

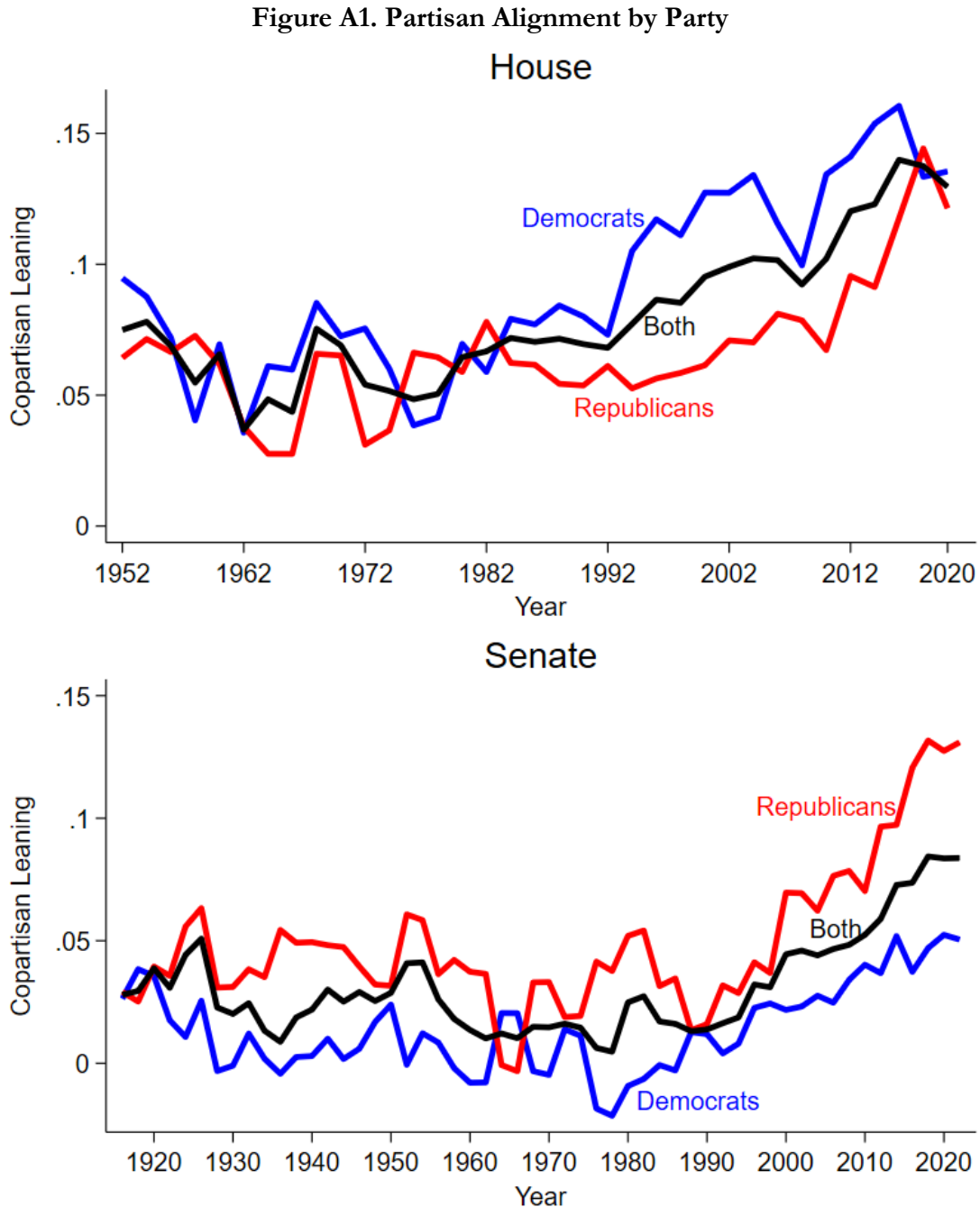
## Online Appendix

### Partisan Constituencies and Congressional Polarization

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## Partisan Alignment by Party

Figure A1 shows trends in partisan alignment by party over time, using the same approach as in Figure 1 but separately analyzing Democrats and Republicans. We see that the changes over time are similar for Democrats and Republicans, but the levels are a bit different. Democrats have higher levels of partisan alignment in the House but lower levels in the Senate.



## Quantifying Explanations for Partisan Alignment

Table A1 shows numerical quantifications of the share of the increase in partisan alignment that is attributable to geographic polarization and nationalized voting. The sample is the same as in Table 1—all non-southern member-Congresses from 1972 through the end of the period of available data (2020 in the House and 2022 in the Senate). The variable *Time* is rescaled so that it ranges from 0 at the beginning of the period of study to 1 at the end of the period of study. In Column A, I regress partisan alignment on time, and estimate that partisan alignment has increased by 8.3 percentage points in the House and 7.7 percentage points in the Senate over this period.

In Column B, the dependent variable is the expected level of partisan alignment arising from a counterfactual simulation—described in the main text—in which there was no change in nationalized voting. I estimate that in this scenario in which nationalized voting did not change, partisan alignment would have increased by 5.4 percentage points in the House and 4.7 percentage points in the Senate. These changes are 64.8 and 60.4 percent of the actual change in partisan alignment, so I conclude that geographic polarization, on its own, can explain approximately three-fifths of the increase in partisan alignment.

In Column C, the dependent variable is the expected level of partisan alignment arising from a counterfactual simulation—described in the main text—in which there was no change in geographic polarization. I estimate that in this scenario in which nationalized voting did not change, partisan alignment would have increased by 1.7 percentage points in the House and 1.4 percentage points in the Senate. These changes are 20.8 and 17.5 percent of the actual change in partisan alignment, so I conclude that nationalized voting, on its own, can explain approximately one-fifth of the increase in partisan alignment.

In Column D, I re-run the specification from Column A for the House while also including redistricting-cycle fixed effects. If we ignore redistricting and focus only on changes within a

redistricting cycle, I estimate that partisan alignment increased by 6.4 percentage points over this period of study. This is 76.9 percent of the overall increase. Therefore, I conclude that partisan redistricting cannot explain most of the increase in partisan alignment, but it could potentially explain some of the change.

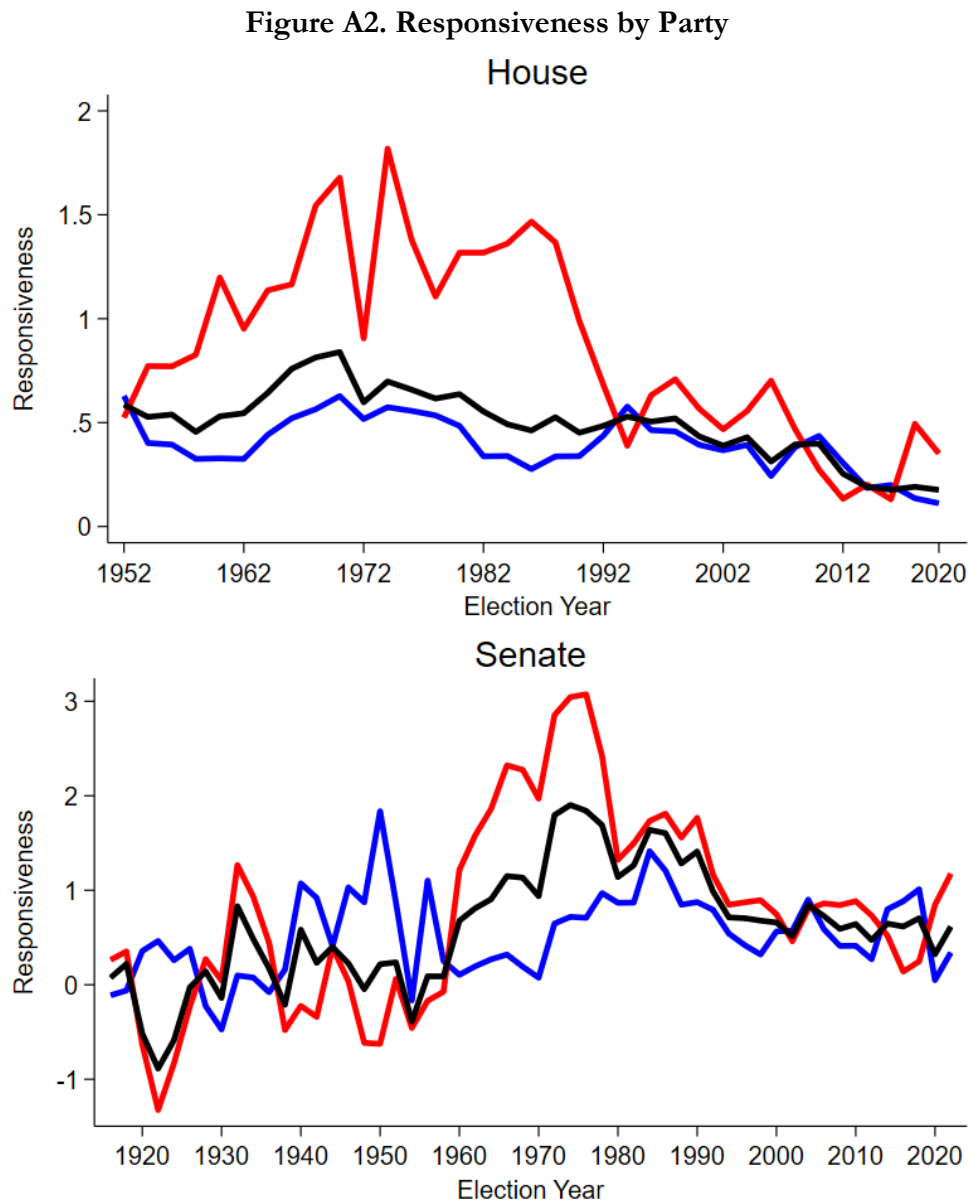
**Table A1. Explanations for partisan alignment**

	(A) Copartisan Leaning	(B) without Nationalization	(C) without Geographic Polarization	(D) Copartisan Leaning
House				
Time	.086** (.008)	.061** (.008)	.019** (.001)	.056** (.012)
Constant	.044** (.005)	.044** (.004)	.048** (.005)	
Cycle FEs				X
Observations	7,906	7,906	8,325	7,906
B/A			.709	
C/A			.216	
D/A			.648	
Senate				
Time	.077** (.013)	.047** (.010)	.014** (.003)	
Constant	-.001 (.006)	.011* (.004)	.010** (.003)	
Observations	2,048	2,048	2,054	
B/A		.604		
C/A		.175		

*Constituency-clustered standard errors in parentheses; \*\*  $p < 0.01$ , \*  $p < 0.05$ . B/A is the quotient of the coefficients associated with Time from Columns B and A, which indicates the share of the increase in copartisan leaning that is explained by changes in geographic polarization. C/A estimates the share increase in copartisan leaning that is explained by changes in nationalized voting. D/A estimates the share of the increase in copartisan leaning in the House that cannot be explained by redistricting.*

## Responsiveness by Party

Figure A2 shows separate estimates of responsiveness by party over time, using the same approach as in Figure 4 but separately analyzing Democrats and Republicans. Figure A2 also shows estimates over a longer period of time. We see that there was an anomalous period of very high responsiveness in the 1960s and 1970s among Republicans, and this largely explains the dramatic decrease in responsiveness from approximately 1970 to 2020.



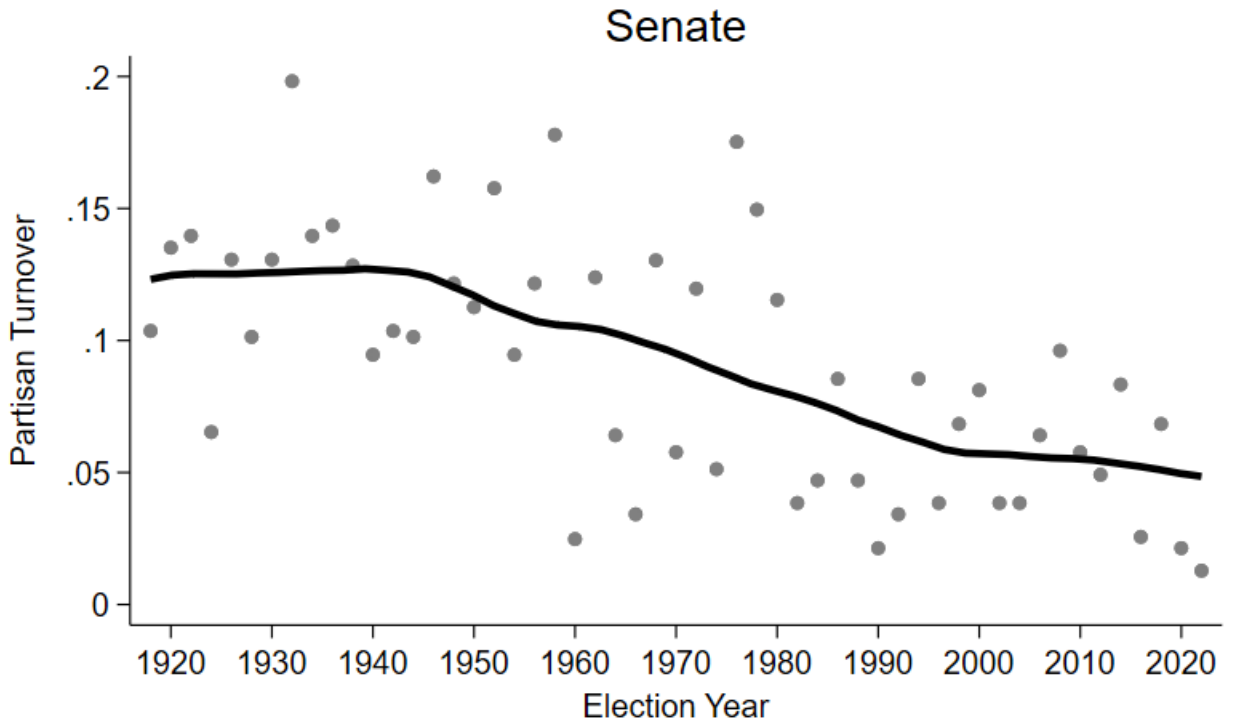
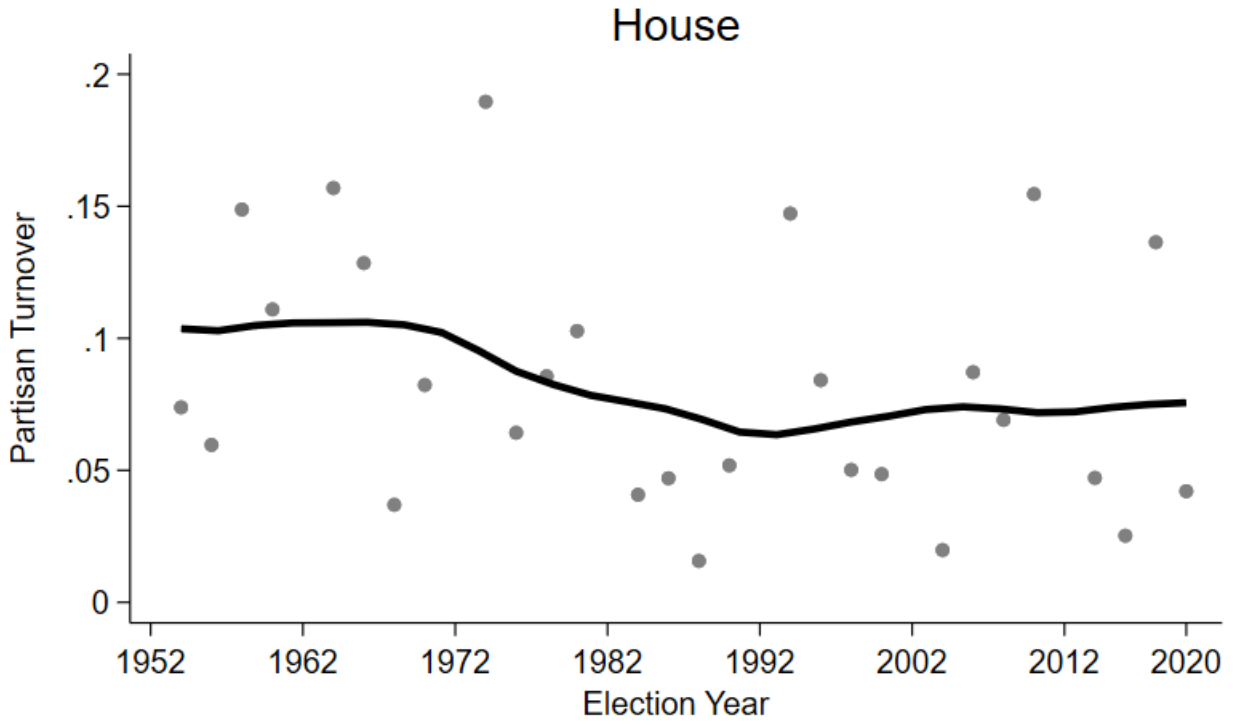
*As in Figure A1, estimates from Republicans are shown in red, those from Democrats are in blue, and those from both parties pooled are shown in black.*

## **The Marginals Really Vanished**

Figure A3 shows trends in partisan turnover over time in the House and Senate. I compute the share of a constituency's representatives who are Democrats vs. Republicans in each Congress, excluding third-party representatives. I then compute the absolute value of the change in this variable from the previous Congress for each constituency-Congress. The figure presents the average of these absolute changes across all non-southern constituencies within each Congress. For the House, the values can be approximately interpreted as the share of districts experiencing a change in the party of the representative. For the Senate, the interpretation is more complicated because there are two senators per state and they are not up for reelection in each Congress, but the changes over time are still informative. I exclude redistricting years when studying the House.

There is significant, idiosyncratic variation in partisan turnover across Congresses. Therefore, to better assess general trends over time, Figure A3 also shows kernel regressions that nonparametrically assess the average extent to which partisan turnover changed over time. We see that partisan turnover in the House declined in the 1970s and 1980s and has remained low since. In the Senate, partisan turnover has been steadily and significantly decreasing since approximately 1950.

Figure A3. Partisan Turnover



## Results Including the South

In this section, I replicate all tables and figures from the main text but include the South. Figure S1 replicates the analyses in Figure 1 but includes the South, Table S1 replicates the analyses in Table 1 but includes in the South, and so on. All previous analyses excluded the South in order to rule out the southern realignment as a potential explanation. However, readers may be curious to see how the results change if the South is included.

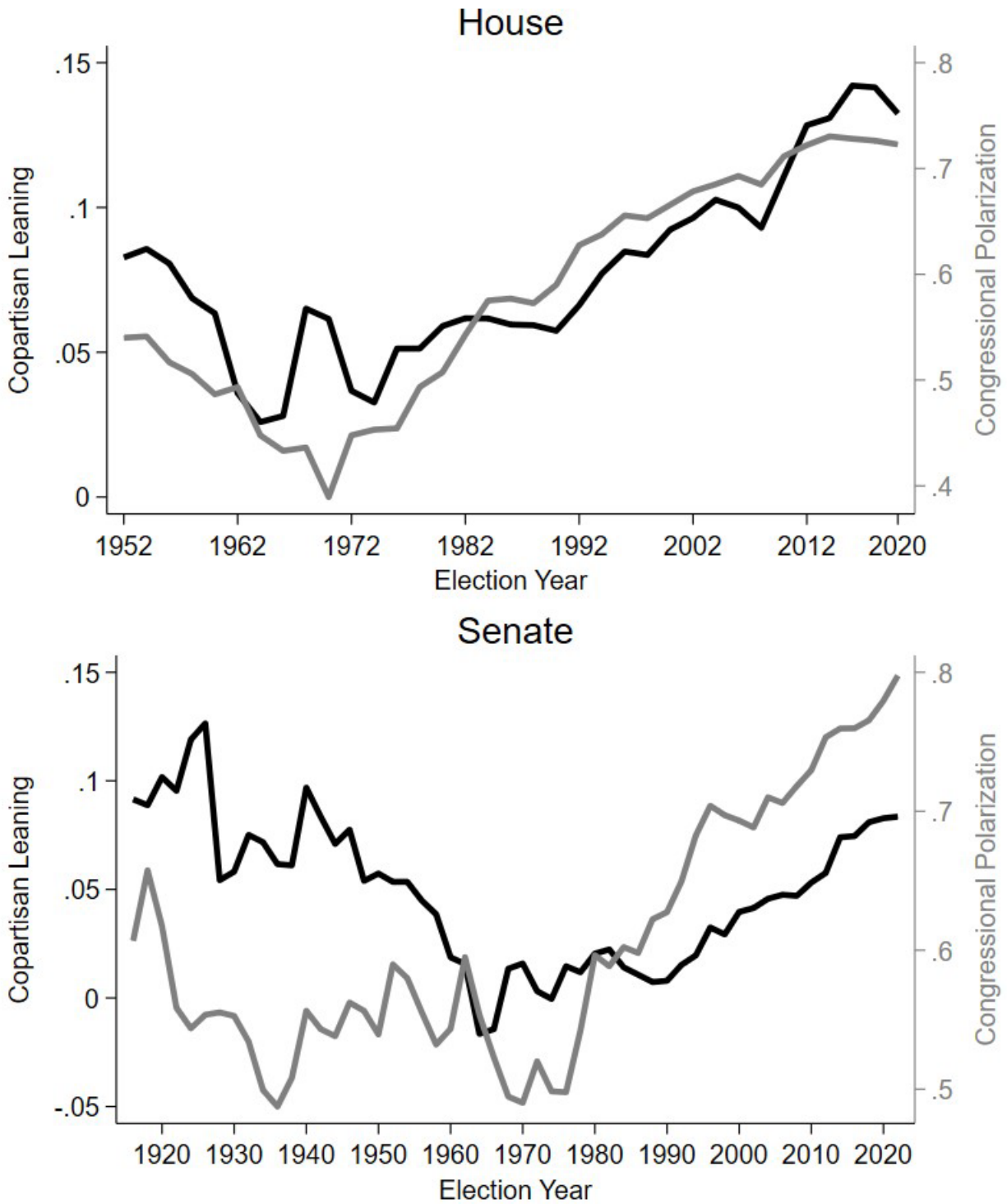
Figure S1 shows that the general patterns of partisan realignment and congressional polarization over time are similar if we also include the South. The estimated level of polarization before 1970 is lower if we include the South, where many of the representatives were relatively conservative Democrats. And the average copartisan leaning is generally higher if we include the South, especially in the Senate in the early period of analysis. Interestingly, even if we include the South, we see that the average copartisan leaning today is still higher than that in the 1950s, when the South was largely dominated by one party.

Table S1 shows that the estimated effect of partisan alignment on congressional polarization is similar if we include the South. In the House, the within-member effect of copartisan leaning on extremism is slightly smaller, and the overall effect is slightly larger, so the estimated share of the effect attributable to incentive effects is even smaller if we include the South. The estimates in Table 1 implied that partisan alignment explains 40 percent of the increase in congressional polarization in the House and 72 percent in the Senate. When we include the South, the corresponding estimates are 39 percent and 50 percent.

Figure S2 shows that trends in responsiveness since approximately 1982 are similar if we include the South. Before 1982, estimates of responsiveness look somewhat different if we include the South. This appears to be largely a measurement artifact arising from my use of recent presidential election to measure the partisan leanings of each constituency. Jimmy Carter from Georgia (the



Figure S1. Partisan alignment and congressional polarization, including the South

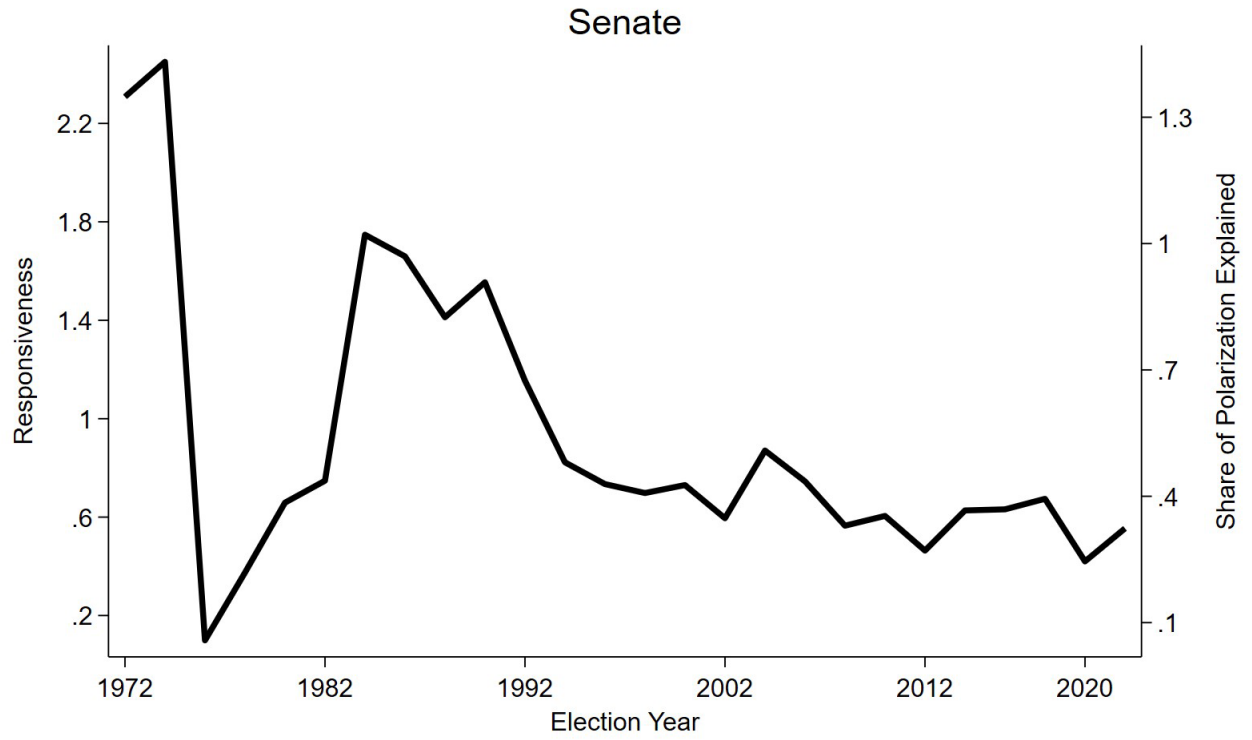
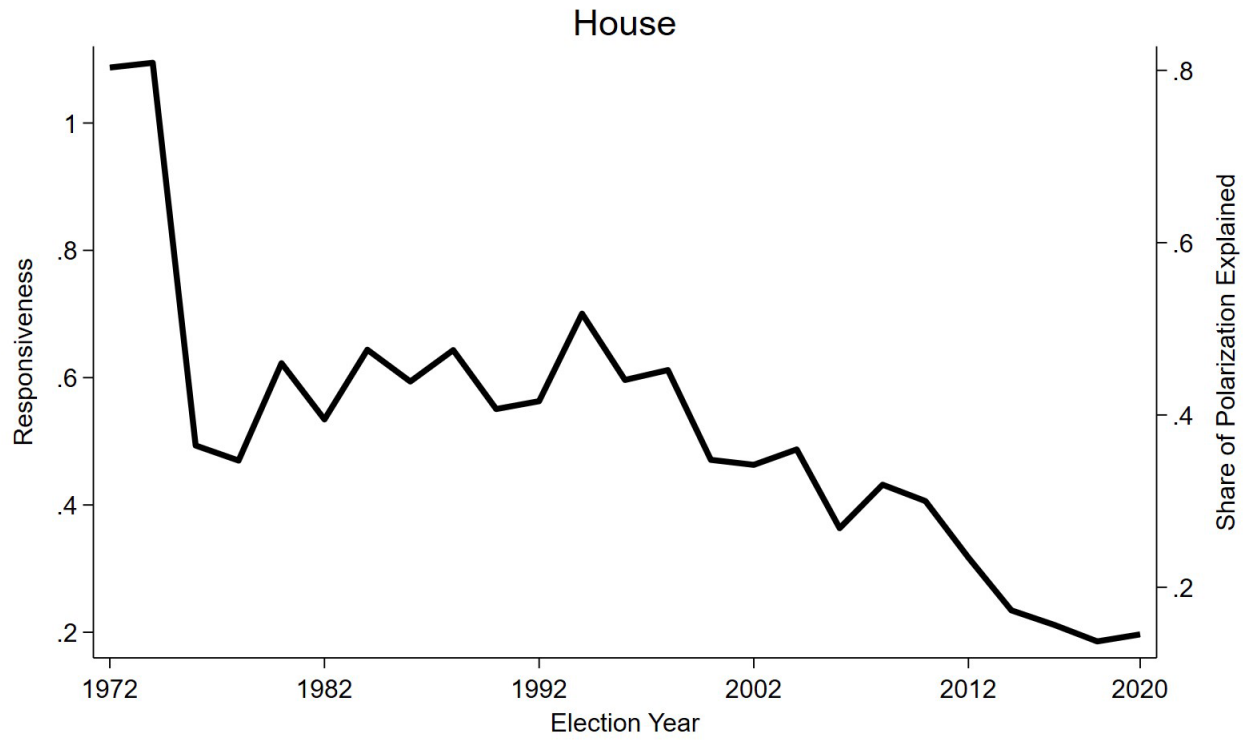


**Table S1. Partisan alignment and congressional polarization, including the South**

	(A)	(B)	(C)	(D)
	Extremism	Extremism	Extremism	Copartisan leaning
<b>House</b>				
Copartisan Leaning	.032*	.529**		
	(.014)	(.021)		
Time			.141**	.105**
			(.009)	(.007)
Congress-party FEs	X	X		
Member-party FEs	X			
Control for party			X	X
Observations	10,676	11,052	11,052	11,052
A/B			.060	
(B*D)/C			.391	
<b>Senate</b>				
Copartisan Leaning	.103**	.853**		
	(.039)	(.075)		
Time			.135**	.079**
			(.023)	(.010)
Congress-party FEs	X	X		
Member-party FEs	X			
Control for party			X	X
Observations	2,583	2,627	2,627	2,627
A/B			.121	
(B*D)/C			.498	

*Member-clustered standard errors in parentheses; \*\*  $p < 0.01$ , \*  $p < 0.05$ . D/C estimates the share of the effect of copartisan leaning on extremism that is attributable to incentive effects. (B\*D)/C estimates the share of the observed increase in extremism that is attributable to the increase in copartisan leaning.*

Figure S2. Responsiveness over time, including the South



Democratic presidential candidate in 1976) significantly outperformed George McGovern from South Dakota (the Democratic presidential candidate in 1972), and this was especially true in the South. Most southern representatives in this period were relatively conservative Democrats, so including the South significantly increases estimates of responsiveness in 1972 and 1974 (when southern Democrats were relatively moderate and had low copartisan leanings) but not in 1976 (when southern Democrats were relatively moderate but had higher than average copartisan leanings). This also explains why we see an uptick in copartisan leaning between 1974 and 1976 in Figure S1 but not in Figure 1.

Figure S3 shows that the general patterns of geographic polarization and nationalized voting over time are similar if we include the South. The starkest difference is that, if we include the South, geographic polarization in the Senate was higher in the early period of analysis and therefore the recent increase is not as great. Southern states were solidly Democratic in the early period of analysis and outliers relative to the rest of the country, so they significantly inflated this measure of geographic polarization in that period.

Figure S4 shows partisan alignment under different counterfactual scenarios while including the South. In this case, the result from those in Figure 4. When excluding the South, my simulations suggest that partisan alignment is more attributable to geographic polarization than nationalized voting. When including the South, the simulations suggest that the two factors contributed approximately equally in the House and nationalized voting is more important in the Senate. However, this appears to be a result of using 1972—when George McGovern performed especially poorly in the South—as the baseline year. Figure A4 reproduces the analysis in Figure S4, but instead uses 1976 as the baseline year. These results look more similar to those in Figure 4, suggesting that geographic polarization contributed more to partisan alignment than did nationalized voting.

Figure S3. Geographic polarization and nationalized voting, including the South

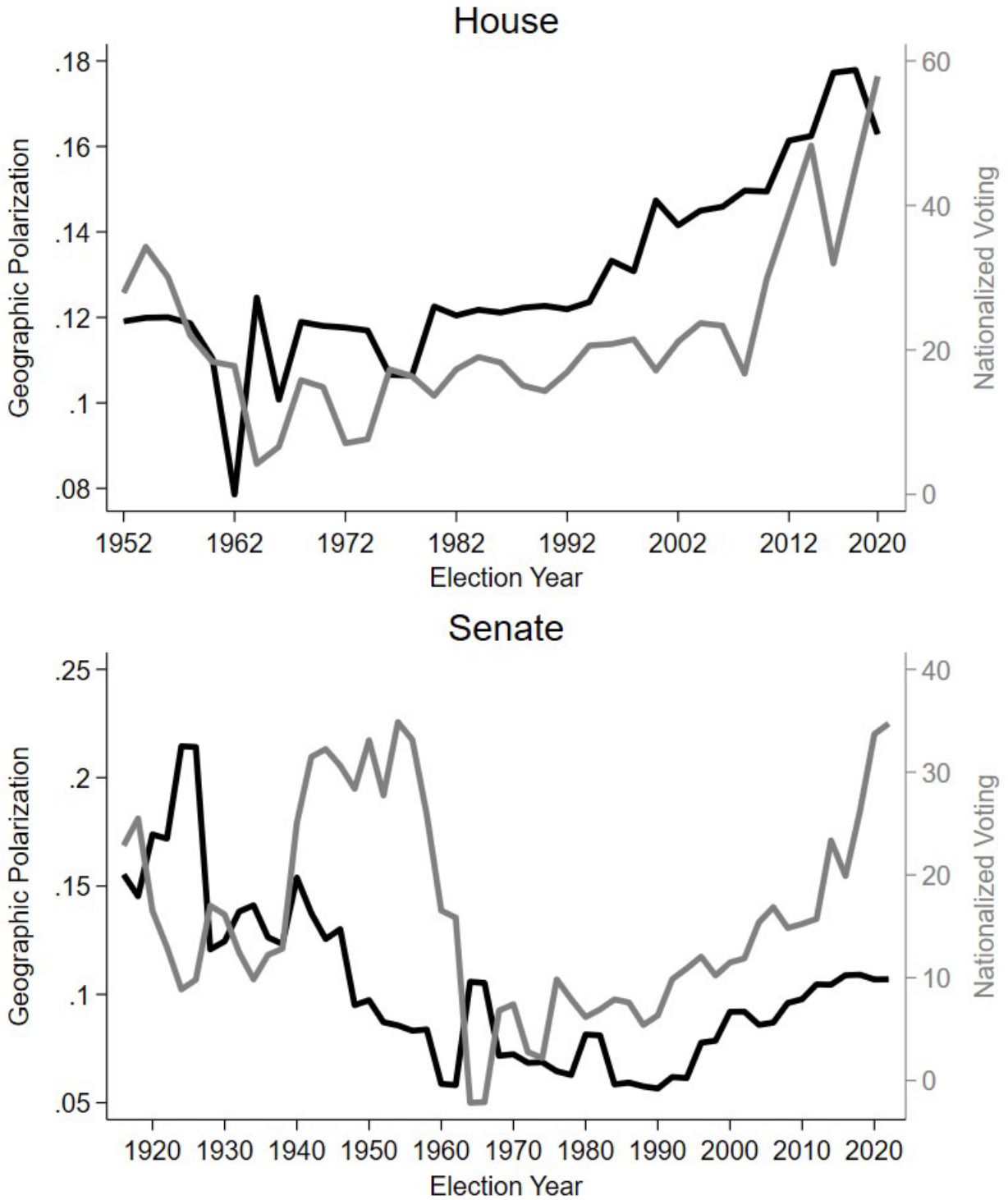
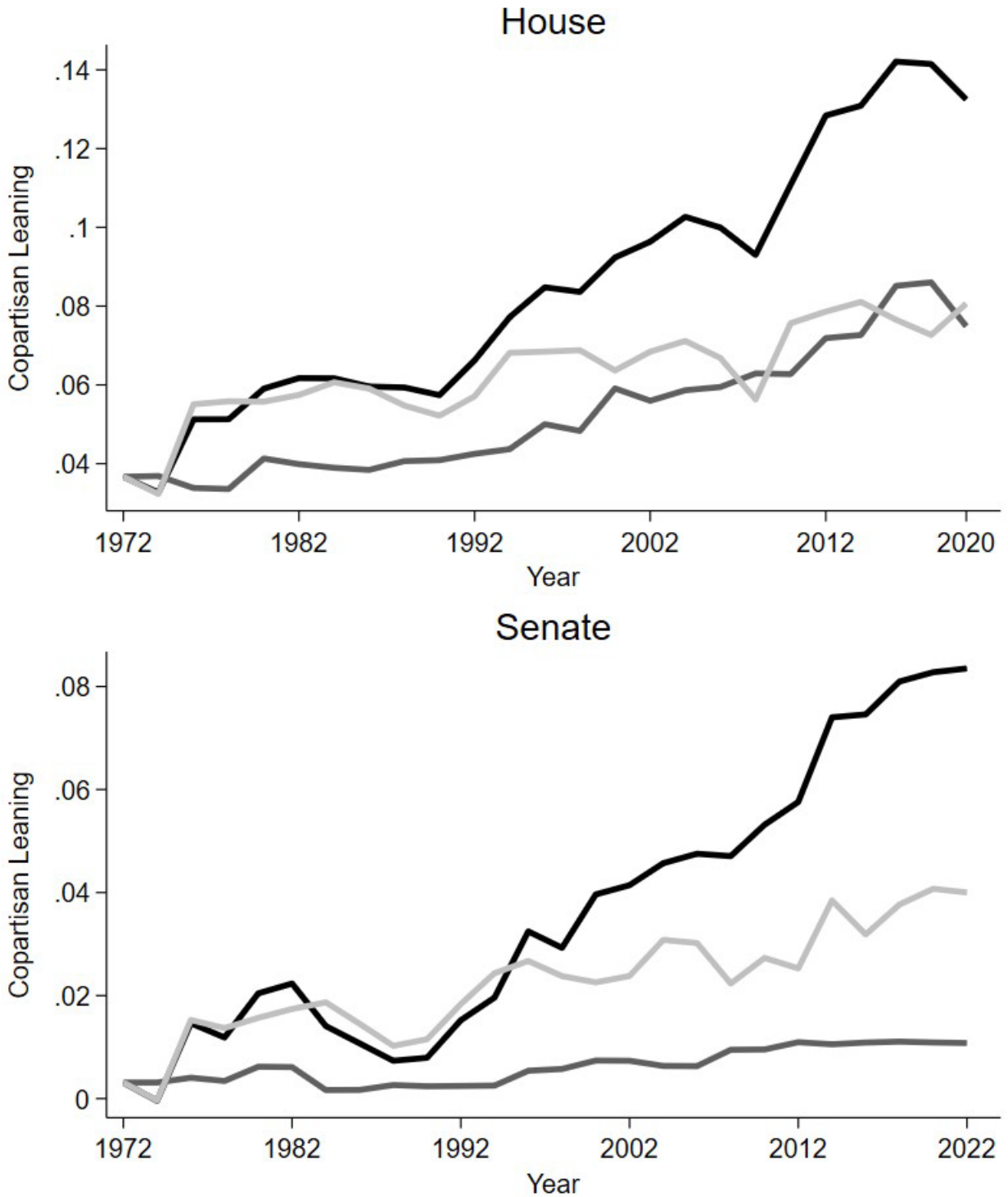
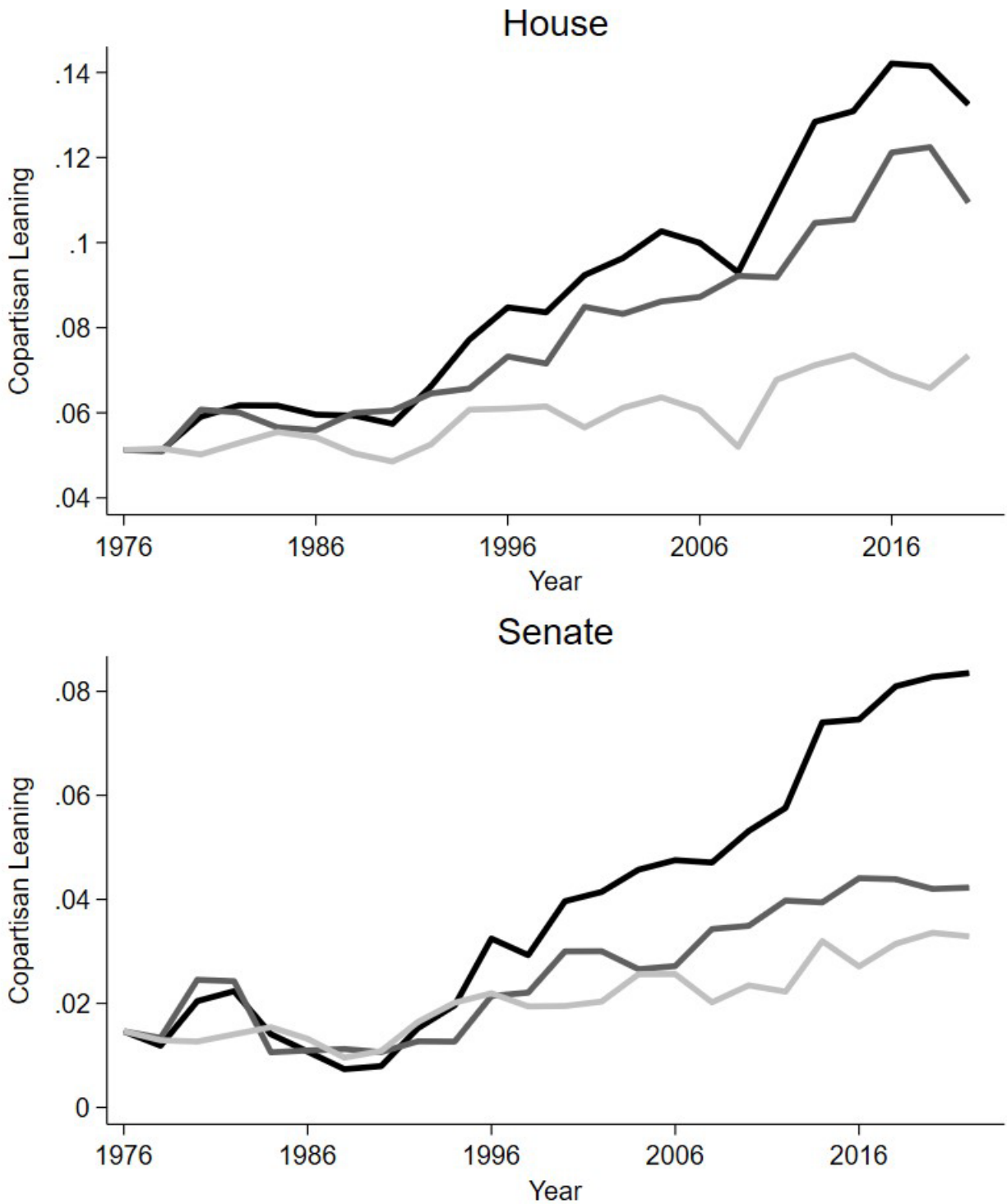


Figure S4. Partisan alignment under different counterfactual scenarios, including the South



As in Figure 4, the black curve shows the actual increase in copartisan leaning, the dark gray shows the counterfactual increase without nationalization, and the light gray shows the counterfactual increase without geographic polarization.

Figure A4. Counterfactual partisan alignment, including the South, 1976 as baseline year



As in Figure 4, the black curve shows the actual increase in copartisan leaning, the dark gray shows the counterfactual increase without nationalization, and the light gray shows the counterfactual increase without geographic polarization.