

# Online Appendix for “Purging the Pulpit: The Logic of Religious Elite Removals in the Glorious Revolution”

## **A Cox proportional-hazards model**

There may be information in the length of time it took for a minister to be purged. To account for this, I use a Cox proportional-hazards model. The results are increased in significance but substantively identical to the linear probability models. I cluster standard errors at the presbytery-level; note that a small number of observations are lost due to unknown purge dates.

	(1)	(2)	(3)	(4)
Conventicle	0.726*** (0.115)			0.388** (0.128)
Militants/1000 residents	0.043*** (0.007)			0.028*** (0.008)
Years tenure		-0.015** (0.005)		-0.014* (0.005)
U. Aberdeen		-0.734*** (0.154)		-0.440* (0.161)
U. Glasgow		0.383* (0.171)		0.093 (0.175)
U. Edinburgh		0.131 (0.158)		0.044 (0.160)
U. St Andrews		-0.100 (0.150)		-0.086 (0.154)
Burgh			0.009 (0.134)	-0.015 (0.139)
Market			-0.206 (0.203)	-0.176 (0.209)
Port			-0.199 (0.113)	-0.169 (0.115)
Court			0.294+ (0.112)	0.279+ (0.115)
Ruggedness			0.009 (0.008)	0.009 (0.008)
Caloric potential			0.253*** (0.027)	0.190*** (0.028)
Population (1000s)			-0.015** (0.010)	-0.019*** (0.011)
Num.Obs.	811	797	811	797
AIC	5499.8	5389.7	5440.7	5292.1
BIC	5509.2	5413.1	5473.6	5357.6
RMSE	0.73	0.73	0.72	0.73
Std. Errors	Clustered	Clustered	Clustered	Clustered

+  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table A1: Cox proportional-hazards survival model. Outcome variable is a minister suffering a purge by 1702; if not, minister is considered right-censored. The model uses robust standard errors clustered at the presbytery-level.

## B Logistic models

The results are also robust to logistic regression rather than linear probability models. The conventicle and militancy coefficients are reduced in significance somewhat (for the militancy coefficient,  $p = 0.06$ ) but otherwise are functionally identical.

	(1)	(2)	(3)	(4)
Conventicle	0.830*** (0.245)			0.536* (0.219)
Militants/1000 residents	0.073** (0.024)			0.035+ (0.019)
Years tenure		-0.025** (0.008)		-0.025** (0.008)
U. Aberdeen		-0.765* (0.301)		-0.488 (0.314)
U. Glasgow		0.658+ (0.350)		0.256 (0.394)
U. Edinburgh		0.253 (0.296)		0.082 (0.310)
U. St Andrews		-0.044 (0.368)		-0.109 (0.356)
Burgh			0.216 (0.265)	0.021 (0.224)
Market			-0.156 (0.345)	-0.158 (0.274)
Port			-0.197 (0.286)	-0.164 (0.269)
Ruggedness			0.008 (0.017)	0.018 (0.015)
Court			0.483 (0.294)	0.461+ (0.270)
Caloric potential			0.283*** (0.062)	0.229*** (0.051)
Urban population (1000s)			-0.108* (0.044)	-0.046*** (0.012)
Intercept	-0.064 (0.163)	0.649* (0.290)	-1.853*** (0.439)	-0.992** (0.385)
Num.Obs.	811	797	667	797
AIC	1080.2	1055.5	828.9	991.4
BIC	1094.3	1083.6	869.5	1061.6
Std. Errors	Clustered	Clustered	Clustered	Clustered

+  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table A2: Logistic models, repeating the analysis in the main text from Table 1. Outcome is binary purge variable; robust standard errors clustered at presbytery-level.

## C Continuous distance measures

In the main text, geographic variables — the presence of a market, port, or state court — are discrete indicators based on a 20km radius around the parish church. Here I present continuous versions of these variables. In Columns 1 and 3, I use raw distance in kilometers; in Columns 2 and 4, I use the log of distance to reduce the impact of very remote parishes such as those in Shetland. The results are again consistent with the main text.

	Distance	Log-Distance	Distance	Log-Distance
Conventicle			0.107*	0.111**
			(0.042)	(0.042)
Militants/1000 residents			0.006*	0.006*
			(0.003)	(0.003)
Years tenure			-0.005**	-0.005**
			(0.002)	(0.002)
U. Aberdeen			-0.106	-0.112+
			(0.066)	(0.067)
U. Glasgow			0.068	0.056
			(0.082)	(0.081)
U. Edinburgh			0.023	0.021
			(0.064)	(0.064)
U. St Andrews			-0.026	-0.024
			(0.077)	(0.077)
Burgh	0.005	0.001	0.002	0.000
	(0.047)	(0.050)	(0.045)	(0.048)
Market	0.003*	0.027	0.003+	0.011
	(0.002)	(0.031)	(0.001)	(0.031)
Port	0.000	0.013	0.000	0.017
	(0.001)	(0.032)	(0.001)	(0.027)
Ruggedness	0.004	0.004	0.004	0.004
	(0.003)	(0.003)	(0.003)	(0.003)
Court	-0.002	-0.061	-0.002	-0.053
	(0.002)	(0.039)	(0.001)	(0.035)
Caloric potential	0.001***	0.001***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Urban population (1000s)	-0.009***	-0.011***	-0.010***	-0.012***
	(0.002)	(0.003)	(0.002)	(0.003)
Intercept	0.171	0.229	0.306*	0.382+
	(0.134)	(0.182)	(0.138)	(0.197)
Num.Obs.	811	811	797	797
R2	0.124	0.121	0.159	0.158
R2 Adj.	0.116	0.114	0.144	0.143
Std.Errors	Clustered	Clustered	Clustered	Clustered

+  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table A3: Linear probability models, using continuous versions of distance to market, port, and state court. Outcome is binary purge variable; robust standard errors clustered at presbytery-level. First and third columns use continuous measures for all distance variables while columns two and four use log-distance.

## D Lowland Only

To account for the possibility that the results are driven by unobserved heterogeneity in state capacity, economic incentives, or local elites, I subset the data into only the more densely-populated Lowland parishes — that is, excluding Argyll (the Western Isles), Orkney and Shetland, Ross, Sutherland, and Caithness. Within the Lowland region, there would have been less variation across parishes in these factors. The results are weakened in significance given the loss of observations, particularly in the fourth model that includes all predictors,

although largely similar: caloric potential and tenure remain strong predictors. The loss of significance is most clear in the conventicle and militancy coefficients; this is unsurprising, as the differences between them were most evident in the north of the country, where there was some conventicling but no militancy. To disentangle this collinearity, I include each as separate predictors in Models 5 and 6, which leads an increase in statistical significance.

	(1)	(2)	(3)	(4)	(5)	(6)
Conventicle	0.172** (0.056)			0.105* (0.042)	0.111** (0.041)	
Militants/1k pop.	0.012*** (0.003)			0.006+ (0.003)		0.006* (0.003)
Years tenure		-0.005** (0.002)		-0.005** (0.002)	-0.005** (0.002)	-0.005** (0.002)
U. Aberdeen		-0.271*** (0.068)		-0.177** (0.065)	-0.193** (0.064)	-0.186** (0.064)
U. Glasgow		0.031 (0.078)		-0.051 (0.087)	-0.042 (0.086)	-0.050 (0.086)
U. Edinburgh		-0.030 (0.069)		-0.049 (0.068)	-0.055 (0.068)	-0.054 (0.068)
U. St Andrews		-0.121 (0.085)		-0.100 (0.076)	-0.113 (0.077)	-0.107 (0.077)
Burgh			0.004 (0.050)	-0.007 (0.047)	-0.017 (0.046)	0.007 (0.048)
Market			-0.145+ (0.080)	-0.119 (0.079)	-0.112 (0.080)	-0.120 (0.079)
Port			-0.067 (0.061)	-0.053 (0.057)	-0.060 (0.056)	-0.059 (0.060)
Ruggedness			0.003 (0.004)	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)
Court			0.144* (0.062)	0.127* (0.056)	0.129* (0.057)	0.129* (0.058)
Caloric potential			0.058*** (0.013)	0.045*** (0.011)	0.046*** (0.011)	0.048*** (0.011)
Urban pop. (1000s)			-0.009*** (0.002)	-0.010*** (0.003)	-0.010*** (0.002)	-0.008*** (0.002)
Intercept	0.519*** (0.045)	0.761*** (0.061)	0.299* (0.128)	0.486*** (0.127)	0.500*** (0.130)	0.492*** (0.128)
Num.Obs.	703	699	703	699	699	699
R2	0.042	0.065	0.105	0.146	0.142	0.140
R2 Adj.	0.039	0.058	0.096	0.128	0.126	0.124
Std.Errors	Clustered	Clustered	Clustered	Clustered	Clustered	Clustered

+ p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Table A4: Linear probability model including only Lowland parishes (excluding synods of Argyll, Ross, Orkney, and Sutherland and Caithness). Outcome is binary purge variable; robust standard errors clustered at presbytery-level.