimates of opinion for a given constituency incorporate information about average opinion among all survey respondents with a particular combination of demographic characteristics, and about how many individuals of this demographic “type” live in the constituency. This aspect of MRP yields greater gains the better individual opinion is explained by individual demographic characteristics and the more demographic composition

varies across constituencies. It also acts as a form of survey weighting, yielding constituency opinion estimates that are adjusted to account for differences between the survey sample and constituency population characteristics. We include a number of individual-level demographic predictors in our MRP models: gender; agegroup; highest educational qualification; marital status; social grade; home ownership; and private-sector occupation. Full details on these measures can be found in Appendix C of the supporting information, but it should be noted here that the final two predictors were not included in the MRP model for same-sex marriage because these were not measured in the survey data we use to estimate opinion on same-sex marriage.

Fourth, we incorporate geographic information by including spatially correlated constituency random effects in our multilevel regression model of opinion. Thus, our estimates of opinion in a given constituency are smoothed toward average opinion among respondents in nearby constituencies.

All of these different sources of information can be combined, and validation evidence shows that their combination results in the best possible estimates of UK constituency opinion (Hanretty, Lauderdale, and Vivyan 2016). The estimates of constituency opinion used here are thus based on poststratified predictions from multilevel regression models including individual and constituency-level predictors together with spatially correlated random effects. We adopt a Bayesian approach to the estimation of these models, using Markov Chain Monte Carlo (MCMC) methods. Appendix C in the supporting information provides further technical details.

Dyadic Representation across Four Studies

Having described a general technique for estimating opinion in British constituencies, we turn to assess the association between constituency opinion and MP policy positions. However, we cannot measure the latter simply by scaling all recorded votes in the Commons. Levels of party cohesion are extremely high in Commons divisions (Carey 2007), with most intraparty disagreements either resolved via private negotiation between party leaders and backbenchers (Cowley 2002, 183; Norton 1999) or suppressed via the whip and an accompanying threat of sanctions for disloyalty (Kam 2009). Thus standard approaches for the scaling of roll-call votes tend to reveal not the policy position of MPs, but rather their level of government support (Spirling and McLean 2007).

To test for within-party responsiveness to constituency opinion, we must instead analyze more specific instances where there is observable variation in the behavior of MPs from the same party *and* where the policy positions implied by MP behavior are clearly discernible. In each case, we can then examine whether the variation in MP positions on a given policy dimension is associated with variation in constituency opinion on the same dimension.

We present evidence from four case studies. In the first three, we focus on instances where MP behavior is not governed by party whips. Study 1 investigates the link between constituencies' left-right position and MPs' left-right positions as revealed through their signatures on Early Day Motions (EDMs). EDMs are unwhipped, and have been suggested as unobtrusive measures of backbench opinion. Studies 2 and 3 investigate the link between constituency opinion and MP behavior in free votes on same-sex marriage and the European Union, respectively (with the latter restricted to Conservative MPs only). These free, unwhipped votes took place in 2013, and are the only free votes between 2010 and 2015 for which there is sufficient public opinion data to generate corresponding constituency opinion estimates.

Finally, because we are also interested in MP responsiveness to constituency opinion when party discipline is present, in Study 4 we investigate the link between constituency opinion on the European Union (EU) and the rate at which Conservative MPs voted against their party whip ("rebelled") in EU-related parliamentary votes held between 2010 and 2014. A focus on the rebelliousness of Conservative MPs in EU-related divisions has two key advantages compared to analyzing whipped votes on other topics. First, the policy content of MP behavior is clear in this case: when Conservative MPs rebelled on Europe, they were adopting a stance that was more anti-European—"Eurosceptic"—than that of their party leadership. Second, due to the government's relative lack of agenda control over the European issue,⁵ Europe-related votes occurred frequently during the 2010 parliament. Because we observe Conservative MPs' willingness to rebel on Europe on multiple occasions, this enhances our ability to discriminate between them in terms of their expressed level of Euroscepticism.

We discuss each case study in turn.

Study 1: Economic Aspects of the Left-Right Cleavage

MP behavior. EDMs—"formal motions submitted for debate in the Commons . . . which allow MPs to draw attention to an event or cause"⁶—are "unobtrusive" measures of backbench policy positions

(Franklin and Tappin 1977). Any MP can sponsor or cosign an EDM (though in practice it is mainly backbench MPs who do so). EDMs are not whipped, are unlikely to result in a formal debate, and have limited consequences for policy or the use of parliamentary time. Some EDMs are trivial, but many concern important matters relating to taxation, spending priorities, social services, and other issues closely related to the left-right dimension in British politics. This means that cosigning EDMs on economic policy can be taken to indicate agreement on a policy position. However, because EDMs are circulated to members informally, and have limited consequence, failure to sign is not necessarily an indication of policy disagreement.

Kellermann (2012) has suggested that EDMs can be used to estimate policy positions as long as the general propensity of MPs to sign EDMs is estimated at the same time. Some MPs will have a high “signing cost,” and will rarely sign EDMs, even those with which they agree. Some MPs will have a low signing cost, and will more frequently sign EDMs. The lower the signing cost, the more the absence of a signature can be interpreted as if it were disagreement with the policy position expressed by the motion.

We follow Kellermann (2012) in modeling signatures on EDMs as a function of legislators’ policy positions and their signing costs. We differ from Kellermann in the functional form we use, which is closer to standard models used for the analysis of roll-call data (Clinton, Jackman, and Rivers 2004). The details of this model and its estimation can be found in Appendix A of the supporting information.

Our EDM data comes from the 2010–12 Parliamentary session. We began by excluding “prayers” (early day motions tabled by the Opposition leadership against statutory instruments being introduced by the government) and Early Day Motions that were geographically specific.⁷

We then defined a list of key terms relating to the economic left-right dimension, and we dropped from our sample any EDM that does not contain at least one of these terms.

Specifically, we searched the text of each EDM for any of the following words or word stems: *tax*, *deficit*, *budget*, *spend*, *services*, *welfare*, *income*, *expenditure*, *debt*, *trade*, *econom**. This leaves us with 902 motions, from which we were able to estimate positions for 419 MPs, of whom all but 10 were members of the three largest parties (Conservatives, Labour, Liberal Democrats), and most of whom were backbenchers throughout the session.

Constituency preferences. We measure the economic left-right position of constituents by combining information from multiple survey

items included in two British Election Study (BES) surveys: the post-election wave of the 2010 Campaign Internet Panel Survey (CIPS, May 7–24, 2010) (Clarke et al. 2014); and the postreferendum wave of the Alternative Vote Referendum Survey (AVRS, May 6–25, 2011) (Clarke et al. 2011), which contains responses from a large number of the original CIPS respondents. Across the CIPS and AVRS surveys, we identified nine economic-policy-related items. These items generally asked respondents to say how much they agreed with or approved of proposed or actual policy measures, such as a “mansion tax” on properties worth over £2 million, increases in university tuition fees, and cuts in government spending. The nine policy items are detailed in Appendix B of the supporting information.

Overall, we observe data on 10,821 individuals who responded to both the CIPS post-election wave and the AVRS postreferendum wave. Based on their answers to the nine economic-policy-related items, we estimate an ordinal item-response theory (IRT) model (the details of this model are reported in Appendix B of the supporting information). This yields an estimate of each respondent’s position on a continuous underlying left-right economic dimension. These respondent economic left-right scores were then modeled using the MRP method discussed in the previous section to create a measure of constituency left-right opinion.

The relative positions of constituencies have good face validity. The five most left-wing constituencies—Glasgow North East, Liverpool Riverside, Glasgow East, Glasgow South West, and Knowsley—are all urban in character and located in current or former Labour heartlands. The housing estates of Glasgow North East are, to some extent, the legacy of “Red Clydeside,” the militant socialism of the West of Scotland between World War I and the 1930s (McLean 1983, 234–35). Liverpool Riverside shares a legacy of interwar militancy, but the city continued to support militant socialism (and the militant tendency) within the Labour Party as recently as the 1980s (Crick 1986, 35–49). Conversely, the five most right-wing constituencies (Orpington, Maldon, Rayleigh, and Wickford, Ruislip Northwood and Pinner, and Surrey Heath) have often been held up as metonyms for a “neat suburban prosperity” (Horne 1989, 335).

Findings. Table 1 shows the results of six OLS regressions of MPs’ left-right economic positions as measured by their EDM signing behavior.⁸

The first three regressions are estimated for all MPs from the three main parties (Labour, Conservatives, Liberal Democrats) for whom we have estimated positions. We model positions as a function of (1)

TABLE 1
Constituency Left-Right Economic Position against MP Left-Right Economic Position

	(1) Constituency Alone	(2) Party Alone	(3) Constituency, Party	(4) Conservatives	(5) Labour	(6) Lib Dems
(Intercept)	0.023 (0.033)	1.237*** (0.019)	1.184*** (0.025)	1.150*** (0.041)	-0.825*** (0.021)	0.447*** (0.017)
Const. ideal point	0.750*** (0.033)		0.054** (0.017)	0.088* (0.036)	0.047* (0.022)	0.024 (0.021)
Party: Lab/Con		-2.092*** (0.024)	-2.003*** (0.037)			
Party: LD/Con		-0.793*** (0.041)	-0.734*** (0.045)			
R-squared	0.558	0.948	0.950	0.040	0.020	0.036
N	409	409	409	145	225	39

Note: All models estimated via OLS. Model (1) includes all Conservative, Labour, and Liberal Democrat MPs for whom we have EDM-based measures of left-right position. See the main text for details of variable codings. † $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

constituency left-right economic position alone (scaled to have a mean of 0 and a standard deviation of 1); (2) MP party affiliation; and (3) both party affiliation and constituency opinion. The final three regressions subset the MPs by party affiliation and model positions as a function of constituency opinion alone.

Table 1 shows significant associations between constituency opinion and MP EDM signing behavior concerning left-right economic issues. The coefficient on constituency opinion is positive and significant when included as the only predictor of MP position (1). Once MP party is controlled for (3), the estimated coefficient drops substantially in terms of magnitude but retains significance. The coefficient estimates in the party-specific regressions (4, 5, and 6) are also fairly stable and significant for the two larger parties, suggesting that the average association between constituency position and MP position is not driven by the behavior of MPs from one particular party. In other words, when we study the primary dimension of party competition in a party-dominated system, we find clear evidence of responsiveness to constituency opinion above and beyond that associated with the party affiliations of MPs.

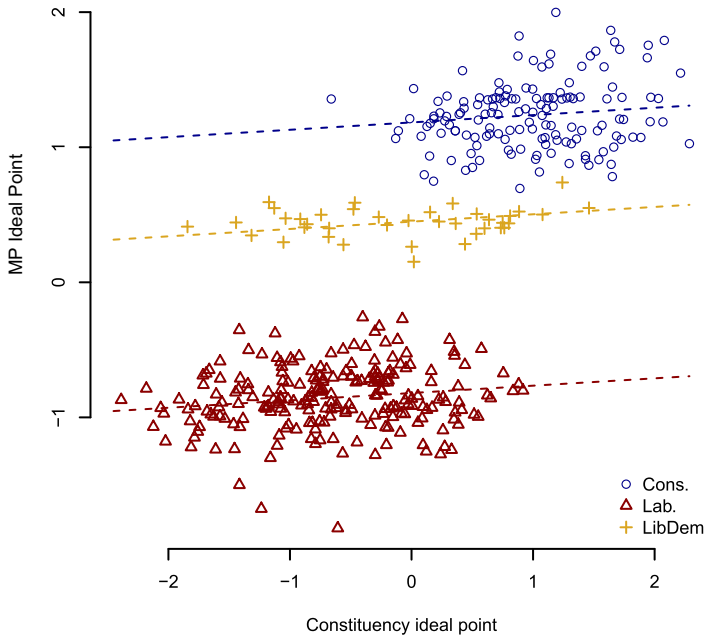
Figure 1 visually summarizes the regression model including party and constituency opinion (3). The relatively tight clustering of MPs by party along the Y-axis accords with the traditional view of British legislative politics that party is strongly associated with economic policy positions. However, we note that because our hierarchical model smooths MP positions toward their party mean, the degree of homogeneity within parties may be overstated. MPs who sign few EDMs are located at the center of their parties, rather than at the center of the dimension. This is an estimation strategy optimized for within-party comparisons, rather than across-party comparisons. Because MPs who sign few EDMs are placed near the mean of their party, this may bias the regression estimate of the within-party association with constituency opinion toward smaller values than we would find if MPs' positions were known perfectly.

Study 2: Same-Sex Marriage

MP behavior. On February 5, 2013, the House of Commons voted on the second reading of the Marriage (Same-Sex Couples) Bill. The Bill had been introduced in the Commons a month earlier, at its first reading, but as is customary, the first reading involved no debate and no recorded vote. The second reading was therefore the first opportunity for Members of Parliament to debate the principles behind the Bill.

Because the Bill had not featured in the manifestos of any of the main parties,⁹ and because it involves issues of conscience, the main

FIGURE 1
Constituency Left-Right Position against MP Left-Right Position



Note: For all Conservative, Labour, and Liberal Democrat MPs, this figure plots MP left-right position against constituency left-right position. The dashed lines show, for each party, the estimated regression line linking constituency and MP position and are based on model (3) in Table 1.

political parties chose to make the vote a free vote—that is, one without any party whip (House of Commons Library, Department of Information Services 2013). There were 570 MPs who voted on the Bill; 395 voted in favor, and five abstained. Despite the lack of a whip, MPs of different parties voted very differently; 218 of 240 Labour MPs and 44 of 48 Liberal Democrat MPs voted in favor of the Bill, but only a minority (126 of 266) of Conservative MPs did so.

Data on MPs votes came from publicwhip.org.uk, which parses the official record of parliamentary debates, *Hansard*. We exclude MPs who abstained and who did not vote.

Constituency preferences. We measure constituency opinion on same-sex marriage by pooling data from several YouGov surveys on the

issue. Respondents were asked “would you support or oppose changing the law to allow same-sex couples to marry?” This question was asked of 7,400 respondents to YouGov polls on several dates between September 2012 and August 2013. The original response format allowed respondents to indicate whether they strongly supported, tended to support, tended to oppose, or strongly opposed this change. Strong support and a tendency to support were combined to give a dichotomous variable measuring support for same-sex marriage. Don’t knows were excluded from the analysis.

The constituencies estimated to have highest support for same-sex marriage—Bristol West, Hornsey and Wood Green, Islington North, Brighton Pavillion—are all urban areas that tend to have either a high number of young professionals or university students and employees. There are no figures on the LGBT population of Westminster constituencies, which would allow us to assess the face validity of our measure under the assumption that LGBT residents would be more in favor of same-sex marriage. We note though that Brighton has been described as Britain’s “gay capital” (Browne and Lim 2010, 619), and the surrounding local authority area hosted the second highest number of civil partnership ceremonies (after Westminster but ahead of Islington).¹⁰ In contrast, the seats that tend to have the lowest estimated support for same-sex marriage—South Holland and the Deepings, Louth and Horncastle, Christchurch, and Clacton—tend to be more rural, with older, more religious populations.

Findings. Table 2 shows the results of six logistic regression models of MP support for same-sex marriage. The first three regressions are again estimated for all MPs from the three main parties (Labour, Conservatives, Liberal Democrats) who voted in the division, and model the probability of voting in favor of the same-sex marriage bill as a function of (1) constituency support for same-sex marriage alone; (2) MP party affiliation; and both party affiliation and constituency support for same-sex marriage. The final three regressions subset the MPs by party affiliation and model MP voting as function of constituency opinion alone.

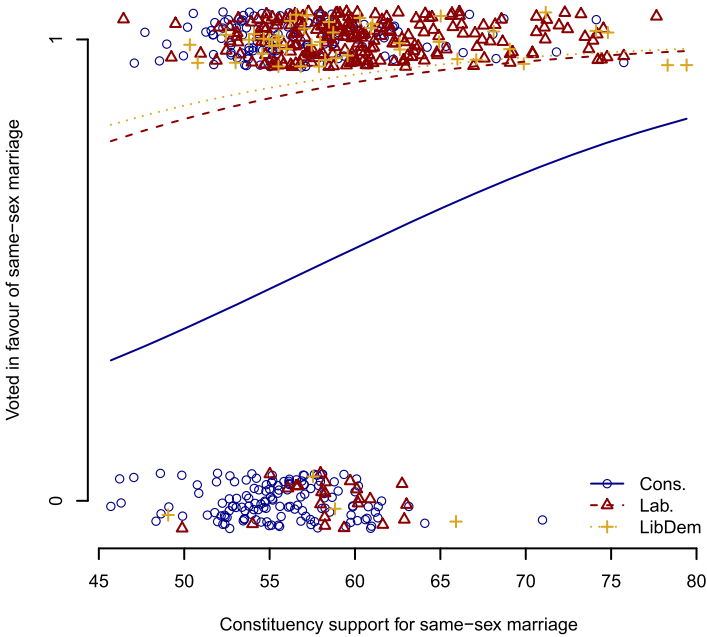
The regression results indicate that, on the issue of same-sex marriage, MPs are responsive to constituency opinion. In the models run on all MPs, the coefficient on constituency support for same-sex marriage is positive and significant whether or not party is controlled for (1 and 3). The estimated coefficient is also relatively stable when estimated separately in each of the party subsamples, and is significant for the Conservative MPs at the 0.05 level and for Labour MPs at the 0.1 level.

TABLE 2
Constituency Opinion on Same Sex Marriage against Votes for Same Sex Marriage

	(1) Constituency Alone	(2) Party Alone	(3) Constituency, Party	(4) Conservatives	(5) Labour	(6) Lib Dem.
(Intercept)	-7.063*** (1.278)	-0.083 (0.123)	-4.078** (1.358)	-3.907* (1.670)	-2.531 (2.726)	-1.285 (5.331)
Constituency opinion	0.138*** (0.022)		0.071** (0.024)	0.068* (0.030)	0.080† (0.046)	0.063 (0.091)
Party: Lab/Con		2.337*** (0.251)	2.089*** (0.262)			
Party: LDem/Con		2.503*** (0.536)	2.309*** (0.541)			
Log-likelihood	-314.031	-273.310	-268.593	-180.673	-74.311	-13.579
Nagelkerke R-sq.	0.118	0.295	0.314	0.028	0.030	0.026
N	556	556	556	265	242	49

Note: All models are binary logistic regressions where the dependent variable equals 1 if the MP voted in favor of the Marriage (Same-Sex Couples) Bill, and 0 if the MP voted against. Model (1) includes all Conservative, Labour, and Liberal Democrat MPs who voted on the bill. See the main text for details of variable codings. † $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

FIGURE 2
 Constituency Opinion on Same-Sex Marriage against Votes for Same-Sex Marriage



Note: For all Conservative, Labour, and Liberal Democrat MPs, this figure plots MP support for the Marriage (Same-Sex Couples) Bill (0 if the MP voted against the Bill, 1 if the MP voted in favor) against estimated percentage support for same-sex marriage in the MP’s constituency. The lines show, for each party, the predicted probability of the MP supporting same-sex marriage as a function of constituency opinion, and are based on model (3) in Table 2.

Figure 2 plots the predicted probabilities deriving from the model that includes both party and constituency opinion (3). The effect of constituency opinion on the probability of voting for the bill is largest for Conservative MPs, for whom a change from average constituency support for same-sex marriage (58.3% in support) to high support (63.5%) results in a change in the predicted probability of supporting the measure of approximately 10%. Because the baseline rates of support among Labour and Liberal Democrat MPs are very high, the regression slopes for Labour and Liberal Democrat MPs are shallower. Yet even for a Labour MP, the same change in constituency support for same-sex marriage results in a 3% increase in the predicted probability of voting for same-sex marriage. Thus, on this policy issue, which is not strongly

related to the primary dimensions of party competition, we also find evidence of substantial within-party responsiveness to constituency opinion.

Study 3: A “Free” Vote on Europe

MP behavior. On May 15, 2013, the Commons voted on an amendment to its response to the Queen’s Speech (i.e, its response to the government’s legislative agenda). The amendment, moved by Conservative Eurosceptic John Baron MP, would have expressed the House’s respectful “regret that an EU referendum bill was not included in the Gracious Speech.” Exceptionally, the Conservative Party allowed its MPs a form of free vote on the amendment—while ministers would be obliged to abstain, backbenchers were free to vote as they wished. Ordinarily, this would make it difficult to discern abstentions from absences: Although members may explicitly signal abstention by walking through both the “aye” and “no” division doors, this practice is not obligatory. Fortunately, however, the division on the EU referendum amendment was immediately preceded by voting on the opposition response to the Queen’s Speech, for which many Conservative MPs were present. We therefore restrict our analysis to backbench Conservative MPs, and assume that those MPs who were present for the previous vote, and who did not vote in favor of the amendment, were against the amendment.

Although support for a referendum on an issue is not normally equivalent to support for a particular *outcome* in that referendum, we assume that among Conservative backbenchers support for a referendum was a Eurosceptic position, signaling a wish to move towards exit or reduce the powers of the EU over British affairs. This assumption is consistent with studies of the politics of European policy within the Conservative Party (Copsey and Haughton 2014; Giord 2014). However, it does not hold across parties—the Liberal Democrats, for example, have been in favor of a referendum on EU membership, but are the most pro-European of the main parties.

Constituency preferences. For both this study and Study 4, we measure constituency opinion on Europe based on information from 11,191 responses to a single question included in the BES 2010 CIPS. The question was: “Overall, do you approve or disapprove of Britain’s membership in the European Union?” The original response format allowed respondents to indicate whether they strongly disapproved, disapproved, neither disapproved nor approved, approved, or strongly

TABLE 3
 Constituency Euroscepticism and Votes for an EU Referendum
 among Conservative MPs

	(1) Null Model	(2) Constituency Alone
(Intercept)	0.232 [†] (0.140)	-3.088* (1.242)
Constituency EU disapproval		0.064** (0.024)
Log-likelihood	-142.787	-138.804
Nagelkerke R-sq.		0.050
<i>N</i>	208	208

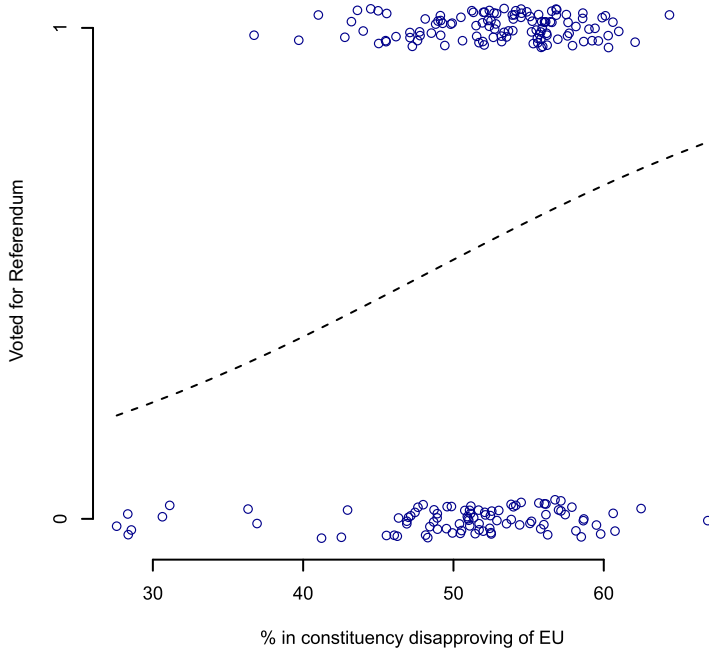
Note: All models are binary logistic regressions where the dependent variable equals 1 if the MP voted in favor of motion regretting the absence of an EU referendum bill in the Queen's Speech, and 0 otherwise. Model (1) includes all Conservative backbench MPs who either voted in this division or were present for the immediately preceding division. See the main text for details of variable codings. [†] $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

approved of membership. Strong disapproval and disapproval were combined to give a dichotomous variable measuring EU disapproval.

The constituencies estimated to have the highest disapproval of Britain's EU membership—Clacton, North East Cambridgeshire, Boston and Skegness, and South Holland and the Deepings—tend to have populations that are older and have lower average educational qualifications, whereas the constituencies estimated to be least disapproving—Bristol West, Hornsey and Wood Green, Hampstead and Kilburn, and Islington North—tend to have younger, more educated, and ethnically mixed populations. This accords with existing research on the demographic correlates of support for anti-European parties such as the United Kingdom Independence Party (UKIP) (Ford and Goodwin 2014).

Findings. Table 3 shows the results of two logistic regression models on support for an EU membership referendum among Conservative backbench MPs, expressed as a function of (1) an intercept alone, and (2) constituency disapproval of British membership of the European Union. If within-party responsiveness operates in this case, Conservative MPs should be more likely to vote in favor of this referendum the more Eurosceptic their constituency. This is indeed what we observe in (2), where the coefficient on constituency EU disapproval is positive and significant.

FIGURE 3
Constituency EU Disapproval against Votes for EU Referendum



Note: This figure plots Conservative backbencher support for a motion regretting the absence of an EU referendum bill in the Queen's Speech against percentage disapproval of British membership of the EU in the MP's constituency. The line shows the predicted probability of the MP supporting the motion as a function of constituency opinion, and is based on model (2) in Table 3.

Figure 3 plots the predicted probability of a Conservative MP supporting an EU membership referendum as a function of constituency EU disapproval. The graph shows a relatively steep, fitted regression curve, with constituency opinion having a substantial association with MP votes. For example, moving from the average level of disapproval in constituencies held by Conservative backbenchers present that day (51.6% disapproval) to a high level of disapproval (equal to the average plus one standard deviation, or 58.4% disapproval), results in a change in the predicted probability of an MP supporting an EU membership referendum of 10.6%. Thus, the magnitude of the association between constituency opinion and MP position in this case is similar to that seen in our discussion of the free vote on same-sex marriage.

TABLE 4
 Constituency Euroscepticism and Conservative Backbench
 Rebellions on Europe

	(1) Null Model	(2) Constituency Alone
(Intercept)	-2.680*** (0.154)	-6.581*** (1.572)
Constituency opinion		0.074* (0.029)
Deviance	2215.749	2094.321
<i>N</i>	188	188

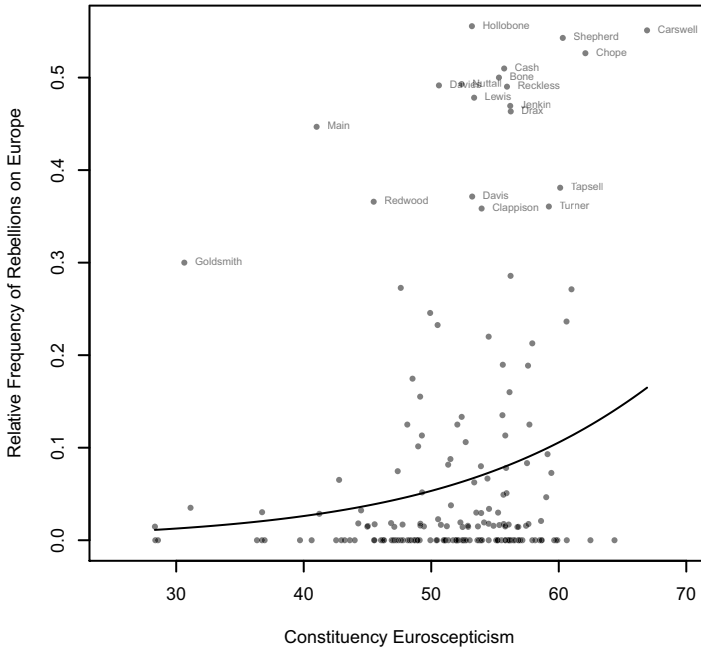
Note: All models are overdispersed binomial logistic regressions where the dependent variable is the number of rebellions on Europe-related divisions. Model (1) includes all Conservative backbench MPs. See the main text for details of variable codings. † $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Study 4: Backbench Rebellion on Europe

MP behavior. As an alternative measure of Conservative backbenchers' levels of Euroscepticism, we use frequency of rebellion against the party whip in Europe-related divisions during the 2010 parliament. We focus on Conservative backbenchers because their rebellions over Europe during this period are unambiguously Eurosceptic. In contrast, the tendency of opposition MPs to vote strategically on whipped divisions in Westminster systems (Spirling and McLean 2007) means that the policy content of Labour MPs' votes is unclear, while in the single instance where a Liberal Democrat MP rebelled over Europe, he or she did so taking an explicitly pro-European stance (Sanders, 2011).

To generate a list of all Europe-related divisions during the 2010 parliament, we began with the list of all divisions classified as relating to Europe according to the publicwhip.org.uk "policy" classification of divisions.¹¹ We supplemented this list of divisions with any further Europe-related votes found by manually searching through the titles of all divisions during the 2010 parliament on publicwhip.org.uk. Finally, we cross-checked our list of Europe-related votes with Cowley and Stuart's (2012, 2013, 2014) lists of all Europe-related divisions where any government MPs rebelled. In total, we observe 77 divisions (listed in Appendix D of the supporting information) relating to Europe and on which the Conservative Party whipped its MPs to vote in line with its position. The average number of rebellions across Conservative backbenchers is 3.95, with a minimum of 0 and a maximum of 40.

FIGURE 4
Constituency EU Disapproval against Conservative Backbencher
Rebellions



Note: This figure plots the relative frequency of Conservative backbench MP rebellions in Europe against percentage disapproval of British membership in the EU in the MP's constituency. The line shows the predicted proportion of times an MP rebels in Europe as a function of constituency opinion, and is based on model (2) in Table 4.

Constituency preferences. The measures of constituency opinion used in this study are the same as those used in Study 3.

Findings. Table 4 shows the results of two overdispersed binomial logistic regressions of the number of rebellions by Conservative backbench MPs on Europe-related divisions, expressed as a function of (1) an intercept alone, and (2) constituency disapproval of British membership in the European Union. If within-party responsiveness operates in this case, Conservative MPs should rebel more frequently on Europe the more Eurosceptic their constituency. We indeed observe a positive and significant coefficient on constituency EU disapproval.

Figure 4 plots the predicted proportion of times a Conservative backbench MP rebels on Europe as a function of constituency EU

disapproval. It shows that constituency opinion has a substantial association with rebellions. Moving from the average level of disapproval in constituencies held by Conservative backbenchers (51.6% disapproval) to a high level of disapproval (equal to the average plus one standard deviation, or 58.1% disapproval) results in a 3.3% increase in the predicted proportion of times a Conservative backbencher rebels on Europe. Thus, we also find evidence of within-party responsiveness to constituency opinion on whipped votes, which are far more frequent than free votes in the House of Commons.

Conclusions

In this article, we have demonstrated that in the United Kingdom, MPs are individually policy responsive to their constituencies across a variety of issues. Across three policy domains, there is a within-party association between the policy positions of individual MPs and policy opinion in their respective constituencies. To demonstrate this, we used small-area estimation techniques to generate estimates of constituency opinion from large national samples. We then linked these constituency opinion estimates to observed MP policy positions as revealed by Early Day Motion signatures, unwhipped votes, and whipped votes in the House of Commons. The substantive size of the association between constituency opinion and MP positions was weak compared to the effect of party, but it was not negligible.

We expect that our findings should generalize to other issues in British politics. We have studied one issue that is central to the primary dimension of party competition (left-and right-wing economic positions); one issue (attitudes towards the European Union) which for most of the last 40 years has been orthogonal to the primary dimension of party competition; and one issue that has been neglected by party competition (attitudes towards same-sex marriage). We have found evidence of within-party dyadic representation across all of these issues. Additionally, we have shown that within one particular area, European Union policy, dyadic representation is seen in both unwhipped and whipped votes. Thus, our key findings do not appear to depend on the nature of the issues chosen for free votes.

We see these findings as an important contribution to the literature on dyadic representation, and an improvement on previous dyadic representation research in Westminster systems, which has, without exception, had to resort to proxies of constituency opinion to study policy responsiveness. Our results also speak to broader concerns about trade-offs between constituency responsiveness and representation

through responsible programmatic parties, something that many (including most American commentators: see Epstein 1980; Kirkpatrick 1971, 967) have viewed as a defining characteristic of British politics. In this article, we have examined cases of overt disagreement within parties, since it is in these cases that we can observe within-party variation in behavior. The more overt disagreement there is within parties, the less parties can claim to be responsible in the sense provided by Katz and Wildenmann (1987, 7). But it would be a mistake to equate within-party policy responsiveness only with overt disagreement. What we have demonstrated in this study is that when MPs have opportunities to express distinct political positions from their copartisans, they do so in ways that reflect within-party variation in the constituents' preferences. This does not guarantee that within-party policy responsiveness carries over to the many within-party differences of opinion that are resolved privately. Nonetheless, it clearly makes more plausible the notion that, in Westminster systems, constituency opinion may have a broader unseen role in shaping party policy programmes than has generally been appreciated. This is particularly the case when one couples our evidence that MPs appear to be individually responsive to constituency policy opinion with recent evidence that backbench MPs in turn have considerable policy-relevant influence upon party leaders (Kam et al. 2010).

Going forward, we can see a number of directions for future research on dyadic representation in Westminster systems. The first, and most obvious, suggestion is that future research should attempt to identify the mechanisms that generate responsiveness. Although an exhaustive empirical evaluation of potential mechanisms is beyond the scope of this article—which is primarily concerned with establishing the *existence* of within-party policy responsiveness in a Westminster system—we have conducted some exploratory tests of whether responsiveness varies according to a number of observable attributes: the method by which MPs were originally selected as candidates; MPs' biographical links to the constituency; constituency marginality; and whether or not the MP stood down at the 2015 general election. These tests, reported in Appendix E of the supporting information, yield no strong evidence in favor of *ex ante* selection mechanisms, nor *ex post* sanctioning mechanisms.

This does not mean that we should definitively rule out either of these causal mechanisms, since our power to detect interactions with the current data is low (the number of observations used to estimate each interaction lies between 188 and 556) and the attributes we have been able to measure only imperfectly proxy the selection or sanctioning mechanisms of theoretical interest. Yet it may also be that the strength of

constituency responsiveness can best be explained by pointing to other mechanisms, such as MPs' conception of their role. Although the roles backbench MPs adopt are influenced by electoral considerations, they are not constrained or determined by them (Searing 1994).

Our second suggestion is that future research should ascertain whether MPs accurately perceive constituency opinion. In the original formulation of Miller and Stokes (1963), the "constituency influence" over legislator policy positions was a product of several intermediate links. The link between constituency opinion and legislators' perceptions of those opinions was one such link. If legislators are poor judges of opinion in their constituencies, any association between constituency opinion and MP behavior cannot result from MPs' conscious efforts to respond to their constituents' views. Instead, it might result from constituencies choosing representatives whose sincerely held preferences are close to their own. We would therefore encourage academics carrying out surveys of MPs or of parliamentary candidates to ask respondents to estimate constituency opinion on a variety of issues. Despite likely low response rates, such survey measures could still usefully be combined with constituency opinion estimates to characterize the gap between what MPs think their constituents think, and what their constituents actually think.

Third, we recommend that researchers enlarge the set of countries studied. We think there is great potential for techniques of small-area estimation to be applied to issues in Australian and Canadian politics. The smaller number of constituencies makes small-area estimation easier, since the number of respondents per constituency will be higher for any given sample size. Future progress in this area is likely to be limited by funding for the large national samples required.

Our fourth recommendation is to enlarge the set of individuals studied. Two useful comparisons might be made. One comparison is between parliamentary candidates who were narrowly elected (and who therefore became MPs), and parliamentary candidates who were narrowly defeated. As we have noted, surveys of sitting MPs typically suffer from low response rates. The same is true, but to a lesser extent, of campaign period surveys of candidates. There may be some use in constructing a panel of defeated candidates, who presumably would be unaffected by sanctioning effects.

A further useful comparison is between lower and upper chambers. Both Canada and the United Kingdom feature upper chambers whose members are (in large part) appointed. But these members often have observable links to particular constituencies or areas, either because they were formerly MPs for a named constituency or because they were appointed as representatives of a particular area. If former MPs in such

bodies could be shown to be responsive to opinion in their former constituencies, this would again make it less plausible that responsiveness emerges from retention and sanctioning rather than initial selection.

As the examples of the House of Lords and the Canadian Senate suggest, institutional reforms may provide researchers with further windows on dyadic representation. We expect that researchers will be attuned to exogenous institutional changes that might affect either the way in which MPs are selected or the way in which they are retained.

Institutional changes may take a long time to emerge. In this they are similar to private records of the positions MPs have taken in internal party meetings (e.g., meetings of the Conservative backbench 1922 Committee, or of the Parliamentary Labour Party) and in cabinet committees, which may only emerge in bowdlerized form long after the events they describe. Due to a paucity of large survey samples, it is difficult to estimate constituency opinion in the past and to then match this to archival records of MP positions. However, current estimates of constituency opinion may have a second life in explaining archival notes of internal party dissent.

Chris Hanretty <c.hanretty@uea.ac.uk> is Reader in Politics, University of East Anglia, Norwich Research Park, Norwich, UK, NR4 7TJ. Benjamin E. Lauderdale <b.e.lauderdale@lse.ac.uk> is Associate Professor in the Department of Methodology, London School of Economics and Political Science, Columbia House, Houghton Street, London, UK, WC2A 2AE. Nick Vivyan <nick.vivyan@durham.ac.uk> is Senior Lecturer in the School of Government and International Affairs, Durham University, Al-Qasimi Building, Elvet Hill Road, Durham, UK, DH1 3TU.

NOTES

This work was supported by the Economic and Social Research Council (grant number ES/K003666/1) Earlier versions of this article were presented at Nuffield College (Oxford), University of Nottingham, University of Vienna, Toulouse School of Economics, the North East Research Development Workshop (NERD), the 2014 Annual Meeting of the American Political Science Association, the 2014 Annual Conference of the European Political Science Association, and the 2014 Annual Conference of the Elections, Public Opinion and Parties specialist group of the Political Studies Association. We thank participants in all of these seminars and panels. We are particularly grateful to Steve Fisher, Philip Cowley, Susan Scarrow, the three anonymous reviewers, and the editor for their helpful comments. We also thank YouGov for providing survey data on same-sex marriage.

1. In its fullest sense, dyadic representation requires that legislator policy positions are “close” to or “congruent” with constituency policy positions (Achen 1978). Evaluating congruence requires measurement of constituency and legislator policy positions on the same scale, which is often infeasible (although see Bafumi and Herron 2010; Hug and Martin 2011; Masket and Noel 2012). However, even if legislator and constituency policy positions are measured on nonequivalent scales, it is possible to empirically test whether legislator positions are “responsive” to constituency opinion in an associational or correlational sense—whether, for example, legislators from more right-wing constituencies adopt more right-wing policy positions. The existence of such responsiveness—which Converse and Pierce (1986, 563) refer to as a “basic representation bond”—is a necessary, though not sufficient, condition for dyadic representation. Such an association need not imply high-quality representation in the sense of closeness, as legislators might systematically be more inclined towards one position regardless of their constituents’ opinions (Matsusaka 2001), but it does nonetheless imply some relationship between public opinion in a constituency and the behavior of the legislator. It is this notion of responsiveness upon which we focus in this article.

2. The influence of this line of argument is exemplified by the official remit given to the Jenkins (1998) report on electoral reform in the United Kingdom, which explicitly stated that any new electoral system should maintain a link between MPs and geographic constituencies. The other main argument put forward against electoral reform is that SMD elections produce clear majorities and therefore greater accountability (Carey and Hix 2011).

3. Lax and Phillips (2013) find that, when using MRP to estimate opinion in US states, including more than a small number of state-level predictors leads to overfitting. However, in the current context the number of areal units for which we are trying to estimate opinion is much larger—632 Westminster constituencies versus 50 US states—which means we effectively have more “observations” for our area-level regressions. Hanretty, Lauderdale, and Vivyan (2016) provide validation evidence showing that MRP models using a similar set of constituency-level predictors to that used here perform well in the UK context.

4. We include 2010 vote shares as constituency-level predictors because we believe that these variables provide useful observable information about the political disposition of constituencies. We also generated alternative constituency opinion estimates dropping vote shares as constituency-level predictors. Using these alternative constituency opinion estimates does not change our substantive findings: in each case, constituency opinion estimated without 2010 vote shares is still significantly and positively associated with MP position.

5. As Cowley and Stuart (2014, 6) observe, “there is always a summit, a treaty amendment, a budget” forcing Europe back on to the parliamentary agenda.

6. Description found on the Parliament website: <http://www.parliament.uk/edm>.

7. We excluded these because they did not seem to have any policy content. Early Day Motion 40 gives a flavor of the kind of geographically specific issues:

That this House congratulates Blackpool Football Club on its inspirational achievement of promotion to the Premier League following victory in the Wembley play-off final; pays tribute to the transformational leadership of Ian Holloway and the contribution of all the management, directors and staff at the club towards the tremendous achievement

of the club's players in returning Blackpool FC to the highest pinnacle of English football after 39 years; praises Blackpool FC for its consistent achievement working with its community trust schools, health and other programmes to be at the centre of Blackpool's aspirations and regeneration plans; and applauds the way that commitment to the town was reciprocated by the tens of thousands who turned out to welcome the team in its triumphal return along Blackpool's Promenade and Golden Mile.

We are sure that the 16 MPs who signed this motion were representing the Blackpool fans amongst their constituents, but we doubt this act had anything to do with dyadic representation policy responsiveness as we understand it.

8. One potential concern with these results is that our estimates of constituency opinion are subject to uncertainty, and that we are not accounting for this uncertainty when we simply include the posterior mean of constituency opinion as a predictor in an OLS regression. To assess whether this leads to misleading inferences, we also estimated a Bayesian MCMC model that incorporates uncertainty about constituency opinion in a principled manner. Specifically, we model MP behavior as a function of both MP party and "true" constituency opinion, with our "observed" point estimates of constituency opinion simultaneously modeled as a noisy manifestation of "true" constituency opinion (i.e., our vector of constituency opinion estimates is a draw from a multivariate normal distribution with mean vector equal to true constituency opinion and variance-covariance matrix estimated based on the MCMC sample generated from the MRP estimation process). This approach yields very similar estimates to those reported in Table 1, with substantive conclusions unchanged.

9. Only the Conservatives mentioned same-sex relationships, and only in the context of recognizing civil partnership within the tax system (p. 52).

10. Civil partnerships were introduced in 2004 across Great Britain to provide a form of legally recognized union between same-sex couples. Statistics on civil partnerships by area are made available by the Office of National Statistics ("Civil Partnership Formations," available at <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/marriagecohabitationandcivilpartnerships/datasets/civilpartnershipstatisticsunitedkingdomcivilpartnershipformations>), but the figures are reported at local authority area only for England and Wales. When we map our constituency estimates on to local authority areas in proportion to area, we find a strong positive correlation ($r = 0.58$, $N = 147$) between the number of civil partnerships formed over the period 2008 to 2013 and our estimates of opinion on same-sex marriage.

11. See <http://publicwhip.org.uk/policies.php>. We selected any divisions classified under "European Union—For" or under "Referendum on UK's membership of the EU—For."

REFERENCES

- Achen, C. H. 1978. "Measuring Representation." *American Journal of Political Science* 22: 475–510.
- Ansolabehere, S., J. M. Snyder, and C. M. Stewart. 2001. "Candidate Positioning in U.S. House Elections." *American Journal of Political Science* 45: 136–59.

- Arzheimer, K., and J. Evans. 2012. "Geolocation and Voting: Candidate-Voter Distance Effects on Party Choice in the 2010 General Election in England." *Political Geography* 31: 301–10.
- Bafumi, J., and M. C. Herron. 2010. "Leapfrog Representation and Extremism: A Study of American Voters and Their Members in Congress." *American Political Science Review* 104: 519–42.
- Baughman, John. 2004. "Party, Constituency, and Representation: Votes on Abortion in the British House of Commons." *Public Choice* 120: 63–85.
- Bawn, K., and M. F. Thies. 2003. "A Comparative Theory of Electoral Incentives." *Journal of Theoretical Politics* 15: 5–32.
- Blidook, Kelly, and Matthew Kerby. 2011. "Constituency Influence on 'Constituency Members': The Adaptability of Roles to Electoral Realities in the Canadian Case." *Journal of Legislative Studies* 17: 327–39.
- Browne, Kath, and Jason Lim. 2010. "Trans Lives in the Gay Capital of the UK." *Gender, Place and Culture* 17: 615–33.
- Buttice, M. K., and C. Milazzo. 2011. "Candidate Positioning in Britain." *Electoral Studies* 30: 848–57.
- Cain, B., J. A. Ferejohn, and M. P. Fiorina. 1987. *The Personal Vote: Constituency Service and Electoral Independence*. Cambridge, MA: Harvard University Press.
- Campbell, Rosie, and Joni Lovenduski. 2014. "What Should MPs Do? Public and Parliamentarians' Views Compared." *Parliamentary Affairs* P. Gsu020.
- Carey, John M. 2007. "Competing Principals, Political Institutions, and Party Unity in Legislative Voting." *American Journal of Political Science* 51: 92–107.
- Carey, J. M., and S. Hix. 2011. "The Electoral Sweet Spot: Low-Magnitude Proportional Electoral Systems." *American Journal of Political Science* 55: 383–97.
- Carey, J. M., and M. S. Shugart. 1995. "Incentives to Cultivate a Personal Vote: A Rank-Ordering of Electoral Formulas." *Electoral Studies* 14: 417–39.
- Clarke, H., D. Sanders, M. Stewart, and P. Whiteley. 2004. *Political Choice in Britain*. Oxford: Oxford University Press.
- Clarke, H., D. Sanders, M. Stewart, and P. Whiteley. 2011. "British Election Study Alternative Vote Referendum Survey Data [Computer File]." <http://www.Bes2009-10.Org/Av-Ref.Php>.
- Clarke, H. D., D. Sanders, M. C. Stewart, and P. F. Whiteley. 2014. "British Election Study, 2010: Campaign Internet Data [Computer File]." Colchester: UK Data Archive [Distributor]. SN 7530, <http://dx.doi.org/10.5255/UKDA-SN-7530-1>
- Clinton, J. 2006. "Representation in Congress: Constituents and Roll Calls in the 106th House." *Journal of Politics* 68: 397–409.
- Clinton, Joshua, Simon Jackman, and Douglas Rivers. 2004. "The Statistical Analysis of Roll Call Data." *American Political Science Review* 98: 355–70.
- Converse, Philip E., and Roy Pierce. 1986. *Political Representation in France*. Cambridge, MA: Harvard University Press.
- Copsey, N., and T. Haughton. 2014. "Farewell Britannia? 'Issue Capture' and the Politics of Cameron's 2013 EU Referendum Pledge." *Journal of Common Market Studies* 52: 74–89.
- Cowley, P. 2002. *Revolts and Rebellions: Parliamentary Voting under Blair*. London: Politico's.

- Cowley, Philip, and Mark Stuart. 2012. "The Bumper Book of Coalition Rebellions." <http://Nottspolitics.Org/2012/05/08/the-Bumper-Book-of-Coalition-Rebellions/>
- Cowley, Philip, and Mark Stuart. 2013. "Cambo Chained." <http://Nottspolitics.Org/2013/05/14/Cambo-Chained-2/>
- Cowley, Philip, and Mark Stuart. 2014. "The Four-Year Itch." <http://Revolts.Co.Uk/?P=829>
- Cox, G. W. 1987. *The Efficient Secret: The Cabinet and the Development of Political Parties in Victorian England*. Cambridge: Cambridge University Press.
- Crick, Michael. 1986. *The March of Militant*. London: Faber & Faber.
- Dalton, R. J., D. M. Farrell, and I. McAllister. 2011. *Political Parties and Democratic Linkage: How Parties Organize Democracy*. Oxford: Oxford University Press.
- Epstein, Leon D. 1980. "What Happened to the British Party Model?" *American Political Science Review* 74: 9–22.
- Erikson, R. S. 1978. "Constituency Opinion and Congressional Behaviour: A Reexamination of the Miller-Stokes Representation Data." *American Journal of Political Science* 22: 511–35.
- Ford, R., and M. J. Goodwin. 2014. *Revolt on the Right: Explaining Support for the Radical Right in Britain*. Abingdon, UK: Routledge.
- Franklin, Mark N., and Michael Tappin. 1977. "Early Day Motions as Unobtrusive Measures of Backbench Opinion in Britain." *British Journal of Political Science* 7: 49–69.
- Gelman, A., and J. Hill. 2007. *Data Analysis Using Regression and Multilevel/Hierarchical Models*. Cambridge: Cambridge University Press.
- Gifford, C. 2014. "The People against Europe: The Eurosceptic Challenge to the United Kingdom's Coalition Government." *Journal of Common Market Studies* 52: 512–28.
- Hanretty, Chris, Benjamin E. Lauderdale, and Nick Vivyan. 2016. "Comparing Strategies for Estimating Constituency Opinion from National Survey Samples." *Political Science Research and Methods*. <http://dx.doi.org/10.1017/psrm.2015.79>
- Heitshusen, V., G. Young, and D. M. Wood. 2004. "Electoral Context and MP Constituency Focus in Australia, Canada, Ireland, New Zealand, and the United Kingdom." *American Journal of Political Science* 49: 32–45.
- Hibbing, John R., and David Marsh. 1987. "Accounting for the Voting Patterns of British MPs on Free Votes." *Legislative Studies Quarterly* 12: 275–97.
- Horne, Alistair. 1989. *Macmillan: 1957–1986*. London: Macmillan.
- House of Commons Library, Department of Information Services. 2013. "Free Votes in the House of Commons Since 1997." <http://www.Parliament.UK/Business/Publications/Research/Briefing-Papers/SN04793/Pil-Free-Votes>
- Hug, Simon, and Danielle Martin. 2011. "Constituency Preferences and MP Preferences: The Electoral Connection." Presented at the Annual Meeting of the Midwest Political Science Association.
- Jenkins, Lord Roy. 1998. *The Report of the Independent Commission on the Voting System*. London: Stationery Office. CM. 4090-1, P. V.
- Johnston, R., and C. Pattie. 2014. *Money and Electoral Politics: Local Parties and Funding in General Elections*. Bristol, UK: Policy Press.
- Kam, Christopher J. 2009. *Party Discipline and Parliamentary Politics*. Cambridge: Cambridge University Press.

- Kam, C., W. T. Bianco, I. Sened, and R. Smyth. 2010. "Ministerial Selection and Intra-Party Organization in the Contemporary British Parliament." *American Political Science Review* 104: 289–306.
- Kastellec, J. P., J. R. Lax, and J. H. Phillips. 2010. "Public Opinion and Senate Confirmation of Supreme Court Nominees." *Journal of Politics* 72: 767–84.
- Katz, Richard S., and Rudolf Wildenmann, eds. 1987. *The Future of Party Government: Party Governments: European and American Experiences*. Berlin: De Gruyter.
- Kellermann, Michael. 2012. "Estimating Ideal Points in the British House of Commons Using Early Day Motions." *American Journal of Political Science* 56: 757–71.
- Kirkpatrick, Evron M. 1971. "'Toward a More Responsible Two-Party System': Political Science, Policy Science, or Pseudo-Science?" *American Political Science Review* 65: 965–90.
- Krimmel, K. L., J. R. Lax, and J. H. Phillips. 2016. "Gay Rights in Congress: Public Opinion and (Mis)Representative." *Public Opinion Quarterly*. <http://doi:10.1093/poq/nfw026>.
- Lax, J. R., and J. H. Phillips. 2009. How Should We Estimate Public Opinion in the States? *American Journal of Political Science* 53: 107–21.
- Lax, Jeffrey R., and Justin H. Phillips. 2013. *How Should We Estimate Sub-National Opinion with MRP*. Columbia University. Unpublished manuscript.
- Masket, Seth E., and Hans Noel. 2012. "Serving Two Masters: Using Referenda to Assess Partisan Versus Dyadic Legislative Representation." *Political Research Quarterly* 65: 104–23.
- Matsusaka, J. G. 2001. "Problems with Methodology Used to Evaluate the Voter Initiative." *Journal of Politics* 63: 1250–56.
- McLean, Iain. 1983. *The Legend of Red Clydeside*. Edinburgh: John Donald.
- Miller, W. E., and D. E. Stokes. 1963. "Constituency Influence in Congress." *American Political Science Review* 57: 45–56.
- Norris, Pippa. 2001. "The Twilight of Westminster? Electoral Reform and Its Consequences." *Political Studies* 49: 877–900.
- Norris, Pippa, and Joni Lovenduski. 1992. "British Candidate Study, 1992." <http://www.pippanorris.com/>
- Norris, Pippa, and Joni Lovenduski. 1997. "British Candidate Study, 1997." <http://www.pippanorris.com/>
- Norris, Pippa, and Joni Lovenduski. 2001. "British Candidate Study, 2001." <http://www.pippanorris.com/>
- Norton, Philip. 1994. "The Growth of the Constituency Role of the MP." *Parliamentary Affairs* 47: 705–21.
- Norton, Philip. 1999. "The Individual Member in the British House of Commons: Facing Both Ways and Marching Forward." *Journal of Legislative Studies* 5: 53–74.
- Norton, P., and D. M. Wood. 1993. *Back from Westminster: British Members of Parliament and Their Constituents*. Lexington: University Press of Kentucky.
- Park, D. K., A. Gelman, and J. Bafumi. 2004. "Bayesian Multilevel Estimation with Post-Stratification: State-Level Estimates from National Polls." *Political Analysis* 12: 375–85.
- Pitkin, Hanna Fenichel. 1967. *The Concept of Representation*. Berkeley: University of California Press.

- Powell, G. Bingham Jr. 2004. "Political Representation in Comparative Politics." *Annual Review of Political Science* 7: 273–96.
- Rush, Michael. 2001. *The Role of the Member of Parliament since 1868: From Gentlemen to Players*. Oxford: Oxford University Press.
- Sanders, A. 2011. "EU Referendum: I Believe in Europe Which Is Why I Rebelled." *Guardian*.
- Searing, Donald D. 1994. *Westminster's World: Understanding Political Roles*. Cambridge: Cambridge University Press.
- Selb, P., and S. Munzert. 2011. "Estimating Constituency Preferences from Sparse Survey Data Using Auxiliary Geographic Information." *Political Analysis* 19: 455–70.
- Soroka, Stuart, Erin Penner, and Kelly Blidook. 2009. "Constituency Influence in Parliament." *Canadian Journal of Political Science* 42: 563–91.
- Spirling, Arthur, and Iain McLean. 2007. "UK OC OK? Interpreting Optimal Classification Scores for the UK House of Commons." *Political Analysis* 15: 85–96.
- Vivyan, Nick, and Markus Wagner. 2012. "Do Voters Reward Rebellion? The Electoral Accountability of MPs in Britain." *European Journal of Political Research* 51: 235–64.
- Warshaw, C., and J. Rodden. 2012. "How Should We Measure District-Level Public Opinion on Individual Issues?" *Journal of Politics* 74: 203–19.
- Weissberg, Robert. 1978. "Collective vs. Dyadic Representation in Congress." *American Political Science Review* 72: 535–47.

Supporting Information

Additional Supporting Information may be found in the online version of this article:

Appendix A: Estimating MP Left-Right Economic Position from EDMs

Appendix B: Generating Economic Left-Right Scores for BES Respondents

Appendix C: MRP Strategy

Appendix C.1: General Estimation Strategy

Appendix C.2: Predictor Variables

Appendix D: Whipped Divisions Relating to the European Union, 2010–14

Table D.1: List of EU-Related Divisions

Appendix E: Exploring Variation in Responsiveness

Table E.1: Tests for Interactions