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Abstract

Nearly all legislatures segregate politicians by party. We use seating lotteries in the Icelandic Parliament to estimate the effects of seating integration on bipartisanship. When two politicians from different parties are randomly assigned to sit together, they are roughly 1 percentage point more likely to vote alike. Despite this effect, other-party neighbors do not affect general bipartisan voting, as measured by the likelihood that a politician deviates from their party leader's vote. Furthermore, the pair-level similarity effect is temporary, disappearing the following year. The pattern of results support cue-taking and social pressure as mechanisms for the effects of proximity.

Keywords: polarization, integration, intergroup contact, voting.

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Politicians in almost all countries are segregated at the workplace. Members of Parliament (MPs) in the UK are seated with the government on one side of a 3.96 meter aisle, and the opposition facing them on the other side. This adversarial arrangement is reflected in the history of the aisle width: 3.96 meters is roughly equivalent to the length of two swords. The arrangement need not be this way. In Iceland, Sweden, and Norway, MPs from different parties sit next to each other. Such seating arrangements may spawn bipartisan friendships, build respect, and even change political behaviors. The decline of such cross-party social interactions may even lie behind the deepening partisan divide in the US (Haidt 2012; Gentzkow et al. 2019). Does the integration of politicians increase bipartisanship?

Recent quantitative work shows that legislators are influenced by one another, but existing evidence is of influence between copartisans and trusted peers (Zelizer 2019; Harmon et al. 2019; Fong 2020). A pressing question then is whether integration can create *cross*-party links between legislators, and in turn, catalyze bipartisanship. This question is challenging to answer: political networks are endogenously formed, making it impossible to credibly estimate the effects of network changes without a source of randomness in who is connected with whom (Fowler et al. 2011; Rogowski and Sinclair 2012). We overcome this challenge by studying a natural experiment in the Icelandic Parliament (the *Althingi*). The assigned seats of Icelandic MPs are determined by a lottery held each session. This arrangement gives exogenous variation in the party affiliation of the seating neighbors of each MP. We use data from 1991 to 2018 to study how politicians' voting and co-sponsorship behaviors change during and after sitting next to randomly assigned peers.

Social interactions between legislators may affect behaviors through several mechanisms, including (i) cognitive channels such as information transmission and persuasion, (ii) affective changes such as increased partisan tolerance through contact, (iii) legislative cue-taking, and (iv) social pressure and monitoring. These mechanisms have different implications for *individual*

effects of proximity, where pairs of MPs behave more similarly when sat together than when apart, and *general* effects, where an MP sat next to more other-party neighbors shows more bipartisan behaviors than one sat next to fewer other-party neighbors. These mechanisms also have different implications for whether effects are transitory or persistent. We use this logic to map our results to mechanisms.

Using dyadic regressions, we find evidence of an individual effect of seating proximity—two MPs from different parties vote 0.5 to 1 percentage point more similarly when they are randomly assigned to sit next to each other, compared with two cross-party MPs sat apart. However, this effect disappears the next year when the two MPs no longer sit next to each other, and we do not find any evidence of a general effect on bipartisan voting—MPs are no more likely to dissent from their party leader’s vote during or after sitting next to MPs from different parties.¹ These results suggest that the causal mechanism on voting outcomes operates only through temporary channels, such as cue-taking or social pressure, and not through more fundamental cognitive and affective channels.

On the other hand, we find suggestive evidence of a persistent effect on bipartisan co-sponsorship links, an indicator of social ties between participating legislators (Fowler 2006). There were 0.29 (15%) more co-sponsorship links between other-party pairs sitting together at a corner of a row and 10 (19%) more bipartisan co-sponsorship links for MPs who sat next to other-party MPs, all measured the next year when the MPs are no longer sitting together.

Overall, seating integration increases future bipartisan social connections without persistent convergence in political preferences, proxied by voting patterns. Of course, even in the absence of ideological convergence, improved social connectedness can open the possibility of mutually beneficial compromises and avoidance of legislative gridlock, perhaps at political stages preceding roll-call votes.

¹Given Iceland’s coalition governments, we also show that results are similar when considering cross-coalition seating neighbors

Our paper makes three contributions to the study of peer effects among politicians. First, we estimate influence between random *cross*-party peers for the first time. Without this feature, we would learn nothing about the relationship between integrative policies and bipartisanship. In studying exogenous networks, we build on [Rogowski and Sinclair \(2012\)](#), who find null effects of office location proximity in the US House of Representatives. Second, unlike most existing work in political science, we use a range of specifications to distinguish between different channels of social influence, allowing us to consider the possibility of more enduring consequences of cross-party interactions, beyond just legislative cue-taking. Third, pushing boundary conditions, we estimate effects in a parliamentary setting with strong parties, while almost all existing work is in presidential settings. [Harmon et al. \(2019\)](#) provide one exception. Using the quasi-random variation in proximity from alphabetical seating, they find that same-party Members of the European Parliament (MEPs) that sit together are 0.6 percentage points more likely to vote alike. Since MEPs sit in party groups, only 0.02% of the pairs comprise MPs from different parties. Given this, [Harmon et al. \(2019\)](#) can only estimate very imprecise effects on cross-party pairs. Finally, in a paper written contemporaneously with ours, [Saia \(2018\)](#) conducts MP-level analysis using the same Icelandic experiment but does not study persistence, effects on co-sponsorship, or distinguish between the mechanisms that we have outlined above.²

1 Icelandic Politics and the Seating Lottery

Iceland’s Political System. Like the other Nordic countries, Iceland has a unicameral parliamentary democracy with a multi-party system. A total of 63 MPs are elected by proportional representation every four years. The head of state is the president, a position with only limited powers. The head of the executive branch is the prime minister. Like Finland, but unlike the other

²Different to us, [Saia \(2018\)](#) finds that those sat next to all other-party legislators are 30 to 50 percentage points more likely to go against their party leader’s vote than those sat next to no other-party legislators. We find that some of these large general effects on bipartisanship can be attributed to a regression misspecification (Appendix C).

Nordic countries, majority (and sometimes ideologically diverse) coalitions dominate Icelandic politics (Hansen 2017).

Legislating follows the spirit of majoritarian democracies more so than that of the other Nordic (more consensual) democracies (Jónsson 2014). Party cohesion in the *Althingi* is high (Jensen 2000; Kristinsson 2011), with MPs dissenting from the vote of their party leader as rarely as in other Northern European parliaments (Kristinsson 2011; Figure A1). Parties are substantially more polarized along the left-right dimension than those of the UK and the US, while slightly more polarized when compared with the other Nordic countries (Bengtsson et al. 2013, p. 30). Collectively, Iceland’s parliamentary system provides a relatively demanding setting for a test of cross-party social influence.

Seating. Iceland is the only national parliament with seats assigned by lottery, with this custom established in 1916. At the beginning of each session, each MP draws a ball from a box (Figure A2). The ball indicates the designated seat of the MP for the session. Some MPs are exempt from the random draw: the prime minister, speaker, ministers, and chairs of parliamentary groups have their own designated seats.³ MPs with physical disabilities are also exempt from the lottery—they are assigned corner seats for easier wheelchair access. Figure 1 shows the seating assignment at the end of the 2014-15 session. Ministers sit at special desks on the right side of the figure, whereas other MPs are assigned to the main seats on the left. Our analysis includes all those who participate in the seating lottery, as well as those pre-assigned to main seats on the left—while their seats are not randomly chosen, their neighbors are randomly assigned.

On rare occasions, the seating assignment can change during a session. A typical case is

³Chairs of parliamentary groups are assigned aisle seats, for easier access to the podium. Though this custom has been present throughout our analysis period, it was only formalized and recorded since 2004-05. Prior to that, there is ambiguity as to whether a chair of a parliamentary group in an aisle seat was pre-assigned that seat, or assigned it by lottery. We address this issue by assuming that any chairs of parliamentary groups in aisle seats were pre-assigned those seats. This choice is unlikely to affect our results given that less than 10% of MPs in each session are parliamentary chairs, and that this ambiguity does not apply to seating assignments since 2004-05. In addition, our balance and placebo checks, described below, give evidence against selection concerns.

when a chair of a parliamentary group becomes a minister. On average, 95% of MPs maintain their initial seating assignment until the end of the session. In our empirics we always present intent-to-treat (ITT) estimates using the initial assignment of seating.

Treatment Intensity. MPs assigned to neighboring seats spend a significant amount of time sitting next to each other. The average length of a regular parliamentary session (1992-93 to 2017-18) is 670 hours, excluding committee meetings where MPs are not expected to sit at their designated seats. During each regular session, members should not move to empty seats or sit in other unoccupied seats. That said, MPs tend to be present in the chamber only for votes and their own speeches. In practice, MPs may spend one to two hours in their assigned seats on a typical voting day, and otherwise only 20 to 30 minutes in their assigned seats on any given day in the session.⁴ Appealing to the experienced, one sitting MP confirmed with us that seating neighbors “chat often and become good acquaintances” while another was somewhat more skeptical, writing that “it’s not my experience that sitting next to someone in plenary generally has much of an effect on personal relationships, although it does happen.”

2 Channels of Influence

Cognitive. Social interactions with fellow legislators may involve informal deliberations about political issues. Through the process of deliberation, legislators may reflect on their own opinions, become aware of the reasoning behind the opinions of others, and be persuaded to change their beliefs (DellaVigna and Gentzkow 2010). In this case: (i) Both individual and general effects are plausible as a legislator’s newly acquired knowledge or updated opinions may induce their political decisions to resemble those of a fellow legislator or their group. (ii) Cognitive changes are not entirely situational and, therefore, can have a lasting impact even after the social

⁴According to personal correspondence with Gylfi Magnússon, Icelandic economist and Minister for Economic Affairs from 2009 to 2010.

interactions are over.

Affective. Mutz (2002) argues that cross-partisan contacts can lead to greater partisan tolerance via an affective mechanism—through contact, one could realize that “those different from one’s self are not necessarily bad people.” Similarly, cross-partisan contacts are suggested as one of the potential remedies of affective polarization (Iyengar et al. 2019).

This line of thought relates to work on the “contact hypothesis”—the idea that interpersonal contact with outgroups can reduce prejudice under certain conditions (Allport 1954; Paluck et al. 2018; Mousa 2020; Lowe 2021). The empirical implications of the affective channel are similar to those of the cognitive channel. (i) Renewed feelings may apply to a particular individual or to a group, and (ii) they can have a lasting impact on a legislator’s behaviors.

Legislative Cue-Taking. Legislators are not fully informed about all issues, and so they may take cues from other legislators (Matthews and Stimson 1975). Such informational shortcuts are most helpful when legislators are overloaded with decisions. Fitting this description, *Althingi* MPs cast an average of 1,347 votes per session from 1991-92 to 2017-18, with 58% of these votes taken on days with at least 50 votes (Figure A3).

Legislative cue-taking has different empirical implications than cognitive and affective mechanisms. (i) The cue-taking effect is likely to be individual, as a legislator only observes the actions of their neighbor, not their neighbor’s entire party. (ii) The impact of such mimicking behavior is unlikely to persist into the next session, since the behaviors of the peer are no longer immediately observed.

Social Pressure and Monitoring. Since a legislator’s political actions can be observed by their seating neighbor, they may take actions that conform to the neighbor’s views to signal that they share an agreement or that they listen to the neighbor, perhaps to avoid stigma or conflict, and for the hedonic value of having a good relationship with neighbors. This possibility of social

pressure has not been discussed widely in legislative contexts, but appears in other contexts, such as voter turnout (Gerber et al. 2008; DellaVigna et al. 2017).

Social pressure from a neighbor and cue-taking have similar empirical implications. (i) Social pressure steers behavior primarily toward the direction of the person giving the pressure (individual effect), not to the group overall. (ii) It is unlikely to have an impact when social interactions are no longer happening.

In principle the mechanisms of social pressure and cue-taking can be distinguished by noting that in the case of the former, individuals would like to *avoid* influence (Andreoni et al. 2017), whereas with cue-taking, the influence is valuable. In this setting we cannot measure avoidance behaviors, and so we cannot easily distinguish between the two mechanisms.

3 Data and Specification

3.1 Data Description

We compiled data on initial seating assignments, voting, and co-sponsorship for all regular sessions from 1991-92 to 2017-18.⁵ We describe the main features of the data in this section, with further details on data sources in Appendix B.

Seating. We collected data on annual initial seating assignments from the parliamentary records (“*Althingi* journals”). For sessions from 1995-96 to 2017-18, we web-scraped parliamentary records available on the *Althingi* website. For sessions prior to 1995-96, we digitized scanned copies of parliamentary records, also available on the *Althingi* website.

MP Demographics. The *Althingi* website also posts biographical information about MPs, from which we collected basic information such as party, constituency, gender, and tenure. We combined this data with the seating assignment data to link each seat with the MP’s characteristics.

⁵1991-92 is the first regular session for which the seating assignment is available.

Voting. We web-scraped voting data from the *Althingi* website, and used this data to construct two MP-session-level voting outcomes. *Leader Non-Compliance* is the proportion of times the MP cast a vote that was different from their party leader in a given session, weighted by bill.⁶ A vote can be in one of four categories: yes, absent, abstain, or no.⁷ The MP is non-compliant when the vote chosen from among these four categories is different from that chosen by their party leader. We consider *Leader Non-Compliance* to be a measure of general bipartisanship.

A limitation of our *Leader Non-Compliance* measure is that absence from a vote might not reflect position-taking—legitimate reasons exist for absence, and we cannot systematically distinguish between legitimate and position-taking absences (Kam 2009, p. 95). We address this concern with our second voting outcome, *Rebel Rate*, which is the proportion of times the MP voted yes or abstain when the party leader voted no, or voted no or abstain when the party leader voted yes, again weighted by bill. This type of dissent is not a function of absence, and happens only infrequently (recall Figure A1). Both MP-session-level outcomes are set to missing for the party leaders themselves and for those without party leaders (e.g. Independents).

We also construct two voting outcomes at the *MP-pair*-session-level. We reverse-code these outcomes so that in all specifications a more positive outcome is reflective of more bipartisanship. Our first pair-level measure is *Compliance*, which is the proportion of times the two MPs in a pair vote the same way, mirroring *Leader Non-Compliance*. Our second pair-level measure is *Similarity*, and aims to capture the idea that pairs of MPs that vote yes-abstain or yes-absent are more similar than pairs of MPs that vote yes-no. To capture this variation, we code the degree of vote difference on a zero to three scale. We consider the categories of votes to be ordered by their strength of support: yes being the most supportive, followed by absent, then abstention, then

⁶In other words, two bills will be weighted equally even if there were more votes on one bill than the other.

⁷Absent means the MP is not present during the vote procedure, whereas abstain means an MP who is on the parliamentary floor does not cast a vote. Two types of absence are recorded: “fjarvist”, meaning that the absence was reported to the secretary in advance, and “fjarverandi”, meaning that the absence was not reported. We group these two types of absences since, given that legislative calendars are known in advance, both types of absences can reflect the same type of position on an issue—i.e. not wanting to go on record as either a supporter or opposer.

no. If two MPs in a pair vote identically, they score three, while if one votes yes and the other votes no, they score zero, with other combinations in between. To again address the concern that absence might not reflect positions, we consider alternative versions of *Compliance* which do not count both MPs being absent as the two voting the same way.

Co-Sponsorship. We web-scraped co-sponsorship data from the *Althingi* website, covering the sponsor and co-sponsors of each bill, resolution, and report. We used this data to construct two MP-session-level co-sponsorship outcomes. *Raw Number of Co-sponsorship Links* is the total number of links an MP has with other-party members through sponsorship or co-sponsorship during that session. To reduce the influence of outliers and give the coefficients an elasticity interpretation, we took the *Inverse Hyperbolic Sine* of this measure as our second co-sponsorship outcome. Our two measures at the MP-pair-session-level are similar, but at the pair-level. The raw number of links is then the number of bills, resolutions, or reports containing the names of both MPs in a pair, either as sponsor or co-sponsor. The second measure is the inverse hyperbolic sine of the first.

3.2 Empirical Specification

Pair-Session-Level Specification. To estimate individual effects of cross-party proximity, we use the following MP-pair-session-level specification:

$$y_{ab\{t-1,t,t+1\}} = \alpha_{p(a)p(b)st} + \gamma_1 (\text{Neighbor}_{abt} \times \text{Same Party}_{abt}) + \gamma_2 (\text{Neighbor}_{abt} \times \text{Different Party}_{abt}) + u_{abt} \quad (1)$$

This specification stacks one cross-section per session, pooling all session-level experiments. An observation within a session is at the MP-pair-level. With N MPs represented in a given session,

this implies a total of $\frac{N(N-1)}{2}$ observations for that session, reflecting all possible combinations of MP pairs, given that an MP cannot be paired with themselves. y_{abt} is one of our measures of similarity between MPs a and b during session t . Neighbor_{abt} is a dummy variable equal to one if MPs a and b are assigned to sit next to each other (on the left or right) during session t .⁸ MPs have either one or two neighbors in total (Figure 1). Same Party_{abt} is a dummy variable equal to one if MPs a and b both belong to the same party during session t , and $\text{Different Party}_{abt} = 1 - \text{Same Party}_{abt}$.⁹ $\alpha_{p(a)p(b)st}$ are session-by-strata-by-party pair fixed effects. We require only session-by-strata-by-Same Party fixed effects for identification, but we use this richer set of fixed effects to increase precision.

For each session, there are three strata. The first strata equals one when both MPs in the pair were pre-assigned seats. For these pairs it is always the case that $\text{Neighbor}_{abt} = 0$. The second strata equals one when either one, but not both, of them was pre-assigned. The third equals one when neither were pre-assigned. We include pre-assigned MPs since, from their perspective, the MP assigned to sit next to them was chosen randomly. Together with the MPs subject to the lottery, we are left with 53 analysis sample MPs for the median session.

γ_1 is the causal effect of two same-party MPs being assigned to sit next to each other, and γ_2 is the causal effect of proximity for different-party MPs. γ_2 is our primary parameter of interest, given its relation to the question of the effects of integration on bipartisanship. With Iceland’s fragmented party system, 77.1% of our observations in this specification are different-party MP pairs. We then have more statistical power to detect cross-party proximity effects than same-party proximity effects. Given Iceland’s coalitional politics, we also estimate heterogeneity by coalition, replacing Same Party_{abt} with $\text{Same Coalition}_{abt}$, a dummy variable equal to one if MPs a and b belong to the same “coalition”—either both in government, or both in opposition.

⁸We assume that social interactions are primarily between left-right seating neighbors. Nevertheless, we also test for and reject the possibility of the most obvious alternative spillover—between front-back seating neighbors—in Section 4.1.

⁹Note that the non-interacted variable Same Party_{abt} is not shown as a separate control because it is fully absorbed by the session-by-strata-by-party pair fixed effects.

To test for persistent treatment effects, we replace the left-hand-side variable with $y_{ab,t+1}$, the outcome for MP-pair ab during the subsequent session, after the seating plan has been re-randomized. As a placebo check, we replace the left-hand-side variable with $y_{ab,t-1}$, the outcome for MP pair ab during the previous session.¹⁰

We take two approaches to inference. First, we report dyadic-robust standard errors and p-values (Cameron and Miller 2014), which allow for residuals to be correlated between any two MP-pair-session observations with an MP in common—allowing for both cross-sectional correlation and across time. Second, we use randomization inference to calculate Fisher’s exact p-values (Young 2015; Imbens and Rubin 2015). For the randomization inference, we simulate placebo seating assignments by following the *Althingi*’s exact procedure for assigning seating. When we use randomization inference to test for $\gamma_1 = \gamma_2$, we follow Gerber and Green (2012) and employ the sharp null hypothesis that $\gamma_{1i} = \gamma_{2i} = \hat{\gamma}$ where $\hat{\gamma}$ is the point estimate on Neighbor_{abt} from the pooled specification:

$$y_{ab\{t-1,t,t+1\}} = \alpha_{p(a)p(b)st} + \gamma \text{Neighbor}_{abt} + e_{abt} \quad (2)$$

MP-Session-Level Specification. To estimate general effects of cross-party proximity, we use the following specification:

$$y_{i\{t-1,t,t+1\}} = \alpha_{pst} + \beta \text{Proportion Other Party Neighbor}_{it} + \varepsilon_{it} \quad (3)$$

Similar to the pair-session-level specification, this specification stacks one cross-section per session. The specification differs in that an observation within a session is at the MP-level.

¹⁰We exclude special and short sessions from the analysis. In addition, for the lead and lag specifications, we drop any sessions where the lead/lag would be a special or short session, or a session in a different parliamentary term. We do the latter to avoid selection problems that might arise if the seating arrangements also somehow affect parliamentary turnover. For example, MPs may be more likely to run for re-election if they spent the last session sitting next to friends from their own party than otherwise.

y_{it} is a co-sponsorship or voting outcome for MP i during session t , while Proportion Other Party Neighbor $_{it} \in \{0, \frac{1}{2}, 1\}$ is the fraction of left-right seating neighbors of MP i during session t who belong to a different political party. To estimate cross-coalition effects, we estimate some specifications with Proportion Other Coalition Neighbor $_{it}$ instead as the key right-hand-side variable.

α_{pst} are session-by-party-by-strata fixed effects. Party fixed effects increase precision and are necessary for identification—since the likelihood of being exposed to other-party seating neighbors depends on how many other members of your own party are also being assigned seats. The strata fixed effect is also necessary for identification. This fixed effect is a dummy variable for whether MP i was pre-assigned a seat during session t as opposed to having participated in the seating lottery. The estimates then only come from within-strata variation—i.e. we do not make comparisons between the voting of regular MPs and the voting of chairs of parliamentary groups.

β is our parameter of interest, capturing the general effect of having all versus no other-party neighbors on co-sponsorship and voting outcomes.

For inference, we report standard errors clustered at the MP-level and corresponding p-values, as well as p-values from randomization inference. MP-clustered standard errors account for the fact that a given MP will regularly appear in multiple cross-sections since MPs usually serve for more than one session.

To test for persistent effects we again replace the outcome with $y_{i,t+1}$, for the placebo check we use $y_{i,t-1}$, and we follow the same session-dropping rules.

Balance. Balance checks on pre-determined variables are consistent with our specifications correctly isolating the random variation created by the lottery (Tables [A1](#), [A2](#), [A3](#), and [A4](#)).

4 Results

4.1 Pair-Specific Effects on Voting

MPs from different parties vote 0.5 percentage points (RI p-value = 0.07) more similarly when they are randomly seated next to each other (Column 1, Table 1), and their mean voting similarity is 0.04 standard deviations (RI p-value = 0.005) higher (Column 2). In contrast, front-back seating neighbors are no more likely to vote alike, nor does allowing for front-back spillovers affect our left-right estimates (Table A5).

MPs from different parties who sit next to each other for one session vote no more similarly than other MP pairs in the subsequent session (Columns 3-4, Table 1). Placebo coefficients are statistically insignificant (Columns 5-6), ruling out concerns of chance imbalances.

For some votes, different parties vote similarly, reducing the scope for cross-party influence. To address this, we recreate the two voting outcomes used in Table 1 using only data from the more contested votes. Specifically, for each vote we identify the modal vote and the share of MPs who vote in the same way as the modal vote. We then recreate the two voting outcomes using (i) only the votes in which the share of modal vote MPs is less than the median; and (ii) only the votes in which the share of modal vote MPs is less than the twenty-fifth percentile. Proximity effects are stronger for these contested votes (Table A6), with different-party pairs roughly one percentage point more likely to vote similarly (Panel A), and different-party proximity p-values all weakly below 0.01. Again, these effects are temporary.

Another potential attenuating factor is divided attention—with seating neighbors on the left and right for most MPs, the attention of each MP is potentially divided. Furthermore, this attention may not be directed equally to the MP on the left and the MP on the right—if an MP sits next to one same-party member and one other-party member, the MP naturally might direct most of their attention to the same-party member. To explore this, we use the random assignment of

MPs to the 12 corner seats (Figure 1) versus seats in the middle of rows. MPs in corner seats have only one left-right seating neighbor—their attention is undivided. For brevity, we restrict our sample only to different-party MP pairs. In addition we keep only the MP pairs who were both part of the seating lottery.¹¹

Proximity effects on voting for corner-seat MPs are three to five times larger than for middle-seat MPs, though given a lack of power we cannot quite reject that the effects are equivalent at the 10% level (Columns 1 and 2, Table 2). Even here, these proximity effects do not persist (Columns 3-4).

Our estimates of individual effects are comparable if we consider pairs to only be voting the same way if they vote yes-yes, no-no, or abstain-abstain (Table A7), or if they vote yes-yes or no-no (Table A8), or if we code absenteeism as equivalent to abstention, or closer to a no vote than abstention (Tables A9, A10). Given the concern that absences may not reflect position-taking, these robustness checks strengthen the claim that seating neighbors become more likely to take the same position on a vote.

Summary and Discussion. We find robust evidence of a temporary and individual effect of bipartisan integration on roll-call votes. Our estimated proximity effect of roughly one percentage point is consistent with the two closest random-network studies of cue-taking: for the US House of Representatives, Rogowski and Sinclair (2012) find statistically insignificant effects of proximity, but given large standard errors, they cannot reject our point estimates. Interestingly, their OLS specifications deliver more precisely estimated coefficients that are in fact very similar to ours. For the European Parliament, Harmon et al. (2019) estimate a 0.6 percentage point effect of sitting together on voting similarity. Our results go beyond these two papers by showing that similar influence exists even for cross-party pairs.

While cross-party cue-taking has been observed between those linked through co-sponsorship

¹¹In other words, we drop any MPs pre-assigned to seats, since these pre-assigned seats are corner seats, but these MPs do not contribute any random variation in assignment to corner seats.

(Fong 2020), it is not immediately clear why such influence would exist between *randomly* selected cross-party pairs assigned to adjacent seating. One possibility is that the cross-party influence we observe comes from other parties that nevertheless belong to the same political coalition. We do not find evidence for this—cross-coalition effects are similar in magnitude, and similarly transitory (Tables A11, A12).

A second possibility is that cross-party influence only exists for the least important votes, or perhaps only for amendments—with cue-taking more likely here given their greater technicality (Box-Steffensmeier et al. 2015). We do not find evidence for this either—proximity effects remain substantial when considering voting only on draft bills, and stronger than those for amendments (Table A13).

A third possibility is that seating proximity to copartisans is less important because information would diffuse between copartisans whether or not they sit together. Consistent with this, proximity effects are stronger for different-gender than same-gender pairs of MPs (Table A14), which is what we would expect if gender homophily facilitates information diffusion between same-gender MPs regardless of where they sit.

A final explanation is that cross-party influence is facilitated by cross-party consensus, providing enough trust in even random cross-party seating neighbors. To explore this, we make use of the breakdown in cross-party voting agreement that occurred following the 2009 snap election prompted by the Icelandic economic crisis (Figure A4). Cross-party neighbor effects are much stronger, and only statistically significant, prior to the 2009/10 session (Table A15), while same-party neighbor effects show the opposite pattern. Though more suggestive, these results support the hypothesis that cross-party influence is possible, though perhaps only during periods of cross-party consensus.

4.2 General Effects on Voting

Cross-party proximity has neither consistent nor detectable general effects on rebellious voting, whether contemporaneously (Columns 1-2, Table 3), or one year later (Columns 3-4). Placebo tests again rule out chance imbalances (Columns 5-6). Since experienced MPs are more likely to be the persuaders rather than the persuaded, we might expect these null effects to mask heterogeneity, with the less-experienced MPs more affected by peers. However, if anything, we find the opposite (Table A16).

We find similar null effects when we estimate effects for contested votes (Table A17), effects of cross-coalition exposure (Table A18), and when we separately estimate the effects of having half versus all seating neighbors from a different party or coalition (Tables A19, A20). The one exception is an increase in dissent for those assigned to one other-coalition neighbor relative to none (Column 2, Table A20, RI p-value = 0.065).

Our voting results support temporary individual effects of cross-party contact. As noted in Section 2, these empirical patterns are more consistent with mechanisms of cue-taking and social pressure than cognitive or affective channels.

4.3 Effects on Co-Sponsorship

Bipartisan proximity does not lead to increased co-sponsorship links for different-party pairs in any time period that we consider (Table A21).¹² In Table A22 we compare the treatment effects of different-party pairs who sat at corners of rows to investigate whether undivided attention between neighbors can strengthen the treatment effect on co-sponsorship. We find 0.29 more co-sponsorship links (RI p-value = 0.12) between pairs who sat at corners, and this is larger than the effect on the pairs who sat in the middle. This provides suggestive evidence that year-

¹²Although not our main focus, there is some evidence of a negative effect of proximity for same-party pairs, reducing co-sponsorship links at the pair-level by ~9% (RI p-value = 0.05). Placebo estimates have the same sign and similar magnitudes (Columns 5-6), despite not being significant. In this case, the negative effect may be a result of a chance failure of baseline balance.

long deskmates may forge an enduring social connection when the attention of one deskmate is undivided.

Table 4 reports general effects on bipartisan co-sponsorship links. Having a larger proportion of other-party neighbors does not affect the number of contemporaneous links (Columns 1-2), but does increase future links (Column 3). The effect size is moderate (10 additional links or 19%), though it becomes marginally insignificant when we use the inverse hyperbolic sine transformation instead of the raw number. Encouragingly, the persistent impact on bipartisan links is larger for those with two other-party neighbors than those with only one (Column 3, Table A23), and the persistent impact is similar when considering cross-coalition exposure (Table A24).

Although more suggestive, these enduring impacts on cross-party co-sponsorship links suggest that bipartisan seating can create bipartisan social connections. That said, any such connections do not translate into position convergence, given the lack of persistent effects on voting.

5 Conclusion

Icelandic legislators randomly assigned to sit next to each other are roughly one percentage point more likely to vote alike. These effects are short-lived, and do not translate into general bipartisan voting outcomes. These empirical patterns are more consistent with legislative cue-taking and social pressure mechanisms than cognitive and affective changes. Given this, our main takeaway is that physical integration has limited power to durably increase bipartisanship.

Mechanisms aside, the *Althingi* is a small parliament with a unique seating arrangement—how generalizable are our findings? Our own view is that Iceland provides a relatively demanding test for cross-party influence, given its strong parties and Westminster-style adversarial politics. The existence of neighbor effects in the *Althingi* then suggest that cross-party peer effects in legislatures may also be present in other parliamentary settings, though perhaps only those with a reasonable amount of cross-party consensus, given the fall in cross-party influence after the

Icelandic economic crisis.

Going beyond our work, the external validity of our findings can be tested directly with a regression discontinuity design in two other Nordic parliamentary settings—the within-constituency seating order in the Norwegian Storting is ordered by the Sainte-Laguë vote score, while in the Swedish Riksdag MPs are seated in order of tenure, and then age. Each system delivers quasi-random variation in the party of seating neighbors whenever two different-party neighbors have very similar vote scores or ages.

Do seating arrangements exist that can generate stronger effects on bipartisanship? One hypothesis would be that legislators need to sit next to other-party colleagues for more than one session for enough trust to build to catalyze bipartisan behaviors. With the caveat of lower statistical power, we find suggestive support for this hypothesis—the effects of other-coalition exposure are more positive for MPs who experienced more other-coalition exposure in the previous session (Table A25).

Finally, we note an important limitation of our analysis: we estimate the effects of having more versus fewer other-party seating neighbors in the context of an already integrated chamber. We cannot estimate the overall effects of a chamber moving from party-grouped to integrated. The latter might have additional effects: for example, in personal correspondence a sitting MP speculated that the seating arrangement as a whole reduces party cohesion by making it more difficult for parties to notice individuals voting out of line. In his words: “I believe that if we were seated by party, the cohesion would increase dramatically, as not only would it stick out on the voting board if someone voted differently than everyone else, but also one’s group members would be more likely to verbally intervene in some way, even if only to ask a question or joke about it.”

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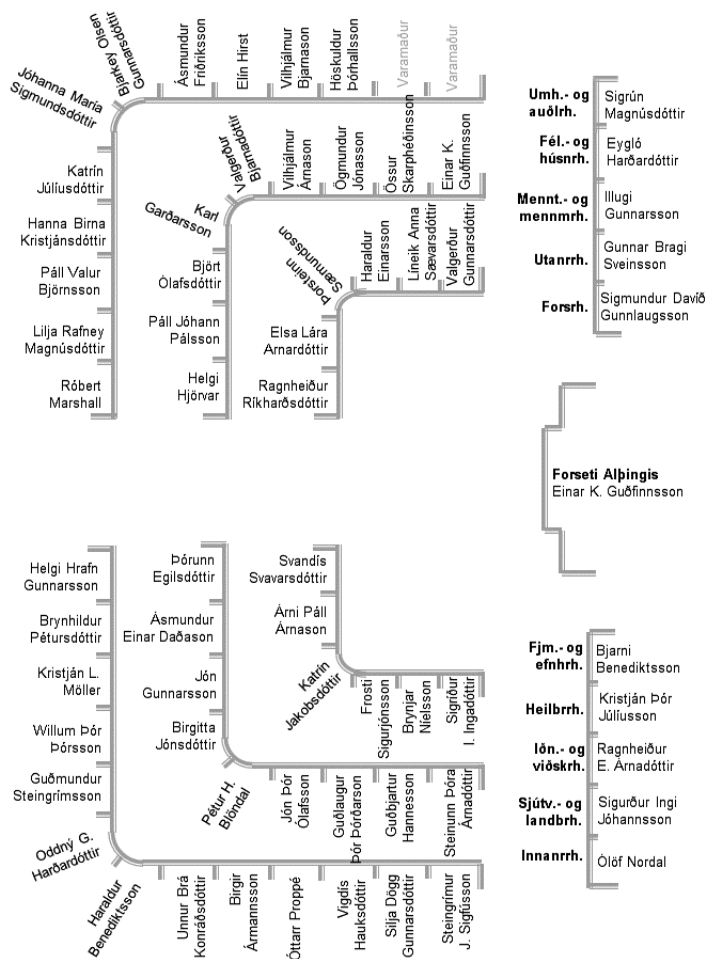
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Figure 1: Seating Assignment for 2014-15



Source: <http://www.althingi.is/> [Link]

Table 1: Pair-level Effects on Voting

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Compliance (1)	Similarity (2)	Compliance (3)	Similarity (4)	Compliance (5)	Similarity (6)
Neighbor × Different Party (proximity effect on bipartisanship)	.0051 [.057]* {.07}*	.0071 [.0047]*** {.005}***	.0008 [.86] {.81}	.000057 [.99] {.98}	.0013 [.68] {.71}	.0017 [.59] {.63}
Neighbor × Same Party	.0036 [.57] {.6}	.0037 [.57] {.58}	.011 [.19] {.15}	.0099 [.28] {.17}	.0044 [.59] {.6}	.0027 [.75] {.76}
Same = Different	[.82] {.84}	[.61] {.65}	[.32] {.29}	[.35] {.29}	[.74] {.76}	[.92] {.94}
Observations	35259	35259	21589	21589	21638	21638
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.57	2.5	.55	2.5	.57	2.5
Outcome S.d.	.13	.17	.12	.16	.12	.16

Notes: Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Similarity is the average vote similarity between the two MPs in a pair. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table 2: Pair-level Effects on Bipartisan Voting: Effects with Undivided Attention

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Compliance (1)	Similarity (2)	Compliance (3)	Similarity (4)	Compliance (5)	Similarity (6)
Neighbor × Corner	.013 [.046]** {.1}	.013 [.041]** {.08}*	.0043 [.68] {.57}	.0013 [.9] {.89}	-.012 [.19] {.14}	-.012 [.16] {.14}
Neighbor × Middle	.0024 [.42] {.46}	.0047 [.084]* {.17}	.0012 [.81] {.76}	.0014 [.79] {.77}	.0045 [.19] {.26}	.0043 [.24] {.29}
Corner = Middle	[.14] {.21}	[.24] {.32}	[.79] {.72}	[.99] {.99}	[.07]* {.095}*	[.06]* {.085}*
Observations	22652	22652	14140	14140	13863	13863
Session × Corner FE	Y	Y	Y	Y	Y	Y
Session × Party Pair FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.56	2.5	.54	2.5	.55	2.5
Outcome S.d.	.13	.16	.12	.15	.12	.15

Notes: Regressions include different-party dyads only, with neither MP pre-assigned seats. Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Similarity is the average vote similarity between the two MPs in a pair. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Corner is equal to one if at least one MP in pair has only one seating neighbor. Middle is equal to one minus Corner. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: General Effects on Bipartisan Voting

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Leader Non-Compliance (1)	Rebel Rate (2)	Leader Non-Compliance (3)	Rebel Rate (4)	Leader Non-Compliance (5)	Rebel Rate (6)
Proportion Other-Party Neighbor	.0028 (.0076) [.71] {.71}	-.00061 (.00057) [.29] {.33}	.0014 (.0098) [.89] {.94}	.00017 (.00051) [.73] {.78}	.012 (.0097) [.2] {.23}	-.00049 (.00054) [.37] {.39}
Observations	1294	1294	826	826	835	835
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.42	.005	.44	.0044	.43	.005
Outcome S.d.	.13	.011	.11	.01	.11	.0073

Notes: Leader Non-Compliance is the proportion of times the MP votes differently from their party leader in a given session. Rebel Rate is the proportion of times the MP voted yes/abstain (no/abstain) when their party leader voted no (yes) in a given session. Proportion Other-Party Neighbor is the proportion of left-right seating neighbors from a different party. MP-clustered standard errors are in parentheses and p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

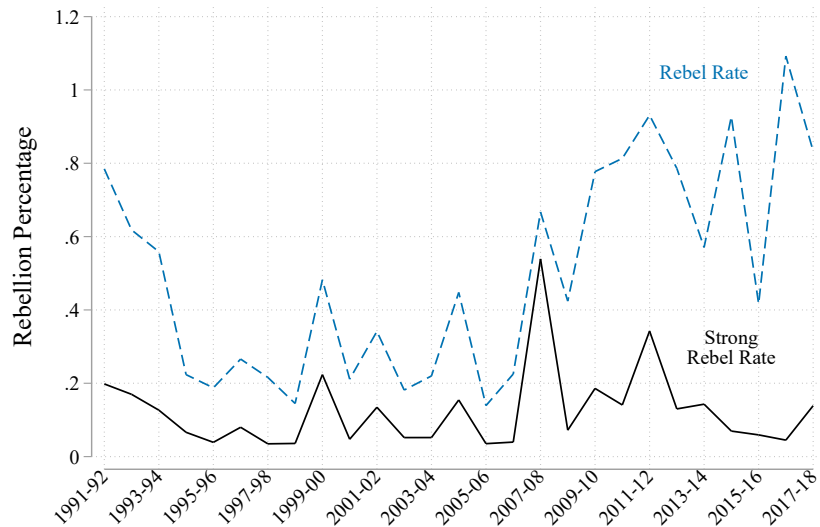
Table 4: General Effects on Bipartisan Co-Sponsorship Links

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Number (1)	IHS (2)	Number (3)	IHS (4)	Number (5)	IHS (6)
Proportion Other-Party Neighbor	1.4 (3.6) [.69] {.74}	.055 (.068) [.42] {.48}	10 (4.7) [.035]** {.05}*	.19 (.12) [.12] {.12}	4.5 (3.8) [.24] {.3}	.11 (.086) [.21] {.28}
Observations	1420	1420	941	941	946	946
Session \times Party \times Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	82	4.7	83	4.5	76	4.5
Outcome S.d.	76	1.1	82	1.3	73	1.2

Notes: Number is the total number of co-sponsorship links between the MP and any other-party MP in a given session. IHS is the inverse hyperbolic sine transformation of Number. Proportion Other-Party Neighbor is the proportion of left-right seating neighbors from a different party. MP-clustered standard errors are in parentheses and p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

A Appendix Tables and Figures

Figure A1: *Althingi* MPs Rarely Dissent From the Party Line

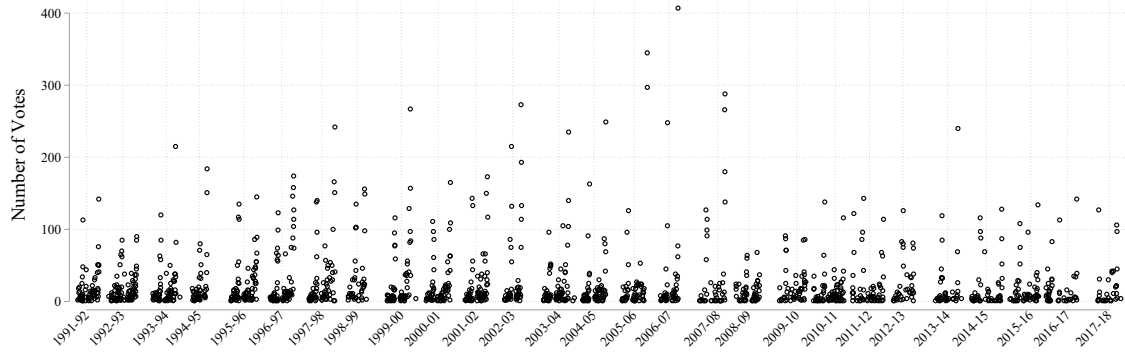


Notes: *Rebel Rate* is the percentage of votes for which an MP votes yes or abstain when their party leader votes no, or for which an MP votes no or abstain when their party leader votes yes. *Strong Rebel Rate* is the percentage of votes for which an MP votes yes when their party leader votes no, or for which an MP votes no when their party leader votes yes. The figure shows the average of each measure for each regular session from 1991-92 to 2017-18, excluding party leaders, ministers, the speaker, and any MP-session observations where the MP's party does not have a party leader.

Figure A2: An MP Draws Her Seat Number for 2013-14

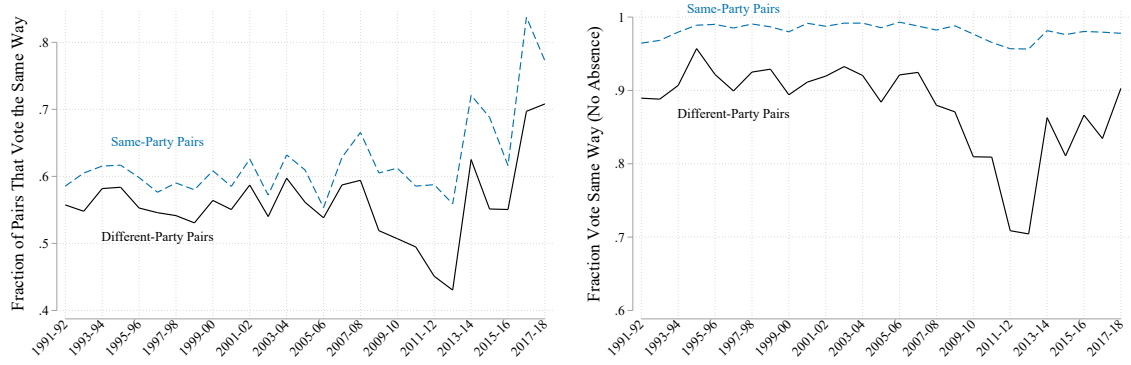


Figure A3: Information Overload With Voting in the *Althingi*



Notes: This figure visualizes the number of votes taken per day on all days with at least one vote for each regular session from 1991-92 to 2017-18. The gaps reflect special and short sessions and periods when the *Althingi* was not in session. 36,366 votes were taken during the period shown.

Figure A4: Cross-Party Consensus Fell After the 2008 Economic Crisis



Notes: The left-panel outcome is the average fraction of MP pairs that voted the same way (both yes, both no, both abstain, or both absent) for a given session. The right-panel outcome is the same, but calculated only for votes in which both MPs in the pair were not absent. In both panels, the prime minister, ministers, and speaker are excluded.

Table A1: Pair-level Balance Table

	Same...					Difference in...			
	Neighbor (t-1) (1)	Gender (2)	Ever Minister (3)	Committee (t-1) (4)	Constit. (5)	Age (6)	Sessions Experience (7)	Wages (t-1) (8)	Expenses (t-1) (9)
Neighbor × Different Party (proximity effect on bipartisanship)	.0069 [.56] {.4}	-.0098 [.55] {.54}	-.0066 [.51] {.5}	-.0023 [.87] {.88}	-.0025 [.79] {.9}	-.0099 [.96] {.94}	.16 [.43] {.38}	279684 [.098]* {.04}**	52127 [.57] {.44}
Neighbor × Same Party	-.017 [.15] {.29}	.024 [.2] {.44}	.0076 [.66] {.69}	.012 [.66] {.71}	.011 [.53] {.63}	.57 [.22] {.22}	.11 [.81] {.81}	157819 [.52] {.61}	290151 [.04]** {.08}*
Same = Different	[.14] {.14}	[.13] {.33}	[.54] {.54}	[.63] {.66}	[.49] {.59}	[.27] {.3}	[.93] {.88}	[.71] {.79}	[.17] {.17}
Observations	21954	35314	35314	35314	35314	35314	35314	13579	13579
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Outcome Mean	.034	.54	.73	.6	.15	10	7.6	2958967	1863427

Notes: The outcome in column (1) is a dummy variable equal to one if the two MPs in a pair were seating neighbors in the previous session (only for non-short/special sessions in same parliamentary term). Each outcome in columns (2) to (5) is a dummy variable equal to one if the two MPs in a pair share the same value for the following variables: (2) dummy variable equal to one if MP is male, (3) dummy variable equal to one if ever held a ministerial position prior to this session, (4) dummy variable equal to one if chaired a committee at any point during the previous session, and (5) constituency. The outcomes in columns (6) to (9) are the absolute difference between the two MPs in a pair for the following variables: (6) age in years as of the start of the current session, (7) number of sessions since first session as Althingi member, (8) wages received in Althingi during the calendar year prior to the current session, and (9) expenses claimed in Althingi during the calendar year prior to the current session. The waves and expenses data are only available from session 136 (2008/9) onwards. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A2: MP-level Balance Table

	Proportion Oth-Party Neighbor (t-1) (1)	Male (2)	Age (3)	Reykjavik Constit. (4)	Ever Minister (5)	Committee (t-1) (6)	Sessions Experience (7)	Wages (t-1) (8)	Expenses (t-1) (9)
Proportion Other-Party Neighbor	-.0037 (.037) [.92] {.9}	-.0042 (.046) [.93] {.94}	.51 (.93) [.58] {.58}	-.012 (.048) [.81] {.81}	.0066 (.036) [.85] {.8}	-.012 (.035) [.74] {.74}	-.49 (.79) [.53] {.47}	-9925 (516929) [.98] {.98}	-278507 (258565) [.28] {.33}
Observations	924	1420	1420	1420	1420	1420	1420	536	536
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Outcome Mean	.76	.64	.49	.31	.17	.27	8.6	5406111	2189633

Notes: Outcome variables are: (1) proportion other-party neighbor in previous session (only for non-short/special sessions in same parliamentary term), (2) dummy variable equal to one if MP is male, (3) age in years as of the start of the current session, (4) dummy variable equal to one if elected from Reykjavik constituency (North or South from session 129 (2003) onwards), (5) dummy variable equal to one if ever held a ministerial position prior to this session, (6) dummy variable equal to one if chaired a committee at any point during the previous session, (7) number of sessions since first session as Althingi member. The outcomes for columns (8) and (9) are, respectively, the wages received, and other expenses claimed in Althingi during the calendar year prior to the current session, with the data for these variables only available from session 136 (2008/9) onwards. Proportion Other-Party Neighbor is the proportion of left-right seating neighbors from a different party. MP-clustered standard errors are in parentheses and p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A3: Pair-level Balance Table: Coalition Heterogeneity

	Same...					Difference in...			
	Neighbor (t-1) (1)	Gender (2)	Ever Minister (3)	Committee (t-1) (4)	Constit. (5)	Age (6)	Sessions Experience (7)	Wages (t-1) (8)	Expenses (t-1) (9)
Neighbor × Different Coalition	-.00082 [.94] {.93}	-.0074 [.68] {.69}	.0054 [.69] {.67}	.00035 [.98] {.97}	-.0064 [.64] {.69}	-.17 [.57] {.6}	.1 [.69] {.67}	449399 [.04]** {.005}***	24677 [.83] {.81}
Neighbor × Same Coalition	.0028 [.83] {.76}	.0031 [.86] {.86}	-.012 [.27] {.42}	.0016 [.92] {.94}	.0072 [.52] {.57}	.41 [.089]* {.23}	.19 [.49] {.56}	75094 [.6] {.65}	163562 [.13] {.065}*
Same = Different	[.8] {.8}	[.63] {.69}	[.38] {.46}	[.96] {.94}	[.46] {.52}	[.17] {.26}	[.84] {.9}	[.14] {.095}*	[.37] {.34}
Observations	21954	35314	35314	35314	35314	35314	35314	13579	13579
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Outcome Mean	.034	.54	.73	.6	.15	10	7.6	2958967	1863427

Notes: The outcome in column (1) is a dummy variable equal to one if the two MPs in a pair were seating neighbors in the previous session (only for non-short/special sessions in same parliamentary term). Each outcome in columns (2) to (5) is a dummy variable equal to one if the two MPs in a pair share the same value for the following variables: (2) dummy variable equal to one if MP is male, (3) dummy variable equal to one if ever held a ministerial position prior to this session, (4) dummy variable equal to one if chaired a committee at any point during the previous session, and (5) constituency. The outcomes in columns (6) to (9) are the absolute difference between the two MPs in a pair for the following variables: (6) age in years as of the start of the current session, (7) number of sessions since first session as Althingi member, (8) wages received in Althingi during the calendar year prior to the current session, and (9) expenses claimed in Althingi during the calendar year prior to the current session. The wages and expenses data are only available from session 136 (2008/9) onwards. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Coalition is equal to one if both MPs in the pair are in the same coalition for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A4: MP-level Balance Table: Coalition Heterogeneity

	Proportion Oth-Party Neighbor (t-1) (1)	Male (2)	Age (3)	Reykjavik Constit. (4)	Ever Minister (5)	Committee (t-1) (6)	Sessions Experience (7)	Wages (t-1) (8)	Expenses (t-1) (9)
Proportion Other-Coalition Neighbor	-.0067 (.037) [.86] {.84}	-.036 (.037) [.33] {.36}	.11 (.73) [.88] {.9}	.036 (.037) [.33] {.32}	-.018 (.029) [.54] {.54}	.026 (.032) [.42] {.34}	.13 (.59) [.83] {.81}	-41916 (327012) [.9] {.92}	-504619 (230706) [.03]** {.01}**
Observations	924	1420	1420	1420	1420	1420	1420	536	536
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Outcome Mean	.49	.64	49	.31	.17	.27	8.6	5406111	2189633

Notes: Outcome variables are: (1) proportion other-party neighbor in previous session (only for non-short/special sessions in same parliamentary term), (2) dummy variable equal to one if MP is male, (3) age in years as of the start of the current session, (4) dummy variable equal to one if elected from Reykjavik constituency (North or South from session 129 (2003) onwards), (5) dummy variable equal to one if ever held a ministerial position prior to this session, (6) dummy variable equal to one if chaired a committee at any point during the previous session, (7) number of sessions since first session as Althingi member. The outcomes for columns (8) and (9) are, respectively, the wages received, and other expenses claimed in Althingi during the calendar year prior to the current session, with the data for these variables only available from session 136 (2008/9) onwards. Proportion Other-Coalition Neighbor is the proportion of left-right seating neighbors from a different coalition. MP-clustered standard errors are in parentheses and p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A5: Do Front-Back Neighbors Vote More Alike Too?

	Contemporaneous Effect (t)	
	Compliance (1)	Similarity (2)
Neighbor \times Different Party	.0051 {.065}*	.007 {.005}***
Neighbor \times Same Party	.0038 {.57}	.0039 {.57}
Front-Back Neighbor \times Different Party	-.00059 {.87}	-.00072 {.84}
Front-Back Neighbor \times Same Party	.0051 {.52}	.0065 {.44}
Observations	35259	35259
Session \times Party Pair \times Strata FE	Y	Y

Notes: Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Similarity is the average vote similarity between the two MPs in a pair. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Front-Back Neighbor is a dummy variable equal to one if the MPs in the pair are sitting immediately in front of or behind each other. Same Party is equal to one if both MPs in the pair are in the same party for that session. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A6: Pair-level Effects: Voting on Contested Votes

	Below 50th Votes		Below 25th Votes	
	Compliance (1)	Similarity (2)	Compliance (3)	Similarity (4)
<i>Panel A: Contemporaneous Effect (t)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	.0096 [<0.001]*** {.01}**	.013 [<0.001]*** {0}***	.01 [<0.001]*** {0}***	.017 [.0054]*** {.005}***
Neighbor × Same Party	.0085 [.12] {.22}	.0096 [.12] {.19}	.0092 [.18] {.22}	.015 [.12] {.11}
Observations	35205	35205	35102	35102
<i>Panel B: One Year Later (t+1)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	-.0023 [.61] {.55}	-.0042 [.36] {.37}	-.0043 [.36] {.31}	-.011 [.14] {.14}
Neighbor × Same Party	.014 [.15] {.085}*	.012 [.26] {.17}	-.00054 [.95] {.96}	-.0064 [.62] {.58}
Observations	21589	21589	21540	21540
<i>Panel C: Previous Year (Placebo) (t-1)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	.00052 [.88] {.92}	.0012 [.77] {.8}	-.0018 [.67] {.63}	-.0017 [.83] {.83}
Neighbor × Same Party	.0061 [.49] {.47}	.0046 [.61] {.67}	-.0013 [.89] {.86}	-.0043 [.68] {.77}
Observations	21638	21638	21638	21638
Session × Party Pair × Strata FE	Y	Y	Y	Y
Outcome Mean	.46	2.3	.37	2
Outcome S.d.	.15	.32	.23	.55

Notes: Each panel shows the estimates from four linear regressions. Below 50th/25th votes are votes in which the share of MPs voting the modal vote is less than the median/25th percentile among all votes. Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Similarity is the average vote similarity between the two MPs in a pair. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. Same Party is equal to one if both MPs in the pair are in the same party for that session. Outcome Mean and Standard Deviation are for the sample included in the Panel A regressions. *** p<0.01, ** p<0.05, * p<0.1.

Table A7: Pair-level Effects: Voting Similarity without Absenteeism

	Compliance	Yes-Yes/No-No/Abstain-Abstain		
	All (1)	All (2)	Below 50th (3)	Below 25th (4)
<i>Panel A: Contemporaneous Effect (t)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	.0051 [.057]* {.07}*	.0033 [.27] {.17}	.0061 [.034]** {.04}**	.0068 [.0096]*** {.005}***
Neighbor × Same Party	.0036 [.57] {.6}	.0025 [.77] {.69}	.0021 [.81] {.78}	.0098 [.24] {.23}
Observations	35259	35259	35205	35102
<i>Panel B: One Year Later (t+1)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	.0008 [.86] {.81}	-.00048 [.93] {.87}	-.0051 [.34] {.16}	-.0051 [.26] {.17}
Neighbor × Same Party	.011 [.19] {.15}	.0052 [.61] {.53}	.013 [.25] {.14}	.00052 [.95] {.96}
Observations	21589	21589	21589	21540
<i>Panel C: Previous Year (Placebo) (t-1)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	.0013 [.68] {.71}	.0001 [.98] {.98}	-.00013 [.97] {.96}	-.0032 [.32] {.28}
Neighbor × Same Party	.0044 [.59] {.6}	.0029 [.77] {.73}	.0043 [.71] {.66}	.0048 [.65] {.66}
Observations	21638	21638	21638	21638
Session × Party Pair × Strata FE	Y	Y	Y	Y
Outcome Mean	.57	.49	.33	.27
Outcome S.d.	.13	.17	.17	.24

Notes: Each panel shows the estimates from four linear regressions. Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Yes-Yes/No-No/Abstain-Abstain is the proportion of times the two MPs in a pair both vote yes, or both vote no, or both abstain in a given session. Below 50th/25th votes are votes in which the share of MPs voting the modal vote is less than the median/25th percentile among all votes. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. Outcome Mean and Standard Deviation are for the sample included in the Panel A regressions. *** p<0.01, ** p<0.05, * p<0.1.

Table A8: Pair-level Effects: Voting Similarity without Absenteeism and Abstention

	Compliance		Yes-Yes/No-No	
	All (1)	All (2)	Below 50th (3)	Below 25th (4)
<i>Panel A: Contemporaneous Effect (t)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	.0051 [.057]* {.07}*	.0034 [.25] {.16}	.0058 [.045]** {.04}**	.0061 [.015]** {.015}**
Neighbor × Same Party	.0036 [.57] {.6}	.0012 [.88] {.86}	-6.2e-06 [1] {1}	.0068 [.3] {.32}
Observations	35259	35259	35205	35102
<i>Panel B: One Year Later (t+1)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	.0008 [.86] {.81}	-.00012 [.98] {.99}	-.0042 [.42] {.2}	-.0029 [.45] {.33}
Neighbor × Same Party	.011 [.19] {.15}	.0032 [.74] {.69}	.01 [.35] {.23}	-.0048 [.56] {.59}
Observations	21589	21589	21589	21540
<i>Panel C: Previous Year (Placebo) (t-1)</i>				
Neighbor × Different Party (proximity effect on bipartisanship)	.0013 [.68] {.71}	.000081 [.98] {.99}	-.00016 [.96] {.94}	-.0022 [.44] {.38}
Neighbor × Same Party	.0044 [.59] {.6}	.0033 [.73] {.7}	.0045 [.68] {.64}	.0069 [.42] {.47}
Observations	21638	21638	21638	21638
Session × Party Pair × Strata FE	Y	Y	Y	Y
Outcome Mean	.57	.48	.31	.22
Outcome S.d.	.13	.17	.17	.22

Notes: Each panel shows the estimates from four linear regressions. Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Yes-Yes/No-No is the proportion of times the two MPs in a pair both vote yes or both vote no in a given session. Below 50th/25th votes are votes in which the share of MPs voting the modal vote is less than the median/25th percentile among all votes. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. Outcome Mean and Standard Deviation are for the sample included in the Panel A regressions. *** p<0.01, ** p<0.05, * p<0.1.

Table A9: Pair-level Effects on Voting: Robustness

	Contemporaneous Effect (t)				
	Compliance (1)	Similarity (2)	Compliance 3-Cat (3)	Similarity 3-Cat (4)	Similarity Recode (5)
Neighbor × Different Party (proximity effect on bipartisanship)	.0051 [.057]* {.07}*	.0071 [.0047]*** {.005}***	.0057 [.022]** {.05}*	.0062 [.0096]*** {.025}**	.01 [.052]* {.07}*
Neighbor × Same Party	.0036 [.57] {.6}	.0037 [.57] {.58}	.0032 [.58] {.64}	.0033 [.57] {.63}	.0069 [.56] {.6}
Same = Different	[.82] {.84}	[.61] {.65}	[.68] {.72}	[.63] {.68}	[.8] {.84}
Observations	35259	35259	35259	35259	35259
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y
Outcome Mean	.57	2.5	.59	1.6	2.2
Outcome S.d.	.13	.17	.13	.13	.25

Notes: The first two columns replicate the core results of Table 1. Compliance 3-Cat is the proportion of times the two MPs in a pair vote the same way in a given session, with absence considered equivalent to abstention. Similarity 3-Cat is the average vote similarity between the two MPs in a pair, with absence considered equivalent to abstention. Similarity Recode is the pair-level average vote similarity, with absence coded as closer to a no vote than abstention. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A10: Pair-level Effects on Contested Voting: Robustness

	Contemporaneous Effect (t), Below 50th				
	Compliance (1)	Similarity (2)	Compliance 3-Cat (3)	Similarity 3-Cat (4)	Similarity Recode (5)
Neighbor × Different Party (proximity effect on bipartisanship)	.0096 [<0.001]*** {.01}**	.013 [<0.001]*** {0}***	.01 [<0.001]*** {0}***	.011 [<0.001]*** {0}***	.02 [<0.001]*** {.005}***
Neighbor × Same Party	.0085 [.12] {.22}	.0096 [.12] {.19}	.0078 [.13] {.23}	.008 [.13] {.22}	.016 [.12] {.23}
Same = Different	[.84] {.9}	[.61] {.69}	[.68] {.81}	[.58] {.72}	[.7] {.82}
Observations	35205	35205	35205	35205	35205
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y
Outcome Mean	.46	2.3	.49	1.4	2
Outcome S.d.	.15	.32	.14	.19	.3

Notes: The first two columns replicate results from Table 2. Compliance 3-Cat is the proportion of times the two MPs in a pair vote the same way in a given session, with absence considered equivalent to abstention. Similarity 3-Cat is the average vote similarity between the two MPs in a pair, with absence considered equivalent to abstention. Similarity Recode is the pair-level average vote similarity, with absence coded as closer to a no vote than abstention. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A11: Pair-level Effects on Voting: Heterogeneity by Coalition

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Compliance (1)	Similarity (2)	Compliance (3)	Similarity (4)	Compliance (5)	Similarity (6)
Neighbor × Different Coalition	.0079 [.069]* {.055}*	.0093 [.015]** {.025}**	.0067 [.24] {.14}	.004 [.47] {.35}	.0053 [.19] {.22}	.0056 [.13] {.15}
Neighbor × Same Coalition	.0017 [.68] {.72}	.0034 [.4] {.38}	.00019 [.97] {.96}	.00096 [.87] {.82}	-.0011 [.85] {.88}	-.0015 [.79] {.79}
Same = Different	[.33] {.32}	[.33] {.3}	[.43] {.42}	[.72] {.66}	[.42] {.37}	[.36] {.3}
Observations	35259	35259	21589	21589	21638	21638
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.57	2.5	.55	2.5	.57	2.5
Outcome S.d.	.13	.17	.12	.16	.12	.16

Notes: Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Similarity is the average vote similarity between the two MPs in a pair. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Coalition is equal to one if both MPs in the pair are in the same coalition for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A12: Pair-level Effects on Contested Votes: Heterogeneity by Coalition

	Below 50th Votes		Below 25th Votes	
	Compliance (1)	Similarity (2)	Compliance (3)	Similarity (4)
<i>Panel A: Contemporaneous Effect (t)</i>				
Neighbor × Different Coalition	.0085 [.018]** {.05}*	.01 [.0028]*** {.02}**	.0077 [<0.001]*** {.03}**	.014 [.041]** {.04}**
Neighbor × Same Coalition	.01 [.015]** {.03}**	.014 [.001]*** {.015}**	.013 [.0048]*** {.005}***	.02 [.0015]*** {.005}***
Observations	35205	35205	35102	35102
<i>Panel B: One Year Later (t+1)</i>				
Neighbor × Different Coalition	-.00044 [.94] {.91}	-.0058 [.36] {.26}	-.0071 [.27] {.14}	-.021 [.062]* {.025}**
Neighbor × Same Coalition	.0039 [.54] {.52}	.005 [.47] {.39}	.00015 [.98] {.98}	.00077 [.92] {.96}
Observations	21589	21589	21540	21540
<i>Panel C: Previous Year (Placebo) (t-1)</i>				
Neighbor × Different Coalition	.0036 [.39] {.4}	.0051 [.27] {.29}	.0018 [.65] {.6}	.0018 [.83] {.79}
Neighbor × Same Coalition	.00024 [.97] {.97}	-.00093 [.88] {.88}	-.0051 [.34] {.45}	-.0063 [.37] {.45}
Observations	21638	21638	21638	21638
Session × Party Pair × Strata FE	Y	Y	Y	Y
Outcome Mean	.46	2.3	.37	2
Outcome S.d.	.15	.32	.23	.55

Notes: Each panel shows the estimates from four linear regressions. Below 50th/25th votes are votes in which the share of MPs voting the modal vote is less than the median/25th percentile among all votes. Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Similarity is the average vote similarity between the two MPs in a pair. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. Same Coalition is equal to one if both MPs in the pair are in the same coalition for that session. Outcome Mean and Standard Deviation are for the sample included in the Panel A regressions. *** p<0.01, ** p<0.05, * p<0.1.

Table A13: Pair-level Effects by Vote Type

	Contemporaneous Effect (t) on Similarity				
	Bill (1)	Amendment (2)	Document (3)	Resolution (4)	Other (5)
Neighbor × Different Party (proximity effect on bipartisanship)	.01 [<0.001]*** {.005}***	.0033 [.27] {.39}	.0045 [.12] {.18}	.013 [.0042]*** {0}***	.0073 [.011]** {.02}**
Neighbor × Same Party	.0061 [.39] {.36}	.012 [.18] {.19}	.0094 [.29] {.22}	.0064 [.49] {.48}	.016 [.012]** {.035}**
Same = Different	[.58] {.69}	[.37] {.36}	[.6] {.56}	[.51] {.53}	[.25] {.32}
Observations	35205	35150	35151	35159	35256
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y
Outcome Mean	2.5	2.4	2.4	2.5	2.5
Percentage of All Votes	22	32	34	7	6

Notes: Similarity is the average vote similarity between the two MPs in a pair. The results are shown separately for voting on the four most common vote categories, plus a residual category. The four main categories are: draft bills, amendments, resolutions or parliamentary resolutions, and parliamentary documents. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A14: Pair-level Effects on Voting: Heterogeneity by Gender

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Compliance (1)	Similarity (2)	Compliance (3)	Similarity (4)	Compliance (5)	Similarity (6)
Neighbor × Different Gender	.011 [.0032]*** {.015}**	.013 [<0.001]*** {.005}***	.00098 [.89] {.89}	-.0002 [.98] {.98}	.0033 [.57] {.61}	.0039 [.48] {.53}
Neighbor × Same Gender	-.00099 [.81] {.8}	.00024 [.95] {.94}	.0055 [.26] {.25}	.0048 [.36] {.33}	.00098 [.85] {.84}	.00034 [.95] {.94}
Same = Different	[.038]** {.065}*	[.027]** {.05}*	[.62] {.57}	[.57] {.56}	[.8] {.8}	[.68] {.72}
Observations	35259	35259	21589	21589	21638	21638
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.57	2.5	.55	2.5	.57	2.5
Outcome S.d.	.13	.17	.12	.16	.12	.16

Notes: Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Similarity is the average vote similarity between the two MPs in a pair. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Gender is equal to one if both MPs in the pair are in the same gender for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A15: Pair-level Effects Before and After the Economic Crisis

	Compliance		Similarity	
	Before 2009/10 (1)	2009/10 Onwards (2)	Before 2009/10 (3)	2009/10 Onwards (4)
Neighbor × Different Party (proximity effect on bipartisanship)	.0075 [.037]** {.03}**	.00076 [.86] {.89}	.0078 [.021]** {.005}***	.0056 [.19] {.26}
Neighbor × Same Party	-.00057 [.93] {.91}	.014 [.19] {.29}	.00037 [.96] {.95}	.012 [.34] {.41}
Same = Different	[.24] {.32}	[.25] {.38}	[.3] {.37}	[.63] {.71}
Observations	22907	12352	22907	12352
Session × Party Pair × Strata FE	Y	Y	Y	Y
Outcome Mean	.57	.58	2.5	2.5
Outcome S.d.	.11	.16	.12	.22

Notes: Compliance is the proportion of times the two MPs in a pair vote the same way in a given session. Similarity is the average vote similarity between the two MPs in a pair. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A16: Are General Effects Larger For the Inexperienced?

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Leader Non- Compliance (1)	Rebel Rate (2)	Leader Non- Compliance (3)	Rebel Rate (4)	Leader Non- Compliance (5)	Rebel Rate (6)
Proportion Other-Party Neighbor	-.012 (.012)	-.0018* (.00099)	-.00072 (.014)	.00045 (.0007)	-.0042 (.014)	-.000014 (.00076)
Proportion Other-Party Neighbor × Experience	.0018* (.001)	.00014* (.000074)	.00024 (.0016)	-.000036 (.000068)	.0019* (.0011)	-.000044 (.00007)
Experience	-.00017 (.00085)	-.00005 (.000055)	.00079 (.0016)	.000076 (.000057)	-.00016 (.00087)	.000067 (.000049)
Observations	1294	1294	826	826	835	835
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.42	.005	.44	.0044	.43	.005

Notes: Leader Non-Compliance is the proportion of times the MP votes differently from their party leader in a given session. Rebel Rate is the proportion of times the MP voted yes/abstain (no/abstain) when their party leader voted no (yes) in a given session. Proportion Other-Party Neighbor is the proportion of left-right seating neighbors from a different party. Experience is the number of sessions since first session as Althingi member. MP-clustered standard errors are in parentheses. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A17: General Effects on Bipartisan Voting on Contested Votes

	Below 50th Votes		Below 25th Votes	
	Leader Non-Compliance (1)	Rebel Rate (2)	Leader Non-Compliance (3)	Rebel Rate (4)
<i>Panel A: Contemporaneous Effect (t)</i>				
Proportion Other-Party Neighbor	-.001 (.0089) [.91] {.92}	-.00036 (.00082) [.66] {.69}	.0055 (.011) [.62] {.57}	.00022 (.0017) [.9] {.91}
Observations	1292	1292	1290	1290
<i>Panel B: One Year Later (t+1)</i>				
Proportion Other-Party Neighbor	-.0017 (.012) [.89] {.89}	-.00018 (.00092) [.84] {.85}	-.015 (.014) [.27] {.25}	-.0011 (.0022) [.61] {.67}
Observations	825	825	824	824
<i>Panel C: Previous Year (Placebo) (t-1)</i>				
Proportion Other-Party Neighbor	.014 (.011) [.19] {.22}	-.00041 (.0011) [.71] {.71}	.016 (.013) [.21] {.21}	.00091 (.0022) [.68] {.7}
Observations	835	835	835	835
Session × Party × Strata FE	Y	Y	Y	Y
Outcome Mean	.45	.0078	.4	.015
Outcome S.d.	.13	.013	.15	.026

Notes: Each panel shows the estimates from four linear regressions. Below 50th/25th votes are votes in which the share of MPs voting the modal vote is less than the median/25th percentile among all votes. Leader Non-Compliance is the proportion of times the MP votes differently from their party leader in a given session. Rebel Rate is the proportion of times the MP voted yes/abstain (no/abstain) when their party leader voted no (yes) in a given session. Proportion Other-Party Neighbor is the proportion of left-right seating neighbors from a different party. MP-clustered standard errors are in parentheses and p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. Outcome Mean and Standard Deviation are for the sample included in the Panel A regressions. *** p<0.01, ** p<0.05, * p<0.1.

Table A18: General Effects of Other-Coalition Exposure

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Leader Non- Compliance (1)	Rebel Rate (2)	Leader Non- Compliance (3)	Rebel Rate (4)	Leader Non- Compliance (5)	Rebel Rate (6)
Proportion Other-Coalition Neighbor	-.002 (.0068) [.77] {.8}	.00039 (.00046) [.4] {.56}	-.0025 (.0077) [.74] {.78}	.00087 (.00065) [.18] {.28}	.0095 (.0078) [.23] {.27}	-.000067 (.00045) [.88] {.89}
Observations	1294	1294	826	826	835	835
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.42	.005	.44	.0044	.43	.005
Outcome S.d.	.13	.011	.11	.01	.11	.0073

Notes: Leader Non-Compliance is the proportion of times the MP votes differently from their party leader in a given session. Rebel Rate is the proportion of times the MP voted yes/abstain (no/abstain) when their party leader voted no (yes) in a given session. Proportion Other-Coalition Neighbor is the proportion of left-right seating neighbors from a different coalition. MP-clustered standard errors are in parentheses and p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A19: General Effects on Bipartisan Voting by Intensity of Contact

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Leader Non-Compliance (1)	Rebel Rate (2)	Leader Non-Compliance (3)	Rebel Rate (4)	Leader Non-Compliance (5)	Rebel Rate (6)
Proportion Other-Party Neighbor = 1/2	.0078 [.4] {.43}	.00069 [.36] {.25}	-.014 [.28] {.18}	.00015 [.7] {.8}	.0041 [.66] {.72}	.00031 [.54] {.64}
Proportion Other-Party Neighbor = 1	.0057 [.49] {.42}	-.00016 [.74] {.76}	-.0047 [.67] {.71}	.0002 [.66] {.79}	.012 [.2] {.28}	-.00024 [.62] {.68}
Observations	1294	1294	826	826	835	835
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.42	.005	.44	.0044	.43	.005
Outcome S.d.	.13	.011	.11	.01	.11	.0073

Notes: Leader Non-Compliance is the proportion of times the MP votes differently from their party leader in a given session. Rebel Rate is the proportion of times the MP voted yes/abstain (no/abstain) when their party leader voted no (yes) in a given session. Proportion Other-Party Neighbor is the proportion of left-right seating neighbors from a different party. MP-clustered p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A20: General Effects of Other-Coalition Exposure by Intensity of Contact

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Leader Non-Compliance (1)	Rebel Rate (2)	Leader Non-Compliance (3)	Rebel Rate (4)	Leader Non-Compliance (5)	Rebel Rate (6)
Proportion Other-Coalition Neighbor = 1/2	.00046 [.95] {.94}	.00091 [.07]* {.065}*	-.0052 [.53] {.54}	.001 [.22] {.17}	-.0066 [.4] {.4}	-.00064 [.17] {.14}
Proportion Other-Coalition Neighbor = 1	-.002 [.77] {.81}	.00038 [.42] {.56}	-.0023 [.77] {.8}	.00084 [.18] {.3}	.0099 [.21] {.26}	-.000046 [.92] {.94}
Observations	1294	1294	826	826	835	835
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	.42	.005	.44	.0044	.43	.005
Outcome S.d.	.13	.011	.11	.01	.11	.0073

Notes: Leader Non-Compliance is the proportion of times the MP votes differently from their party leader in a given session. Rebel Rate is the proportion of times the MP voted yes/abstain (no/abstain) when their party leader voted no (yes) in a given session. Proportion Other-Coalition Neighbor is the proportion of left-right seating neighbors from a different coalition. MP-clustered p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A21: Pair-level Effects on Co-Sponsorship Links

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Number (1)	IHS (2)	Number (3)	IHS (4)	Number (5)	IHS (6)
Neighbor × Different Party (proximity effect on bipartisanship)	-.037 [.65] {.56}	-.013 [.6] {.55}	.07 [.5] {.39}	.023 [.52] {.4}	-.025 [.76] {.74}	.016 [.59] {.6}
Neighbor × Same Party	-.24 [.22] {.18}	-.022 [.52] {.57}	-.37 [.1] {.15}	-.093 [.011]** {.05}*	-.43 [.1] {.1}	-.055 [.22] {.32}
Same = Different	[.34] {.32}	[.83] {.9}	[.088]* {.12}	[.019]** {.08}*	[.15] {.14}	[.23] {.29}
Observations	35314	35314	23265	23265	23472	23472
Session × Party Pair × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	3.3	1.3	3.4	1.3	3.2	1.2
Outcome S.d.	4.8	1.1	5	1.2	4.8	1.1

Notes: Number is the total number of co-sponsorship links between the two MPs in a pair in a given session. IHS is the inverse hyperbolic sine transformation of Number. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Same Party is equal to one if both MPs in the pair are in the same party for that session. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE are dummy variables for whether both MPs in a pair were pre-assigned seats, one MP in a pair was pre-assigned a seat, or neither MP in a pair was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A22: Pair-level Effects on Co-Sponsorship Links with Undivided Attention

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Number (1)	IHS (2)	Number (3)	IHS (4)	Number (5)	IHS (6)
Neighbor × Corner	-.07 [.61] {.69}	.0015 [.98] {.97}	.29 [.075]* {.12}	.089 [.12] {.13}	-.14 [.48] {.45}	.038 [.6] {.59}
Neighbor × Middle	-.0085 [.92] {.91}	-.0071 [.8] {.77}	.043 [.71] {.72}	.011 [.78] {.73}	-.0051 [.95] {.94}	.0055 [.89] {.89}
Corner = Middle	[.62] {.71}	[.87] {.88}	[.071]* {.28}	[.16] {.25}	[.55] {.52}	[.7] {.72}
Observations	22687	22687	15172	15172	15130	15130
Session × Corner FE	Y	Y	Y	Y	Y	Y
Session × Party Pair FE	Y	Y	Y	Y	Y	Y
Outcome Mean	1.9	.98	1.9	.97	1.8	.93
Outcome S.d.	2.7	.94	3	.97	2.6	.92

Notes: Regressions include different-party dyads only, with neither MP pre-assigned seats. Number is the total number of co-sponsorship links between the two MPs in a pair in a given session. IHS is the inverse hyperbolic sine transformation of Number. Neighbor is a dummy variable equal to one if the MPs in the pair are randomly assigned to sit next to each other during that session. Corner is equal to one if at least one MP in pair has only one seating neighbor. Middle is equal to one minus Corner. Dyadic-robust p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. *** p<0.01, ** p<0.05, * p<0.1.

Table A23: General Effects on Bipartisan Co-Sponsorship Links by Intensity of Contact

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Number (1)	IHS (2)	Number (3)	IHS (4)	Number (5)	IHS (6)
Proportion Other-Party Neighbor = 1/2	5.3 [.16] {.14}	.12 [.16] {.11}	7.5 [.083]* {.17}	.041 [.75] {.78}	4.9 [.21] {.36}	-.037 [.66] {.77}
Proportion Other-Party Neighbor = 1	3.5 [.36] {.42}	.095 [.22] {.23}	11 [.013]** {.03}**	.17 [.19] {.2}	5.7 [.12] {.28}	.068 [.41] {.59}
Observations	1420	1420	941	941	946	946
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	82	4.7	83	4.5	76	4.5
Outcome S.d.	76	1.1	82	1.3	73	1.2

Notes: Number is the total number of co-sponsorship links between the MP and any other-party MP in a given session. IHS is the inverse hyperbolic sine transformation of Number. Proportion Other-Party Neighbor is the proportion of left-right seating neighbors from a different party. MP-clustered p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A24: General Effects of Other-Coalition Exposure on Bipartisan Co-Sponsorship Links

	Contemporaneous Effect (t)		One Year Later (t+1)		Previous Year (Placebo) (t-1)	
	Number (1)	IHS (2)	Number (3)	IHS (4)	Number (5)	IHS (6)
Proportion Other-Coalition Neighbor	3.2 (3.3) [.33] {.29}	.028 (.056) [.62] {.66}	9 (4.5) [.047]** {.04}**	.15 (.089) [.1] {.19}	6.1 (4.5) [.18] {.12}	.044 (.082) [.59] {.58}
Observations	1420	1420	941	941	946	946
Session × Party × Strata FE	Y	Y	Y	Y	Y	Y
Outcome Mean	82	4.7	83	4.5	76	4.5
Outcome S.d.	76	1.1	82	1.3	73	1.2

Notes: Number is the total number of co-sponsorship links between the MP and any other-party MP in a given session. IHS is the inverse hyperbolic sine transformation of Number. Proportion Other-Coalition Neighbor is the proportion of left-right seating neighbors from a different coalition. MP-clustered standard errors are in parentheses and p-values are in square brackets. Randomization inference p-values (200 draws) are in curly brackets. Special sessions and a short session (2017) are excluded. For lead and lag specifications, sessions are also dropped where lead/lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

Table A25: Do Effects of Other-Coalition Exposure Compound?

	Voting		Co-Sponsorship	
	Leader Non- Compliance (1)	Rebel Rate (2)	Number (3)	IHS (4)
Proportion Other-Coalition Neighbor	-.00075 (.015)	-.00037 (.00068)	-6 (6.4)	-.095 (.11)
Proportion Other-Coalition Neighbor (t-1)	.000063 (.012)	-.00067 (.00055)	.94 (6)	.0058 (.095)
Prop. Oth.-Coalition Neigh. × Prop. Oth.-Coalition Neigh. (t-1)	-.0053 (.022)	.0019* (.0011)	18* (9.4)	.26 (.17)
Observations	840	840	924	924
Session × Party × Strata FE	Y	Y	Y	Y
Outcome Mean	.44	.0044	85	4.7

Notes: Leader Non-Compliance is the proportion of times the MP votes differently from their party leader in a given session. Rebel Rate is the proportion of times the MP voted yes/abstain (no/abstain) when their party leader voted no (yes) in a given session. Number is the total number of co-sponsorship links between the MP and any other-party MP in a given session. IHS is the inverse hyperbolic sine transformation of Number. Proportion Other-Coalition Neighbor is the proportion of left-right seating neighbors from a different coalition. MP-clustered standard errors are in parentheses. Special sessions and a short session (2017) are excluded. Sessions are also dropped where lag would be a special/short session or a session in a different parliamentary term. Strata FE is a dummy variable for whether MP was pre-assigned a seat. *** p<0.01, ** p<0.05, * p<0.1.

B Data Appendix

In this section, we give further detail about our data sources and construction. Links are to the *Althingi* website unless stated otherwise.

- The link between session numbers and years can be found [here](#).
- MP biographies are scraped from the *Althingi* website's pages, with one example [here](#) for Andrés Ingi Jónsson. The data includes each MP's party, constituency, gender, whether and when the MP was the chair of a parliamentary group, ministerial and committee history, and the MP's ID. We use this biographical data to link with the co-sponsorship and speech data. Where party affiliation is unclear, we supplement this data with bill co-sponsorship data, which can be used to identify an MP's party at a particular point in time. We obtain this data from [here](#).
- For additional balance checks, we collected data on wages and expense claims since 2007 from [here](#).
- Initial seating assignment data for sessions from 1995-96 to 2017-18 is scraped from pages like [this](#). This page shows the assignments for session 2015-2016. For sessions 1991-92 to 1994-95, we collected data from scanned copies of the congressional records, available [here](#). The data contain seat number and MP name. We establish the mapping from seat number to seat location by comparing this data with the images of the end of session seating assignments. We link this seating data with biographical data by matching on MP name.
- Seating at the end of each session can be found [here](#). The images contain each seat's physical location and the name of the MP in each seat. We do not use this for analysis except for comparison to the initial seating assignments.
- Roll-call voting data can be found [here](#). For each vote we have: MP name, MP vote (yes, no, absent, abstention), vote date, and associated bill ID. We drop the (less frequent) votes taken by deputy MPs. These deputies are called upon when MPs are absent due to (i) government duties lasting more than 5 days, (ii) duties abroad, and (iii) health reasons.

- The identities and terms of party leaders were kindly provided by Axel Viðar Egilsson, Project Manager at the Research Service of the *Althingi*. We linked this data with voting data to construct our MP-level outcome variables *Leader Non-Compliance* and *Rebel Rate*.
- Co-sponsorship data can be found [here](#). For each bill we have: bill name, sponsor ID, name, and party, and co-sponsor IDs, names, and parties.

C Discussion of Saia (2018)

Saia (2018) and this project were conducted independently, but both papers use the same natural experiment, which warrants some discussion. The objective of this Appendix section is twofold. First, although the two papers' aims are different, there is one result that is inconsistent between the two. We provide evidence that the inconsistency is due in part to a misspecification in Saia (2018). Note that this is not to reject all findings in Saia (2018)—the paper has other interesting findings including some data-driven discussions about the US Congress. Second, we demonstrate that randomization inference is a useful tool to verify complex regression specifications. This adds credibility to the regression results discussed in the main sections of this paper.

Saia (2018) finds that when an MP's other-party neighbor votes differently from the MP's party leader's vote, this MP is 30 to 50 percentage points more likely to also vote differently from the party leader's vote. This can be interpreted as evidence of the bipartisan proximity effect on general bipartisan voting. We provide evidence that the main table for this claim in Saia (2018) (Table 4) is misspecified, and the result he finds is driven by a mechanical correlation.

Saia (2018) begins with the following MP-vote-level specification:

$$Non-compliance_{iv} = \alpha + \beta_1 Divergent Peers_{iv} + \varepsilon_{iv}$$

where $Non-compliance_{iv}$ is a dummy variable that takes the value one when the vote of the focal legislator i in voting procedure v is different from her own party line. Votes and party lines can be: Yes (67% of party lines), Absence (17% of party lines), Abstained (11% of party lines), or No (5% of party lines). $Divergent Peers_{iv}$ is the fraction of legislators seated nearby with voting decisions different from the party line of legislator i observed in procedure v . Standard errors are clustered at the MP-session-level. Saia (2018) then instruments for the behavior of peers by using the party lines of peers: i.e., $Divergent Peers_{iv}$ is instrumented for using $Divergent\ peers'\ partylines_{iv}$ —the fraction of peers whose party lines observed in voting procedure v are different from the party line of legislator i . In addition, Saia (2018) shows the key 2SLS coefficient (on $Divergent Peers_{iv}$) to be robust

to including various sets of fixed effects: MP, Seat, Voting Procedure, Party-by-Session, Peers' Parties \neq MP i 's party, and MP-by-Topic (see his Table 4).

Our claim is that *Divergent Peers* _{iv} (and indeed the IV *Divergent peers'* partylines _{iv}) is mechanically positively correlated with the dependent variable, *Non-compliance* _{iv} , and that this will be the case even in the absence of any causal peer effect, and even conditional on the fixed effects and other controls that Saia (2018) includes. To see this, consider a simplified setting. Suppose there are only two possible votes: yes and no, and that no votes are much rarer—10% of votes are nos and 90% of votes are yeses. Suppose that everyone votes randomly (implying that there are no peer effects). In this setting, when i 's party leader votes no, 90% of MPs are “divergent,” and 90% of each MP's peers (on average), whether seated next to that MP or not, are “divergent.” When the party leader instead votes yes, 10% of MPs are “divergent,” and 10% of each MP's peers are “divergent.” In this simplified setting, the more divergent i 's neighbors are, the more likely it is that i 's party leader voted no. The more likely it is that i 's party leader voted no, the more likely it is that i herself is divergent. It follows that the more divergent i 's neighbors are, the more likely it is that i herself is divergent. This correlation is mechanical—working through the effect of having divergent peers on the type of vote of i 's party leader.

We demonstrate that this claim is true by showing results from a series of regressions. In Column 1 of Table C1, we first replicate Column 3 of Table 4 in Saia (2018) with the party line data kindly provided by Saia.¹³ We get a near-identical result, where the slight difference is likely due to differences in data collection methods and data cleaning procedures.

As evidence of a mechanical correlation, we show in Columns 2-5 of Table C1 that *Divergent peers* _{iv} is predictive of the type of vote of MP i 's party leader even conditional on the fixed effects and with the instrument. Furthermore, as shown in Column 6, the estimated 2SLS coefficient on *Divergent Peers* _{iv} becomes less positive after controlling for party leader vote fixed effects (i.e., four dummy variables for whether the party leader votes Yes, No, Absence, Abstain). Finally, the estimated 2SLS coefficient on *Divergent Peers* _{iv}

¹³We choose this column here because it has the highest number of observations and the largest set of fixed effects that we could include. All other columns suffer from the same source of mechanical correlation—Figure C1 gives results of randomization inference for Columns 3 and 6. Note that we do not have the topics of voting procedures in our data, which makes us unable to replicate his Column 4 and 7. This does not affect identification. We follow the same sample selection procedure as in Saia (2018).

becomes statistically indistinguishable from zero after controlling appropriately for Voting Procedure-by-Party fixed effects (as opposed to just Voting Procedure fixed effects)—since within each Voting Procedure-by-Party cell, there is no longer any variation in the type of vote by the party leader, eliminating the mechanical correlation (though there remains variation in *Divergent peers' partylines_{iv}*).

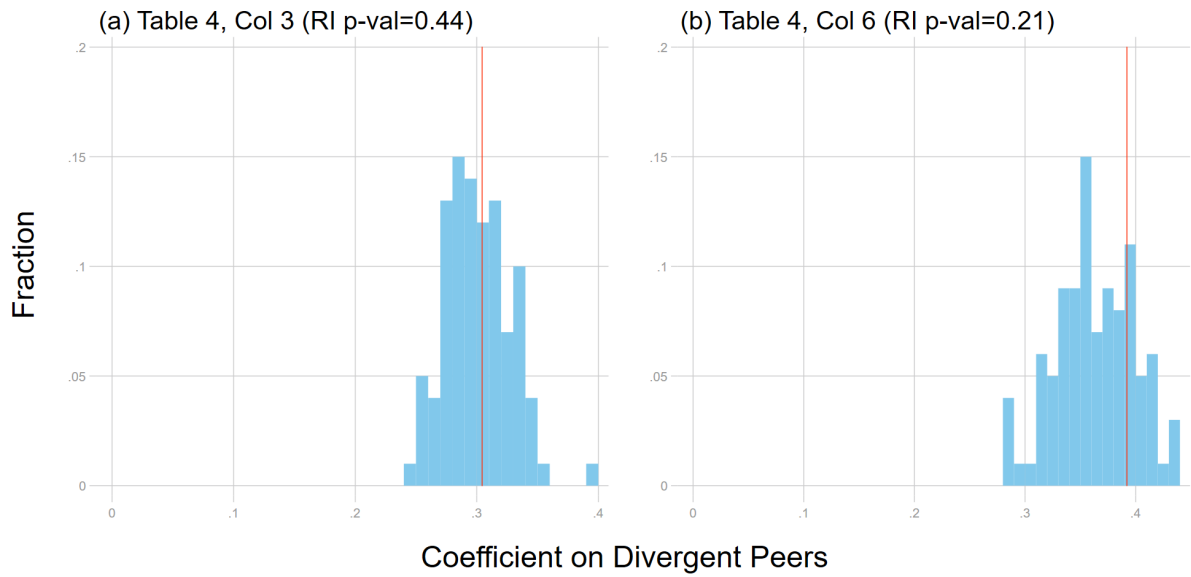
Table C1: Replication of Table 4 in Saia (2018) and raising concerns

	Col.3 replication	Party leader vote				Col.3 with appropriate FEs	
	Non- compl- iance (1)	No (2)	Yes (3)	Abstain (4)	Absent (5)	Non- compl- iance (6)	Non- compl- iance (7)
Divergent Peers	0.30*** (0.03)	-0.02** (0.01)	-0.88*** (0.04)	0.30*** (0.02)	0.60*** (0.03)	0.07** (0.03)	0.05 (0.04)
MP FEs	Y	Y	Y	Y	Y	Y	Y
Seat FEs	Y	Y	Y	Y	Y	Y	Y
Peers' Parties \neq MP i's party	Y	Y	Y	Y	Y	Y	Y
Voting Procedure FEs	Y	Y	Y	Y	Y	Y	(implicit)
Party \times Session FEs	Y	Y	Y	Y	Y	Y	(implicit)
Party Leader Vote FEs	N	N	N	N	N	YES	(implicit)
Party \times Voting Procedure FEs	N	N	N	N	N	N	YES
MP \times Topic FEs	N	N	N	N	N	N	N
Observations	1064563	1064563	1064563	1064563	1064563	1064563	1053203

Notes: Each column in this table originates from a separate 2SLS regression. Non-compliance is a dummy variable indicating that the MP voted differently from their party leader for the particular voting procedure. In Columns 2-5, the dependent variable is a dummy variable indicating the vote of the MP's party leader. Standard errors are clustered at MP-session-level. *** $p < 0.01$, ** $p < 0.05$.

In Figure C1, we show that the estimated 2SLS coefficients on *Divergent Peers_{iv}* remain positive in a placebo specification in which we calculate the right-hand-side variables using a counterfactual random draw (100 times) of the seating arrangement. We run specifications equivalent to Columns 3 and 6 of Table 4 in Saia (2018) for each random draw. The histogram of the coefficients on *Divergent Peers_{iv}* from 100 placebo 2SLS regressions are shown in the Figure. Despite the fact that the seating arrangement is artificial and thus we should not get positive results, we get a positive and statistically significant coefficient on *Divergent Peers_{iv}* for both specifications in all 100 draws, confirming the intuition on mechanical correlation. From the randomization inference point of view, the results in Table 4 of Saia (2018) are no longer statistically significant—the p-values from the randomization inference are 0.44 and 0.21.

Figure C1: Randomization inference of Table 4 in Saia (2018) using counterfactual seating



Notes: Histograms report coefficients on $Divergent\ Peers_{iv}$ of 2SLS specifications from Columns 3 and 6 of Table 4 in Saia (2018) with counterfactual seating arrangements (100 re-randomizations). Red lines indicate corresponding coefficients on Divergent Peers from the specification using the actual seating arrangement.

This result demonstrates the usefulness of randomization inference as a misspecification check. Throughout the main sections of this paper, we provide p-values from both large-sample inference and randomization inference.