

Corruption Charges Against Women Heads of Government: Appendix

ANONYMISED AUTHOR(S) *Anonymised Institution(s)*

Word Count: 902

TABLE OF CONTENTS

1. Variable descriptions and statistics
2. Political orientation and executive approval models
3. Alternative measures for institutional context
4. Models with average and entry year covariates
5. Multinomial simultaneous equations models

Anonymised submission.

This is a manuscript submitted for review.

VARIABLE DESCRIPTION AND STATISTICS

The following table presents some statistics on our main variables and controls.

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
Corruption	2,119	.024	.153	0	1
Woman	2,119	.033	.176	0	1
Polity	2,013	3.644	6.526	-10	10
GDP growth	1,963	.014	.102	-.59	1.309
Jud. constraints on executive	2,118	.748	.368	0	1
Executive bribery and corrupt exchanges	2,119	.215	1.561	-2.9	3.607
Media bias	2,119	.704	1.436	-3.585	3.732
Women's political empowerment	2,101	.629	.229	.043	.975
Previous woman leader	2,119	.095	.293	0	1
Months in office	2,119	56.495	77.417	0	590.137
Ties to other leaders	2,119	.081	.272	0	1
Entry into power	2,119	.821	.383	0	1

POLITICAL ORIENTATION AND EXECUTIVE APPROVAL MODELS

In Table A2, we control for a leader's political orientation and approval. To control for a leader's political orientation, we use regulatory quality from the World Development Indicators (World Bank 2021). This variable tracks openness to business, which could be construed as a crude proxy for right wing government. Other left/right variables were not feasible with our data set, which includes a lot of non-democratic countries that cannot easily be placed on a left/right scale. To control for a leader's popularity, we use unemployment, from the World Development Indicators again, and inflation, from Clio-Infra (2018). These are widely used variables that proxy the executive's approval rating.

TABLE A 2. Political orientation and presidential approval models

	<i>Dependent variable: Corruption charges</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
Woman	2.486*** (0.499)	8.245*** (2.062)	2.345*** (0.427)	2.726** (0.869)	2.215** (0.697)	3.371** (1.123)
Polity	0.030 (0.074)	-0.649** (0.225)	-0.025 (0.051)	-0.154 (0.086)	-0.041 (0.065)	-0.187 (0.120)
GDP growth	1.464 (1.211)	17.59 (12.21)				
Regulatory quality	0.534 (0.508)	-8.979** (3.316)				
Judicial constraints on executive	0.403 (0.986)	-4.830 (4.432)	0.0442 (0.687)	-0.759 (1.320)	0.158 (1.196)	1.536 (2.400)
Executive bribery and corrupt exchanges	-0.664** (0.256)	-0.622 (1.198)	-0.644*** (0.136)	-0.111 (0.393)	-0.624 (0.329)	-0.863 (0.926)
Media bias	0.433 (0.299)	0.485 (0.993)	0.362 (0.234)	0.210 (0.436)	1.027 (0.665)	1.001 (1.019)
Women's political empowerment	-3.514 (1.836)	6.228 (9.969)	1.256 (1.400)	8.819*** (2.577)	-4.023** (1.544)	-7.514 (4.011)
Months in office	0.006** (0.002)	0.039** (0.015)	0.003 (0.002)	0.003 (0.004)	0.007 (0.004)	0.021* (0.009)
Ties to other leaders	0.782 (0.546)	-1.095 (1.635)	0.504 (0.363)	0.821 (0.571)	0.477 (0.441)	0.0514 (0.953)
Entry into power	1.594 (0.950)	7.019 (5.328)	2.192* (1.064)	2.427 (1.438)	0 (.)	0 (.)
Inflation			0.0001 (0.0002)	-0.00003 (0.0002)		
Unemployment					0.034 (0.038)	0.082 (0.095)
Country fixed effects		✓		✓		✓
Constant	-4.008* (1.686)	-20.44*** (5.953)	-7.271*** (1.302)	-10.13*** (2.558)	-2.275* (1.147)	-0.959 (2.027)
Observations	625	130	1488	497	386	139
r2_p	0.176	0.517	0.157	0.283	0.171	0.242
chi2	39.46	.	70.43	.	22.36	.
p	0.0000442	.	3.66e-11	.	0.00779	.

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE A 3. Alternative measures for institutional context models (1)

	<i>Dependent variable: Corruption charges</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
Woman	2.471*** (0.420)	2.779** (0.930)	2.616*** (0.409)	3.279*** (0.769)	2.474*** (0.416)	3.050*** (0.814)
Democracy (BMR)	-0.208 (0.504)	-1.616* (0.677)				
GDP growth	-0.433 (0.820)	-1.769 (1.247)	-0.474 (0.793)	-1.415 (1.780)	-0.447 (0.777)	-1.316 (1.815)
Judicial constraints on executive	0.129 (0.634)	-1.152 (1.102)	0.151 (0.749)	-1.306 (1.045)	0.326 (0.528)	-0.751 (0.957)
Executive bribery and corrupt exchanges	-0.665*** (0.125)	-0.294 (0.366)	-0.712*** (0.204)	-0.342 (0.354)	-0.650*** (0.122)	-0.262 (0.298)
Media bias	0.361* (0.172)	0.389 (0.351)	0.407 (0.209)	0.465 (0.325)	0.393 (0.215)	0.602 (0.332)
Women's political empowerment	1.034 (1.310)	7.397** (2.497)	0.219 (1.060)	4.052** (1.507)		
Months in office	0.004** (0.002)	0.007 (0.004)	0.004** (0.002)	0.008* (0.003)	0.004* (0.002)	0.007* (0.003)
Ties to other leaders	0.531 (0.382)	0.235 (0.829)	0.586 (0.324)	0.291 (0.731)	0.599 (0.326)	0.538 (0.667)
Entry into power	1.709* (0.755)	1.773* (0.858)	1.811* (0.759)	2.479 (1.306)	1.817* (0.757)	2.347* (1.137)
Polity			-0.030 (0.044)	-0.110 (0.066)	-0.030 (0.043)	-0.121 (0.065)
Neopatrimonialism			-0.805 (1.548)	-1.789 (2.549)		
Power distributed by gender					0.192 (0.155)	0.997** (0.310)
Country fixed effects		✓		✓		✓
Constant	-6.773*** (1.004)	-8.451*** (1.677)	-6.136*** (1.495)	-7.221*** (2.135)	-6.586*** (0.900)	-6.876*** (1.567)
Observations	1645	520	1864	636	1877	642
r2_p	0.156	0.270	0.177	0.261	0.179	0.271
chi2	99.43	.	92.04	.	105.5	.
p	7.10e-17	.	6.64e-15	.	4.24e-18	.
Standard errors in parentheses						
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$						

TABLE A 4. Alternative measures for institutional context models (2)

	<i>Dependent variable: Corruption allegation</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
Woman	2.424*** (0.484)	5.630** (1.888)	2.347*** (0.387)	3.248*** (0.755)	2.309*** (0.452)	14.39*** (2.464)
Polity	0.043 (0.0774)	-0.539** (0.174)	-0.033 (0.0476)	-0.107 (0.0629)	-0.027 (0.0814)	-0.694* (0.312)
GDP growth	1.371 (1.168)	14.62 (15.20)	-0.208 (0.756)	-1.428 (1.875)	-0.165 (1.132)	5.602 (13.62)
Government effectiveness	0.434 (0.438)	-2.006 (2.418)				
Executive bribery and corrupt exchanges	-0.641* (0.271)	-1.105 (1.106)				
Media bias	0.464 (0.279)	0.264 (0.911)	0.371 (0.202)	0.486 (0.321)	0.292 (0.301)	-0.347 (1.279)
Women's political empowerment	-3.240 (1.819)	-4.010 (7.613)	0.147 (1.066)	4.336** (1.454)	-3.262 (1.673)	0.200 (10.44)
Months in office	0.006** (0.002)	0.024* (0.012)	0.003* (0.002)	0.007* (0.003)	0.003 (0.002)	0.028** (0.009)
Ties to other leaders	0.720 (0.542)	0.755 (1.557)	0.713* (0.361)	0.348 (0.727)	0.740 (0.624)	-1.171 (1.785)
Entry into power	1.608 (0.987)	6.380 (4.845)	1.759* (0.745)	2.413 (1.233)	1.361 (0.949)	2.955 (1.548)
Judicial constraints on executive			0.497 (0.610)	-1.103 (0.928)	0.253 (0.948)	-4.708 (4.474)
Public corruption			2.054*** (0.540)	-0.277 (1.346)		
Corruption perception index					-0.026** (0.009)	-0.061 (0.042)
Country fixed effects		✓		✓		✓
Constant	-3.936** (1.514)	-9.887* (3.985)	-7.465*** (1.145)	-7.854*** (1.956)	-2.459 (1.427)	-10.07 (5.993)
Observations	625	130	1864	636	637	146
r2_p	0.171	0.439	0.158	0.259	0.161	0.586
chi2	43.19	.	116.4	.	85.93	.
p	0.00000460	.	2.76e-20	.	3.41e-14	.
Standard errors in parentheses						
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$						

TABLE A 5. Year of entry models

	<i>Dependent variable: Corruption charges</i>		
	(1)	(2)	(3)
Woman	2.530*** (0.375)	3.293*** (0.760)	4.725** (1.691)
Polity (YEntry)	0.070 (0.048)	0.086 (0.077)	0.087 (0.081)
GDP growth (YEntry)	-1.779 (1.328)	-6.998* (2.882)	-10.19 (5.400)
Judicial constraints on executive (YEntry)	0.758 (0.715)	0.128 (1.247)	-0.265 (2.023)
Executive bribery and corrupt exchanges (YEntry)	-0.686*** (0.146)	-0.389 (0.509)	-0.795 (0.744)
Media bias (YEntry)	0.119 (0.229)	-0.186 (0.474)	-0.416 (0.542)
Women's political empowerment (YEntry)	-0.079 (1.206)	3.863 (2.247)	2.921 (5.318)
Months in office	0.006*** (0.002)	0.010** (0.004)	0.024** (0.009)
Ties to other leaders	0.545 (0.361)	0.688 (0.723)	0.812 (1.073)
Entry into power	1.536* (0.740)	2.243 (1.243)	4.791* (2.193)
Country fixed effects		✓	✓
Year fixed effects			✓
Constant	-6.747*** (0.927)	-9.188*** (1.814)	-14.34*** (4.293)
Observations	1776	613	274
r ² _p	0.188	0.285	0.398
chi ²	83.37	.	.
p	1.09e-13	.	.

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE A 6. Average over years models

	<i>Dependent variable: Corruption charges</i>	
	(1)	(2)
Woman	2.616*** (0.387)	3.164*** (0.728)
Polity (AVG)	0.041 (0.046)	0.001 (0.062)
GDP growth (AVG)	-0.879 (0.877)	-3.271 (2.312)
Judicial constraints on executive (AVG)	0.776 (0.636)	0.115 (1.098)
Executive bribery and corrupt exchanges (AVG)	-0.764*** (0.145)	-0.722 (0.538)
Media bias (AVG)	0.200 (0.230)	-0.105 (0.402)
Women's political empowerment (AVG)	0.303 (1.219)	5.204** (1.783)
Months in office	0.006** (0.002)	0.008* (0.004)
Ties to other leaders	0.513 (0.360)	0.486 (0.727)
Entry into power	1.631* (0.752)	2.209 (1.179)
Country fixed effects		✓
Constant	-7.076*** (0.976)	-9.718*** (1.907)
Observations	1879	636
r2_p	0.190	0.263
chi2	78.68	.
p	9.10e-13	.

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

MULTINOMIAL SIMULTANEOUS EQUATIONS MODELS

In our last Table, Table A7 we can see that controlling for corruption charges, women are not more likely to be imprisoned than men. We use a multinomial simultaneous equations model, where in the first step we regress corruption charges again on our standard control variables, plus regional corruption charges, which we believe could function as a suitable exclusion restriction. Following literature on corruption that argues spatial dependence can successfully be used as an instrumental variable (Becker et al. 2009; Faber and Gerritse 2012; Gründler and Potrafke 2019; Jetter and Parmeter 2018; Borsky and Kalkschmied 2019), we maintain that our measure of the average number of leader corruption charges in the region has an effect on corruption charges, but not the post-tenure fate of leaders. In the second step of our simultaneous equations model we use a multinomial probit model where the outcome is leader post-tenure fate, controlling for corruption charges from our first step. Women are still more likely to be charged with corruption, by a probability of 18 percent, but they are not more likely to be imprisoned, exiled, or assassinated. This could potentially mean that we do indeed see a gender-related backlash against women leaders perceived to be corrupt, but that it is a “soft” form of a gender backlash where imprisonment in a second step is not needed or desired. On the other hand, the results could also indicate that women are disproportionately being unfairly accused, a “hard” form of gender backlash, and that in the end, the charges do not stick after all.

TABLE A 7. Post-tenure fate multinomial simultaneous equations model

	Outcome equation			
	Imprisonment	Exile	Death	Corruption allegation
Woman	0.839 (0.576)	-0.719 (0.829)	-0.278 (0.790)	0.170*** (0.020)
Polity	-0.133*** (0.020)	-0.071*** (0.017)	-0.089*** (0.021)	-0.001 (0.001)
GDP growth	-0.629 (0.684)	-1.353* (0.612)	-2.289** (0.789)	-0.009 (0.036)
Judicial constraints on executive	0.579* (0.249)	-0.518* (0.212)	-0.122 (0.280)	0.009 (0.014)
Executive bribery and corrupt exchanges	-0.058 (0.065)	-0.149* (0.064)	0.101 (0.078)	-0.004 (0.003)
Media bias	0.095 (0.082)	0.116 (0.079)	0.105 (0.100)	0.007 (0.005)
Women's political empowerment	-1.219* (0.481)	-2.460*** (0.458)	-2.499*** (0.607)	-0.036 (0.025)
Months in office	0.002* (0.001)	0.004*** (0.001)	0.004** (0.001)	0.00004 (0.0001)
Ties to other leaders	0.150 (0.261)	-0.104 (0.258)	0.425 (0.289)	0.028* (0.013)
Entry into power	-0.445* (0.194)	-0.284 (0.171)	-0.485* (0.199)	0.026* (0.011)
Corruption charges	-1.108 (2.367)	0.763 (2.511)	2.373 (2.496)	
Regional corruption allegations				2.037*** (0.264)
Constant	-1.018** (0.343)	0.183 (0.262)	-0.458 (0.352)	-0.014 (0.016)
Insig_5	-1.874*** (0.016)			
atanhrho_25	0.367 (0.277)			
atanhrho_35	0.104 (0.273)			
atanhrho_45	-0.184 (0.270)			
Observations	1864			
Pseudo R2				
Chi2	648.0			
p	2.14e-108			

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

REFERENCES

- Becker, Sascha O , Peter H Egger, and Tobias Seidel (2009). Common political culture: Evidence on regional corruption contagion. *European Journal of Political Economy* 25(3), 300–310.
- Boix, Carles , Michael Miller, and Sebastian Rosato (2013). A complete data set of political regimes, 1800–2007. *Comparative political studies* 46(12), 1523–1554.
- Borsky, Stefan and Katja Kalkschmied (2019). Corruption in space: A closer look at the world’s subnations. *European Journal of Political Economy* 59, 400–422.
- Clio-Infra (2018). Clio-infra project (database).
- Coppedge, Michael , John Gerring, Staffan I Lindberg, Jan Teorell, David Altman, Michael Bernhard, M Steven Fish, Adam Glynn, Allen Hicken, Carl H Knutsen, et al. (2015). Varieties of democracy. *Codebook. Version.*
- Faber, Gerrit and Michiel Gerritse (2012). Foreign determinants of local institutions: Spatial dependence and openness. *European Journal of Political Economy* 28(1), 54–63.
- Gründler, Klaus and Niklas Potrafke (2019). Corruption and economic growth: New empirical evidence. *European Journal of Political Economy* 60, 101810.
- Jetter, Michael and Christopher F Parmeter (2018). Sorting through global corruption determinants: Institutions and education matter—not culture. *World Development* 109, 279–294.
- Transparency International (2018). *Global corruption report*. Transparency International, Berlin.
- World Bank (2021). *World Bank Indicators 2021*. World Bank, Washington.