

**Do Polarized Issues Carry More Weight in Voters' Electoral
Choices? Empirical Evidence from a Novel Measurement**

Approach

Online Appendix

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February 2024

Ethical Considerations

Our study fully adheres to the American Political Science Association's Principles and Guidance for Human Subjects Research. The survey project was reviewed by our institution's Committee for the Protection and Human Subjects and deemed exempt, considering that: (i) the data was collected by a third party in a way that protects participants' anonymity, and (ii) the disclosure of participants' responses outside the research's context would not reasonably place them at risk of criminal or civil liability or be damaging to their financial standing, employability, educational advancement, or reputation. The voluntary and informed consent of participants was sought and obtained. Participants could skip over one or many questions. Our study did not involve any deception. Also, it did not interfere with the political process since it was fielded after the 2022 Congressional midterm elections. Finally, participants were compensated with points they could eventually redeem for cash, gift certificates, or other rewards on YouGov's portal.

Statistical Methodology

In this section, we outline the non-parametric approach to estimating our measure of issue importance. We begin by recasting the dataset, structuring each row to represent a unique combination of subject, candidate, conjoint question, and policy issue. This transformation results in 24 observations for each subject. For every one of these observations, we define three essential variables:

- (i) $Y_{jkl} = 1$ if subject j chooses candidate k in conjoint question ℓ , 0 otherwise;
- (ii) $X_{ijkl} = 1$ if subject j agrees with candidate k in conjoint question ℓ on issue i , 0 otherwise;
and
- (iii) $Z_{ij} = 1$ if subject j is neutral on issue i , and 0 otherwise.

Having defined the necessary variables, we then proceed to estimate a straightforward linear regression model:

$$Y_{jkl} = \alpha_i + \beta_i \times X_{ijkl} + \gamma_i \times Z_{ij} + \varepsilon_{ijkl}.$$

To address the correlation between residuals for observations associated with the same subject, we adjust the standard errors to accommodate within-subject clustering. Thanks to the randomization of policy profiles in our experimental design, the parameter β_i provides a consistent and unbiased estimate of Δ_i .

Detailed Results

Table S1: Issue Importance by Policy Issue

	<i>Dependent Variable:</i>			
	Whether the Voter Votes for the Candidate			
	Constant	Agreeing with the Candidate	Voter is Neutral	N
Abortion	0.320*** (0.010)	0.354*** (0.019)	0.180*** (0.010)	2658
Climate Change I	0.358*** (0.011)	0.289*** (0.021)	0.142*** (0.011)	2674
Climate Change II	0.374*** (0.012)	0.247*** (0.023)	0.126*** (0.012)	2620
Climate Change III	0.369*** (0.011)	0.271*** (0.021)	0.131*** (0.011)	2684
Climate Change IV	0.371*** (0.012)	0.258*** (0.023)	0.129*** (0.012)	2620
Climate Change V	0.372*** (0.012)	0.248*** (0.022)	0.128*** (0.012)	2642
Defense	0.380*** (0.011)	0.239*** (0.022)	0.120*** (0.011)	2650
Deficit	0.365*** (0.012)	0.269*** (0.022)	0.135*** (0.012)	2686
Democracy	0.314*** (0.011)	0.357*** (0.019)	0.186*** (0.011)	2758
Education	0.347*** (0.011)	0.305*** (0.022)	0.153*** (0.011)	2658
Gun Control	0.351*** (0.010)	0.305*** (0.020)	0.149*** (0.010)	2694
Health Care	0.346*** (0.010)	0.322*** (0.020)	0.154*** (0.010)	2730
Higher Education	0.343*** (0.011)	0.307*** (0.020)	0.157*** (0.011)	2676
Immigration	0.341*** (0.011)	0.329*** (0.021)	0.159*** (0.011)	2766
Marijuana	0.358*** (0.011)	0.293*** (0.022)	0.142*** (0.011)	2610
Minimum Wage	0.356*** (0.012)	0.282*** (0.022)	0.144*** (0.012)	2606
Racial Equality	0.331*** (0.011)	0.331*** (0.021)	0.169*** (0.011)	2616
Social Security	0.348*** (0.011)	0.309*** (0.021)	0.152*** (0.011)	2650
Taxes	0.431*** (0.013)	0.141*** (0.026)	0.069*** (0.013)	2510

Note:

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

Table S2: Adjusted Issue Importance by Policy Issue

	Agreement	Neutral	Disagreement	N
Abortion	0.6	0.123	0.277	1329
Climate Change I	0.537	0.155	0.308	1337
Climate Change II	0.514	0.19	0.297	1310
Climate Change III	0.506	0.183	0.311	1342
Climate Change IV	0.501	0.203	0.296	1310
Climate Change V	0.489	0.235	0.277	1321
Defense	0.483	0.223	0.294	1325
Deficit	0.463	0.272	0.265	1343
Democracy	0.592	0.153	0.254	1379
Education	0.543	0.168	0.289	1329
Gun Control	0.547	0.146	0.306	1347
Health Care	0.527	0.176	0.297	1365
Higher Education	0.552	0.17	0.278	1338
Immigration	0.55	0.149	0.301	1383
Marijuana	0.519	0.176	0.305	1305
Minimum Wage	0.558	0.145	0.296	1303
Racial Equality	0.571	0.156	0.273	1308
Social Security	0.545	0.156	0.299	1325
Taxes	0.355	0.365	0.281	1255

Comparison with Alternative Measurement Approaches

This paper introduces a significant methodological advancement by laying out a novel approach to measuring issue importance. To assess its efficacy, we compare its outcomes with those from two established techniques. The first approach is one that, like ours, relies on data collected through a choice-based conjoint experiment and was previously employed by Horiuchi, Smith, and Yamamoto (2018) and other researchers. The second method is widely used and involves directly asking participants to describe the intensity of their concern for various issues.

To begin our comparative analysis, we examine the estimates from the conjoint approach used by Horiuchi, Smith, and Yamamoto (2018) and others. The reader will find two figures: Figure S7, depicting the average effect of agreeing with a policy proposal on candidates' likelihood of being chosen by a voter, and Figure S8, illustrating the absolute value of this average effect for each policy issue. According to this measurement approach, the greater the magnitude of the effect of candidates' positions, the more weight the corresponding issue carries in voters' choices.

As revealed in Figure S9, there is little to no correlation between the absolute value of the effect of candidates' raw policy positions on their probability of being chosen and our measures of issue importance and adjusted issue importance. This suggests that these measures provide a different and potentially more relevant perspective of policy issues' relative importance. Indeed, the results of the naive approach are especially susceptible to the criticisms we previously outlined.

A notable concern with the naive approach is the limited variation observed between issues over the absolute value of the effect of candidates' positions on their probability of being chosen, ranging from 2 to 12.7 percentage points. In contrast, our measures exhibit significantly more variation. This stems from the fact that the effect measured by the naive approach represents the average of conditional effects with different signs depending on voters' preferred positions. Figure S10 shows that the impact of a candidate's stance on the probability that a voter chooses them varies widely with the voter's preferred position. Therefore, relying on the average effect of candidates' raw stances conceals substantial heterogeneity in voters' responses, as a policy's supporters respond positively to candidates who support it, whereas opponents react negatively.

The average effect of candidates' positions across all voters poorly reflects the intensity of individual voters' preferences, regardless of their preferred policy position. Yet, the latter is precisely

what the causal conception of issue importance is all about. Mathematically, when the electorate is divided, the effects for supporters and opponents of policy proposals tend to cancel each other out. In contrast, candidates' policy positions on less polarized issues tend to have a higher average effect. As a result, the impact estimated by the naive approach demonstrates a strong positive correlation with the HHI, with a coefficient of 0.81 (see Figure S11). Put differently, it seems that the average effect of candidates' policy positions on voters' support better reflects the degree of polarization surrounding issues than their importance in voters' decision-making process.

Finally, we compare the outcomes of our approach with the conventional method consisting of directly asking survey participants about their level of concern for various policy issues. Participants in our survey were presented with the following question: "How important, if at all, were each of the following issues for you as you thought about whom you would vote for in the congressional election in your area in November 2022?" The distribution of self-reported levels of importance for the 13 policy issues covered by this question can be found in Figure S12. Although the issues considered in our survey experiment do not perfectly align with those covered in this question, we are confident there is sufficient overlap to allow a meaningful comparison between both measurement approaches.

Clear patterns appear in the self-reported importance of various issues. Notably, Abortion, Gun Control, Health Care, and Immigration exhibit virtually no variation in their self-reported importance. In general, voters perceive these issues as highly important, ranking them their highest priorities after the Economy and Inflation. In contrast, our measures of issue importance and adjusted issue importance yield different estimates for these three issues. Furthermore, Climate Change and Racial Equality display systematically lower self-reported levels of importance. It appears that voters deem these issues to be of lesser significance. Although the self-reported importance of Climate Change aligns reasonably well with our estimates, the same cannot be said for Racial Equality. Our findings indicate that the effect of Racial Equality on voters' electoral choices was statistically indistinguishable from the effects of Abortion, Health Care, and Gun Control and higher than the effects of the latter two policy issues. Overall, self-reported issue importance appears to inadequately reflect the magnitude of the impact of agreeing with a candidate's policy stance on voters' electoral choices, hence, our causal conception of issue importance.

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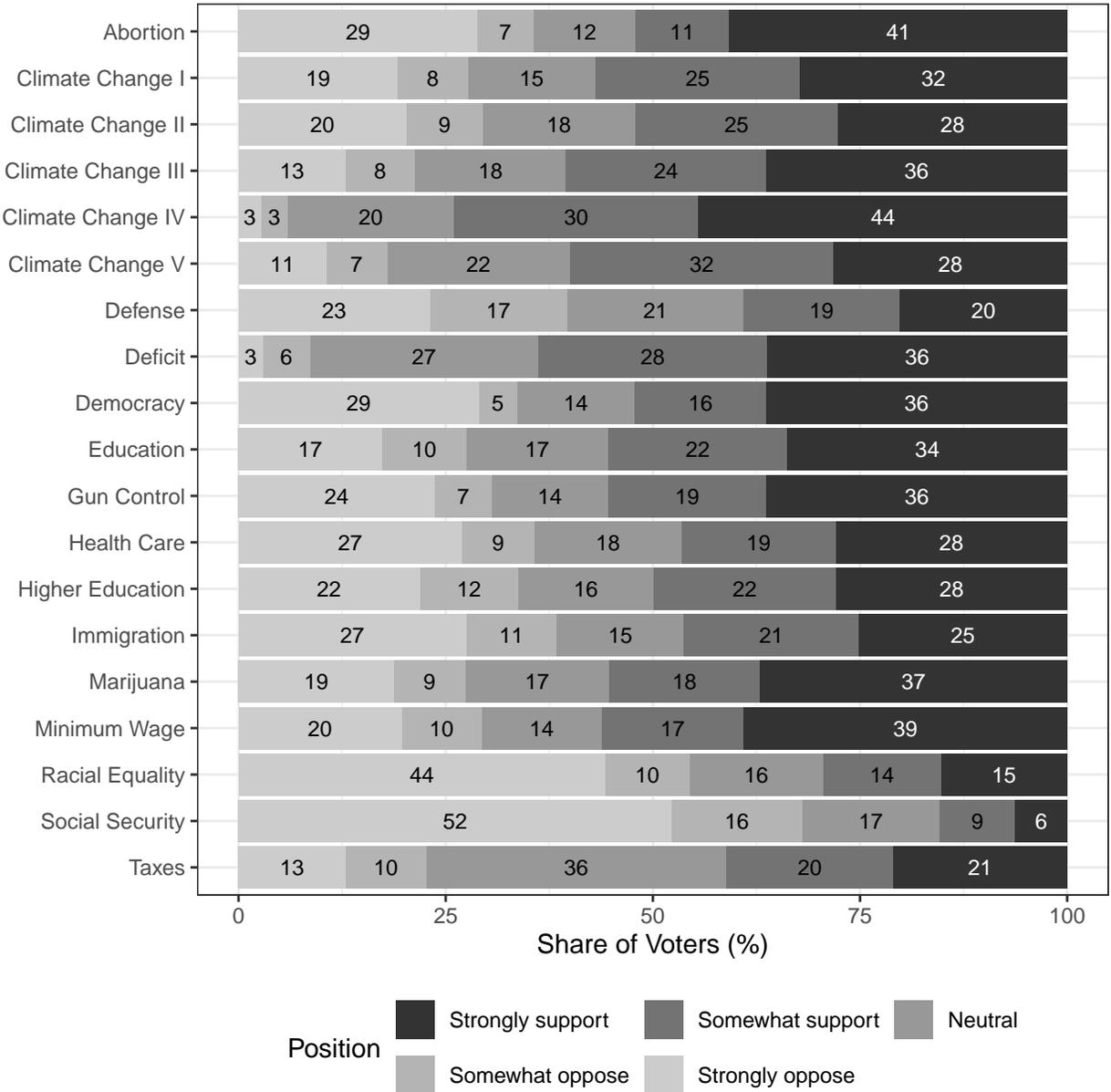


Figure S1: Distribution of the Policy Positions of Voters by Policy Issue

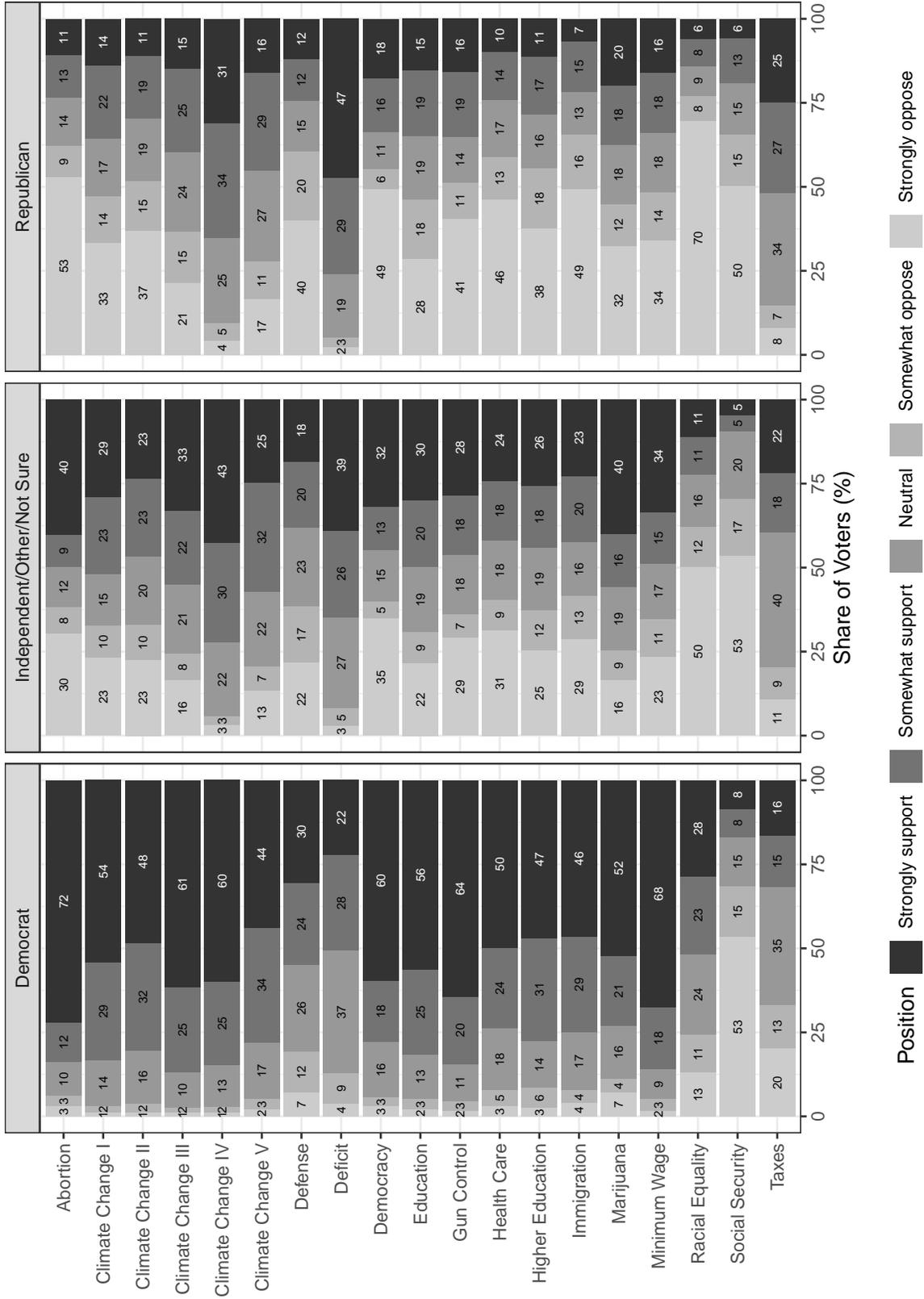


Figure S2: Distribution of the Policy Positions of Voters by Policy Issue and Party Identification

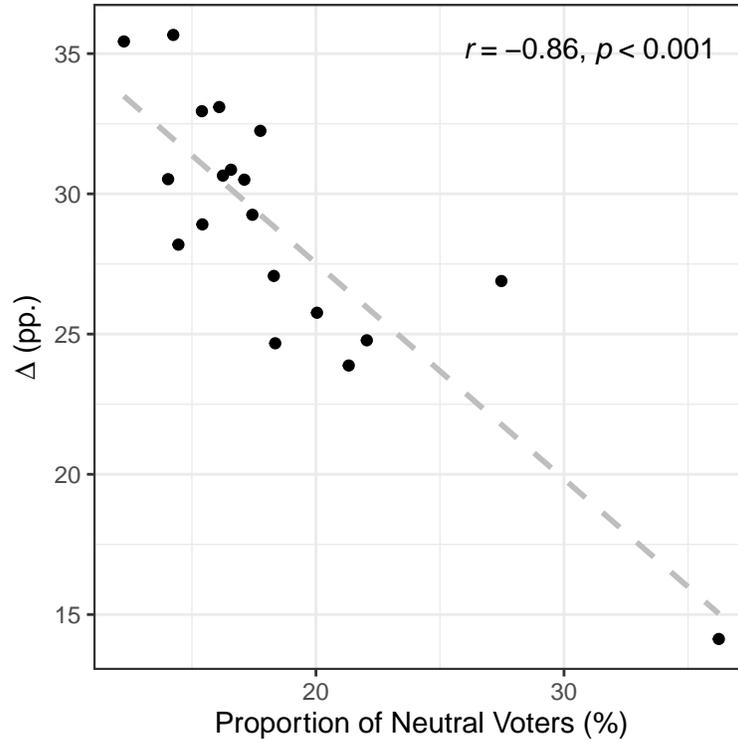


Figure S3: Relationship between Issue Importance and the Proportion of Neutral Voters

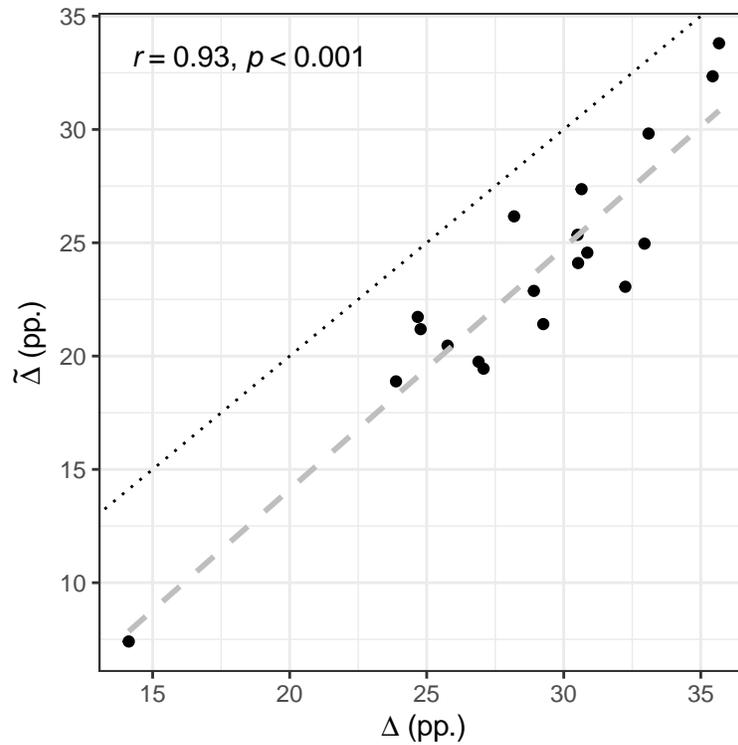


Figure S4: Relationship between Issue Importance and Adjusted Issue Importance

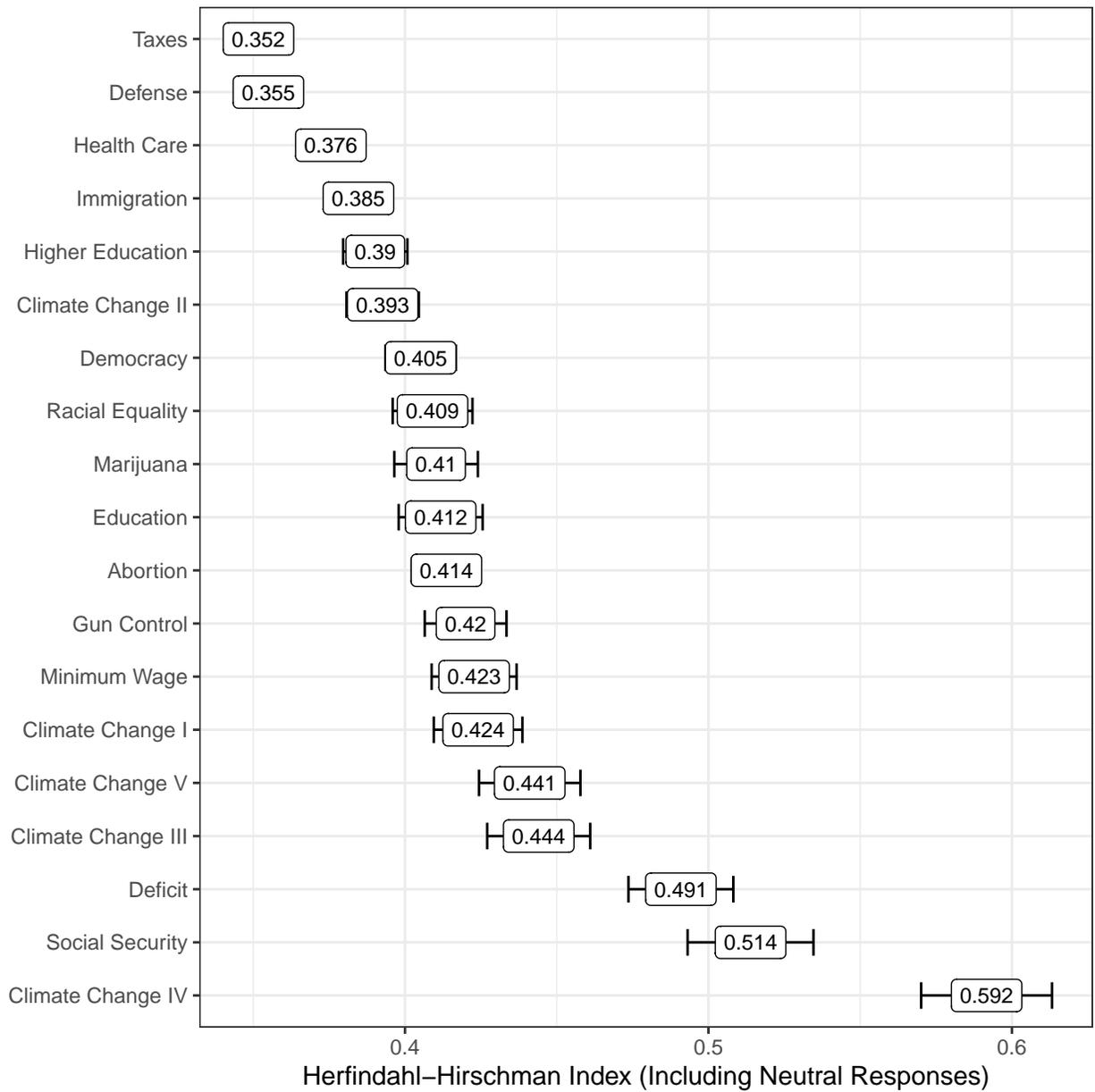


Figure S5: Herfindahl-Hirschman Index (Including Neutral Responses) by Policy Issue

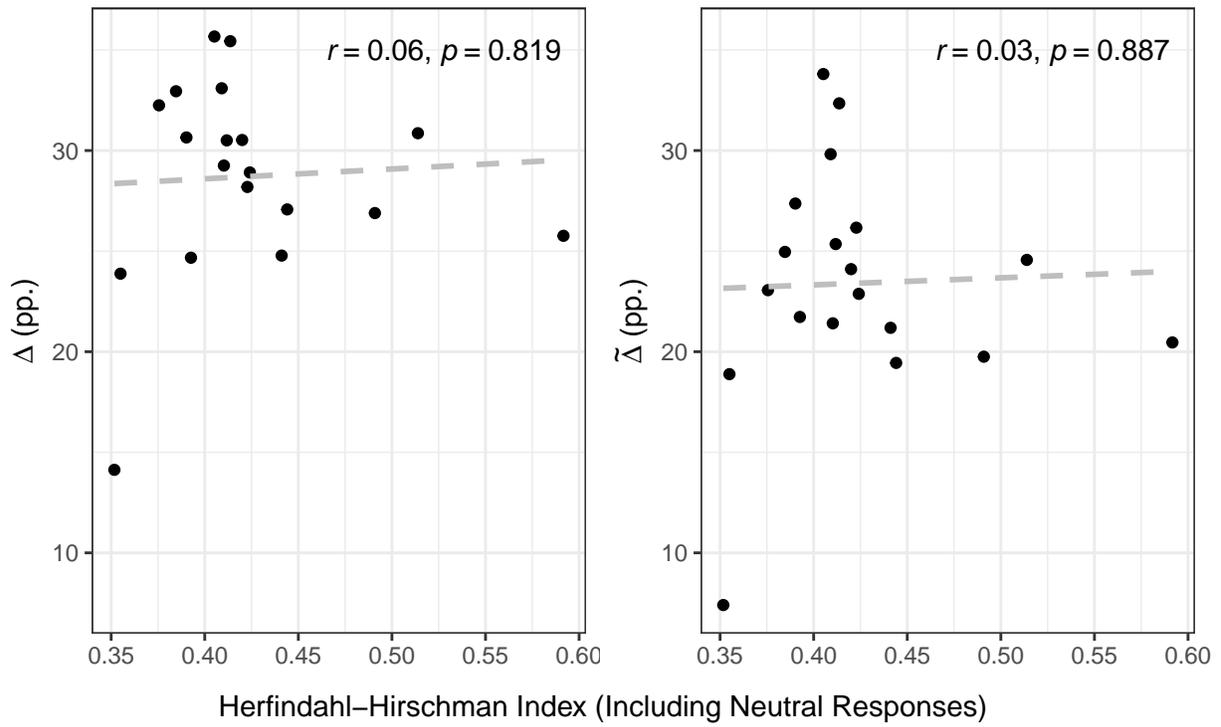


Figure S6: Relationship between Issue Importance and the Herfindahl-Hirschman Index (Including Neutral Responses)

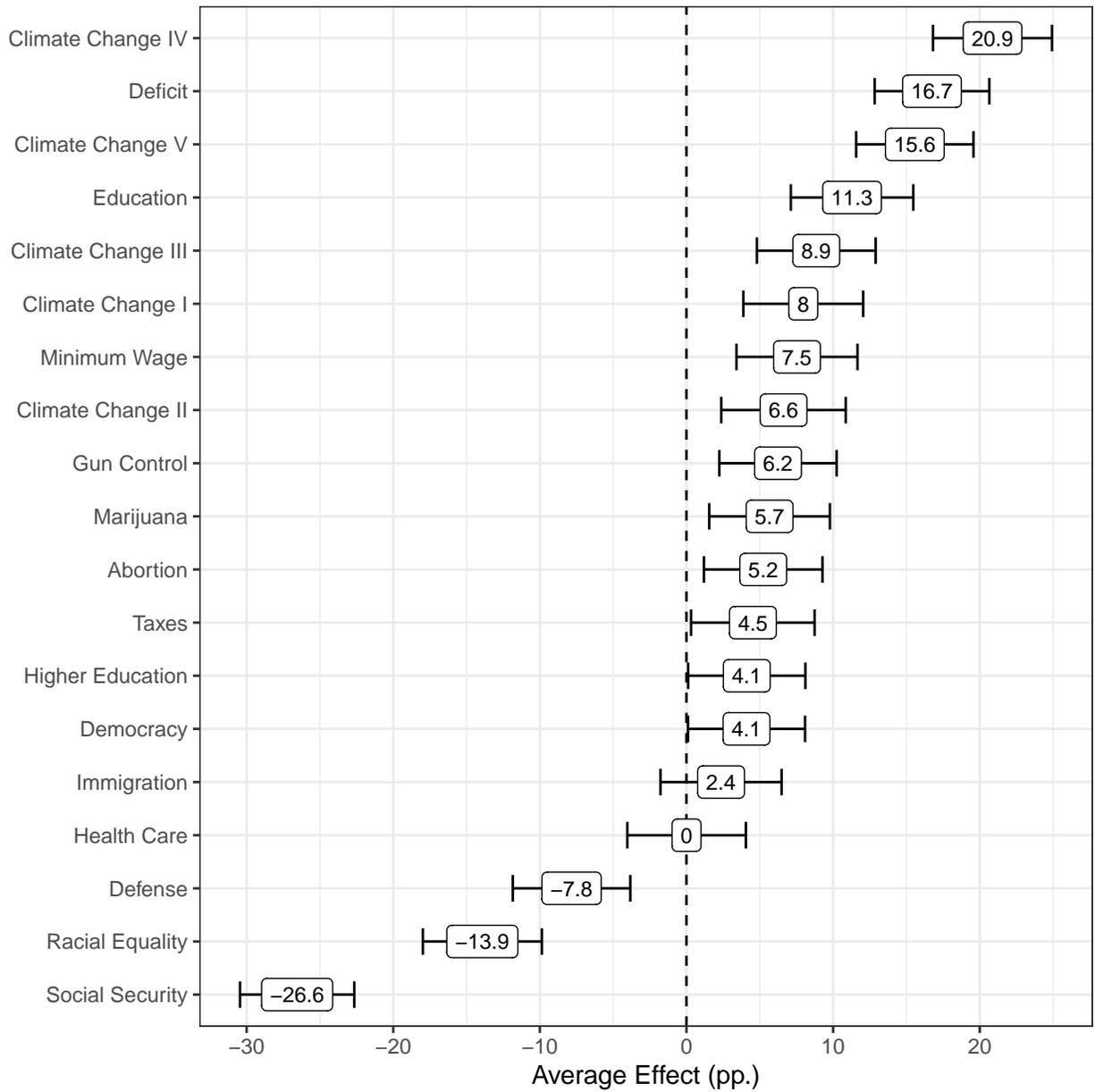


Figure S7: Effect of the Policy Positions of Candidates on their Probability of Being Chosen by Policy Issue

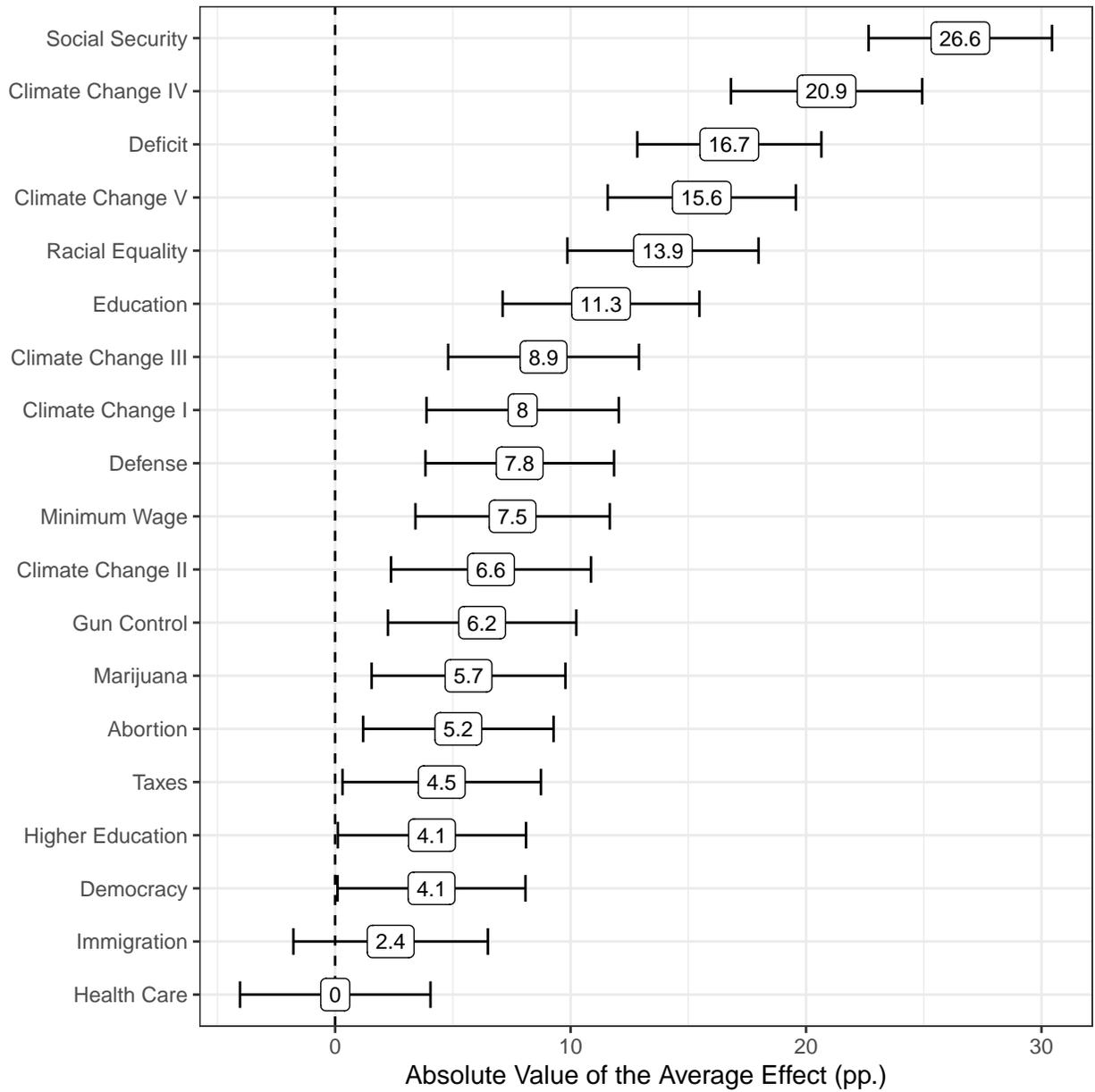


Figure S8: Absolute Value of the Effect of the Policy Positions of Candidates on their Probability of Being Chosen by Policy Issue

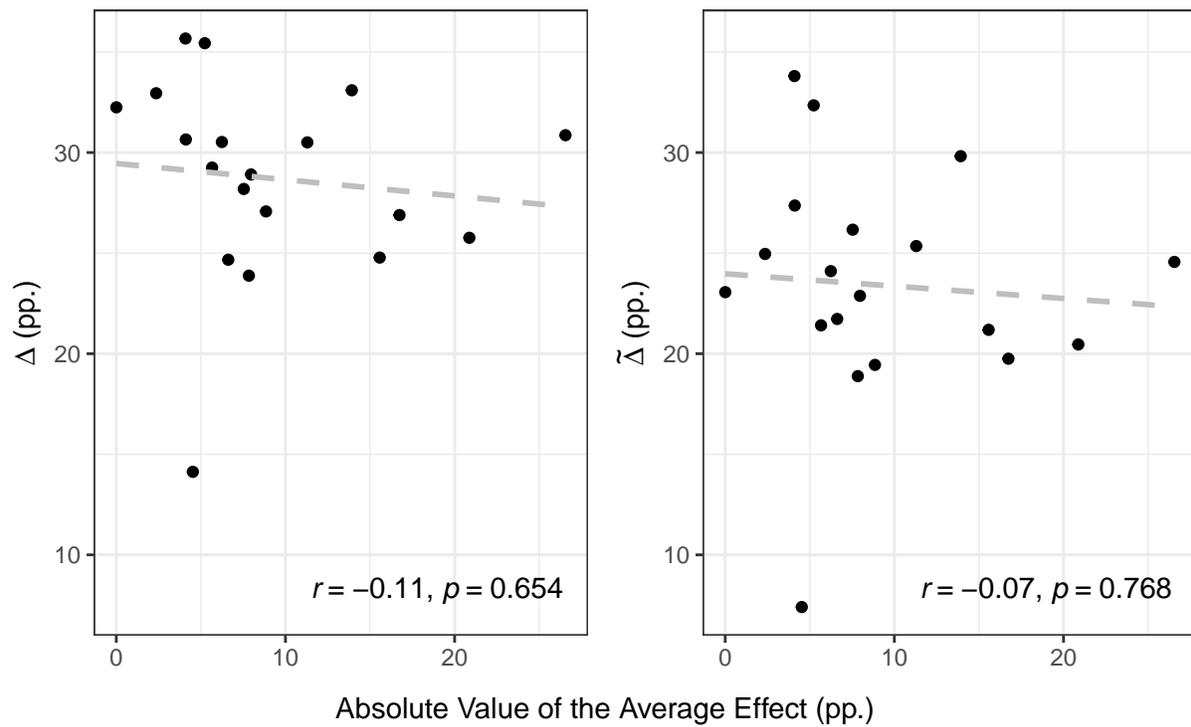


Figure S9: Relationship between Issue Importance and the Effect of the Policy Positions of Candidates on their Probability of Being Chosen by Policy Issue

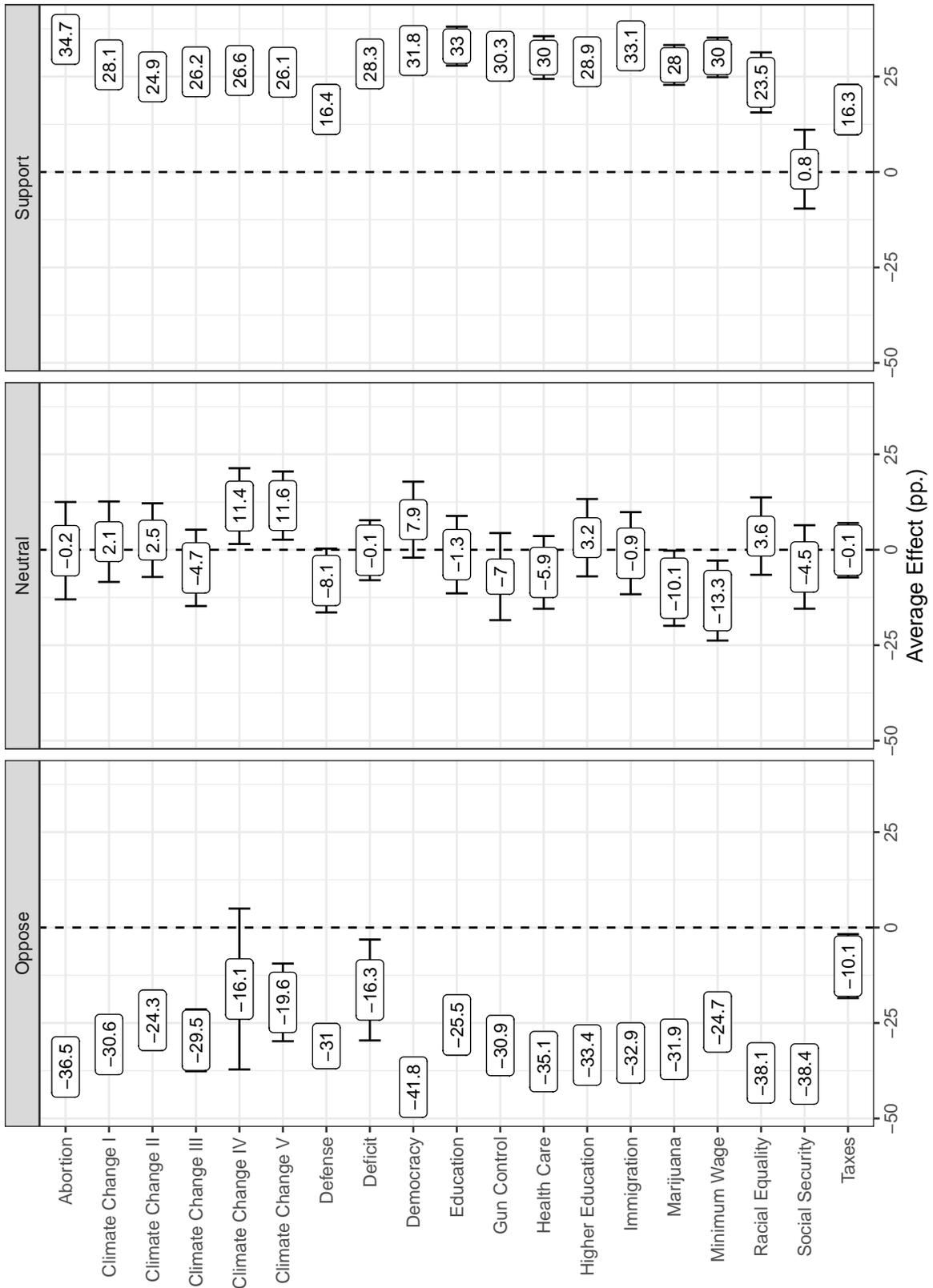


Figure S10: Effect of the Policy Positions of Candidates on their Probability of Being Chosen by Policy Issue and the Preferred Position of Voters

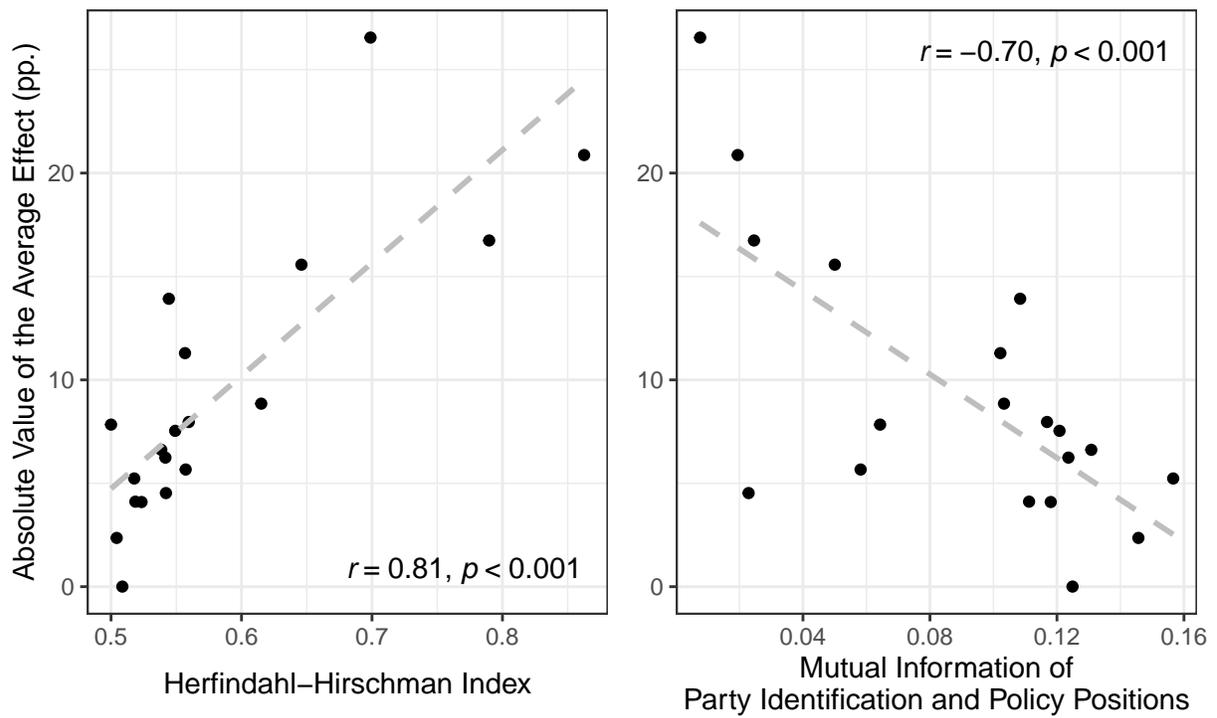


Figure S11: Relationship between Measures of Polarization and the Absolute Value of the Effect of the Policy Positions of Candidates on their Probability of Being Chosen

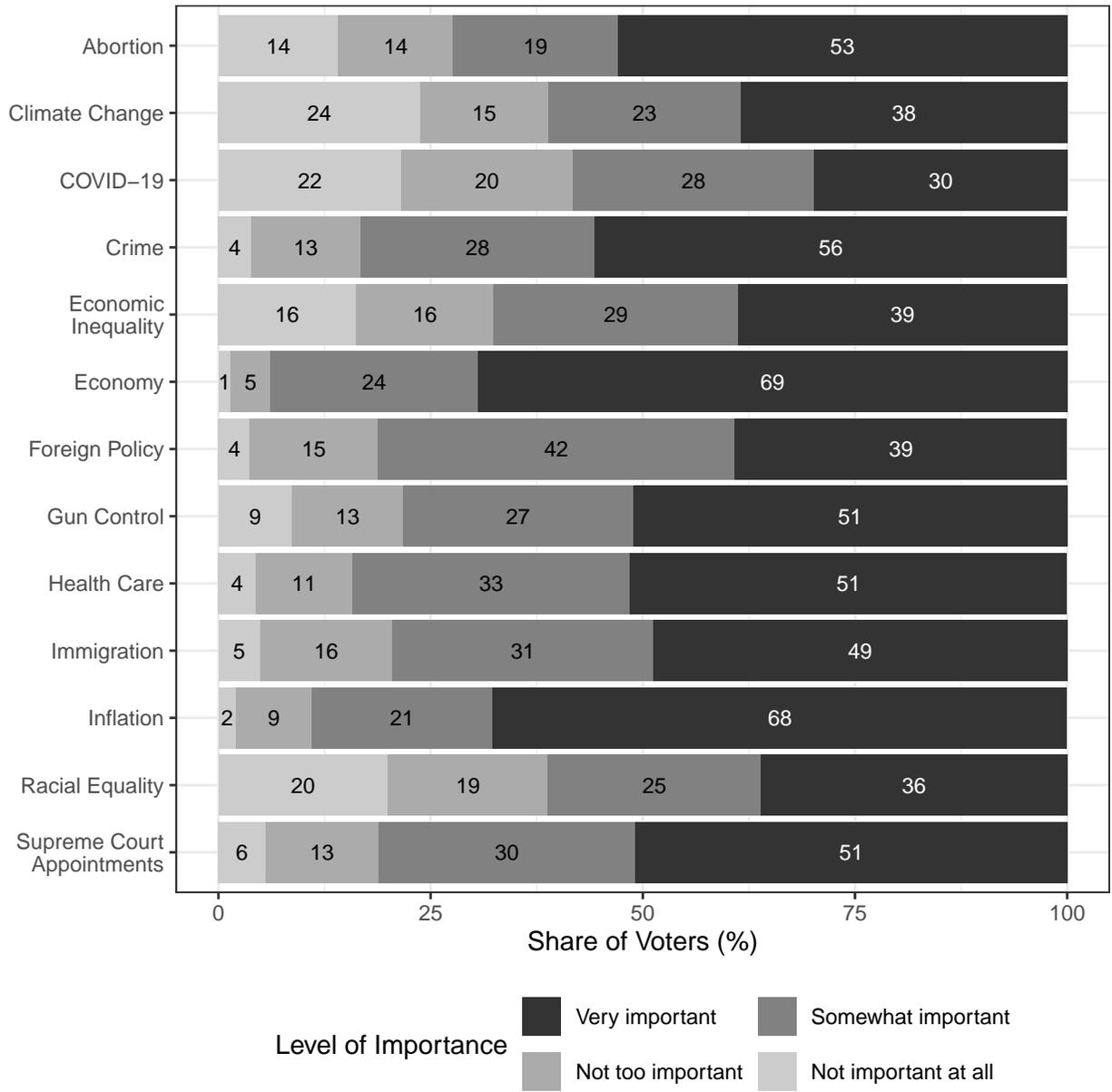


Figure S12: Distribution of Self-Reported Levels of Issue Importance by Policy Issue

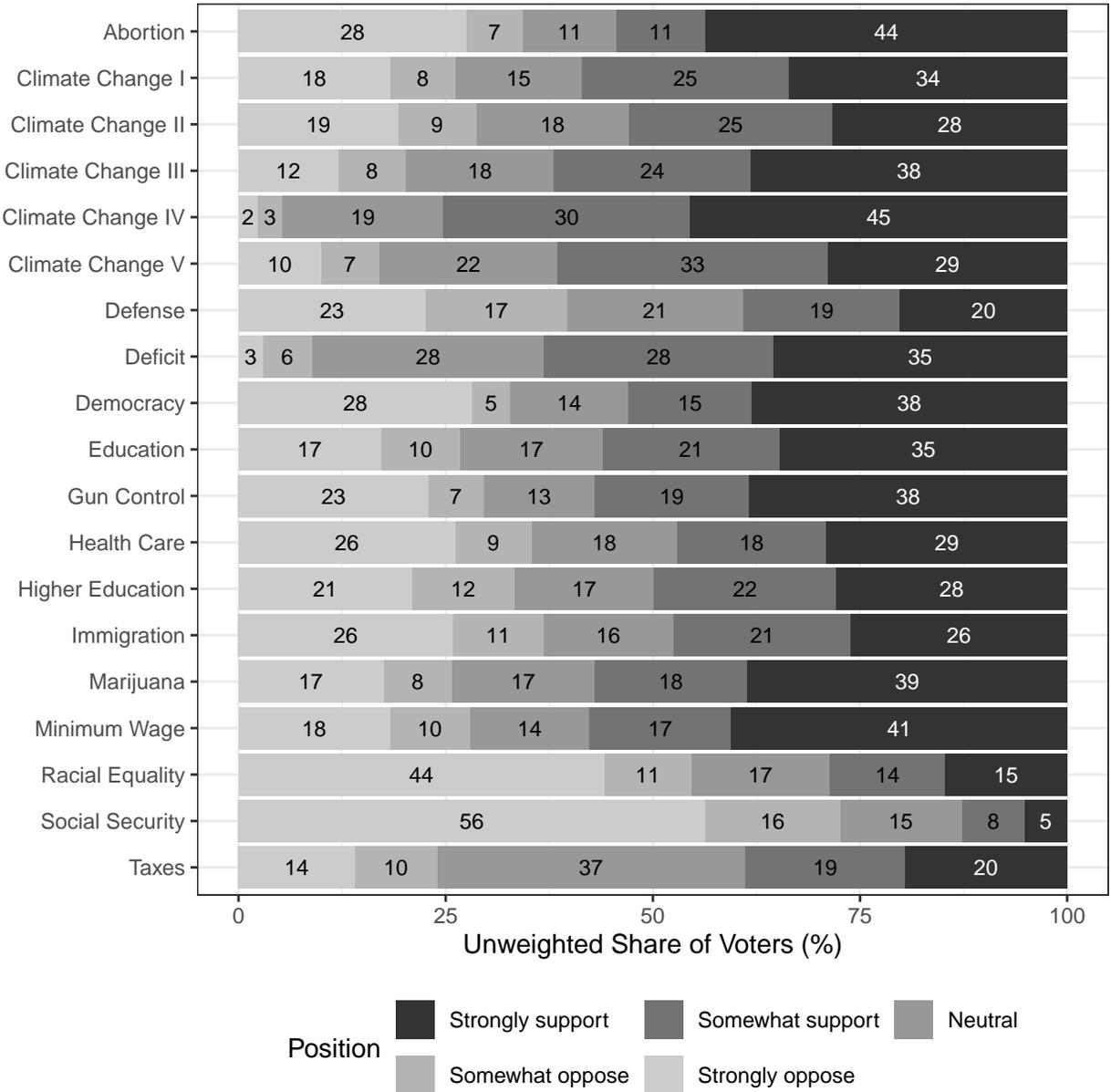


Figure S13: Unweighted Distribution of Policy Positions by Policy Issue

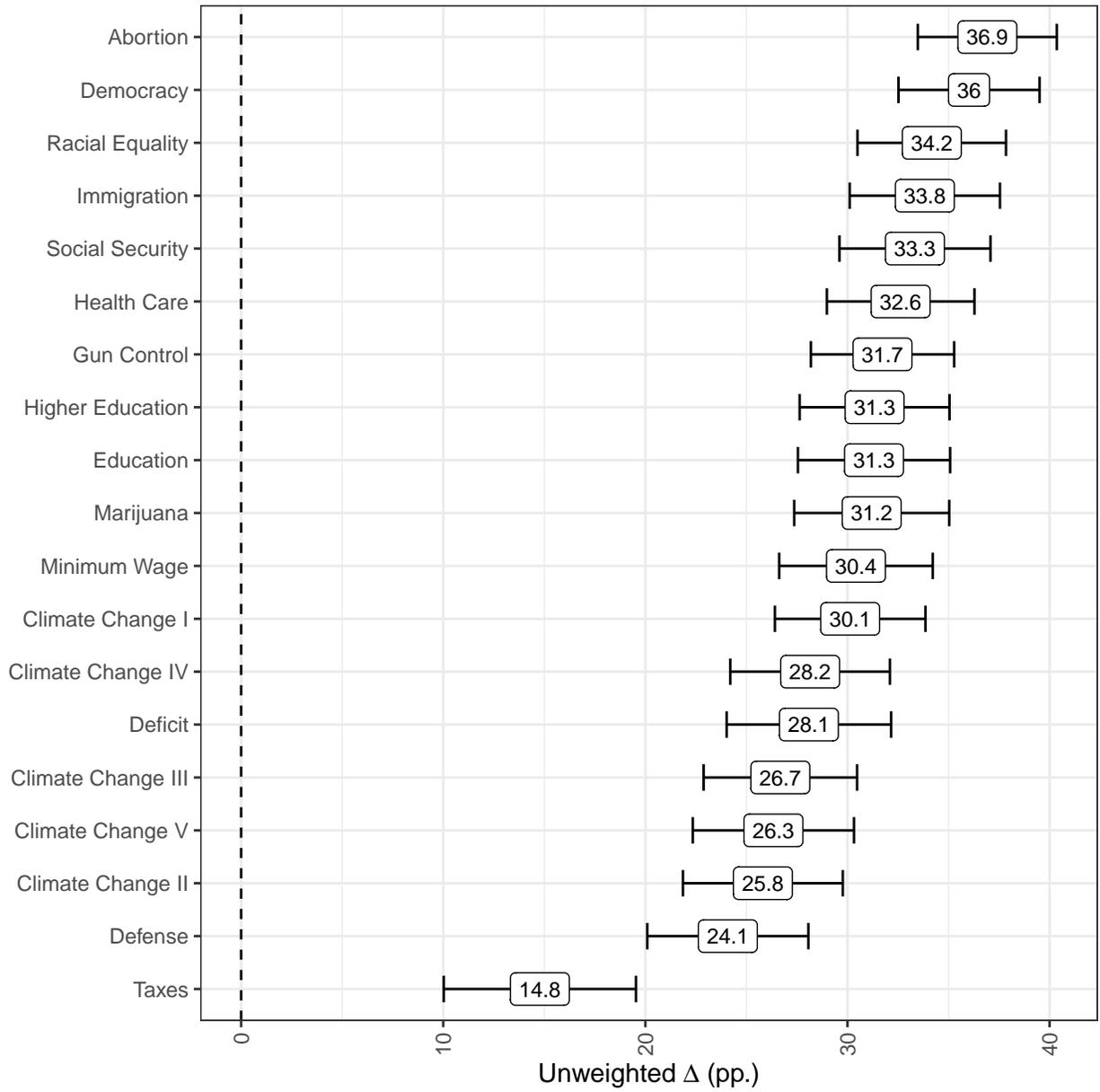


Figure S14: Unweighted Issue Importance by Policy Issue

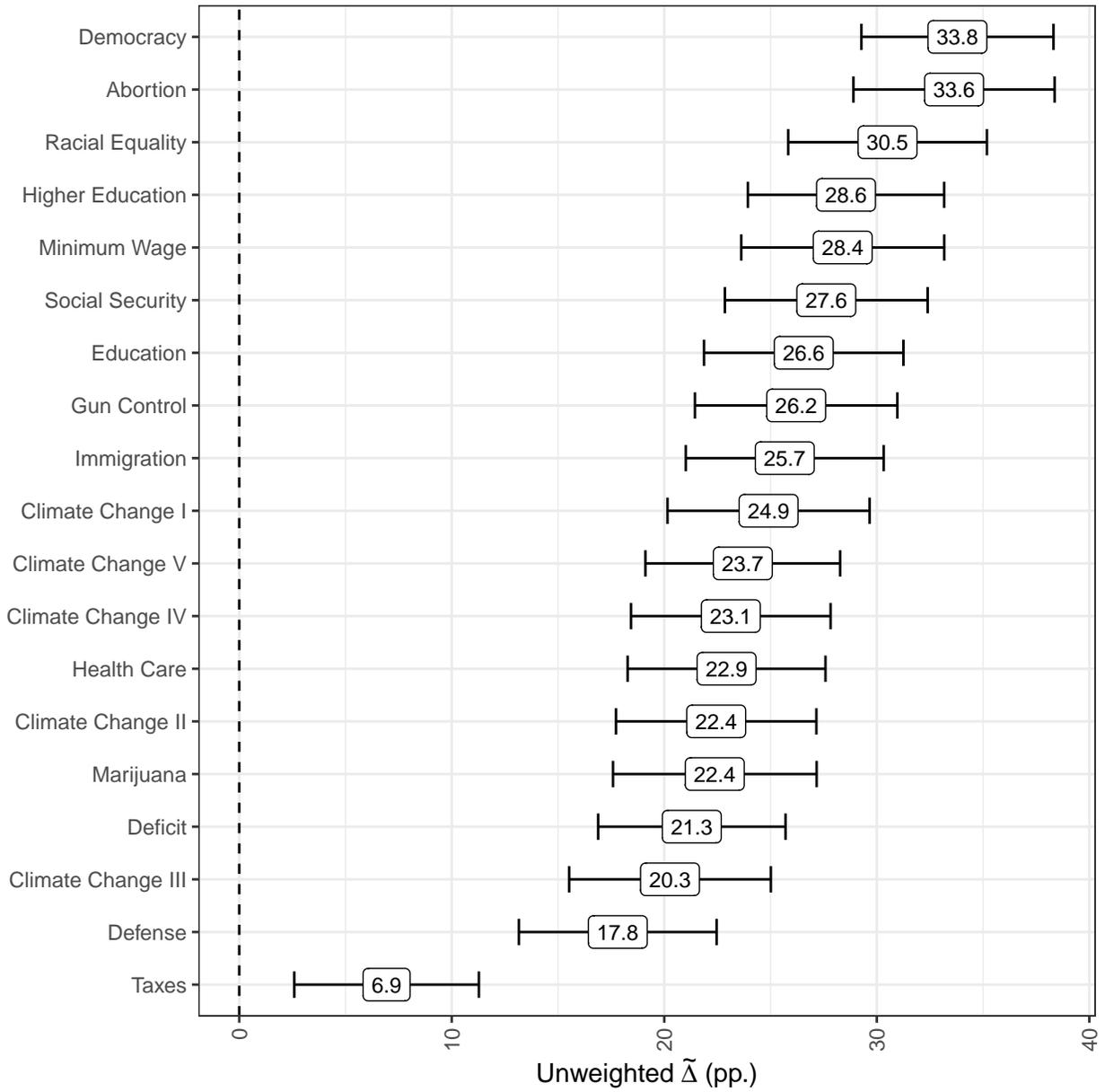


Figure S15: Unweighted Adjusted Issue Importance by Policy Issue

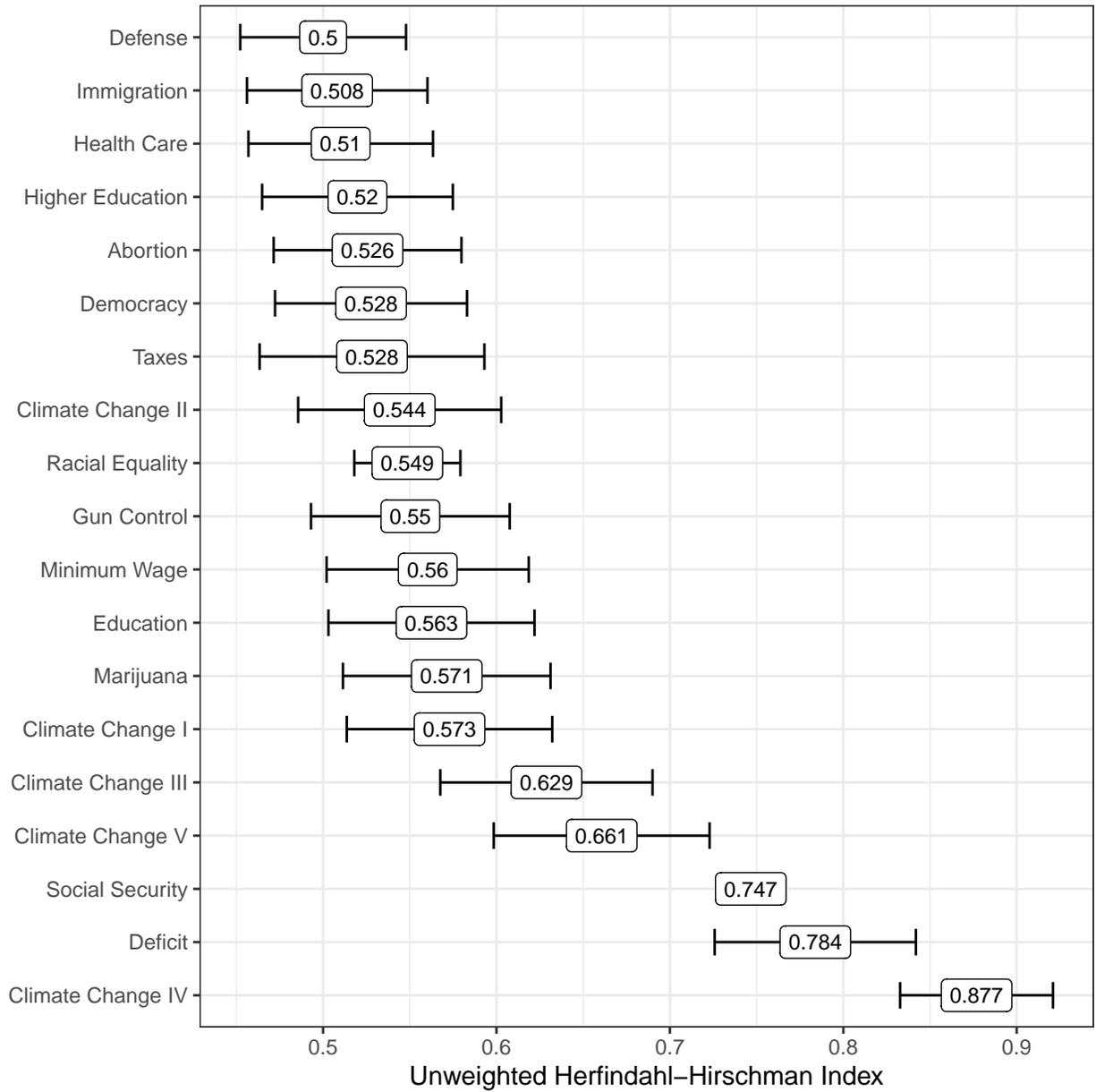


Figure S16: Unweighted Herfindahl-Hirschmann Index by Policy Issue

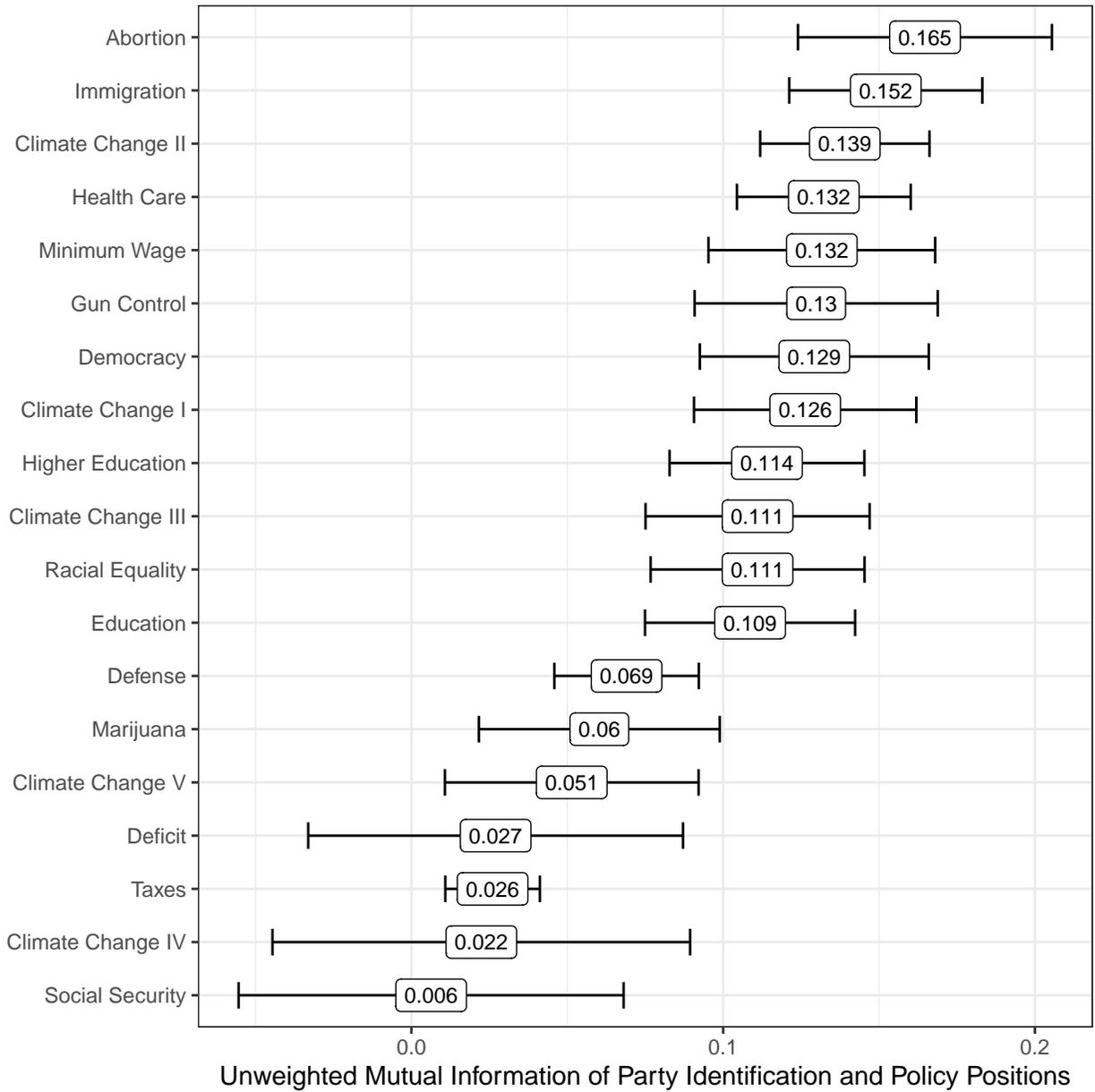


Figure S17: Unweighted Mutual Information of Party Identification and Policy Positions by Policy Issue

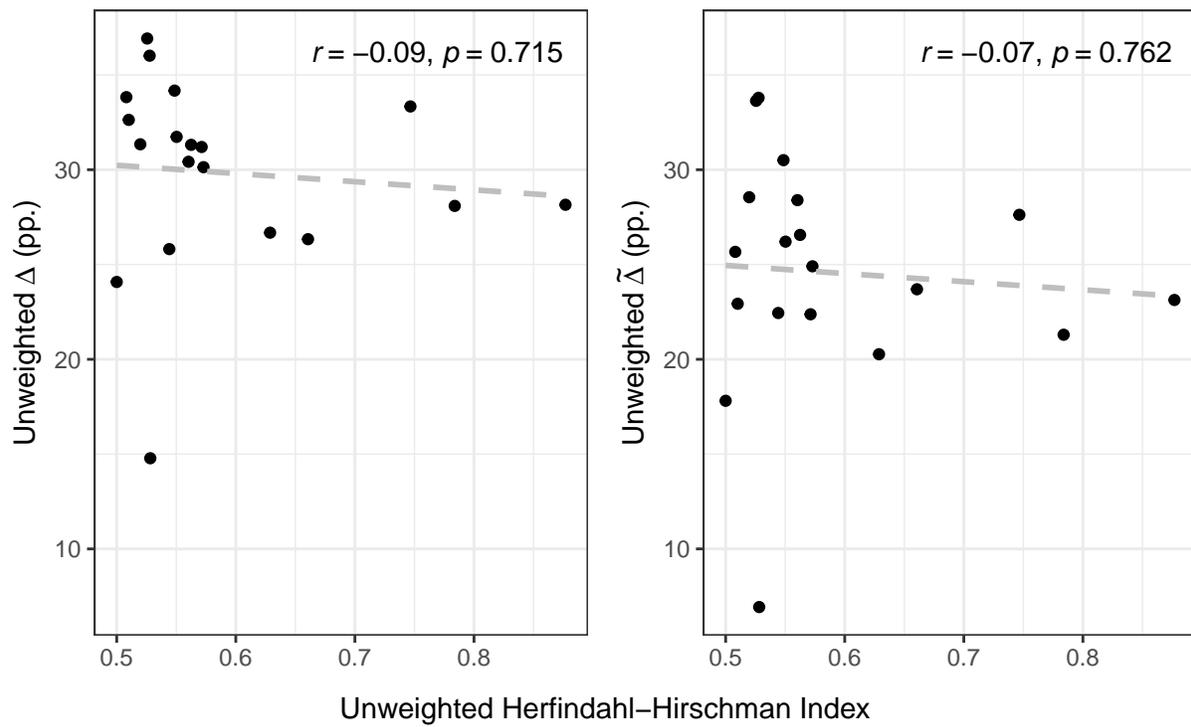


Figure S18: Relationship between Unweighted Issue Importance and the Unweighted Herfindahl-Hirschman Index

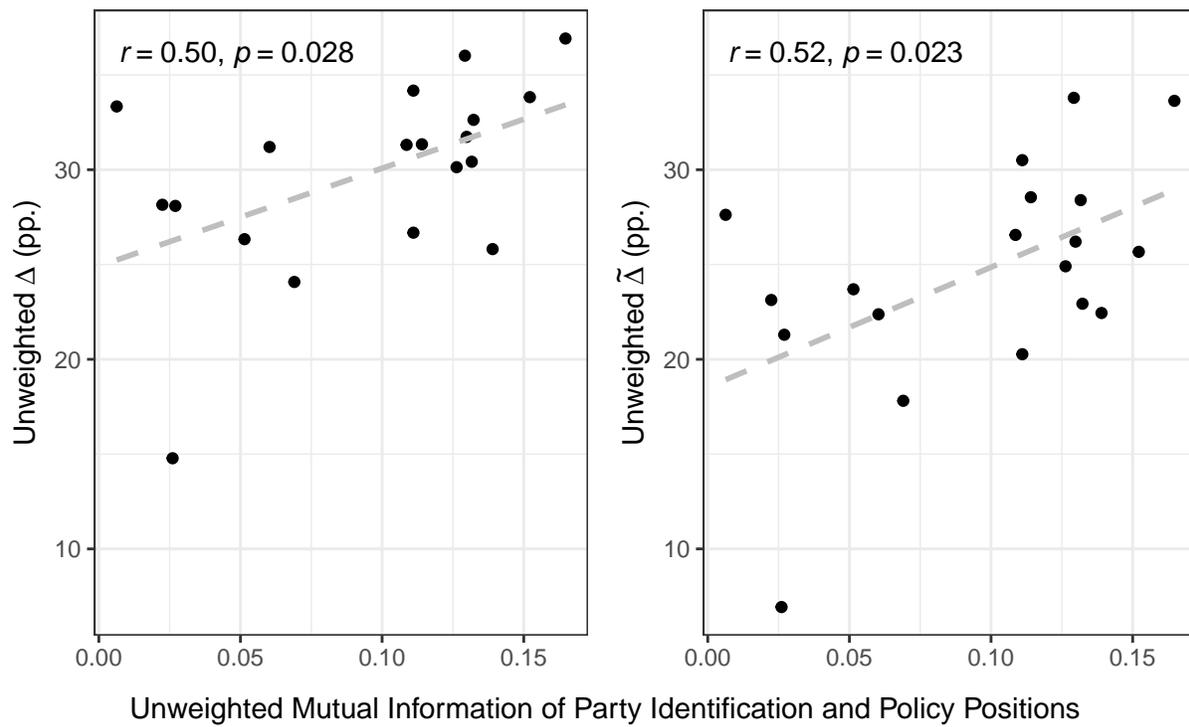


Figure S19: Relationship between Unweighted Issue Importance and the Unweighted Mutual Information of Party Identification and Policy Positions