

## Supplementary materials

### Now You See Me, Now You Don't: Anticipatory coalitional strategies in European representative democracies

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#### Appendix

Table A1. Summary statistics on parties, elections, and years covered.

Country	Number of parties		Number of elections			Years covered			
	MARPOR 1970-	CHES	MARPOR, Matched elections	MARPOR 1970-	CHES	MARPOR, Matched elections	MARPOR 1970-	CHES	MARPOR, Matched elections
Austria	7	6	6	15	6	6	1970-2017	1999-2017	1999-2017
Belgium	15	10	12	14	4	4	1971-2014	1999-2010	1999-2010
Bulgaria	8	6	6	7	4	4	1991-2013	2001-2013	2001-2013
Croatia	11	7	9	8	3	3	1992-2016	2011-2016	2011-2016
The Czech Republic	7	4	5	5	2	2	1996-2010	2002, 2006	2002, 2006
Denmark	14	9	11	17	6	6	1971-2015	1998-2015	1998-2015
Estonia	8	4	5	5	2	2	1995-2011	2007, 2011	2007, 2011
Finland	9	8	8	13	5	5	1970-2015	1999-2015	1999-2015
France	8	5	6	10	2	2	1973-2012	2002, 2007	2002, 2007
Germany	5	5	5	13	6	6	1972-2017	1998-2017	1998-2017
Greece	10	9	10	12	7	7	1981-2015	1996-2015	1996-2015
Hungary	8	7	7	6	4	4	1994-2014	2002-2014	2002-2014
Iceland	9			12			1971-2009		
Ireland	8	7	8	12	5	5	1973-2016	1997-2016	1997-2016
Italy	23	4	14	13	3	3	1972-2018	2001, 2008, 2018	2001, 2008, 2018
Latvia	10			5			1998-2011		
Lithuania	9			4			1996-2008		
The Netherlands	18	10	12	15	7	7	1971-2017	1998-2017	1998-2017
Norway	7			11			1973-2017		
Poland	9	4	7	5	3	3	1993-2011	2005-2011	2005-2011
Portugal	7	4	4	12	5	5	1979-2011	1999-2011	1999-2011
Romania	10			6			1992-2012		
Slovakia	8	6	8	5	3	3	1994-2012	2006-2012	2006-2012
Slovenia	9	7	7	6	2	2	1992-2011	2000, 2004	2000, 2004
Spain	12	10	10	8	6	6	1982-2016	2000-2016	2000-2016
Sweden	8	8	8	15	6	6	1970-2018	1998-2018	1998-2018
The United Kingdom	6	5	5	12	6	6	1970-2017	1997-2017	1997-2017
Total	263	145	173	266	97	97			

## Robustness tests

The first set of robustness tests consists of estimating the model on the three data subsets, but with ten percent of parties removed at random. The estimated coefficients, reported in Tables A2 through A4 below, remain remarkably similar to the the estimates from the full data subsets, and all terms retain their significance. What is notable, however, is the volatility of the instrument exogeneity tests, indicating that particular parties or groups of parties may have an influence in this regard.

*Table A2. Sensitivity analysis 1*

	MARPOR, 1970-	CHES	MARPOR, Matched elections
	Saliency of secondary dimension		
Saliency of secondary dimension, lagged	0.353*** (0.073)	0.378*** (0.104)	0.664*** (0.165)
Gross CIP	0.197*** (0.021)	0.177*** (0.034)	0.115* (0.051)
Gross CIP x Gross CIP	-0.016*** (0.002)	-0.014*** (0.003)	-0.010* (0.004)
Distance from coalition	0.203*** (0.023)	0.108*** (0.014)	0.100* (0.045)
Gross CIP x Distance from coalition	-0.089*** (0.010)	-0.047*** (0.008)	-0.051* (0.020)
Gross CIP x Gross CIP x Distance from coalition	0.007*** (0.001)	0.004*** (0.001)	0.004* (0.002)
Niche party status	-0.103** (0.035)	0.032 (0.032)	-0.056 (0.050)
Observations	1091	364	360
No. groups	206	126	125
No. instruments	100	42	41
AR(1) (p-value)	0.000	0.000	0.008
AR(2) (p-value)	0.920	0.159	0.111
Hansen-J (p-value)	0.422	0.395	0.349
Difference-in-Hansen, GMM instruments for levels (p-value)	0.083	0.886	0.178
Difference-in-Hansen, IV instruments for levels equation (p-value)	0.975	0.134	0.006

Table A3. Sensitivity analysis 2

	MARPOR, 1970-	CHES	MARPOR, Matched elections
	Salience of secondary dimension		
Salience of secondary dimension, lagged	0.335*** (0.076)	0.661*** (0.116)	0.601*** (0.164)
Gross CIP	0.207*** (0.023)	0.113** (0.036)	0.132** (0.047)
Gross CIP x Gross CIP	-0.017*** (0.002)	-0.009** (0.003)	-0.011** (0.004)
Distance from coalition	0.213*** (0.026)	0.062** (0.021)	0.106** (0.0391)
Gross CIP x Distance from coalition	-0.097*** (0.012)	-0.030** (0.010)	-0.0523** (0.0160)
Gross CIP x Gross CIP x Distance from coalition	0.008*** (0.001)	0.003** (0.001)	0.005** (0.001)
Niche party status	-0.090** (0.034)	-0.010 (0.0439)	-0.061 (0.043)
Observations	1088	357	364
No. groups	207	126	122
No. instruments	98	41	41
AR(1) (p-value)	0.000	0.017	0.006
AR(2) (p-value)	0.793	0.250	0.113
Hansen-J (p-value)	0.525	0.244	0.491
Difference-in-Hansen, GMM instruments for levels (p-value)	0.204	0.482	0.542
Difference-in-Hansen, IV instruments for levels equation (p-value)	0.879	0.098	0.129

Table A4. Sensitivity analysis 3

	MARPOR, 1970-	CHES	MARPOR, Matched elections
	Salience of secondary dimension		
Salience of secondary dimension, lagged	0.347*** (0.070)	0.394** (0.134)	0.571*** (0.121)
Gross CIP	0.195*** (0.021)	0.179*** (0.039)	0.140*** (0.039)
Gross CIP x Gross CIP	-0.0167*** (0.002)	-0.014*** (0.003)	-0.012** (0.004)
Distance from coalition	0.205*** (0.023)	0.105*** (0.022)	0.092*** (0.025)

Gross CIP x Distance from coalition	-0.091*** (0.010)	-0.047*** (0.011)	-0.052*** (0.014)
Gross CIP x Gross CIP x Distance from coalition	0.007*** (0.001)	0.004*** (0.001)	0.005*** (0.001)
Niche party status	-0.102** (0.035)	0.002 (0.039)	0.027 (0.043)
Observations	1128	377	390
No. groups	207	126	137
No. instruments	100	42	42
AR(1) (p-value)	0.000	0.001	0.008
AR(2) (p-value)	0.850	0.299	0.264
Hansen-J (p-value)	0.480	0.587	0.553
Difference-in-Hansen, GMM instruments for levels (p-value)	0.155	0.835	0.767
Difference-in-Hansen, IV instruments for levels equation (p-value)	0.734	0.088	0.259

The second set of robustness tests involves alternate specifications of the model. The first of these concerns an alternative measure for bargaining strength, the Banzhaf power index. Compared to the more complex coalition inclusion probability index used in the main model, the Banzhaf power index is based on the number of 'swings' a party has when determining majority situations in parliament, based on two parameters: the number of seats (or seat share) and the decision rule in parliament. The more influence a party has over majority conditions, the greater its Banzhaf index, from 0 to 1. The expectation here is that while the same pattern should be visible as when using gross CIP as the measure of bargaining strength, as the Banzhaf power index is a more straight-forward approach, it may not be as precise, and hence the estimates are expected to be less certain (i.e., the standard errors should be larger). As we can see from Table A5 below, there are some notable differences, albeit the main results remain largely similar (as can be confirmed in the set of figures included at the end of the online appendix). Some notable differences compared to the estimates using gross CIP as the measure of bargaining strength is that there is evidence of an AR(2) process in the 1970-MARPOR data subset. Moreover, the instrument exogeneity tests also tend downwards with fairly low p-values.

*Table A5. Alternate model specification, Banzhaf power index*

	MARPOR, 1970-	CHES	MARPOR, Matched elections
	Salience of secondary dimension		
Salience of secondary dimension, lagged	0.703*** (0.053)	0.571*** (0.121)	0.867*** (0.042)
Banzhaf index	0.112*** (0.018)	0.140*** (0.039)	0.063*** (0.016)

Banzhaf index x Banzhaf index	-0.009*** (0.002)	-0.012** (0.004)	-0.006*** (0.002)
Distance from coalition	0.107*** (0.019)	0.092*** (0.025)	0.043** (0.014)
Banzhaf index x Distance from coalition	-0.067*** (0.011)	-0.052*** (0.014)	-0.037*** (0.010)
Banzhaf index x Banzhaf x Distance from coalition	0.006*** (0.001)	0.005*** (0.001)	0.004*** (0.001)
Niche party status	-0.073* (0.030)	0.027 (0.043)	-0.042 (0.058)
Observations	1257	390	385
No. groups	239	137	134
No. instruments	100	42	41
AR(1) (p-value)	0.000	0.008	0.000
AR(2) (p-value)	0.092	0.264	0.148
Hansen-J (p-value)	0.274	0.553	0.507
Difference-in-Hansen, GMM instruments for levels (p-value)	0.086	0.767	0.838
Difference-in-Hansen, IV instruments for levels equation (p-value)	0.138	0.259	0.030

In the next two tests, rather than using a two-dimensional measure of distance from the likeliest coalition, I instead use single-dimensional measures, corresponding to the primary and secondary dimension. If either dimension plays little effect in a party's choice of strategy, it should be reflected in clearly diverging estimates depending on which measure of distance is used, while if the results are similar, it lends credence to the idea that using two-dimensional measures of distance have merit. In Table A6, the estimates using distance on the primary dimension are reported. The 1970- MARPOR data subset and CHES data subset estimates remain similar and significant to their two-dimensional counterpart, the matched MARPOR estimates do not fare so well. Notably, the gross CIP and squared gross CIP terms fail to reach customary levels of significance (although only barely), and the instrument exogeneity tests report very low p-values. Again, it seems that not leveraging the full set of MARPOR data results in a toll paid.

*Table A6. Alternate model specification, primary distance from likeliest coalition*

	MARPOR, 1970-	CHES	MARPOR, Matched elections
	Salience of secondary dimension		
Salience of secondary dimension, lagged	0.463*** (0.066)	0.594*** (0.129)	0.803*** (0.108)
Gross CIP	0.163*** (0.020)	0.131*** (0.038)	0.071 (0.037)

Gross CIP x Gross CIP	-0.014*** (0.002)	-0.011*** (0.003)	-0.006 (0.003)
Distance from coalition on primary dimension	0.241*** (0.032)	0.105** (0.033)	0.0913* (0.046)
Gross CIP x Distance from coalition on primary dimension	-0.111*** (0.016)	-0.054** (0.017)	-0.053* (0.025)
Gross CIP x Gross CIP x Distance from coalition on primary dimension	0.009*** (0.001)	0.005** (0.002)	0.005* (0.003)
Niche party status	-0.110** (0.037)	-0.011 (0.038)	-0.080 (0.055)
Observations	1229	406	402
No. groups	232	141	139
No. instruments	100	42	41
AR(1) (p-value)	0.000	0.001	0.005
AR(2) (p-value)	0.473	0.236	0.136
Hansen-J (p-value)	0.405	0.671	0.258
Difference-in-Hansen, GMM instruments for levels (p-value)	0.187	0.344	0.069
Difference-in-Hansen, IV instruments for levels equation (p-value)	0.169	0.356	0.004

Turning instead to distance on the secondary dimension, with coefficients reported in Table A7. Results are largely similar to the previous model, but with some important caveats. First, instrument exogeneity appears to have stronger support for the 1970- MARPOR data subset than when using primary distance. Second, the estimates for the matched MARPOR data subset again reach significance for all the terms of interest, albeit the instruments cannot be considered exogeneous as a group. To summarize briefly, then, using a two-dimensional measure appears to have merit, given the comparatively more certain estimates in the main model for the matched MARPOR data subset.

*Table A7. Alternate model specification, secondary distance from likeliest coalition*

	MARPOR, 1970-	CHES	MARPOR, Matched elections
		Salience of secondary dimension	
Salience of secondary dimension, lagged	0.484*** (0.064)	0.448*** (0.117)	0.788*** (0.085)
Gross CIP	0.160*** (0.018)	0.149*** (0.027)	0.071* (0.029)
Gross CIP x Gross CIP	-0.013*** (0.002)	-0.011*** (0.002)	-0.006* (0.002)

Distance from coalition on secondary dimension	0.235*** (0.033)	0.142*** (0.028)	0.089** (0.034)
Gross CIP x Distance from coalition on secondary dimension	-0.113*** (0.015)	-0.058*** (0.009)	-0.044** (0.016)
Gross CIP x Gross CIP x Distance from coalition on secondary dimension	0.010*** (0.001)	0.005*** (0.001)	0.004* (0.002)
Niche party status	-0.081** (0.029)	-0.037 (0.037)	-0.048 (0.036)
Observations	1229	406	402
No. groups	232	141	139
No. instruments	100	42	41
AR(1) (p-value)	0.000	0.015	0.017
AR(2) (p-value)	0.164	0.481	0.147
Hansen-J (p-value)	0.609	0.444	0.316
Difference-in-Hansen, GMM instruments for levels (p-value)	0.337	0.884	0.192
Difference-in-Hansen, IV instruments for levels equation (p-value)	0.880	0.097	0.018

The final robustness test concerns the inclusion of decade dummies to account for any potential temporal effect. In part, this should be expected, as party system fragmentation and increased dimensionality in the party system have been increasing, especially so in recent decades. The reference category is set to the 1990s, and the estimates are reported in Table A8. As is fairly evident, the 1970- MARPOR data estimates remain virtually intact, while the estimates in the other two data subsets are wiped out entirely by the decade dummies, which are highly significant and with very large estimated coefficients. One culprit, as already mentioned, is that party system fragmentation and increased dimensionality are assumed to increase during the decades covered in these two data subsets. The size of the effect is however considerable. That all the decade dummies remain significant but with much weaker effects in the 1970- MARPOR data may be due to the impact of the relative time series available on a party per party basis. The number of elections covered by the CHES and MARPOR data subsets are limited, as seen in Table A1 above. Moreover, the number of parties covered is also likewise limited. As the sensitivity analyses above showcased, some tests appeared to be sensitive to which parties were included in the data. It may therefore be the case that the same applies with regard to the decade dummies.

*Table A8. Alternate model specification, inclusion of decade dummies*

	MARPOR, 1970-	CHES	MARPOR, Matched elections
	Salience of secondary dimension		

Saliency of secondary dimension, lagged	0.445*** (0.069)	-0.0790 (0.131)	0.00413 (0.119)
Gross CIP	0.153*** (0.017)	-0.0165 (0.0331)	0.0210 (0.0209)
Gross CIP x Gross CIP	-0.013*** (0.001)	0.00158 (0.00286)	-0.00190 (0.00174)
Distance from coalition	0.140*** (0.017)	0.00145 (0.0127)	0.0116 (0.0149)
Gross CIP x Distance from coalition	-0.068*** (0.008)	0.00164 (0.00753)	-0.0116 (0.00780)
Gross CIP x Gross CIP x Distance from coalition	0.006*** (0.001)	-0.000214 (0.000707)	0.00134 (0.000726)
Niche party status	-0.086** (0.028)	-0.0114 (0.0159)	-0.0249 (0.0444)
1970s	0.063** (0.021)		
1980s	0.077*** (0.020)		
2000s	0.099*** (0.021)	0.874*** (0.138)	0.759*** (0.0983)
2010s	0.097*** (0.022)	0.871*** (0.138)	0.754*** (0.101)
Observations	1229	406	402
No. groups	232	141	139
No. instruments	104	44	43
AR(1) (p-value)	0.000	0.202	0.0738
AR(2) (p-value)	0.754	0.436	0.315
Hansen-J (p-value)	0.707	0.367	0.324
Difference-in-Hansen, GMM instruments for levels (p-value)	0.130	0.689	0.323
Difference-in-Hansen, IV instruments for levels equation (p-value)	0.790	0.0364	0.218

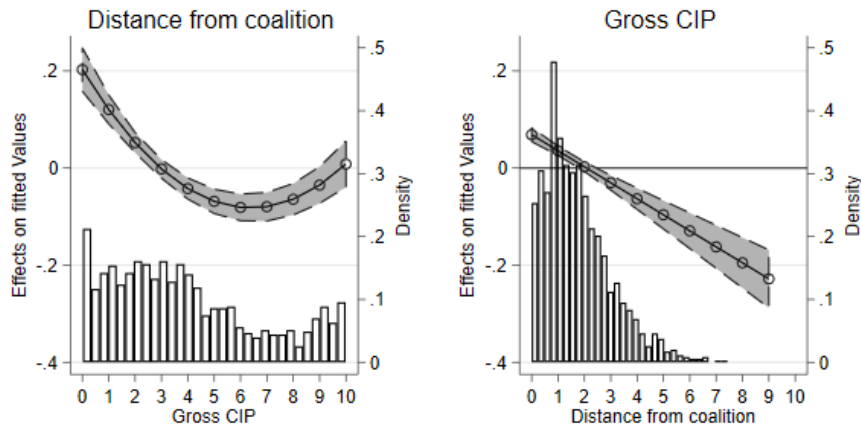
## Figures

*Figure A1. Sensitivity analysis 1*



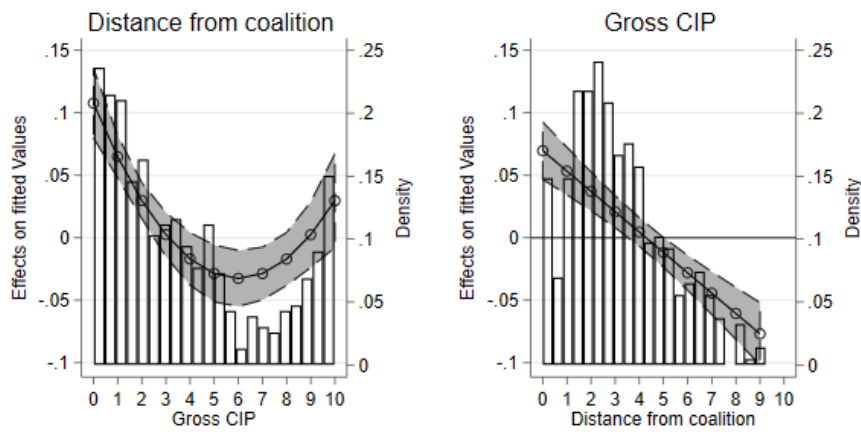
## MARPOR 1970-

Average marginal effects with 95% CI



## CHES

Average marginal effects with 95% CI



## MARPOR, Matched elections

Average marginal effects with 95% CI

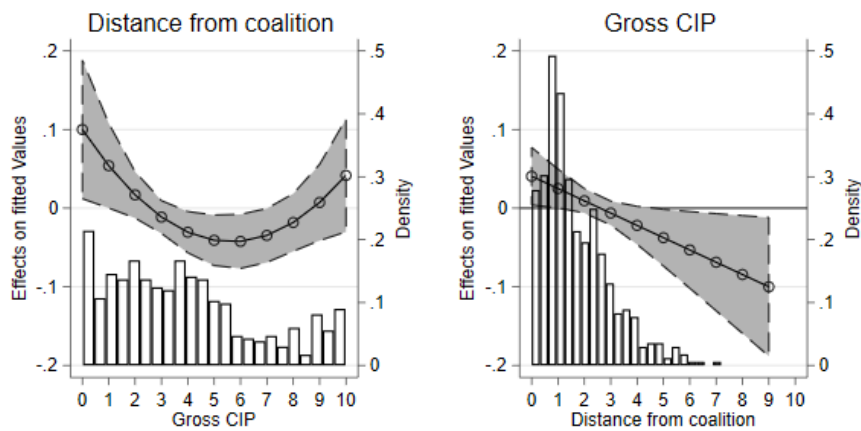


Figure A2. Sensitivity analysis 2

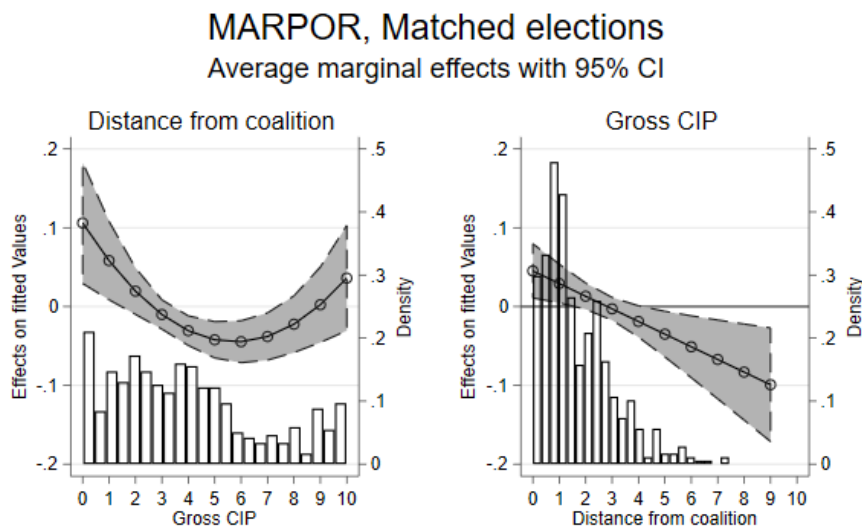
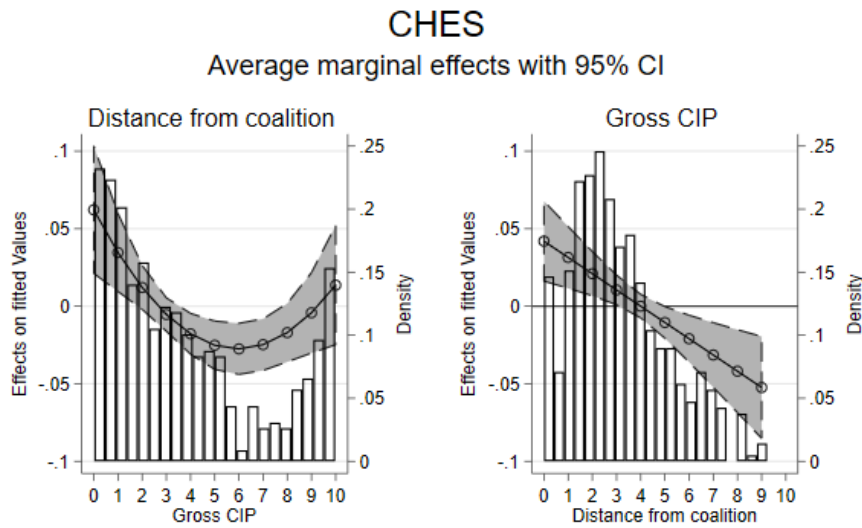
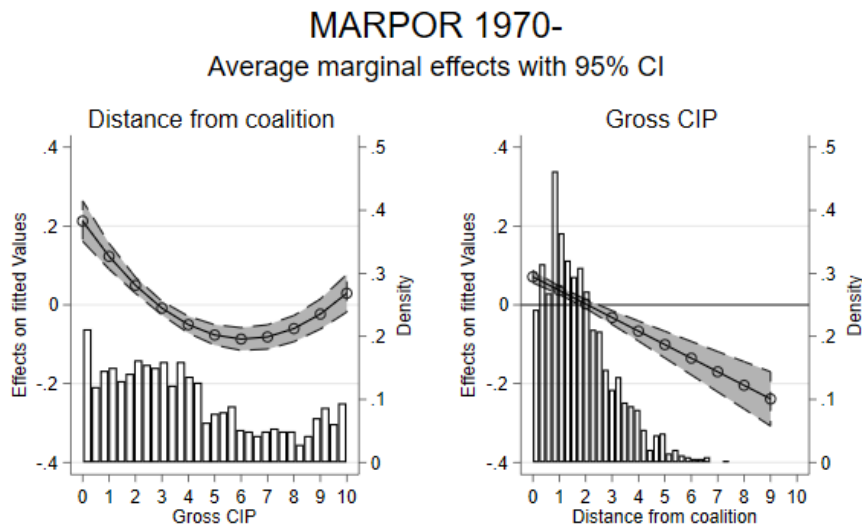


Figure A3. Sensitivity analysis 3

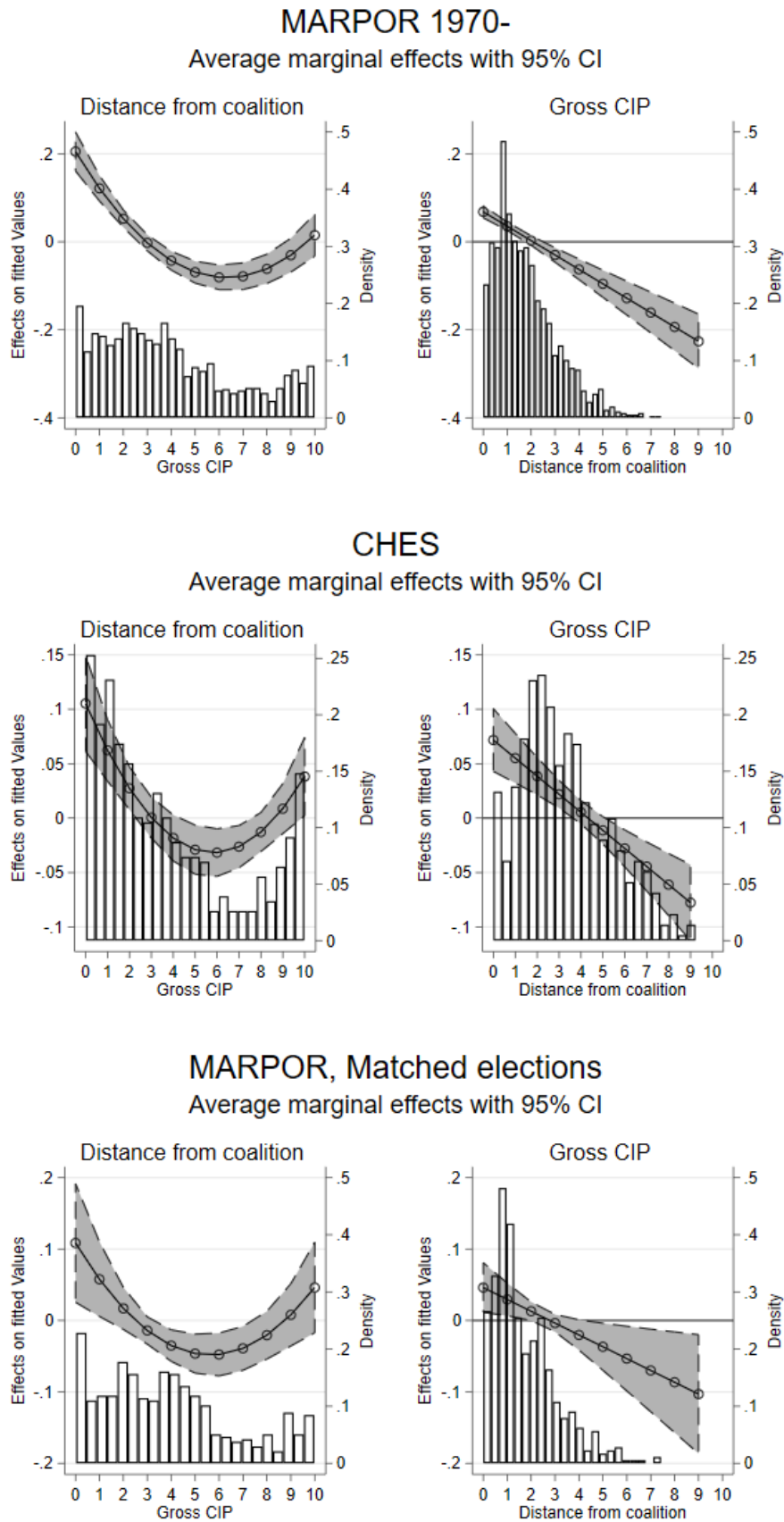


Figure A4. Alternate model specification, Banzhaf power index

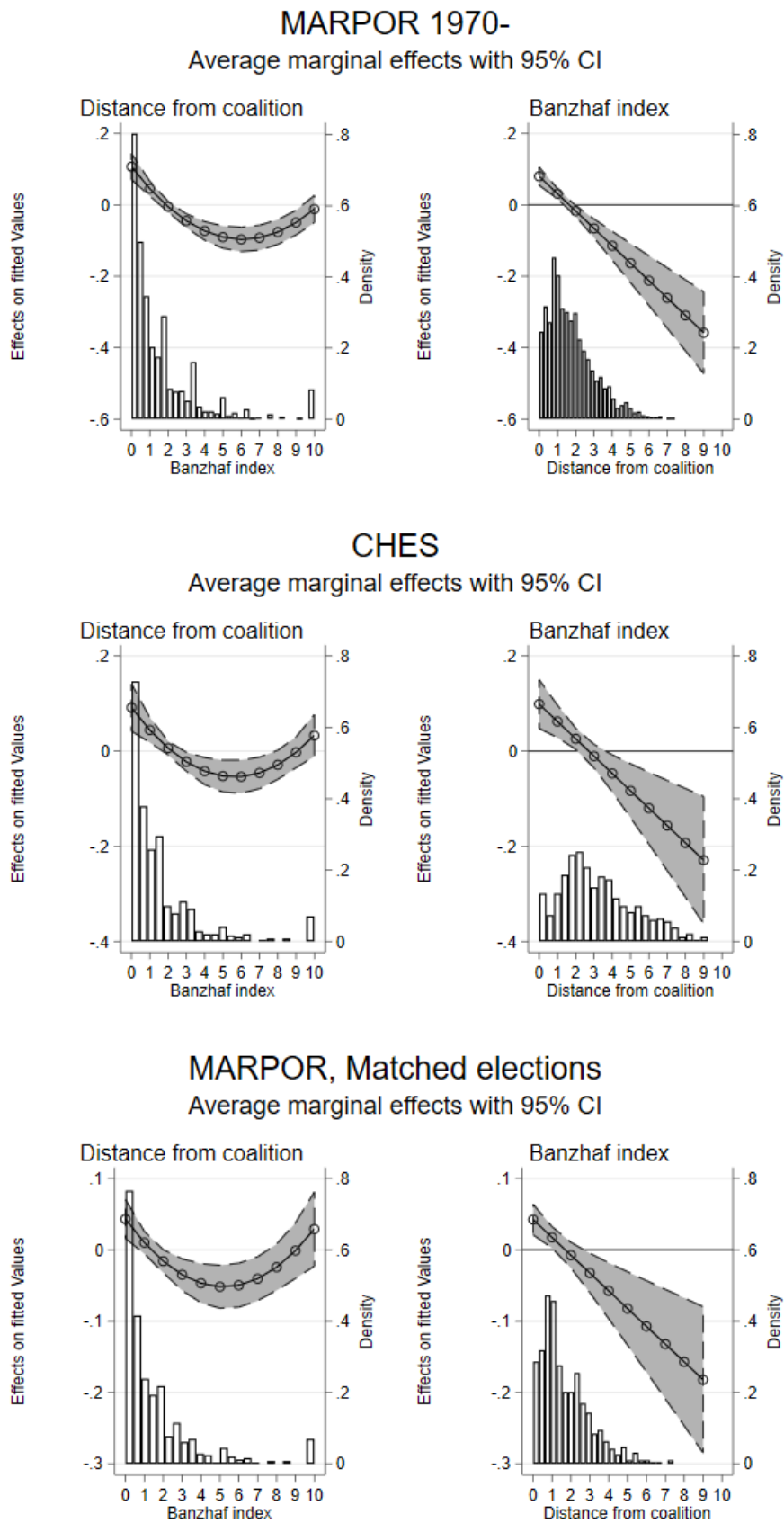


Figure A5. Alternate model specification, primary distance from likeliest coalition

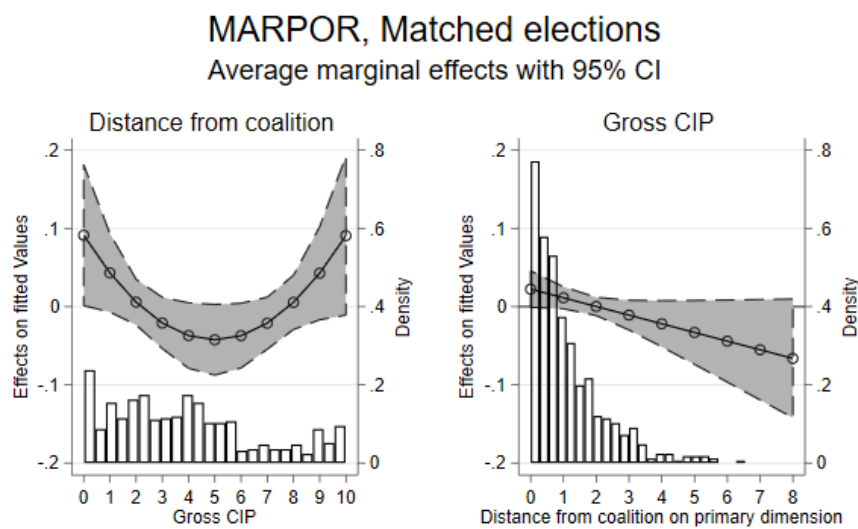
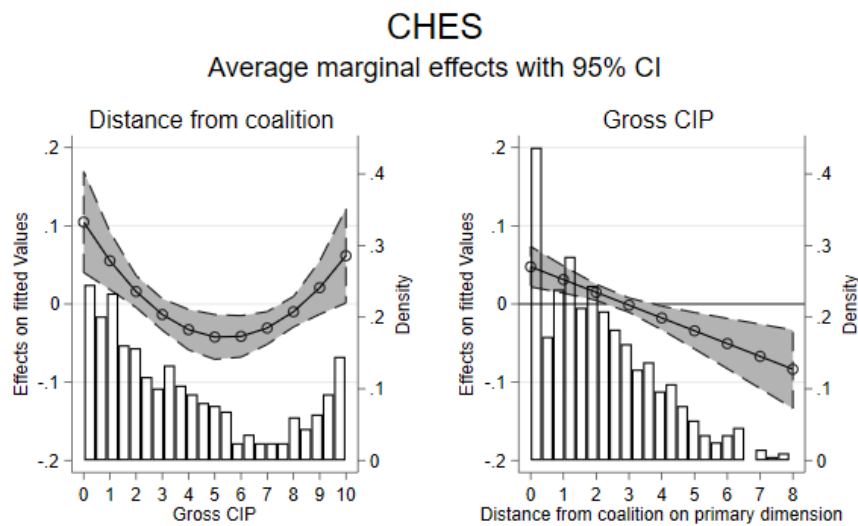
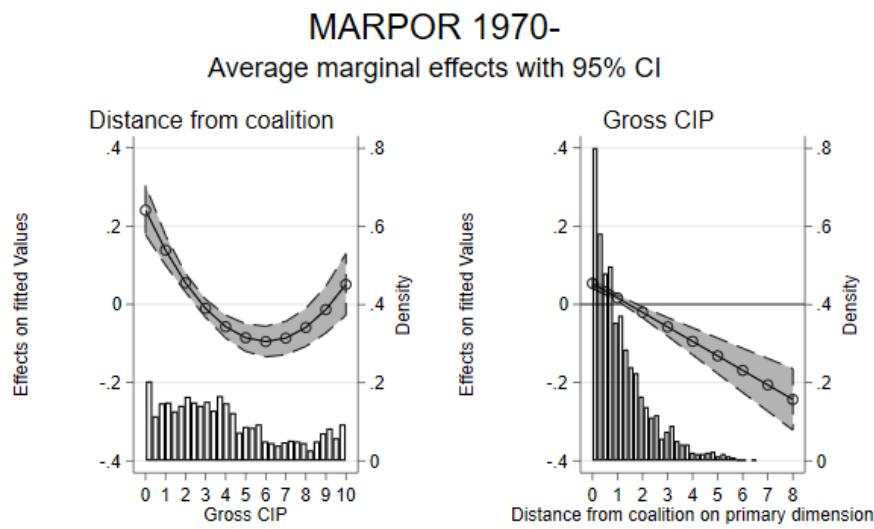


Figure A6. Alternate model specification, secondary distance from likeliest coalition

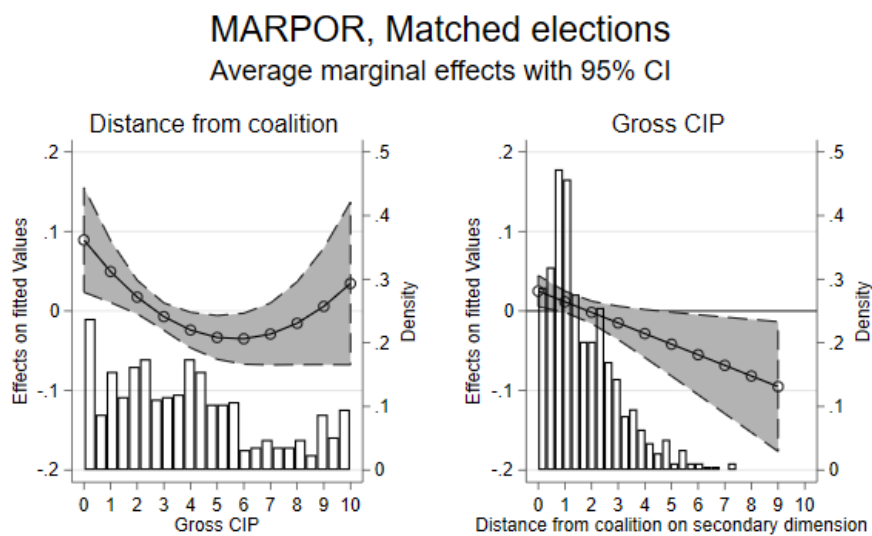
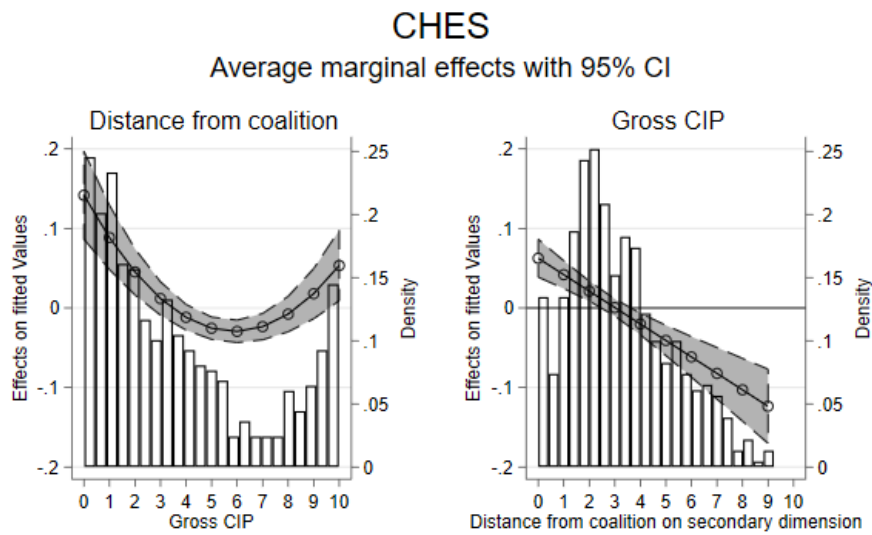
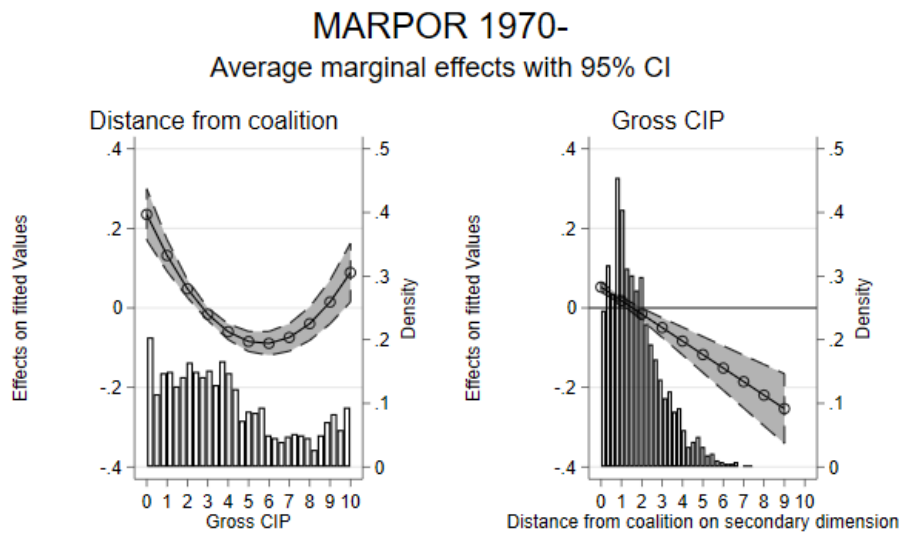


Figure A7. Alternate model specification, inclusion of decade dummies

