

# Online Appendix: Unbreakable legacies? Redistricting, Political Capital and Political Dynasties

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## A1 Figures

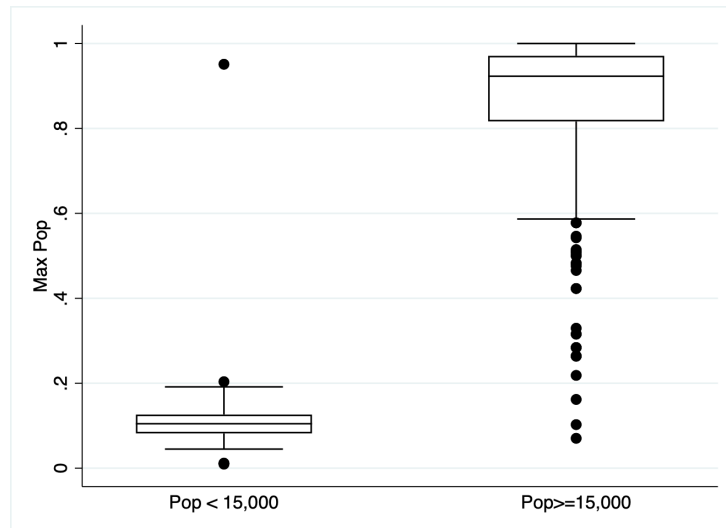


Figure A1: **Distribution of Max Pop by Pre-Reform Population.**

The figure displays boxplots of an incumbent's maximum population of a pre-reform borough relative to the territory of a post-reform constituency by the level of pre-reform population (below and above 15,000 inhabitants). See section 6.

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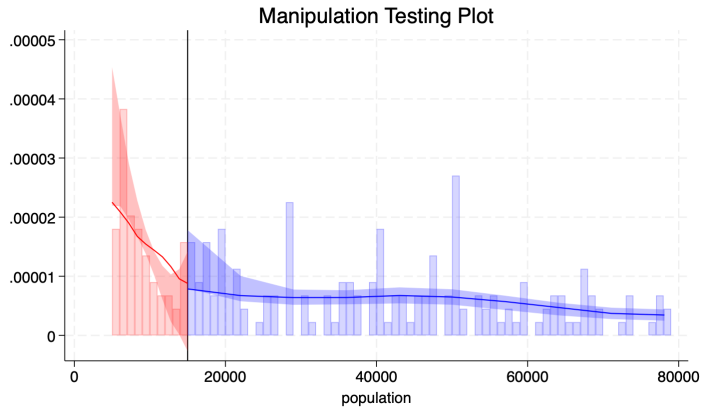


Figure A2: **McCrary Density test**: Manipulation Testing around 15,000 population threshold.

Note: Figure presents the McCrary Density test. Manipulation Testing was conducted using Local-Polynomial Density Estimation with `rddensity` in Stata, with a first (second) order polynomial used to construct the (bias-corrected) density point estimators (solid black line), a triangular kernel, including 95% confidence interval (shaded grey area), bandwidths optimal at either end. Histogram presents the frequency of observations at either end of the threshold for 1,000 population intervals. Test result equals 1.3730 with associated P-value of 0.1698. See section 6.

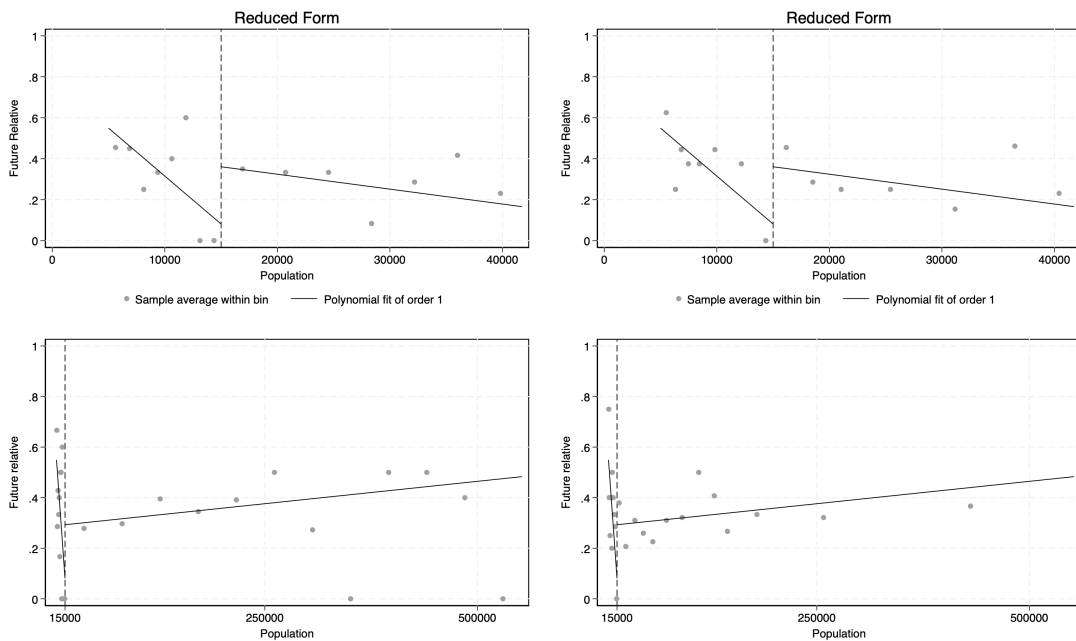


Figure A3: **Effect of Escaping Absorption above Threshold on Future Relative**

Regression discontinuity plots with equally spaced (left) and quantile spaced bins (right), i.e. `esmvpr` and `qsmvpr` using polynomial regression, following Cattaneo and Titiunik 2019, at either end of the 15,000 population threshold. The same graph with different scales for the x-axis are presented in two rows, for legibility and completeness respectively. Scattered dots represent binned averages. Lines represent first order polynomial at both sides of the discontinuity, triangular kernel was used.

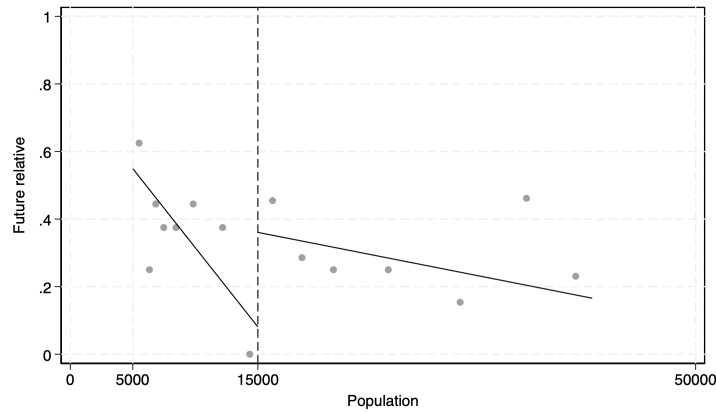


Figure A4: **Effect of Escaping Absorption above Threshold on Future Relative**

Regression discontinuity plot of the RD results in optimal bandwidths Cattaneo and Titiunik (2019) at either end, presenting the probability for incumbents narrowly faced with redistricting (left of threshold) vs. narrowly escaping redistricting (right of threshold) of having a relative entering the House of Commons for the first time after 1885. Scattered dots represent binned averages, for quantile spaced bins using polynomial regression (qsmvpr). Lines represent first order polynomial of population at both sides of the discontinuity, triangular kernel.

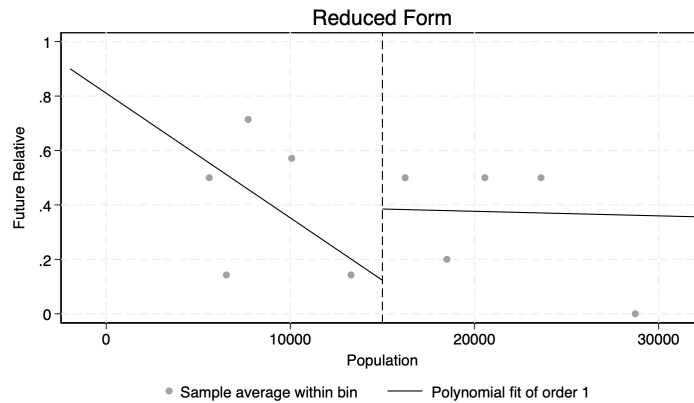


Figure A5: **Robustness Check: Conditional on no Party Swings, Effect of Escaping Absorption above Threshold on Future Relative**

Regression discontinuity plot of the RD results in optimal bandwidths Cattaneo and Titiunik 2019, presenting the probability for incumbents narrowly faced with redistricting (left of threshold) vs. narrowly escaping redistricting (right of threshold) of having a relative entering the House of Commons for the first time after 1885. Scattered dots represent binned averages. Lines represent first order polynomial of population at both sides of the discontinuity, triangular kernel was used. Full results in table A5.

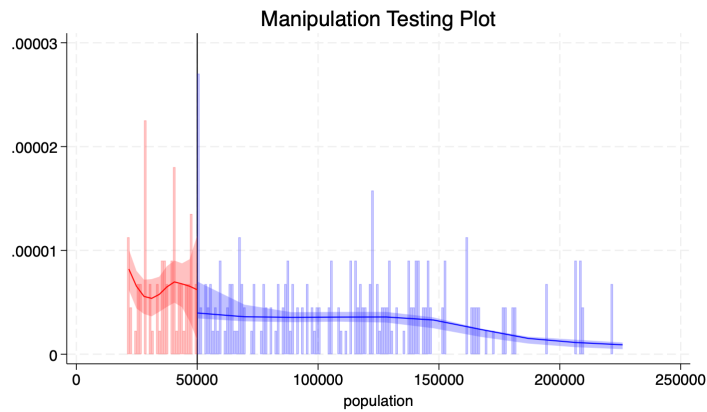


Figure A6: **McCrary Density test alternative threshold:** Manipulation Testing around 50,000 population threshold.

Note: Figure presents the McCrary Density test. Manipulation Testing was conducted using Local-Polynomial Density Estimation with `rddensity` in Stata, with a first (second) order polynomial used to construct the (bias-corrected) density point estimators (solid black line), a triangular kernel, including 95% confidence interval (shaded grey area), bandwidths optimal at either end. Histogram presents the frequency of observations at either end of the threshold for 1,000 population intervals. Test result equals -0.4287 with associated P-value of 0.668. See section 7.2.

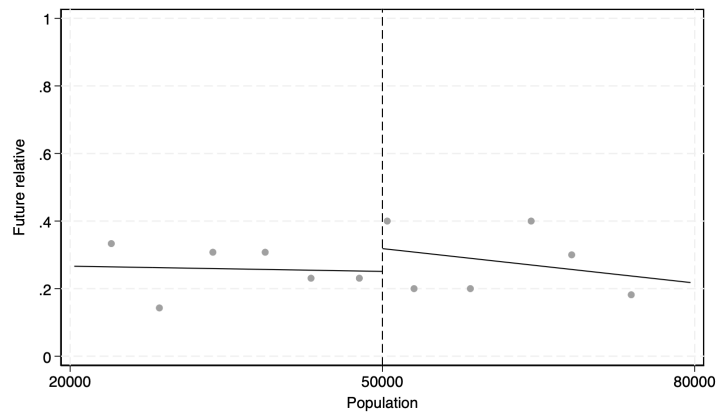
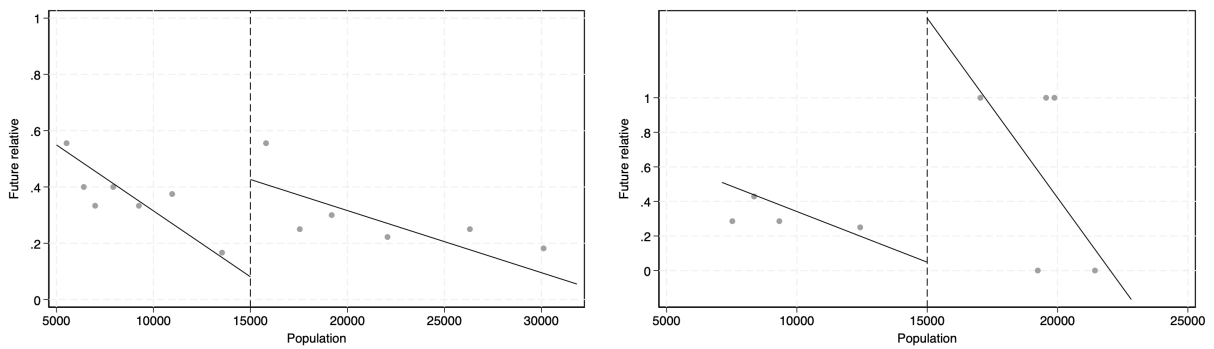


Figure A7: **Placebo Threshold: Future Relative (alternative threshold main RD result)**

Regression discontinuity plot of the RD results in optimal bandwidths Cattaneo and Titiunik 2019, presenting the probability for incumbents narrowly faced with redistricting (supposedly left of placebo threshold) vs. narrowly escaping redistricting (supposedly right of placebo threshold) of having a relative entering the House of Commons for the first time after 1885. Scattered dots represent binned averages. Lines represent first order polynomial of population at both sides of the discontinuity, triangular kernel was used. Full results in table A3.



**Figure A8: Robustness: Main findings, only boroughs (left) and only boroughs of 1 seat (right)**

Regression discontinuity plot of the RD results in optimal bandwidths Cattaneo and Titiunik 2019, presenting the probability for incumbents narrowly faced with redistricting (left of threshold) vs. narrowly escaping redistricting (right of threshold) of having a relative entering the House of Commons for the first time after 1885. Scattered dots represent binned averages. Lines represent first order polynomial of population at both sides of the discontinuity, triangular kernel was used. Full results in table A4.

## A1.1 Tables

	N	Mean	S.D.	Min	Max
Min Population 1885*	425	45954	16773	142	153051
Min Total Votes 1885*	425	5751	4268	0	53752
Min Total Electors 1885*	425	6771	3818	0	34840
Max Population 1885*	425	84464	59288	18941	564981
Max Total Votes 1885*	425	15922	17683	0	95178
Max Total Electors 1885*	425	15124	11143	0	60628
Total Number of Seats in 1885*	446	6.605	6.159	0	38
Margin of Vote in 1885	292	0.084	0.154	-0.361	0.538
Unopposed in 1885	304	0.039	0.195	0	1
Number of Competitors in 1885	304	2.178	0.759	0	5
Ran in Same Geographic Area*	446	0.843	0.364	0	1
Total tenure in days	446	6698.094	4045.674	2063	23988
Loyal to gov.	446	0.563	0.497	0	1
Retired Loyal to gov.	446	0.148	0.355	0	1

Table A1: **Summary Statistics:** Additional Dependent Variables, incl. Pre-Reform Constituency and Individual Incumbent Characteristics

Note: Summary statistics for additional dependent variables, full sample. Individuals did not die in office and did not leave before the reform passed. \*Variable evaluates the aggregate outcome by incumbent of all post-reform constituent parts of his pre-reform constituency.

Variable	MSE-optimal bandwidth	RD Estimator	<u>Robust inference</u>			Clusters		
			P-value	95% C.I.		Left	Right	N
Liberal	32249	-0.056	0.383	-0.482	0.185	62	89	444
Conservative	32314	0.052	0.594	-0.241	0.421	62	86	444
District magn	27627	0.118	0.433	-0.314	0.733	62	74	444
Age	33525	-3.022	0.944	-13.024	13.990	62	90	444
Aristocrat	29726	0.122	0.264	-0.127	0.462	62	81	444
Elite	33829	0.013	0.711	-0.351	0.515	62	82	444
Rentier	30634	0.065	0.214	-0.108	0.482	62	80	444
Junior	29787	0.200	0.730	-0.355	0.506	62	80	444
England	27742	0.095	0.275	-0.188	0.661	62	84	444
Scotland	25159	-0.017	0.757	-0.135	0.098	62	92	444
Wales	32536	-0.090	0.278	-0.633	0.182	62	80	444

Table A2: **Effect of Narrowly Redistricted Incumbents on Pre-Treatment Characteristics**

Note: Pre-treatment characteristics of incumbents escaping redistricting above the 15,000 population threshold on the probability of dynasty formation. Triangular kernel and first order polynomial control for population used. Errors are clustered by constituency. Sample includes 1880 incumbents. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . See section 6.

Variable	MSE-optimal bandwidth	RD Estimator	Robust inference			Clusters		
			P-value	95% C.I.		Left	Right	N
Future relative	29600	0.067	0.700	-0.294	0.438	89	55	444
Immediately	24584	0.037	0.482	-0.094	0.200	70	45	444
Before 1918	27254	0.118	0.484	-0.239	0.504	83	49	444
Retired	26978	-0.190	0.187	-0.536	0.105	85	49	444
Ran next election	26083	0.262*	0.096	-0.048	0.590	78	49	444
Re-elected	18840	0.265	0.262	-0.171	0.629	56	40	444
Re-elected if ran	24777	0.107	0.658	-0.311	0.493	57	37	303
Partisan change	31600	-0.412	0.272	-1.134	0.320	100	59	444

Table A3: **Robustness: Placebo threshold, Incumbents, non-absorbed constituencies**

Note: Estimates of the difference for incumbents above the 50,000 population threshold on the probability of dynasty formation. Triangular kernel and first order polynomial control for population used. Errors are clustered by constituency. Sample includes 1880 incumbents. Future relative indicates an MP's probability of having a relative entering the House of Commons for the first time after 1885; Immediately if that relative entered in 1885 or 1886; Before 1918 if that relative entered at any point before 1918. Further dependent variables are retiring, running in the 1885 election, and re-election in 1885, as well as partisan change. Partisan change is measured as the weighted total of conservative party winners. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Variable	MSE-optimal bandwidth	RD Estimator	Robust inference			Clusters		
			P-value	95% C.I.		Left	Right	N
Future relative	13251	1.407***	0.004	0.524	2.792	55	12	103
Immediately	13026	-0.435	0.368	-1.624	0.602	55	11	103
Before 1918	13222	1.413***	0.004	0.519	2.814	55	12	103
Retired	14832	-0.278	0.267	-0.985	0.272	55	15	103
Ran next election	14740	0.294	0.355	-0.336	0.937	55	15	103
Re-elected	14150	-0.215	0.684	-1.861	1.221	55	14	103
Re-elected if ran	14228	-0.328	0.537	-2.085	1.086	27	14	66
Partisan change	13602	-0.516	0.223	-1.891	0.442	55	13	103

Table A4: **Robustness: Incumbents, non-absorbed constituencies boroughs of 1 seat only**

Note: Estimates of the difference for incumbents above the 15,000 population threshold on the probability of dynasty formation, boroughs of 1 seat only. Triangular kernel and first order polynomial control for population used. Errors are clustered by constituency. Sample includes 1880 incumbents. Future relative indicates an MP's probability of having a relative entering the House of Commons for the first time after 1885; Immediately if that relative entered in 1885 or 1886; Before 1918 if that relative entered at any point before 1918. Further dependent variables are retiring, running in the 1885 election, and re-election in 1885, as well as partisan change. Partisan change is measured as the weighted total of conservative party winners. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Variable	MSE-optimal bandwidth	RD Estimator	Robust inference			Clusters		
			P-value	95% C.I.		Left	Right	N
Future relative	16956	0.262**	0.028	0.055	0.940	32	29	136
Immediately	16521	0.157*	0.081	-0.045	0.762	32	29	136
Before 1918	16838	0.319**	0.036	0.032	0.910	32	30	136
Retired	17675	-0.202	0.531	-0.604	0.311	32	31	136
Ran next election	17188	0.172	0.446	-0.284	0.646	32	29	136
Re-elected	18329	0.205	0.740	-0.631	0.889	32	29	136
Re-elected if ran	20872	0.240	0.938	-0.779	0.843	18	27	103

Table A5: **Robustness: Incumbents, non-absorbed constituencies, excluding partisan changes**

Note: Estimates of the difference for incumbents escaping redistricting above the 15,000 population threshold on the probability of dynasty formation. Triangular kernel and first order polynomial control for population used. Errors are clustered by constituency. Future relative indicates an MP's probability of having a relative entering the House of Commons for the first time after 1885; Immediately if that relative entered in 1885 or 1886; Before 1918 if that relative entered at any point before 1918. Further dependent variables are retiring, running in the 1885 election, and re-election in 1885. Partisan change is measured as the weighted total of conservative party winners. Sample includes 1880 incumbents, excluding constituencies with partisan changes. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Variable	MSE-optimal bandwidth	RD Estimator	Robust inference			Clusters		
			P-value	95% C.I.		Left	Right	N
Partisan change	32236	0.097	0.525	-0.457	0.896	62	89	444
Min population	30686	-20328***	< 0.001	-35692	-11002	55	82	423
Max population	33165	-1191	0.768	-17855	13187	55	75	423
Min electorate	31978	-2988***	< 0.001	-7197	-2069	55	83	423
Max electorate	34101	711	0.767	-1916	2599	55	77	423
Min votes cast	32440	-2413***	< 0.001	-5651	-1658	55	83	423
Max votes cast	36947	-110	0.733	-2462	1731	55	82	423

Table A6: **Effect of Narrowly Redistricted Incumbents on partisan change and Other Pre-Reform Constituency Characteristics**

Note: Difference in partisan change for incumbents escaping redistricting above the 15,000 population threshold. Triangular kernel and first order polynomial control for population used. Errors are clustered by constituency. Sample includes 1880 incumbents. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



Variable	MSE-optimal bandwidth	RD Estimator	Robust inference		Clusters			
			P-value	95% C.I.	Left	Right	N	
Full sample:								
Labour elected	31690	-0.103	0.330	-0.878	0.295	62	78	444
Sample restricted to:								
No partisan change								
Labour elected	20780	-0.242	0.118	-1.359	0.153	32	32	136

Table A7: **Long-term results**

Note: Effect for incumbents in narrowly non-absorbed constituencies on the probability of labour party success after 1885, at the 15,000 population threshold, unconditional and conditional on no immediate partisan change. Estimates of the difference for incumbents escaping redistricting above the 15,000 population threshold on the probability of dynasty formation. Triangular kernel and first order polynomial control for population used. Errors are clustered by constituency. Sample includes 1880 incumbents. Partisan change is measured as the weighted total of conservative party winners. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

## References

Cattaneo, Nicolás, Matias D. Idrobo, and Rocío Titiunik. 2019. *A Practical Introduction to Regression Discontinuity Designs: Foundations*. Cambridge Elements: Quantitative and Computational Methods for Social Science. Cambridge: Cambridge University Press.