Look Over There. Where? A Compositional Approach to the Modeling of Public Opinion on the Most Important Problem

Appendix

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Overview

This document provides additional information and empirical analyses.

Missingness

Our dataset offers considerable coverage of American issue importance from 1967-2015. Recall that we linearly interpolate the aggregate MIP percentages for those months without data. Figure A.1 shows a heatmap of the number of surveys with MIP data available in each month, where darker colors indicate more surveys.

As one might expect, polling companies begin making surveys publicly available nearly every month starting in the late-1990s. During the 1980s and 1990s surveys are available

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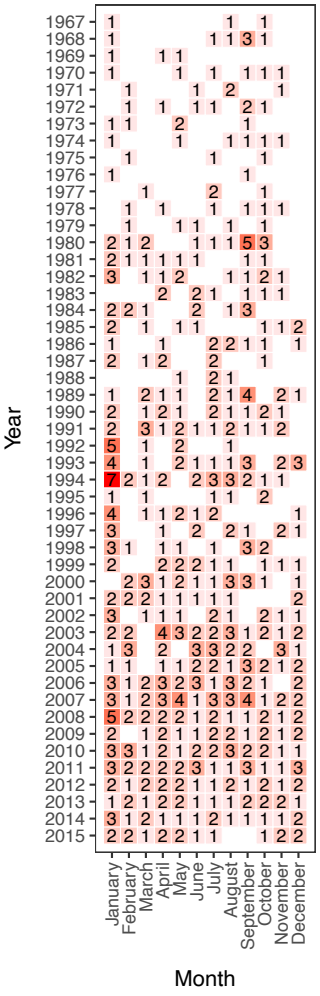

Figure A.1: Survey Availability (1967-2015)

in about half to two-thirds of the months. In the early part of our sample (1967-1979), surveys are only sporadically available. Somewhat surprisingly, additional analysis shows that surveys are not more available in the months leading up to midterm and presidential elections. Regressing the number of surveys on a time trend, election dummies, and month fixed effects shows the following: a) more surveys are available in the latter stages of the sample, b) more surveys are available in January than other months, on average, and c) elections do not increase the number of available surveys.

ARIMA Tests of Decadal Polarization

While our time series plots showed relatively low levels of polarization – minor differences in issue importance – across time by group (e.g., partisanship, gender or incomes), in this section we offer a series of statistical tests in order to establish this assertion more formally. To do so we proceeded as follows. First, we estimated a series of seemingly unrelated regression (SUR) models where the dependent variable was each of the six issue categories from the main manuscript. Each equation was for a different issue-group (e.g., one SUR equation models Economic Issues for women, the other Economic Issues for men). These were autoregressive models (or ARIMA-SUR) where the only independent variables were monthly lags, as well as dummy variables for each of the decades (from the 1960s to the 2010s).[1] We selected anywhere from one to eight lags of the dependent variable, minimizing AIC to choose the best-fitting number of lags in an automatic selection procedure.

After estimating the SUR, we then ran an F-test of the equality of each of the decade dummies across the two equations. For instance, whether $\beta_{1960s,Men} - \beta_{1960s,Women} = 0$, would test whether there are differences in issue importance between gender in the 1960s. A statistically significant result would thus indicate that there is meaningful polarization across groups in terms of issue importance, after controlling for any temporal persistence in issue importance via the autoregressive lags of the dependent variable.

As shown in Table A.1, we find very little evidence of any partisan differences across issue areas over time, as evidenced by the high p-values. Exceptions include International Affairs (in the 1980s and 2000s) and Culture (in the 1990s and 2000s), but there are no systematic patterns of polarization across decades. In contrast, we find some evidence of gender differences for Social Welfare and Other, particularly in later decades in the sample, as shown in Table A.2. However, the other categories—Economic Issues, Crime, International Affairs, and Culture—appear to have no real statistically significant differences across gender over time. Last, in Table A.3 we present the results for differences across the four income categories across decade dummies for each issue area. Again, though some F-tests are statistically significant – meaning that we reject the null hypothesis of no polarization for that issue in that decade – these are sporadic (Social Welfare in the 1980s and 2000s and Culture in the 2000s and 2010s). These F-tests provide evidence of inconsistent polarization

[1] We suppressed the constant in order to test all decades.

in terms of issue importance.[2]

	Issue Variable					
Decade	Economic Issues	Crime	Social Welfare	Intl. Affairs	Culture	Other
1960s	0.98	0.77	0.76	0.11	0.47	0.73
1970s	0.96	0.95	0.86	0.25	0.85	0.25
1980s	0.95	0.89	0.47	0.06	0.84	0.46
1990s	0.64	0.29	0.34	0.57	0.07	0.29
2000s	0.64	0.90	0.37	0.08	0.02	0.17
2010s	0.68	0.17	0.19	0.15	0.22	0.70
Lags selected	5	7	8	5	8	4

Table A.1: Little evidence of political polarization across decades

Note: p-value of F-test for equivalence of the decade coefficient between Republican and Democrat respondent regression models shown. Lags of the dependent variable selected using AIC, with a maximum of eight.

ARIMA Tests of Presidential Polarization

While polarization across decades seems indicative of long-term differences, we might expect substantial differences across groups—particularly Republicans and Democrats—in the shorter presidential term period. In Tables A.4 through A.6, we re-estimated the SUR-ARIMA models as described above, but now also included the presidential dummy variables, and tested the equality of those across groups. Turning to partisan differences (Table A.4), we find some differences for Social Welfare, particularly for presidencies before George HW Bush. However, we find no such polarization across any other issue group across different presidential terms. Nor do we find any gender differences (Table A.5), which stands in contrast to the decadal results. A similar lack of polarization across issue areas can be seen when looking at income groups as well, as shown in Table A.6.

International Crises

In Figures A.2 and A.3 we show the occurrence of international crises according to the Interstate Crisis Behavior dataset. The difference between the two figures is based on the intensity of the violence in the crisis. While Figure A.2 includes all crises, regardless of violence intensity (including no violence, minor clashes, serious clashes, and full-scale wars),

[2]Each table provides 36 F-tests. At conventional levels of statistical significance (0.05), we would expect, on average, about two F-tests to be false rejection of the null.

	Issue Variable					
Decade	Economic Issues	Crime	Social Welfare	Intl. Affairs	Culture	Other
1960s	0.66	0.69	0.60	0.53	0.39	0.08
1970s	0.36	0.26	0.46	0.85	0.16	0.01
1980s	0.25	0.27	0.03	0.54	0.14	0.08
1990s	0.07	0.26	0.00	0.70	0.32	0.01
2000s	0.24	0.80	0.00	0.73	0.98	0.00
2010s	0.37	0.46	0.02	0.75	0.55	0.01
Lags selected	6	6	7	6	5	5

Table A.2: Some evidence of gender polarization across decades in Social Welfare, Other

Note: p-value of F-test for equivalence of the decade coefficient between Men and Women regression models shown. Lags of the dependent variable selected using AIC, with a maximum of eight.

	Issue Variable					
Decade	Economic Issues	Crime	Social Welfare	Intl. Affairs	Culture	Other
1960s	1.00	0.66	0.93	0.37	0.67	0.28
1970s	0.60	0.51	0.63	0.73	0.57	0.05
1980s	0.67	0.11	0.07	0.12	0.16	0.68
1990s	0.26	0.24	0.23	0.90	0.28	0.90
2000s	0.49	0.58	0.02	0.17	0.01	1.00
2010s	0.51	0.55	0.21	0.95	0.04	0.20
Lags selected	4	5	7	6	8	6

Table A.3: Little evidence of income polarization across decades

Note: p-value of F-test for equivalence of the decade coefficient between the four income quantile regression models shown. Lags of the dependent variable selected using AIC, with a maximum of eight.

	Issue Variable					
President	Economic Issues	Crime	Social Welfare	Intl. Affairs	Culture	Other
Johnson	0.43	0.93	0.02	0.51	0.75	0.26
Nixon	0.39	0.98	0.02	0.51	0.62	0.62
Ford	0.40	0.99	0.02	0.65	0.56	0.5
Carter	0.50	0.79	0.01	0.64	0.48	0.46
Reagan	0.25	0.83	0.01	0.41	0.66	0.42
HW Bush	0.22	0.78	0.12	0.62	0.90	0.45
Clinton	0.23	0.76	0.63	0.55	0.45	0.31
GW Bush	0.05	0.77	0.03	0.20	0.21	0.27
Lags selected	5	7	8	5	8	4

Table A.4: Little evidence of party polarization across presidencies, except Social Welfare

Note: p-value of F-test for equivalence of the presidential dummy coefficient between Democrat and Republican regression models shown. Lags of the dependent variable selected using AIC, with a maximum of eight.

	Issue Variable					
President	Economic Issues	Crime	Social Welfare	Intl. Affairs	Culture	Other
Johnson	0.88	0.83	0.43	0.78	0.38	0.76
Nixon	0.75	0.99	0.70	0.86	0.38	0.76
Ford	0.69	0.94	0.59	0.62	0.54	0.93
Carter	0.63	1.00	0.55	0.65	0.46	0.76
Reagan	0.62	0.75	0.19	0.59	0.58	0.65
HW Bush	0.67	0.69	0.18	0.65	0.74	0.73
Clinton	0.28	0.72	0.11	0.26	0.83	0.82
GW Bush	0.18	0.95	0.46	0.67	0.95	0.72
Lags selected	6	6	7	3	4	5

Table A.5: Little evidence of gender polarization across presidencies

Note: p-value of F-test for equivalence of the presidential dummy coefficient between Men and Women regression models shown. Lags of the dependent variable selected using AIC, with a maximum of eight.

	Issue Variable					
President	Economic Issues	Crime	Social Welfare	Intl. Affairs	Culture	Other
Johnson	0.74	1	0.93	0.98	0.75	0.74
Nixon	0.62	0.99	0.95	0.95	0.85	0.55
Ford	0.58	0.97	0.96	0.94	0.90	0.61
Carter	0.52	0.98	0.96	0.97	0.87	0.53
Reagan	0.49	0.87	0.62	0.60	0.90	0.66
HW Bush	0.73	0.87	0.46	0.96	0.98	0.94
Clinton	0.85	0.90	0.55	0.91	0.74	0.96
GW Bush	0.90	0.96	0.57	0.27	0.49	0.84
Lags selected	4	5	7	6	5	6

Table A.6: Little evidence of income polarization across presidencies

Note: p-value of F-test for equivalence of the presidential dummy coefficient between the four income quantile regression models shown. Lags of the dependent variable selected using AIC, with a maximum of eight.

Figure A.3 is limited to only serious clashes and full-scale wars. Both measures do a good job of picking up those time periods where the US is faced with salient international disputes that are likely to capture the public's attention: disputes, crises, invasions, and wars.

In the manuscript we focus on the total number of crises in a given month. However, more serious crises – serious clashes and full-scale wars – might produce stronger effects than the measure including minor clashes. Figures A.4-A.6 show the long-run change from baseline proportions of the issue categories across *gender*, *party ID* and *income quartiles*. The results are consistent with those presented in the manuscript, except for some slight changes to the statistical significance in some issue categories. Most notably, across all subgroups experiencing a severe crisis statistically increases the importance of International Affairs and in a manner that is statistically indistinguishable across categories. The width of the confidence intervals vary relative to the total crises models in the manuscript, which illustrates the trade-offs inherent in issue importance. Severe crises increase the importance of International Affairs at the expense of Economic Issues (for Democrats, Men and Women, and the middle income quartiles). Altogether, these robustness checks give us additional evidence of the tradeoffs of issue importance and how subgroups generally respond in similar ways to salient international events.

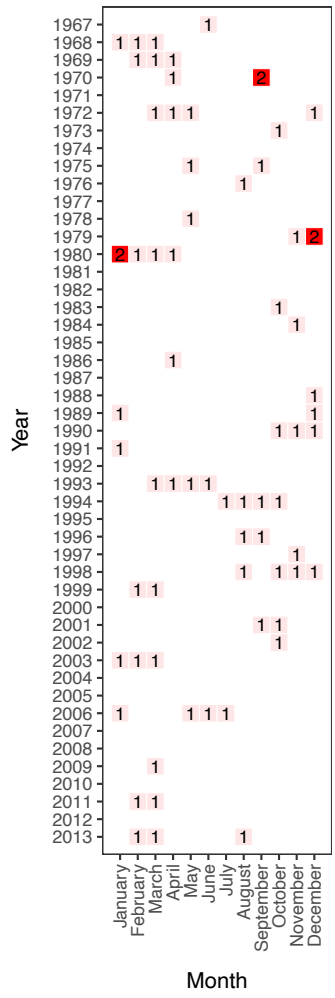

Figure A.2: Occurrence of International Crises (1967-2013)

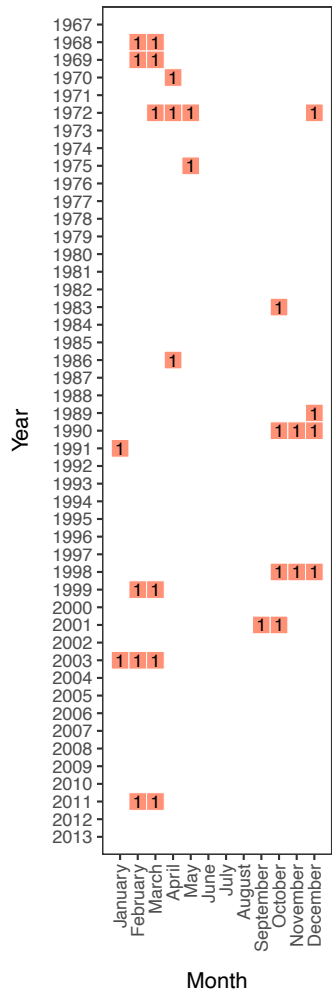

Figure A.3: Occurrence of Serious International Crises (1967-2013)

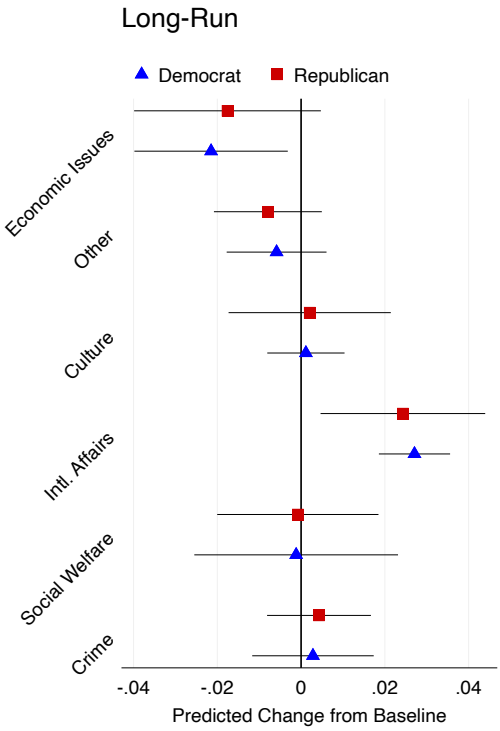

Figure A.4: Long-Run Change from Baseline Proportions across Partisanship in Response to Interstate Crises (Levels 3 and 4)

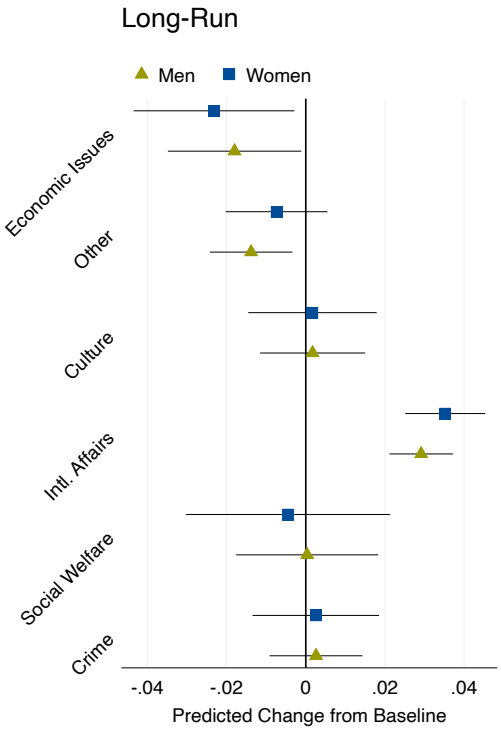

Figure A.5: Long-Run Change from Baseline Proportions across Gender in Response to Interstate Crises (Levels 3 and 4)

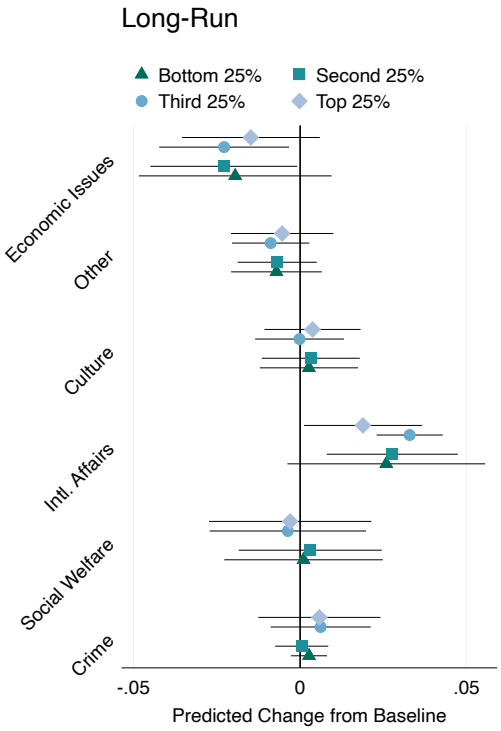

Figure A.6: Long-Run Change from Baseline Proportions across Income Quartiles in Response to Interstate Crises (Levels 3 and 4)