**DATA APPENDIX**

**Data Definitions and Sources**

AGRIC = percentage of the labour force in agriculture 1870-1925 Urquhart (1993) Gross National Product, Derivation of Estimates, p.24; 1926-1975 Cansim D31251/D31252; 1975-2014 Cansim II v2710106/v2710104; LNAGRIC = Log(AGRIC); AVERAGE\_AGRICULTURE = average size over the previous governing period.

GNP = gross national product in current dollars. 1870-1926: Urquhart (1993: 24-25) (in millions); 1927-1938: Leacy et al. (1983: 130); 19391960 Canadian Economic Observer (Table 1.4), CANSIM D11073 = GNP at market prices. 1961-2014 CANSIM I D16466 = CANSIM II V499724 (aggregated from quarterly data).

GSIZE = non-interest federal government, direct public expenditure, as a proportion of GNP: Ferris and Voia (2015: 182). LNGSize = Log(GSIZE);

AVEGROWTH\_GOV = average of LNGSIZE – LNGSIZE(-1) over the previous governing interval.

POP = the population size of Canada, 1870 – 1926: M.C. Urquhart (1993), Gross National Product of Canada 1870-1926, The Derivation of Estimates p. 24-25 (in thousands); 1927 – 1955: CANSIM data label D31248; 1996-2014 CANSIM Table 051-0005: Estimates of population, Canada, provinces and territories; Canada D1 Average of quarters.

IMMIGRATION: 1870 1953 O.J. Firestone Canada’s Economic Development 1867-1953 Table 83, Population, Families, Births, Deaths (in thousands); 1954-1995; Cansim D27; 1996-2014 Cansim II v16.

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| IMRATIO = Immigration/POP; AVE\_IMMIGRATION\_RATE = average value of Imratio over the previous governing interval.  RELIGION: Herfindahl index of proportions of (6) religious denominations in Canada, Statistics Canada Cansim  II Table 075-0016, Historical statistics, principal religious denominations of the population, interpolated  between 10 year census intervals and averaged across governing intervals. |
|  |

RGNPPC = (GNP)/(P\*POP); LNGNPPC = Log(RGNPPC); PCGrowth = LNRGNPPC – LNRGNPPC(-1).

AVEGROWTH\_PC = average of PCGROWTH over the previous governing interval.

P = GNP deflator before 1926, Urquhart (1993); GDP deflator after 1926: 1927-1995 (1986=100), Cansim data label D14476; 1996-2014, Cansim II V1997756. All indexes converted to 1986 = 100 basis.

INFLATION = LNP – LNP(-1); AVEINFLATION = average of INFLATION over the previous governing interval.

REGISTERED = fraction of the population registered to vote. Source: Elections Canada web site, www.elections.ca/past elections/A History of the Vote in Canada: Appendix

TURNOUT = fraction of registered voters who voted. Source: Elections Canada web site, www.elections.ca/past elections/A History of the Vote in Canada: Appendix

ELECTORAL PARTICIPATION RATE = REGISTERED\*TURNOUT.

MINORITY = 1 when election resulted in a minority government.

PUBLIC FUNDING 1974 = 0 from 1870 – 1993; 1 from 1974 onward.

WORLD WAR ELECTIONS = 1 for election numbers 1917, 1940, 1945 otherwise 0.

NUMBER OF POLITICAL PARTIES = number of registered parties. Source: Elections Canada, available online at http://www.parl.gc.ca/About/Parliament/FederalRidingsHistory/HFER.aspsee.

Table A1

Generalized (Poisson) Structural Equation Model

with Latent Variables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Log Likelihood = -141.89 | Number of new parties |  | Number of parties exiting |  |
|  | Coefficients | Standard errors | Coefficients | Standard errors |
| Electoral Participation rate | 0.045\* | 0.026 | 0.041\*\* | 0.016 |
| Religion Index | 1.16 | 0.927 | 1.44\*\* | 0.640 |
| Ave\_immigration rate | -0.275 | 0.276 | -0.602\*\* | 0.304 |
| Minority | 0.373 | 0.266 | 0.065 | 0.310 |
| World Wars | 1.11\*\*\* | 0.395 | 0.343 | 0.339 |
| Funding1974 | -0.928\* | 0.502 | -2.166\*\*\* | 0.542 |
| Funding2004 | -0.394 | 0.477 | -1.203\* | 0.730 |
| Ave\_Inflation rate | -0.087\* | 0.049 | 0.067\* | 0.037 |
| Ave\_growth rate per capita | 0.029 | 0.096 | -0.030 | 0.032 |
| Latent Variable  (election number) | -0.013 | 0.25 | 1 (constrained) | 0.05 |
| Constant | -2.74 | 2.07 | -3.26\*\* | 1.496 |

without Latent Variables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Log Likelihood = -132.76 | Number of new parties |  | Number of parties exiting |  |
|  | Coefficients | Standard errors | Coefficients | Standard errors |
| Electoral Participation rate | 0.040\*\* | 0.015 | 0.041\*\* | 0.016 |
| Religion Index | 0.967\* | 0.556 | 1.44\*\* | 0.640 |
| Ave\_immigration rate | -0.354 | 0.265 | -0.603\*\*\* | 0.304 |
| Minority | 0.272 | 0.256 | 0.065 | 0.310 |
| World Wars | 1.16\*\*\* | 0.342 | 0.066 | 0.037 |
| Funding1974 | -0.934\* | 0.502 | -2.17\*\*\* | 0.542 |
| Funding2004 | -0.375 | 0.473 | -1.20\* | 0.730 |
| Ave\_Inflation rate | -0.095\*\* | 0.040 | 0.066\* | 0.037 |
| Ave\_growth rate per capita | 0.030 | 0.029 | -0.030 | 0.033 |
| Constant | -2.34\* | 1.32 | -3.26\*\* | 1.50 |

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*Note:* The vertical axis represents the probability of exit given that the party survival for the number of elections represented on the horizontal axis. The solid line represents the hazard when the model does not distinguish party types while the two dashed lines illustrate the separate hazards estimated when the model allows two distinct party types.



*Note:* The vertical axis represents the baseline hazard facing the 104 shorter lived political parties, the risk of exit given survival up to the number of elections represented on the horizontal line when the covariates of the analysis are all set at zero. The diagram shows three different hazard models’ ability to replicate the shape of the empirical hazard.