Cabinet Durability and Fiscal Discipline

David Fortunato and Matt W. Loftis

Online appendix

A Appendix: Duration model results

	Mean Estimate [95% C.I.]
Minority government	-0.33 [-0.6, -0.039]
Effective number of legislative parties	0.108 [-0.024, 0.291]
Polarization index	-0.066 [-0.126, -0.008]
Ideological divisions in coalition	0.005 [-0.002, 0.015]
Returnability	-0.073 [-0.375, 0.238]
Time remaining in CIEP (Logged)	0.751 [0.515, 0.95]
Intercept	2.03 [0.393, 3.81]
Duration dependence (logged)	0.554 [0.335, 0.786]
Error correlation ($\tanh^{-1}(\theta)$)	1.75 [1.4, 2.19]
Potential coalitions	95576
Formed coalitions	432

Confidence intervals in brackets.
Dependent variable is the duration in days of a given government.

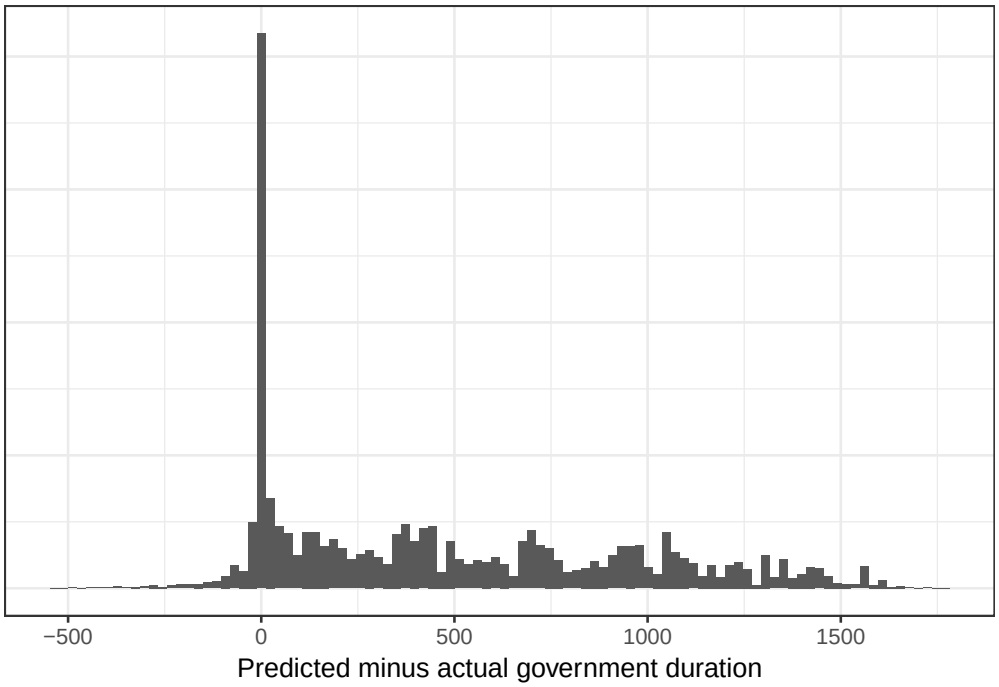
Table A.1: Bootstrapped results from duration portion of bivariate copula selection and duration model of cabinet survival for election risk. Coefficients are expressed in the accelerated failure time metric. Mean estimates are means of coefficient estimates from 1,000 bootstrap iterations, confidence intervals are 2.5 and 97.5 percentiles of distributions of coefficient estimates. Models right-censor replacements.

See figures A.1 and A.2 below for a demonstration of the out-of-sample accuracy of our predictions of cabinet survival. To create this demonstration, we repeatedly randomly selected 90% of the actual cabinets in our data and used them to estimate the pooled copula selection-duration model for election risk. We then predicted the duration of the remaining 10% of cabinets and compared these predictions to their actual durations. This process was repeated 500 times – each time randomly reselecting 90% of cabinets to use in the estimation – to ensure that the random selection of estimation data had no influence on the accuracy of the predictions.

Figure A.1 plots the predicted durations minus the true durations aggregated across all 500 estimations, giving a good summary of the overall predictive performance of the model. The

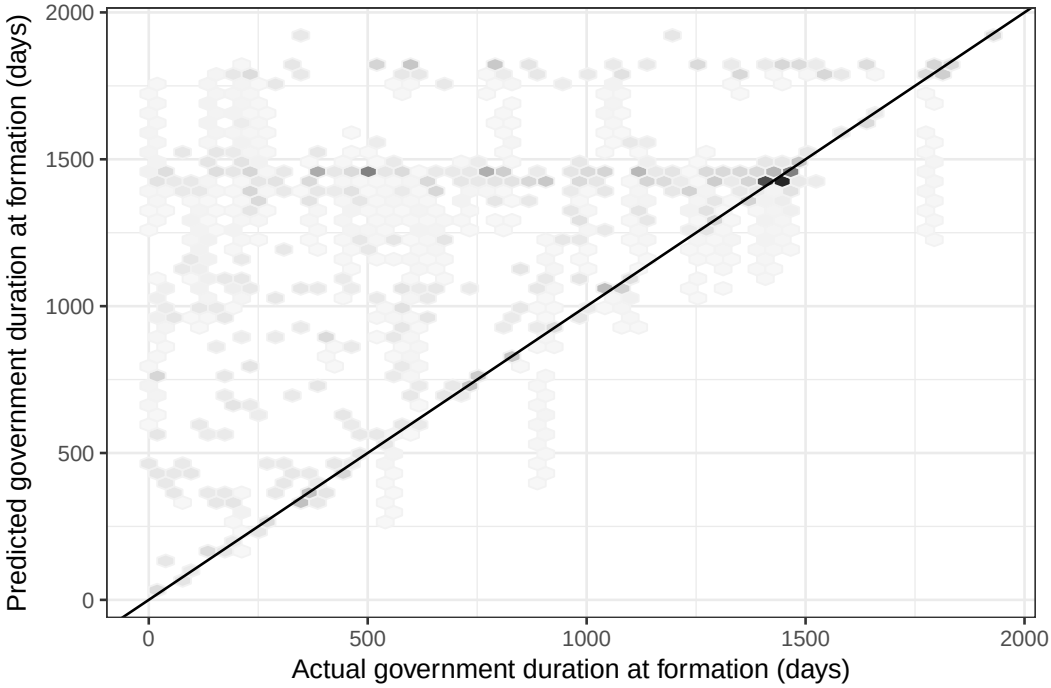
modal cabinet's duration is predicted with very little error, and most cabinets are predicted within one calendar year of their actual dissolution. Since the governments in our sample are more likely than not to terminate early and many of these terminations are due to stochastic events (see, again, Seki and Williams 2014), our model more often over- than underpredicts.

Figure A.1: Comparison of predicted durations to true durations: difference.



A further reason for this more frequent overprediction becomes clear in figure A.2. True durations are plotted against their predictions. Points in the scatterplot are binned into hexagons to reduce overplotting and shaded according to the density of observations in each bin – darker bins hold more data. The dark diagonal in this plot represents exact predictions for reference. The plot indicates that our predications also exhibit some conservatism, overestimating more frequently the duration of short-lived cabinets and underestimating the duration of longer surviving cabinets. The model captures the fundamental observable determinants of cabinet survival and makes more errors where we would prefer it to given that these are out-of-sample predictions. These figures were produced using predictions from the election model. The shapes of both plots are quite similar when modeling either pooled or replacement hazards.

Figure A.2: Predicted durations versus true durations (hexagonally binned).



B Appendix: Summary statistics

Table A.2: Spending model summary statistics

	Min	Max	Mean	Median	Std Dev	Obs
Government Spending	28.10	71.72	47.73	47.50	7.50	481
Expected Duration	-855.58	1800	740.83	767.55	482.03	481
Parties in government	0.68	6.96	2.10	2	1.23	481
Effective Number of Parties	1.55	9.08	3.68	3.34	1.43	481
Government Ideology	-2.83	2.46	-0.21	-0.23	0.85	481
Caretaker Time	-0.01	0.74	0.04	0.00	0.10	481
GDP Per Capita	10.06	63.95	23.85	22.22	7.85	481
Unemployment Rate	0.70	24.17	7.48	7.21	4.17	481
Dependency Ratio	29.84	42.34	34.07	33.71	2.25	481
Trade Openness	27.91	278.99	76.53	63.52	40.04	481
Maastricht Era	0.00	1.00	0.50	1.00	0.50	481
Budgetary Constraint Index (BCI)	0.05	1.00	0.46	0.45	0.28	481

Table A.3: Deficit spending model summary statistics

	Min	Max	Mean	Median	Std Dev	Obs
Spending Deficits	-7.62	16.01	3.56	3.49	4.32	447
Expected Duration	-855.58	1723	763.04	783.04	783.04	481
Parties in government	0.68	6.00	2.21	2.00	1.21	447
Effective Number of Parties	1.55	9.08	3.81	3.50	1.42	447
Government Ideology	-45.63	38.35	-3.98	-5.73	15.37	447
Caretaker Time	-0.01	0.74	0.05	0.00	0.10	447
GDP Per Capita	9.81	63.95	23.81	22.09	7.99	447
Unemployment Rate	0.57	24.17	7.46	7.19	4.30	447
Dependency Ratio	29.84	42.34	34.00	33.47	2.32	447
Trade Openness	31.35	278.99	78.67	66.37	40.92	447
Maastricht Era	0.00	1.00	0.50	0.00	0.50	447
Budgetary Constraint Index (BCI)	0.05	1.00	0.43	0.35	0.27	447

C Appendix: Robustness checks

Our first check evaluates the possibility that the spending results we find are not a function of electoral proximity, but of short total life expectancy which may incentivize cabinets to spend a greater amount in order to achieve their policy goals on a shortened time horizon. To this end, we include both the total predicted duration for each cabinet, as well as their remaining time in office. If this alternative explanation was driving our results, we should see the total duration exert a robust negative effect when included. This is not the case. We also estimate this model with the CIEP — the maximum time a cabinet could spend in office. Neither of these variables produce the predicted effect or negate the effect of our focal variable.

Table A.4: Spending model with total possible duration (CIEP) and total predicted duration

		Total predicted duration			CIEP		
	Variable	Coef.	(SE)	p	Coef.	(SE)	p
Lagged	Remaining Predicted Duration	-0.0004	(0.0002)	0.0430	-0.0003	(0.0001)	0.0130
	Total Predicted Duration	0.0001	(0.0002)	0.7510			
	CIEP				0.1036	(0.6928)	0.8810
	Government Ideology	-0.0060	(0.0046)	0.1970	-0.0060	(0.0047)	0.1970
	Parties in Government	0.3694	(0.1722)	0.0320	0.3677	(0.1718)	0.0320
	Budgetary Constraint Index (BCI)	1.1359	(0.7574)	0.1340	1.1275	(0.7548)	0.1350
	Parties in Government × BCI	-0.6630	(0.2910)	0.0230	-0.6611	(0.2905)	0.0230
	Effective Number of Parties	-0.1034	(0.1146)	0.3670	-0.0980	(0.1132)	0.3870
	Caretaker Time	-0.4210	(0.8670)	0.6270	-0.3701	(0.8399)	0.6590
	GDP Per Capita	1.4559	(0.1810)	0.0000	1.4562	(0.1808)	0.0000
	Unemployment Rate	-0.4117	(0.0779)	0.0000	-0.4098	(0.0780)	0.0000
	Dependency Ratio	0.2623	(0.3300)	0.4270	0.2589	(0.3302)	0.4330
	Trade Openness	0.0147	(0.0184)	0.4240	0.0154	(0.0183)	0.4010
	Spending	0.8916	(0.0207)	0.0000	0.8915	(0.0207)	0.0000
	Maastricht Era	-0.2789	(0.3459)	0.4200	-0.2771	(0.3451)	0.4220
Concurrent	GDP Per Capita	-1.3999	(-1.4065)	0.1840	-1.4057	(0.1838)	0.0000
	Unemployment Rate	0.3840	(0.0776)	0.0000	0.3815	(0.0773)	0.0000
	Dependency Ratio	-0.2205	(0.3345)	0.5100	-0.2162	(0.3348)	0.5180
	Trade Openness	-0.0233	(0.0178)	0.1910	-0.0239	(0.0177)	0.1770
Country Effects	Belgium	0.7387	(0.7819)	0.3450	0.7491	(0.7809)	0.3370
	Denmark	0.5160	(0.3798)	0.1740	0.5099	(0.3802)	0.1800
	Finland	-0.2755	(0.5146)	0.5920	-0.2782	(0.5196)	0.5920
	France	-0.0685	(0.6306)	0.9130	-0.0579	(0.6281)	0.9270
	Germany	-0.8285	(0.4595)	0.0710	-0.8216	(0.4570)	0.0720
	Greece	-0.7878	(0.5892)	0.1810	-0.7737	(0.5869)	0.1870
	Ireland	-0.1632	(0.6710)	0.8080	-0.1453	(0.6655)	0.8270
	Italy	-0.1572	(0.5281)	0.7660	-0.1638	(0.5287)	0.7570
	Luxembourg	0.5067	(1.2249)	0.6790	0.4763	(1.2186)	0.6960
	Netherlands	0.2795	(0.4726)	0.5540	0.2804	(0.4708)	0.5520
	Portugal	-0.6625	(0.4879)	0.1750	-0.6664	(0.4876)	0.1720
	Spain	-0.9108	(0.7621)	0.2320	-0.8874	(0.7494)	0.2360
	Sweden	0.5183	(0.4199)	0.2170	0.5064	(0.4216)	0.2300
	United Kingdom	-1.2437	(0.5741)	0.0300	-1.2316	(0.5683)	0.0300
	Intercept	4.5522	(2.7375)	0.0960	4.5378	(2.7364)	0.0970
	N		487			487	
	R^2		0.9615			0.9615	

Next, we evaluate potential bias induced by endogenous election timing. Following Schleiter and Tavits (2016), we instrument opportunistic elections with the cabinet's formal dissolution powers coded by Goplerud and Schleiter (2015) — country fixed effects must be omitted as several countries in our sample have never had an opportunistic election. In the first stage, we predict the probability of an opportunistic election for each country year, then impute these predicted probabilities into our total spending models. Note that predicted duration has a very large negative effect on opportunistic election timing, just as Diermeier and Stevenson (2000) would predict. However, adding the probability of opportunistic election into our spending model does not negate the effect of predicted duration.

Table A.5: Instrumental variable model accounting for opportunistic elections in spending. Dissolution power instruments opportunistic elections in the first stage.

		Election Model			Spending Models					
		Logistic Regression			Pooled			Fixed Effects		
	Variable	Coef.	(SE)	p	Coef.	(SE)	p	Coef.	(SE)	p
Lagged	Opportunistic Election				0.4692	(1.3691)	0.7320	-0.1668	(1.6744)	0.9210
	Dissolution Power	0.1800	(0.0899)	0.0450						
	Expected Duration	-0.0012	(0.0005)	0.0130	-0.0003	(0.0002)	0.0860	-0.0004	(0.0002)	0.0160
	Parties in Government	-0.9586	(0.5954)	0.1070	0.2496	(0.1283)	0.0520	0.3483	(0.1805)	0.0540
	ENP	0.2655	(0.2602)	0.3080	0.0348	(0.0756)	0.6460	-0.1448	(0.1106)	0.1900
	Caretaker Time	-16.1787	(10.5761)	0.1260	0.9403	(0.7807)	0.2280	0.0222	(0.9143)	0.9810
	GDP Per Capita	-0.4272	(0.5835)	0.4640	1.4721	(0.1808)	0.0000	1.4895	(0.1870)	0.0000
	Unemployment Rate	0.0153	(0.2240)	0.9460	-0.4244	(0.0776)	0.0000	-0.4100	(0.0782)	0.0000
	Dependency Ratio	1.5652	(1.1260)	0.1650	0.1044	(0.3478)	0.7640	0.2550	(0.3530)	0.4700
	Trade Openness	0.0413	(0.0497)	0.4060	0.0183	(0.0177)	0.3020	0.0160	(0.0186)	0.3880
	Spending	0.0140	(0.0339)	0.6800	0.9294	(0.0112)	0.0000	0.8928	(0.0214)	0.0000
	Maastricht Era	0.4466	(0.6469)	0.4900	-0.4646	(0.2559)	0.0690	-0.2695	(0.3426)	0.4320
	Budgetary Constraint Index (BCI)	-2.3229	(1.8103)	0.1990	0.7201	(0.4722)	0.1270	1.1858	(0.7731)	0.1250
	Parties in Government × BCI	1.4162	(0.9869)	0.1510	-0.4374	(0.2155)	0.0420	-0.6212	(0.2944)	0.0350
	Government Ideology	0.0757	(0.2493)	0.7610	-0.1259	(0.0790)	0.1110	-0.0328	(0.0864)	0.7040
Concurrent	GDP Per Capita	0.4186	(0.5765)	0.4680	-1.4219	(0.1774)	0.0000	-1.4443	(0.1909)	0.0000
	Unemployment Rate	0.0559	(0.2247)	0.8030	0.3658	(0.0756)	0.0000	0.3793	(0.0779)	0.0000
	Dependency Ratio	-1.5018	(1.1070)	0.1750	-0.0441	(0.3444)	0.8980	-0.2191	(0.3538)	0.5360
	Trade Openness	-0.0515	(0.0504)	0.3070	-0.0207	(0.0176)	0.2390	-0.0250	(0.0183)	0.1710
Fixed Effects	Belgium							0.7675	(0.7941)	0.3340
	Denmark							0.4851	(0.3884)	0.2120
	Finland							-0.2468	(0.5183)	0.6340
	France							-0.0646	(0.6399)	0.9200
	Germany							-0.9175	(0.4652)	0.0490
	Greece							-0.8888	(0.6000)	0.1390
	Ireland							-0.0426	(0.6768)	0.9500
	Italy							-0.2303	(0.5507)	0.6760
	Luxembourg							0.7693	(1.2427)	0.5360
	Netherlands							0.1963	(0.4737)	0.6790
	Portugal							-0.7027	(0.5012)	0.1610
	Spain							-1.0103	(0.7545)	0.1810
	Sweden							0.5343	(0.4313)	0.2150
	United Kingdom							-1.3515	(0.5768)	0.0190
	Intercept	-5.5643	(5.6216)	0.3220	1.4785	(1.7331)	0.3940	5.1605	(2.8299)	0.0680
	N		487			487			487	
	ln(likelihood)		-83.2178			—			—	
	R^2		—			0.9599			0.9623	

Here, we repeat the instrumental variable analysis for our deficit spending models. Our results hold.

Table A.6: Instrumental variable model accounting for opportunistic elections in deficits. Dissolution power instruments opportunistic elections in the first stage.

		Election Model			Deficit Spending Models					
		Logistic Regression			Pooled			Fixed Effects		
	Variable	Coef.	(SE)	p	Coef.	(SE)	p	Coef.	(SE)	p
Lagged	OpportunisticElection				-0.9864	(1.7496)	0.5730	-0.9652	(1.9573)	0.6220
	Dissolution Power	0.1838	(0.0929)	0.0480						
	Expected Duration	-0.0011	(0.0005)	0.0490	-0.0006	(0.0002)	0.0010	-0.0007	(0.0002)	0.0000
	Parties in Government	-1.0007	(0.6013)	0.0960	0.0885	(0.1587)	0.5770	0.4375	(0.1912)	0.0220
	ENP	0.2590	(0.2555)	0.3110	-0.2129	(0.0824)	0.0100	-0.1287	(0.1234)	0.2970
	Caretaker Time	-13.2356	(10.3432)	0.2010	0.5995	(0.8540)	0.4830	0.6674	(0.9775)	0.4950
	GDP Per Capita	-0.4022	(0.6262)	0.5210	1.1192	(0.2046)	0.0000	1.0825	(0.2021)	0.0000
	Unemployment Rate	0.0386	(0.2343)	0.8690	-0.5037	(0.0881)	0.0000	-0.5122	(0.0832)	0.0000
	Dependency Ratio	0.7094	(1.2921)	0.5830	-0.3775	(0.4050)	0.3510	-0.3627	(0.3991)	0.3640
	Trade Openness	0.0460	(0.0516)	0.3720	0.0176	(0.0182)	0.3320	0.0164	(0.0183)	0.3700
	Spending	-0.0405	(0.0825)	0.6240	0.8293	(0.0281)	0.0000	0.6984	(0.0422)	0.0000
	Maastricht Era	0.5364	(0.7121)	0.4510	-0.4265	(0.2945)	0.1480	-0.2607	(0.3532)	0.4600
	Budgetary Constraint Index (BCI)	-2.8251	(2.1010)	0.1790	0.9568	(0.6835)	0.1620	0.9271	(0.8782)	0.2910
	Parties in Government × BCI	1.5630	(1.0017)	0.1190	-0.1401	(0.2886)	0.6270	-0.8680	(0.3191)	0.0070
	Government Ideology	0.0258	(0.2828)	0.9270	0.1115	(0.1017)	0.2730	0.0731	(0.1043)	0.4830
Concurrent	GDP Per Capita	0.3510	(0.6231)	0.5730	-1.1633	(0.2032)	0.0000	-1.1241	(0.2089)	0.0000
	Unemployment Rate	0.0397	(0.2366)	0.8670	0.5183	(0.0868)	0.0000	0.5899	(0.0864)	0.0000
	Dependency Ratio	-0.6647	(1.2631)	0.5990	0.3274	(0.3964)	0.4090	0.3469	(0.3911)	0.3750
	Trade Openness	-0.0516	(0.0533)	0.3340	-0.0052	(0.0182)	0.7740	-0.0021	(0.0184)	0.9090
Fixed Effects	Belgium							-0.7106	(0.8978)	0.4290
	Denmark							-0.2860	(0.4311)	0.5070
	Finland							-2.3720	(0.6585)	0.0000
	France							0.5078	(0.6844)	0.4580
	Germany							-0.5445	(0.4544)	0.2310
	Greece							0.7382	(0.5312)	0.1650
	Ireland							-0.1720	(0.7571)	0.8200
	Italy							1.3357	(0.5466)	0.0150
	Luxembourg							-0.8831	(1.2487)	0.4790
	Netherlands							-0.0980	(0.5587)	0.8610
	Portugal							-0.4305	(0.4894)	0.3790
	Spain							-0.5882	(0.6157)	0.3390
	Sweden							-0.6370	(0.4533)	0.1600
	Intercept	-3.3943	(6.1585)	0.5820	4.0059	(2.0989)	0.0560	2.4323	(2.8218)	0.3890
	N		448			448			448	
	ln(likelihood)		-72.712			—			—	
	R^2		—			0.8613			0.8734	

The tables below summarize results from regressions modeling predicted duration in different ways for our deficit models. As noted in the main text, there are three ways to estimate these models: using the total remaining predicted duration, using a binary indicating that the cabinet has surpassed its predicted time in office, or using an implied interaction of the two. In the main text we present results using the total remaining predicted duration to maintain comparability with our total spending models. However, all three specifications support our prediction.

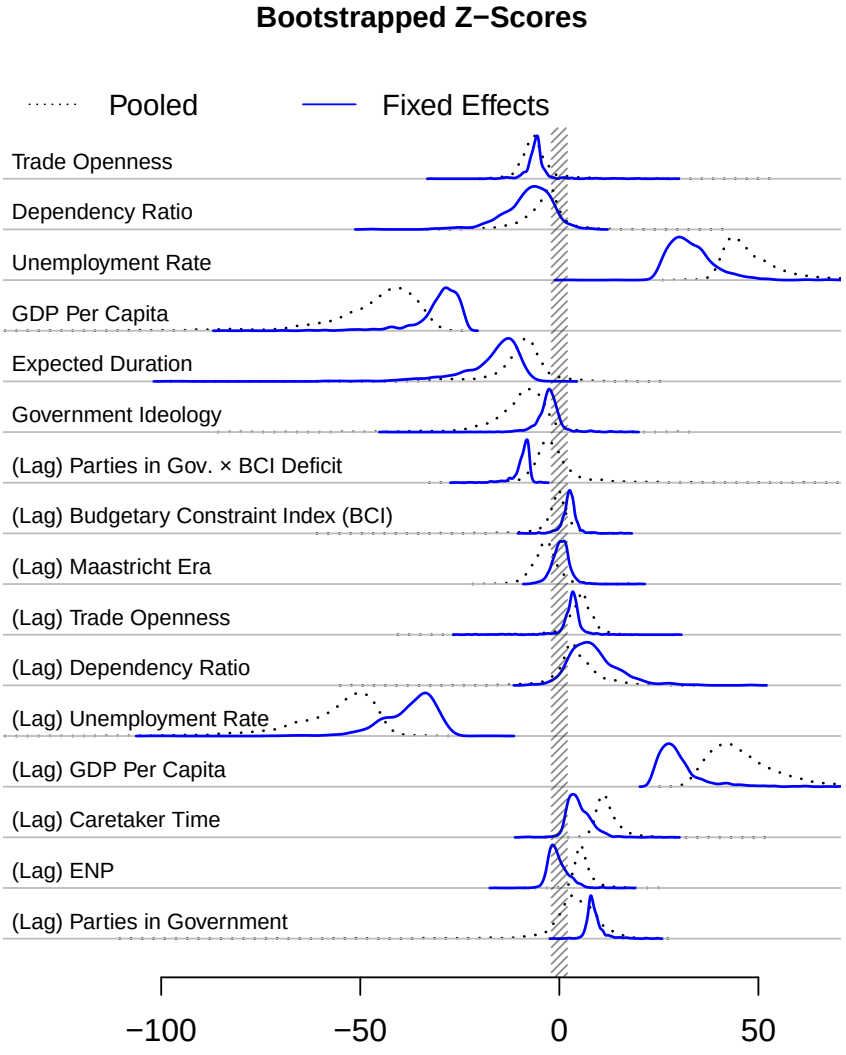
Table A.7: Implied interaction and indicator only model of deficit spending where "outlived expectations" is a binary indicating the cabinet has surpassed its predicted duration.

		Implied interaction			Indicator only		
	Variable	Coef.	(SE)	p	Coef.	(SE)	p
	Outlived Expectations	0.2264	(0.3305)	0.4930	0.5727	(0.2665)	0.0320
	Expected Duration	-0.0003	(0.0002)	0.0950			
	Parties in Government	0.5591	(0.1918)	0.0040	0.5612	(0.1925)	0.0040
	Effective Number of Parties	-0.1214	(0.1272)	0.3400	-0.1427	(0.1263)	0.2590
	Government Ideology	-0.0057	(0.0056)	0.3090	-0.0060	(0.0056)	0.2800
	Caretaker Time	-0.6361	(0.9368)	0.4970	-0.4644	(0.9314)	0.6180
Lagged	GDP Per Capita	1.0292	(0.2021)	0.0000	1.0225	(0.2042)	0.0000
	Unemployment Rate	-0.4947	(0.0850)	0.0000	-0.4896	(0.0859)	0.0000
	Dependency Ratio	-0.3642	(0.3834)	0.3420	-0.3192	(0.3861)	0.4080
	Trade Openness	0.0186	(0.0184)	0.3130	0.0178	(0.0186)	0.3400
	Deficit Spending	0.7126	(0.0417)	0.0000	0.7130	(0.0421)	0.0000
	Maastricht Era	-0.3050	(0.3689)	0.4080	-0.3160	(0.3718)	0.3950
	Budgetary Constraint Index (BCI)	1.1086	(0.8489)	0.1920	1.1719	(0.8475)	0.1670
	Parties in Government × BCI	-1.0415	(0.3271)	0.0010	-1.0379	(0.3269)	0.0020
	GDP Per Capita	-1.0414	(0.2084)	0.0000	-1.0297	(0.2104)	0.0000
Concurrent	Unemployment Rate	0.5785	(0.0880)	0.0000	0.5742	(0.0888)	0.0000
	Dependency Ratio	0.3750	(0.3773)	0.3200	0.3245	(0.3797)	0.3930
	Trade Openness	-0.0060	(0.0181)	0.7390	-0.0078	(0.0183)	0.6710
	Belgium	-0.6313	(0.8996)	0.4830	-0.5627	(0.9022)	0.5330
	Denmark	-0.2540	(0.4234)	0.5490	-0.2681	(0.4220)	0.5250
	Finland	-2.5780	(0.6992)	0.0000	-2.5900	(0.7040)	0.0000
	France	0.3823	(0.6843)	0.5760	0.2654	(0.6743)	0.6940
	Germany	-0.4218	(0.4595)	0.3590	-0.4839	(0.4603)	0.2930
	Greece	0.8372	(0.5274)	0.1120	0.8037	(0.5321)	0.1310
Country Effects	Ireland	-0.3180	(0.7570)	0.6740	-0.2121	(0.7654)	0.7820
	Italy	1.5076	(0.5345)	0.0050	1.4506	(0.5316)	0.0060
	Luxembourg	-1.4244	(1.2767)	0.2650	-1.1595	(1.2811)	0.3650
	Netherlands	-0.0009	(0.5614)	0.9990	0.0443	(0.5673)	0.9380
	Portugal	-0.1396	(0.4936)	0.7770	-0.0935	(0.4924)	0.8490
	Spain	-0.5328	(0.6226)	0.3920	-0.6300	(0.6227)	0.3120
	Sweden	-0.6815	(0.4531)	0.1330	-0.6282	(0.4628)	0.1750
	Intercept	0.2647	(2.7849)	0.9240	0.2966	(2.8442)	0.9170
	N		448			448	
	R^2		0.8724			0.8717	

D Appendix: Bootstrapped z-score plots

Figure A.3 summarizes the z-scores for each parameter estimate from all 1,000 spending models; both pooled and fixed effects. We plot the z-scores because they are pivotal statistics — i.e. their sampling distribution does not depend on unknown parameters — making them a good choice for comparing across models as we do here (Shao 2003).

Figure A.3: Aggregated results from bootstrapped model of spending as percent of GDP.



Note: Lagged spending variable is excluded from the plot to preserve the scale. Its z-scores are much larger relative to the other variables.

Table A.8: Aggregated results from bootstrapped model of social transfers as percent of GDP.

		Pooled Model			Fixed Effects		
	Variable	Mean	SD	p	Mean	SD	p
Lagged	Expected Duration	-0.0002	(0.0001)	0.0058	-0.0002	(0.0001)	0.0027
	Government Ideology	-0.0255	(0.0503)	0.3061	0.0007	(0.0555)	0.4971
	Parties in Government	0.0890	(0.0771)	0.1234	-0.0561	(0.0924)	0.2714
	ENP	0.0062	(0.0391)	0.4376	-0.1159	(0.0711)	0.0519
	Caretaker Time	0.2579	(0.3604)	0.2374	-0.3209	(0.4859)	0.2545
	GDP Per Capita	0.6308	(0.0875)	0.0000	0.6587	(0.0887)	0.0000
	Unemployment Rate	-0.2312	(0.0423)	0.0000	-0.2185	(0.0429)	0.0000
	Dependency Ratio	-0.3247	(0.1563)	0.0191	-0.4667	(0.1703)	0.0029
	Trade Openness	0.0183	(0.0082)	0.0123	0.0156	(0.0089)	0.0392
	Social Transfers	0.9412	(0.0096)	0.0000	0.8926	(0.0277)	0.0000
	Maastricht Era	-0.1805	(0.1218)	0.0690	-0.0523	(0.1743)	0.3824
	Budgetary Constraint Index (BCI)	0.6981	(0.2697)	0.0050	0.3605	(0.3286)	0.1372
	Parties in Government x BCI	-0.1973	(0.1198)	0.0497	-0.0246	(0.1302)	0.4256
Concurrent	GDP Per Capita	-0.6013	(0.0857)	0.0000	-0.6341	(0.0875)	0.0000
	Unemployment Rate	0.2111	(0.0416)	0.0000	0.2166	(0.0423)	0.0000
	Dependency Ratio	0.3426	(0.1560)	0.0140	0.4396	(0.1661)	0.0039
	Trade Openness	-0.0207	(0.0082)	0.0056	-0.0181	(0.0087)	0.0186
Fixed Effects	Belgium				0.5186	(0.4830)	0.1423
	Denmark				-0.0066	(0.1573)	0.4857
	Finland				0.1423	(0.2829)	0.3087
	France				-0.0193	(0.3298)	0.4779
	Germany				-0.3957	(0.2101)	0.0296
	Greece				-1.0746	(0.4114)	0.0047
	Ireland				-0.4885	(0.4937)	0.1607
	Italy				-0.2098	(0.2817)	0.2288
	Luxembourg				-0.3076	(0.5538)	0.2904
	Netherlands				-0.4627	(0.2739)	0.0460
	Portugal				-0.7177	(0.3571)	0.0227
	Spain				-0.8390	(0.4452)	0.0300
	Sweden				0.1571	(0.2131)	0.2302
	Intercept	0.8209	(0.8536)	0.1674	4.4586	(1.3551)	0.0005
	N		449			449	
	R^2		0.8601			0.8725	

Here, we examine the possibility that true durations outperform expected durations in predicting public spending. This is to evaluate the fit of a cycling under completely endogenous elections model that we discussed in the main text of the manuscript. In a world where spending and elections are co-determined, true durations should provide better fit than expected durations. Table A.9 suggests that this is not the case as the true durations covariate is of moderate statistical significance in the pooled model only and the fit is poorer than our expected durations model in the main text. Indeed, in every iteration of our bootstrap, expected durations predict spending more accurately than true durations, which supports our theoretical model over this alternative.

Table A.9: Aggregated results from bootstrapped model of public spending as percent of GDP, replacing expected duration with true duration.

		Pooled Model			Fixed Effects		
	Variable	Mean	SD	p	Mean	SD	p
Lagged	True Remaining Duration	-0.0003	(0.0002)	0.0766	-0.0002	(0.0002)	0.1154
	Government Ideology	-0.0999	(0.0850)	0.1198	-0.0499	(0.0933)	0.2968
	Parties in Government	0.2799	(0.1284)	0.0146	0.3106	(0.1760)	0.0380
	ENP	-0.0068	(0.0747)	0.4631	-0.1719	(0.1147)	0.0673
	Caretaker Time	0.2335	(0.7762)	0.3825	-0.4302	(0.9132)	0.3192
	GDP Per Capita	1.3886	(0.1907)	0.0000	1.4030	(0.1945)	0.0000
	Unemployment Rate	-0.4361	(0.0801)	0.0000	-0.4167	(0.0818)	0.0000
	Dependency Ratio	0.1021	(0.3519)	0.3850	0.1850	(0.3677)	0.3078
	Trade Openness	0.0252	(0.0180)	0.0801	0.0238	(0.0194)	0.1102
	Spending	0.9300	(0.0114)	0.0000	0.8987	(0.0234)	0.0000
	Maastricht Era	-0.5236	(0.2698)	0.0264	-0.3198	(0.3679)	0.1912
	Budgetary Constraint Index (BCI)	1.2281	(0.5318)	0.0106	1.0220	(0.7523)	0.0873
	Parties in Government x BCI	-0.5566	(0.2367)	0.0091	-0.4957	(0.2922)	0.0444
Concurrent	GDP Per Capita	-1.3432	(0.1873)	0.0000	-1.3701	(0.2013)	0.0000
	Unemployment Rate	0.3763	(0.0784)	0.0000	0.3898	(0.0812)	0.0000
	Dependency Ratio	-0.0479	(0.3472)	0.4451	-0.1688	(0.3631)	0.3214
	Trade Openness	-0.0270	(0.0179)	0.0657	-0.0292	(0.0189)	0.0617
Fixed Effects	Belgium				0.6560	(0.8935)	0.2315
	Denmark				0.4167	(0.3843)	0.1388
	Finland				-0.1611	(0.5257)	0.3792
	France				-0.0941	(0.6593)	0.4439
	Germany				-0.8080	(0.5048)	0.0543
	Greece				-0.7745	(0.6172)	0.1042
	Ireland				-0.2712	(0.7377)	0.3567
	Italy				-0.2372	(0.5624)	0.3360
	Luxembourg				0.7994	(1.2440)	0.2594
	Netherlands				0.1305	(0.5341)	0.4047
	Portugal				-0.5525	(0.5162)	0.1412
	Spain				-0.8615	(0.8250)	0.1484
	Sweden				0.5907	(0.4330)	0.0863
	Intercept	1.7349	(1.8436)	0.1735	5.4654	(2.9521)	0.0318
	N		449			449	
	R^2		0.9623			0.9631	

These models examine expected durations from alternative survival model, (Saalfeld 2011), to make certain that our results are robust to alternate measures of the IV. Our results hold under the alternative measure.

Table A.10: Aggregated results from bootstrapped model of public spending as percent of GDP, replacing CMS durability measure with Saalfeld.

		Pooled Model			Fixed Effects		
	Variable	Mean	SD	p	Mean	SD	p
Lagged	Expected Duration	-0.0003	(0.0002)	0.0475	-0.0003	(0.0002)	0.0536
	Government Ideology	-0.1027	(0.0848)	0.1133	-0.0599	(0.0934)	0.2609
	Parties in Government	0.2525	(0.1296)	0.0257	0.3026	(0.1757)	0.0424
	ENP	-0.0048	(0.0751)	0.4733	-0.1674	(0.1140)	0.0712
	Caretaker Time	0.4854	(0.7680)	0.2649	-0.1777	(0.9037)	0.4230
	GDP Per Capita	1.4241	(0.1929)	0.0000	1.4395	(0.1964)	0.0000
	Unemployment Rate	-0.4358	(0.0801)	0.0000	-0.4129	(0.0817)	0.0000
	Dependency Ratio	0.0805	(0.3526)	0.4097	0.1621	(0.3669)	0.3299
	Trade Openness	0.0232	(0.0181)	0.1011	0.0220	(0.0195)	0.1301
	Spending	0.9320	(0.0116)	0.0000	0.8996	(0.0234)	0.0000
	Maastricht Era	-0.5450	(0.2702)	0.0220	-0.3066	(0.3667)	0.2006
	Budgetary Constraint Index (BCI)	1.1997	(0.5292)	0.0120	1.0104	(0.7464)	0.0882
	Parties in Government x BCI	-0.5548	(0.2350)	0.0089	-0.5143	(0.2890)	0.0372
Concurrent	GDP Per Capita	-1.3825	(0.1896)	0.0000	-1.4146	(0.2036)	0.0000
	Unemployment Rate	0.3747	(0.0784)	0.0000	0.3875	(0.0811)	0.0000
	Dependency Ratio	-0.0299	(0.3481)	0.4655	-0.1521	(0.3621)	0.3379
	Trade Openness	-0.0246	(0.0181)	0.0874	-0.0268	(0.0191)	0.0804
Fixed Effects	Belgium				0.5633	(0.8974)	0.2657
	Denmark				0.4205	(0.3836)	0.1362
	Finland				-0.2887	(0.5224)	0.2882
	France				-0.1027	(0.6533)	0.4376
	Germany				-0.8149	(0.5028)	0.0518
	Greece				-0.8481	(0.6169)	0.0845
	Ireland				-0.3288	(0.7415)	0.3292
	Italy				-0.2843	(0.5619)	0.3066
	Luxembourg				0.8988	(1.2426)	0.2342
	Netherlands				0.0952	(0.5367)	0.4309
	Portugal				-0.6034	(0.5158)	0.1207
	Spain				-0.9407	(0.8235)	0.1268
	Sweden				0.5570	(0.4331)	0.0997
	Intercept	1.8805	(1.8414)	0.1533	5.8118	(2.9737)	0.0256
	N		449			449	
	R^2		0.9624			0.9632	

Here, we compare the of models employing expected durations derived from a survival model estimating risk as a function of replacement. Our predicted results hold with this measure (the two duration estimate share a strong, positive correlation), but the explanatory power is significantly reduced. Indeed, in every iteration of the bootstrap, dissolution risk predicted durations outperform pooled risk predicted durations, and pooled risk predicted durations outperform replacement risk predicted durations — just as we would expect if cabinets were concerned with preparing for elections, rather than replacements.

Table A.11: Aggregated results from bootstrapped model of public spending as percent of GDP, replacing election durability with replacement durability.

		Pooled Model			Fixed Effects		
	Variable	Mean	SD	p	Mean	SD	p
Lagged	Expected Duration	-0.0002	(0.0001)	0.0450	-0.0002	(0.0002)	0.0545
	Government Ideology	-0.0906	(0.0846)	0.1429	-0.0468	(0.0932)	0.3070
	Parties in Government	0.3103	(0.1278)	0.0076	0.3382	(0.1742)	0.0259
	ENP	0.0054	(0.0743)	0.4734	-0.1534	(0.1131)	0.0877
	Caretaker Time	0.5901	(0.7662)	0.2202	-0.0892	(0.9056)	0.4613
	GDP Per Capita	1.4056	(0.1914)	0.0000	1.4168	(0.1942)	0.0000
	Unemployment Rate	-0.4399	(0.0801)	0.0000	-0.4210	(0.0813)	0.0000
	Dependency Ratio	0.1297	(0.3550)	0.3588	0.1815	(0.3698)	0.3114
	Trade Openness	0.0246	(0.0181)	0.0870	0.0243	(0.0192)	0.1029
	Spending	0.9309	(0.0113)	0.0000	0.8984	(0.0232)	0.0000
	Maastricht Era	-0.5405	(0.2709)	0.0232	-0.2991	(0.3688)	0.2091
	Budgetary Constraint Index (BCI)	1.3806	(0.5388)	0.0052	1.0800	(0.7493)	0.0744
	Parties in Government x BCI	-0.6203	(0.2364)	0.0041	-0.5683	(0.2895)	0.0248
Concurrent	GDP Per Capita	-1.3586	(0.1877)	0.0000	-1.3895	(0.2009)	0.0000
	Unemployment Rate	0.3782	(0.0784)	0.0000	0.3933	(0.0806)	0.0000
	Dependency Ratio	-0.0635	(0.3506)	0.4280	-0.1580	(0.3656)	0.3331
	Trade Openness	-0.0272	(0.0180)	0.0651	-0.0278	(0.0189)	0.0701
Fixed Effects	Belgium				0.4541	(0.9070)	0.3086
	Denmark				0.4414	(0.3836)	0.1255
	Finland				-0.2328	(0.5182)	0.3266
	France				0.0506	(0.6676)	0.4687
	Germany				-0.7700	(0.5015)	0.0616
	Greece				-0.8026	(0.6170)	0.0969
	Ireland				-0.3984	(0.7523)	0.2986
	Italy				-0.1846	(0.5613)	0.3713
	Luxembourg				0.5173	(1.2645)	0.3410
	Netherlands				0.0159	(0.5445)	0.4876
	Portugal				-0.6933	(0.5185)	0.0902
	Spain				-0.8846	(0.8225)	0.1407
	Sweden				0.5353	(0.4358)	0.1096
	Intercept	1.2259	(1.8420)	0.2517	5.2050	(2.9658)	0.0395
	N		449			449	
	R^2		0.9623			0.9632	

Table A.12: Jackknifed models of public spending as percent of GDP, where each country is dropped out in succession. No model yields a *z-statistic* on our focal variable of greater than *-1.984* (when Germany is dropped). The mean *z-statistic* is *-2.664* and the smallest is *-3.181* (when Ireland is dropped).

		Omitted Country														
	Variable	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	UK
Lagged	Expected Duration	-0.0004	-0.0005	-0.0004	-0.0004	-0.0004	-0.0003	-0.0004	-0.0005	-0.0004	-0.0005	-0.0004	-0.0004	-0.0004	-0.0004	-0.0004
		(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
	Government Ideology	-0.0379	-0.0333	0.0179	-0.0265	-0.0315	-0.0133	-0.0088	-0.0063	-0.0088	-0.0134	-0.0369	-0.0589	-0.0217	-0.1011	-0.0497
		(0.0904)	(0.0871)	(0.1026)	(0.0901)	(0.0914)	(0.0858)	(0.0872)	(0.0880)	(0.0885)	(0.0860)	(0.0870)	(0.0889)	(0.0915)	(0.0856)	(0.0915)
	Parties in Government	0.3537	0.4227	0.3794	0.3807	0.3676	0.3229	0.2726	0.3052	0.2606	0.3320	0.4061	0.4077	0.3793	0.4092	0.3334
		(0.1765)	(0.2060)	(0.1749)	(0.1798)	(0.1745)	(0.1710)	(0.1762)	(0.1729)	(0.1895)	(0.1718)	(0.1754)	(0.1878)	(0.1762)	(0.1821)	(0.1744)
	ENP	-0.1509	-0.1375	-0.1605	-0.1606	-0.1771	-0.1427	-0.1473	-0.1250	-0.1461	-0.1294	-0.0794	-0.1529	-0.1442	-0.1580	-0.1472
		(0.1191)	(0.1117)	(0.1180)	(0.1159)	(0.1243)	(0.1104)	(0.1099)	(0.1110)	(0.1150)	(0.1086)	(0.1113)	(0.1287)	(0.1133)	(0.1110)	(0.1127)
	Caretaker Time	0.1098	-0.0016	0.0864	0.4239	-0.1417	-0.3617	-0.1101	0.0115	0.1634	0.0557	-0.1631	0.5072	0.0668	-0.1337	0.0771
		(0.9650)	(0.9105)	(0.9072)	(0.9235)	(0.9177)	(0.9101)	(0.8987)	(0.8788)	(1.0205)	(0.8816)	(0.9753)	(0.9863)	(0.9146)	(0.8999)	(0.9043)
	GDP Per Capita	1.4932	1.4663	1.4422	1.4232	1.4978	1.5426	1.5045	1.5519	1.4391	1.8211	1.4607	1.5255	1.4596	1.4623	1.4382
		(0.1896)	(0.1872)	(0.1856)	(0.1889)	(0.1869)	(0.1889)	(0.1901)	(0.1956)	(0.1886)	(0.2008)	(0.1835)	(0.1863)	(0.1882)	(0.1875)	(0.1951)
	Unemployment Rate	-0.4129	-0.4137	-0.4152	-0.3679	-0.4089	-0.4129	-0.4195	-0.4139	-0.4366	-0.3099	-0.4214	-0.4140	-0.4676	-0.3861	-0.4197
		(0.0793)	(0.0806)	(0.0807)	(0.0807)	(0.0786)	(0.0777)	(0.0786)	(0.0767)	(0.0804)	(0.0799)	(0.0768)	(0.0787)	(0.0953)	(0.0787)	(0.0810)
	Dependency Ratio	0.1636	0.1605	0.0702	0.2782	0.2323	0.7133	0.2575	0.2043	0.1975	0.3721	0.1820	0.2006	0.1757	0.3096	0.1706
		(0.3555)	(0.3461)	(0.3325)	(0.3365)	(0.3357)	(0.3343)	(0.3293)	(0.3480)	(0.3735)	(0.3316)	(0.3227)	(0.3351)	(0.3353)	(0.3433)	(0.3670)
	Trade Openness	0.0124	0.0163	0.0178	0.0199	0.0163	0.0136	0.0170	0.0040	0.0170	0.0154	0.0142	0.0099	0.0168	0.0188	0.0228
		(0.0186)	(0.0201)	(0.0188)	(0.0186)	(0.0185)	(0.0185)	(0.0188)	(0.0201)	(0.0185)	(0.0200)	(0.0183)	(0.0187)	(0.0184)	(0.0187)	(0.0193)
	Spending	0.8944	0.8968	0.8939	0.8831	0.8918	0.9011	0.8913	0.8954	0.8894	0.8853	0.8898	0.8941	0.8951	0.8808	0.8962
		(0.0217)	(0.0216)	(0.0213)	(0.0220)	(0.0210)	(0.0206)	(0.0210)	(0.0226)	(0.0217)	(0.0207)	(0.0211)	(0.0215)	(0.0218)	(0.0229)	(0.0232)
	Maastricht Era	-0.3353	-0.2663	-0.3127	-0.2096	-0.3332	-0.2420	-0.3515	-0.4476	-0.2122	-0.0979	-0.1493	-0.2354	-0.2200	-0.3229	-0.2982
		(0.3518)	(0.3445)	(0.3464)	(0.3523)	(0.3544)	(0.3318)	(0.3544)	(0.3343)	(0.3469)	(0.3508)	(0.3250)	(0.3454)	(0.3459)	(0.3544)	(0.3664)
	Budgetary Constraint Index (BCI)	1.2743	1.3039	1.2163	1.1567	1.3714	1.2813	0.2935	1.2242	1.1117	1.5102	0.8706	1.3714	1.4876	1.4857	1.0988
		(0.7491)	(0.7689)	(0.7544)	(0.7448)	(0.8101)	(0.7653)	(0.8266)	(0.7439)	(0.7454)	(0.7262)	(0.7802)	(0.7693)	(0.8088)	(0.7733)	(0.7451)
	Parties in Government x BCI	-0.6234	-0.8372	-0.6294	-0.5870	-0.6793	-0.6127	-0.4571	-0.6181	-0.5365	-0.6350	-0.7163	-0.6703	-0.6829	-0.7027	-0.5659
		(0.2866)	(0.3326)	(0.2927)	(0.2835)	(0.3035)	(0.2783)	(0.2924)	(0.2799)	(0.2921)	(0.2812)	(0.2793)	(0.2965)	(0.2911)	(0.2846)	(0.2898)
Concurrent	GDP Per Capita	-1.4479	-1.4280	-1.3944	-1.3949	-1.4499	-1.4970	-1.4449	-1.4735	-1.4067	-1.7821	-1.4095	-1.4833	-1.4229	-1.3985	-1.4113
		(0.1929)	(0.1909)	(0.1888)	(0.1928)	(0.1897)	(0.1921)	(0.1924)	(0.1952)	(0.1922)	(0.2059)	(0.1863)	(0.1891)	(0.1920)	(0.1908)	(0.2013)
	Unemployment Rate	0.3822	0.3776	0.3621	0.3339	0.3816	0.3718	0.3837	0.4062	0.3999	0.2819	0.3796	0.3838	0.4248	0.3936	0.3940
		(0.0786)	(0.0799)	(0.0817)	(0.0801)	(0.0781)	(0.0769)	(0.0782)	(0.0765)	(0.0809)	(0.0790)	(0.0767)	(0.0782)	(0.0969)	(0.0781)	(0.0803)
	Dependency Ratio	-0.1266	-0.1296	-0.0178	-0.2555	-0.1956	-0.6975	-0.2099	-0.1352	-0.1557	-0.3816	-0.1327	-0.1634	-0.1441	-0.2443	-0.1465
		(0.3578)	(0.3456)	(0.3347)	(0.3386)	(0.3371)	(0.3385)	(0.3324)	(0.3513)	(0.3762)	(0.3295)	(0.3247)	(0.3382)	(0.3375)	(0.3418)	(0.3628)
	Trade Openness	-0.0196	-0.0218	-0.0259	-0.0268	-0.0251	-0.0246	-0.0251	-0.0238	-0.0231	-0.0367	-0.0227	-0.0189	-0.0243	-0.0284	-0.0265
		(0.0182)	(0.0195)	(0.0183)	(0.0181)	(0.0180)	(0.0179)	(0.0183)	(0.0197)	(0.0181)	(0.0195)	(0.0180)	(0.0182)	(0.0179)	(0.0183)	(0.0189)
Fixed Effects	Austria	—	4.9937	4.4972	6.2347	5.1692	5.4735	4.6992	3.9621	5.3450	8.1995	4.4545	4.9572	5.1958	4.1459	5.4636
		—	(2.8392)	(2.9515)	(3.0282)	(2.8283)	(2.8527)	(2.8701)	(3.2751)	(2.8538)	(3.2242)	(2.7118)	(2.9015)	(2.8507)	(2.9626)	(2.9539)
	Belgium	5.5963	—	0.8107	0.6359	0.8558	1.0195	0.9007	1.2595	0.8019	1.4234	0.5020	0.6539	0.6829	0.5646	0.4440
		(3.0807)	—	(0.7984)	(0.8057)	(0.8072)	(0.8213)	(0.7891)	(0.8253)	(0.8009)	(0.8164)	(0.7881)	(0.8582)	(0.7896)	(0.8047)	(0.9025)
	Denmark	-0.2102	0.5831	—	0.5425	0.4966	0.4790	0.7196	0.3283	0.5271	0.3130	0.5371	0.4392	0.4243	0.3433	0.4710
		(0.8243)	(0.3853)	—	(0.3847)	(0.3973)	(0.3957)	(0.3889)	(0.3792)	(0.3956)	(0.3798)	(0.3967)	(0.4014)	(0.3860)	(0.3861)	(0.3832)
	Finland	-0.8844	-0.2947	-0.1368	—	-0.2001	-0.0820	-0.0102	-0.2603	-0.0513	-0.4907	-0.4022	-0.3671	-0.2517	-0.4711	-0.2666
		(0.7355)	(0.5420)	(0.5264)	—)	(0.5252)	(0.5179)	(0.5166)	(0.5101)	(0.5426)	(0.5206)	(0.5231)	(0.5666)	(0.5218)	(0.5253)	(0.5189)
	France	-0.7295	0.2863	0.0688	0.0217	—	-0.1424	0.4845	-0.5207	0.0131	-0.7069	0.3070	-0.1601	-0.1288	-0.4311	0.0492
		(1.1715)	(0.6681)	(0.6559)	(0.6355)	—	(0.6553)	(0.6545)	(0.6380)	(0.6438)	(0.6579)	(0.6659)	(0.6559)	(0.6414)	(0.6697)	(0.6581)
	Germany	-1.5445	-0.7918	-0.8438	-0.9104	-0.9486	—	-0.7706	-1.1845	-0.8331	-1.3464	-0.8125	-0.9293	-0.8877	-1.0855	-0.8088
		(1.0416)	(0.4614)	(0.4663)	(0.4495)	(0.4528)	—	(0.4514)	(0.4555)	(0.4542)	(0.4687)	(0.4473)	(0.4638)	(0.4608)	(0.4646)	(0.4978)
	Greece	-1.4882	-0.7727	-0.6857	-0.9715	-0.9148	-0.8402	—	-1.0314	-0.9367	-1.4742	-0.7351	-0.8672	-0.8477	-1.0670	-0.8815
		(1.0615)	(0.5912)	(0.6017)	(0.5960)	(0.5871)	(0.5835)	—	(0.5922)	(0.5886)	(0.6260)	(0.5850)	(0.5924)	(0.6109)	(0.6054)	(0.6175)
	Ireland	-0.8053	-0.0424	0.0046	-0.2300	-0.1091	0.1291	0.1477	—	-0.2459	0.5382	0.1058	-0.0870	-0.1151	-0.4512	-0.3149
		(0.7488)	(0.6887)	(0.6785)	(0.6918)	(0.6831)	(0.7304)	(0.6789)	—	(0.6939)	(0.6950)	(0.6731)	(0.6886)	(0.6909)	(0.6896)	(0.7468)
	Italy	-0.8625	-0.0056	-0.1146	-0.3680	-0.2180	-0.1332	0.0491	-0.5043	—	-0.8511	-0.0470	-0.3496	-0.2061	-0.4418	-0.1856
		(1.0008)	(0.5469)	(0.5805)	(0.5438)	(0.5365)	(0.5380)	(0.5326)	(0.5350)	—	(0.5861	(0.5392)	(0.5667)	(0.5506)	(0.5500)	(0.5587)
	Luxembourg	-0.1897	0.4945	0.5101	0.7654	0.6990	1.2989	0.5210	1.6017	0.5879	—	0.4612	0.8533	0.6626	0.2262	0.4958
		(1.1089)	(1.2749)	(1.2677)	(1.2387)	(1.2400)	(1.2890)	(1.2396)	(1.3666)	(1.2489)	—	(1.2262)	(1.2486)	(1.2348)	(1.2363)	(1.2535)
	Netherlands	-0.5667	0.1870	0.2168	0.1006	0.2060	0.3048	0.4143	0.4959	0.1556	0.4561	—	0.1173	0.1025	0.0696	-0.0119
		(0.6218)	(0.4886)	(0.4716)	(0.4741)	(0.4737)	(0.4895)	(0.4740)	(0.5041)	(0.4729)	(0.4722)	—	(0.4797)	(0.4725)	(0.4694)	(0.5421)
	Portugal	-1.3012	-0.6324	-0.5391	-0.8537	-0.6550	-0.5913	-0.4630	-0.6129	-0.7948	-1.1437	-0.6476	—	-0.7026	-0.7853	-0.7399
		(0.8467)	(0.4975)	(0.4996)	(0.5178)	(0.4965)	(0.4881)	(0.4909)	(0.5070)	(0.4964)	(0.5241)	(0.4827)	—	(0.4983)	(0.5066)	(0.5154)
	Spain	-1.6360	-0.8028	-0.6443	-1.0478	-1.1119	-0.9447	-0.6451	-1.4867	-0.9911	-1.7411	-0.7083	-1.0410	—	-1.6358	-0.9720
		(1.2371)	(0.7687)	(0.7866)	(0.7476)	(0.7563)	(0.7498)	(0.7468)	(0.7584)	(0.7550)	(0.7842)	(0.7466)	(0.7739)	—	(0.8149)	(0.8226)
	Sweden	-0.1565	0.5372	0.5305	0.6787	0.5323	0.5568	0.6649	0.3464	0.5615	0.4865	0.5550	0.5098	0.4920	—	0.5280
		(0.8726)	(0.4246)	(0.4277)	(0.4337)	(0.4312)	(0.4339)	(0.4275)	(0.4440)	(0.4316)	(0.4197)	(0.4301)	(0.4280)	(0.4268)	—	(0.4327)
	UK	-2.0247	-1.1864	-1.3131	-1.3373	-1.4720	-1.3232	-0.9070	-1.6981	-1.3942	-1.8746	-1.0312	-1.3710	-1.4268	-1.6726	—
		(1.1213)	(0.5981)	(0.5870)	(0.5743)	(0.5950)	(0.5852)	(0.5952)	(0.5683)	(0.5727)	(0.5865)	(0.5897)	(0.5961)	(0.5864)	(0.6108)	—
	N	452	451	450	455	460	449	463	449	459	474	456	458	458	449	449

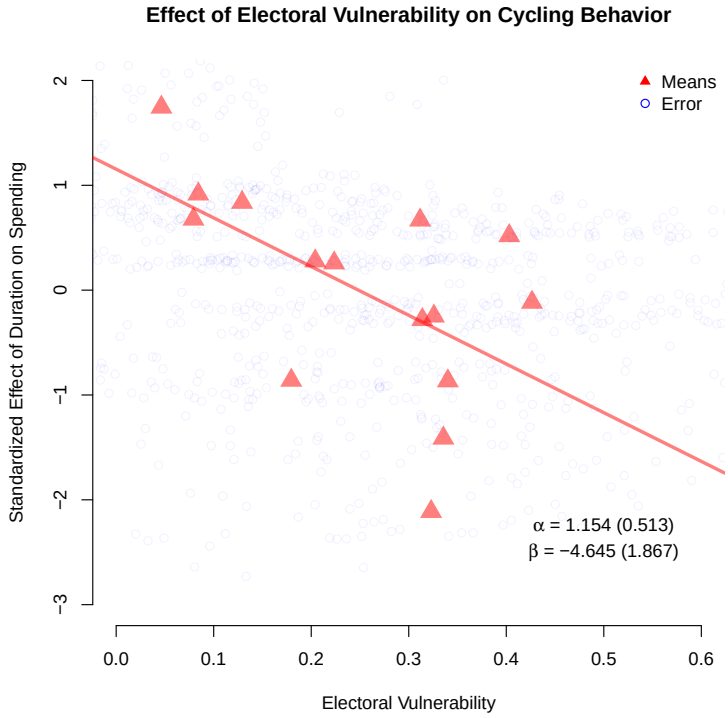
E Analysis of contextual effect variability

In this section, we attempt to discover the roots of country level variability in cycling. We begin by deriving country-specific estimates of cycling behavior by reestimating our main spending model (without country fixed-effects) while allowing for random intercepts and coefficient estimates on expected duration at the country-level. As in the main text, we iterate this estimation through each of our 1,000 predicted cabinet durations and we save each country-level random coefficient in each iteration of the loop.

These country-level parameter estimates are then regressed on Kayser and Lindstädt's (2015) country-level mean measure of electoral competitiveness. These estimates use the institutional context (the votes to seats conversion in particular) and the empirical regularities of party competition to capture the probability of the plurality party losing it status (and therefore changing the expected formateur), given a 1% change in vote-share. For our purposes, these loss probabilities represent the electoral incentive to engage in cycling behavior — the higher the loss probability, the greater the marginal return on small changes in voter share, and therefore the greater the incentive for manipulation. In Figure A.4, we plot the standardized country-level cycling estimates (where more negative values indicate a greater propensity to increase spending as expected duration draws to a close) against the Kayser and Lindstädt (2015) loss probabilities, where the dark red triangles are the means of both measures and the light blue circles are the entire distribution of estimates — we draw the loss probabilities from a normal distribution defined by Kayser and Lindstädt's (2015) country-level mean and standard deviation estimates. We also provide the results of a bivariate regression and draw the fitted line.

The results are encouraging and suggest that the temptation to engage in cycling is driven by a history of incumbent vulnerability — that cabinets are more likely to manipulate where their grasp on power is more tenuous. However, these results are preliminary and should be taken with a grain of salt. More data and a more focused analysis is needed to draw stronger conclusions.

Figure A.4: Regressing Kayser and Lindstädt's measure of incumbent loss probability on country-specific estimates of cycling behavior.



F Identifying political budget cycles

A salient question for our analysis is exactly how political budget cycles in Europe went undetected despite the research attention dedicated to uncovering them. In C we partly addressed this issue by replacing our measure of expected cabinet duration with the cabinet's true duration and finding that the results when using true duration are weaker and less consistent than those in evidence when using our predictions of expected cabinet duration.

We provide here a deeper two-part discussion of the important question of how political budget cycles escaped detection. First, we consider the role of transparent budget practices in moderating the relationship between election proximity and public spending following Alt and Lassen (2006). Second, we present a simulated data experiment aimed at examining directly whether flexible election timing might – in an idealized setting – mask the relationship between cabinets' expectations of imminent elections and increases in public spending.

In the main text, we review previous research suggesting that budget cycles should only persist in settings lacking budget transparency, but all of the cases in our data have fairly transparent budgeting practices. To assess how much bearing this has on our results, we had to first derive a measure of transparency and we do so following Alt and Lassen (2006). Alt and Lassen's (2006) transparency measures do not perfectly overlap our data (about 30% of our cases are omitted) and we could not access the original OECD budget practices survey that they use to derive the measure so we accessed the most recent survey and estimated a factor analysis of the 23 transparency components in the instrument. Our measure results in a very close match to the original Alt and Lassen (2006) scale as shown in Table A.13, where our measure is regressed on the measure that Alt and Lassen (2006) use for our 11 overlapping cases. We then replicate our main model including an interaction of this transparency measure and our durability measure. We find no moderating effect of transparency on our variable of interest (the interaction parameter is signed in the wrong direction and insignificant), although transparency does seem to constrain total spending. These models are in Table A.14.

Table A.13: Regression of our transparency measure on Alt and Lassen's original measure

Variable	**Coefficient**	**(Std. Err.)**
Our measure	0.415	(0.186)
Intercept	-1.916	(0.748)

This indicates that our results are driven by something other than the budget transparency of the cases in our sample. There are important differences between our study and Alt and Lassen (2006) that may explain the empirical difference. Importantly, our sample of countries is quite different from theirs. But it is also salient that Alt and Lassen (2006) assume (at least implicitly) that elections are fixed and we do not. We have argued that the assumption of fixed elections is likely to be driving the difference between our reported findings and those in previous research. Such a claim is difficult to assess directly from the data, however. After all, the field only has access to data from a finite and slowly expanding number of cabinets across all of Europe.

Table A.14: Replication of main model interacting expected durations with transparency.

		Fixed Effects		Pooled Model	
	Variable	Mean	SE	Mean	SE
Lagged	Expected Duration	-0.0004	(0.0002)	-0.0003	(0.0001)
	Transparency	-0.6845	(0.3229)	-0.0638	(0.1400)
	Expected Duration x Transparency	-0.0001	(0.0001)	-0.0001	(0.0001)
	Government Ideology	-0.0334	(0.0858)	-0.1283	(0.0781)
	Parties in Government	0.3681	(0.1739)	0.1859	(0.1240)
	ENP	-0.1401	(0.1091)	0.0728	(0.0778)
	Caretaker Time	-0.0142	(0.8911)	0.6014	(0.7890)
	GDP Per Capita	1.4857	(0.1844)	1.4781	(0.1813)
	Unemployment Rate	-0.4142	(0.0780)	-0.4248	(0.0774)
	Dependency Ratio	0.2479	(0.3310)	0.1802	(0.3300)
	Trade Openness	0.0166	(0.0185)	0.0193	(0.0176)
	Spending	0.8929	(0.0208)	0.9280	(0.0112)
	Maastricht Era	-0.2744	(0.3430)	-0.4521	(0.2554)
	Budgetary Constraint Index (BCI)	1.2601	(0.7432)	0.8726	(0.4876)
	Parties in Government x BCI	-0.6502	(0.2799)	-0.4847	(0.2183)
Concurrent	GDP Per Capita	-1.4392	(0.1875)	-1.4236	(0.1773)
	Unemployment Rate	0.3825	(0.0774)	0.3721	(0.0757)
	Dependency Ratio	-0.2090	(0.3327)	-0.1169	(0.3280)
	Trade Openness	-0.0258	(0.0180)	-0.0228	(0.0175)
Fixed Effects	Belgium	0.4733	(0.7716)		
	Denmark	1.1364	(0.3540)		
	Finland	-0.5336	(0.5470)		
	France	0.6951	(0.4187)		
	Germany	-0.9061	(0.4486)		
	Greece	0.2384	(0.5308)		
	Ireland	-0.5279	(0.7213)		
	Italy	-1.6506	(0.9840)		
	Luxembourg	1.2394	(1.3073)		
	Netherlands	0.1736	(0.4681)		
	Portugal	0.3303	(0.5206)		
	Spain	0.5205	(0.5892)		
	Sweden	0.7806	(0.4169)		
	Intercept	4.6347	(2.8227)	1.4102	(1.7319)
	N		488		488
	R^2		0.9628		0.9613

We propose one way of probing this argument is to investigate simulations of political budget cycles to determine whether it is *possible* for the assumption of fixed elections to mask a simulated true relationship between *expected* election timing and budget increases. To that end, we describe a simulated data experiment designed to investigate whether stochastic early terminations allowed by the flexible election calendar in the countries we study could mask a real relationship between election timing and increases in public spending.

Our simulation proceeds by generating simulated data sets about the size of the one we analyze. We generate data for 432 "cabinets" by sampling from the observed lifespans in our data. For each of our 432 real cabinets, we have generated 1,000 bootstrapped forecasts of cabinet lifespan, yielding 432,000 matched pairs of actual and predicted lifespans. From these pairs, we simulate new datasets by repeatedly resampling 432 matched pairs of actual and predicted lifespans without replacement.

Simulated cabinets pass annual budgets while they survive, so each simulated data set consists of around 1,000 cabinet-budget year observations. Budgets passed within 365 days of the simulated cabinet's expected dissolution are inflated to 104% (we vary this later) of the cabinet's normal budget size. All of each cabinet's other budgets are otherwise the same

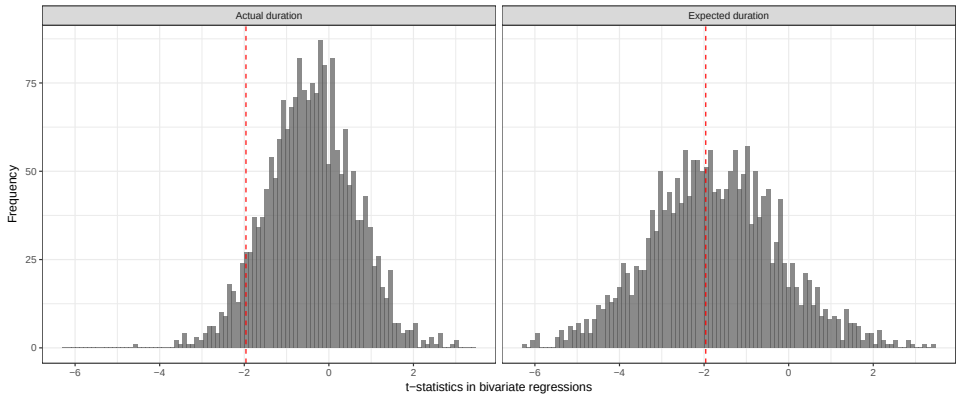
size. Budget sizes vary across cabinets; we randomly assign a budget size for each simulated cabinet from the range of observed budget sizes in our real data.

In this way, the simulations create an imaginary setting in which our theory holds true in a very blunt way. Since the simulations draw randomly and evenly from our data on actual duration and expectations, these results are not necessarily indicative of the magnitude of relationships we should observe in real life. However, they can demonstrate whether the econometric relationship between expected durations and budgets is generally stronger than that between actual durations and budgets in a perfectly controlled setting in which we know our theory holds. If we find this is the case in the simulated world, then we believe this supports our argument that the assumption of fixed election timing has contributed to masking evidence for political budget cycles in previous work.

We test our expectations using simple bivariate analyses of the simulated data. For each simulated data set, we regress the size of the budget on the cabinet's remaining "actual" duration and separately on its "expected" remaining duration. Results presented here use runs of 2,000 data sets of 435 cabinets each to examine the performance of each measure in turn. As anticipated, when measuring time remaining to elections using cabinet expectations, many more simulated data sets produce t-statistics below the significance threshold of -1.96 on our expected negative relationship between time remaining and the size of budgets.

Figure A.5 plots histograms of t-statistics from 2,000 bivariate regressions of budgets on both actual and expected simulated cabinet duration. Figure A.6 plots histograms of the same p-values (excluding any that are statistically significant in the wrong direction).

Figure A.5: Comparison of t-statistics in regressions on simulated cabinet data (4% budget increase). Vertical dashed line indicates significance threshold of -1.96.



As the figures illustrate, significant findings in the correct direction are much more common when measuring election proximity via cabinets' expectations of their duration. Indeed, p-values in regressions using actual remaining cabinet duration appear to be distributed uniformly between zero and one. Furthermore, this general pattern remains the same for smaller increases in budgets, as we see in figures A.7 and A.8.

Figure A.6: Comparison of p-values in regressions on simulated cabinet data (4% budget increase). Vertical dashed line indicates significance threshold of 0.05.

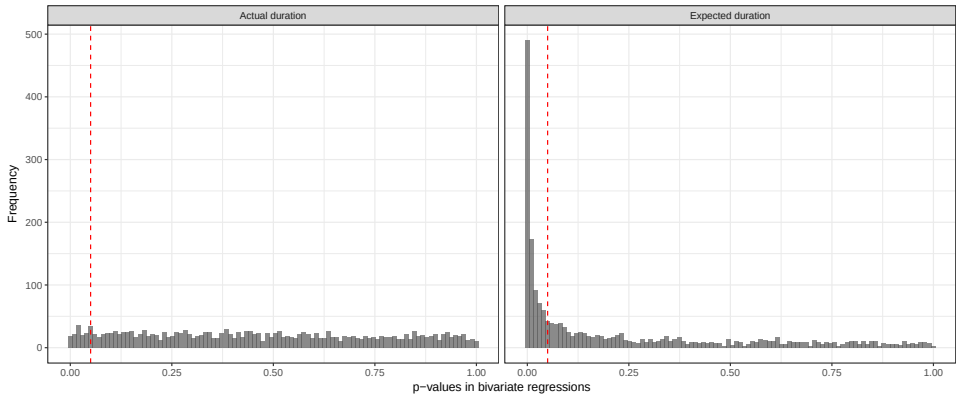


Figure A.7: Comparison of p-values in regressions on simulated cabinet data (3% budget increase). Vertical dashed line indicates significance threshold of 0.05.

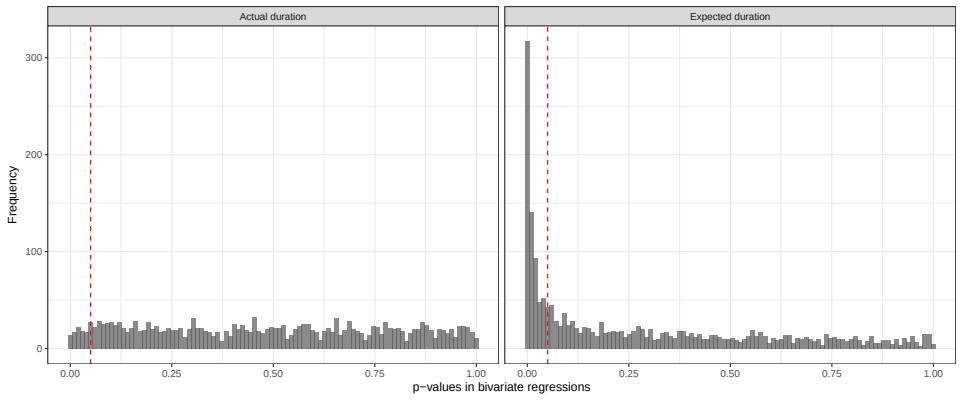
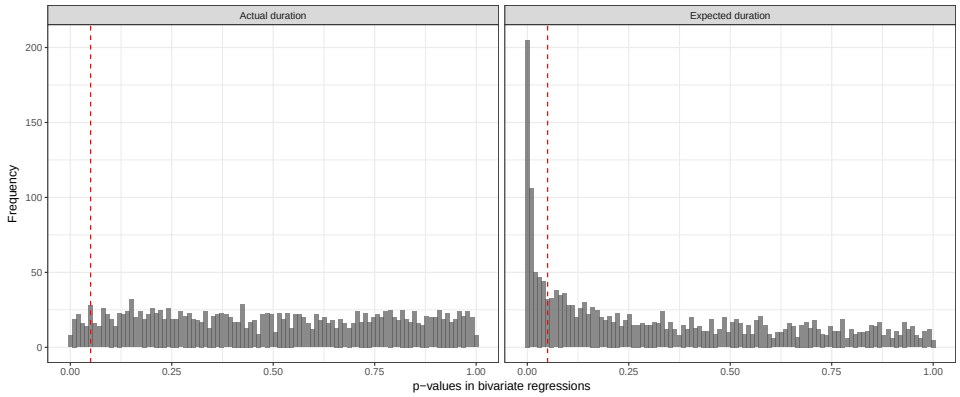


Figure A.8: Comparison of p-values in regressions on simulated cabinet data (2% budget increase). Vertical dashed line indicates significance threshold of 0.05.



Although these simulations are based on a brutally simplified ideal world, we believe that they capture the essence of how cycles can evade econometric detection if one treats election timing as fixed. The hypothesized relationship between election proximity and budget increases is far more likely to be apparent in the simulations when one replaces the measure of actual time to the next election with the cabinet's expectation of the proximity of the next election. In the simulation, as we argue it is in the real world, it is the cabinet's expectation about the timing of the next election that determines their decision to inflate spending. Even in our highly simplified simulation setting, this crucial distinction is almost always sufficient to wash out an econometric relationship between actual election timing and budget shifts.