

Online Appendix for “Voting after the Change: A Natural Experiment on the Effect of Electoral Reform on Party System Fragmentation”

Table A1. Countries and Elections Included in the Analysis

Country	Election Years
Botswana	1965, 1969, 1974, 1979, 1984, 1989, 1994, 1999, 2004, 2009, 2014
Canada	1963, 1965, 1968, 1972, 1974, 1979, 1980, 1984, 1988, 1993, 1997, 2000, 2004, 2006, 2008, 2011, 2014
India	1967, 1971, 1977, 1980, 1984, 1989, 1991, 1996, 1998, 1999, 2004, 2009, 2014
Jamaica	1962, 1967, 1972, 1976, 1980, 1983, 1989, 1993, 1997, 2002, 2007, 2011
New Zealand	1963, 1966, 1969, 1972, 1975, 1978, 1981, 1984, 1987, 1990, 1993, 1996, 1999, 2002, 2005, 2008, 2011, 2014
Trinidad and Tobago	1966, 1971, 1976, 1981, 1986, 1991, 1995, 2000, 2001, 2002, 2007, 2010, 2015
United Kingdom	1964, 1966, 1970, 1973, 1974, 1979, 1983, 1987, 1992, 1997, 2001, 2005, 2010, 2015
United States	1964, 1966, 1968, 1970, 1972, 1974, 1976, 1978, 1980, 1982, 1984, 1986, 1988, 1990, 1992, 1994, 1996, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014

Table A2. Pre-reform Covariate Means for New Zealand and Synthetic New Zealand

	Treatment = 1996				Treatment = 1993			
	Other FPTP Countries	New Zealand	Synthetic ENEP	Synthetic ENPP	Other FPTP Countries	New Zealand	Synthetic ENEP	Synthetic ENPP
Number of seats	207.146	93.87	272.115	363.62	209.85	92.375	374.434	450.221
Ethnic fragmentation	.386	.396	.484	.543	.386	.396	.397	.317
Federal	.181	0	.48	.291	.181	0	.156	0
Population size (in 1000s)	94500	3225.625	23700	159000	91300	3156.25	32100	68500
Democratic age	32.215	64.625	51.006	61.702	29.59	61.625	46.382	50.029
GDP per capita (current LCU)	8338.296	13315.5	10900.83	15680.47	6829.553	10268.25	7912.836	7318.897

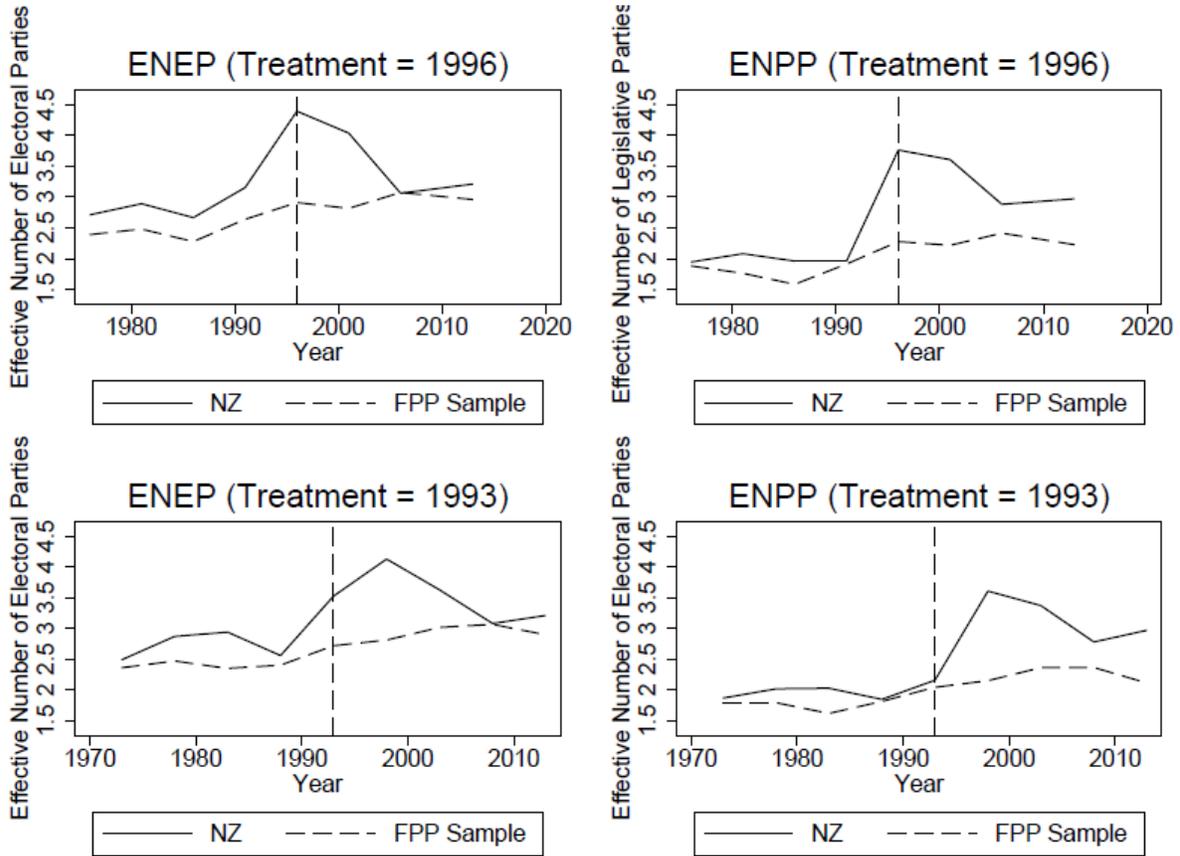
Note: The first and the second synthetic controls take 1996 as treatment elections in the analyses of the effective numbers of electoral and parliamentary parties, respectively. The third and the fourth synthetic controls take 1993 as treatment elections in the analyses of the effective numbers of electoral and parliamentary parties, respectively. All values are averages for the pre-reform (pre-referendum) period of 1976-1995 (1973-1992). See Table A2 for the weights used to calculate the averages for the synthetic New Zealand. *Sources:* Bormann and Golder (2013), Alesina et al. (2003), Database of Political Institutions (2013) and World Development Indicators (2016).

Table A3. Weights for Synthetic New Zealand

	Treatment = 1996		Treatment = 1993	
	ENEP	ENPP	ENEP	ENPP
Antigua & Barbuda	0	0	0	0
Bahamas	0	0	0	0
Barbados	0	0	0	0
Botswana	0	0	0	0
Canada	.48	.291	.156	0
India	0	0	0	0
Jamaica	0	0	0	0
St. Vincent and the Grenadines	.255	.064	0	0
Trinidad and Tobago	.062	0	.35	.264
United Kingdom	.203	0	.495	.581
United States	0	.645	0	.155

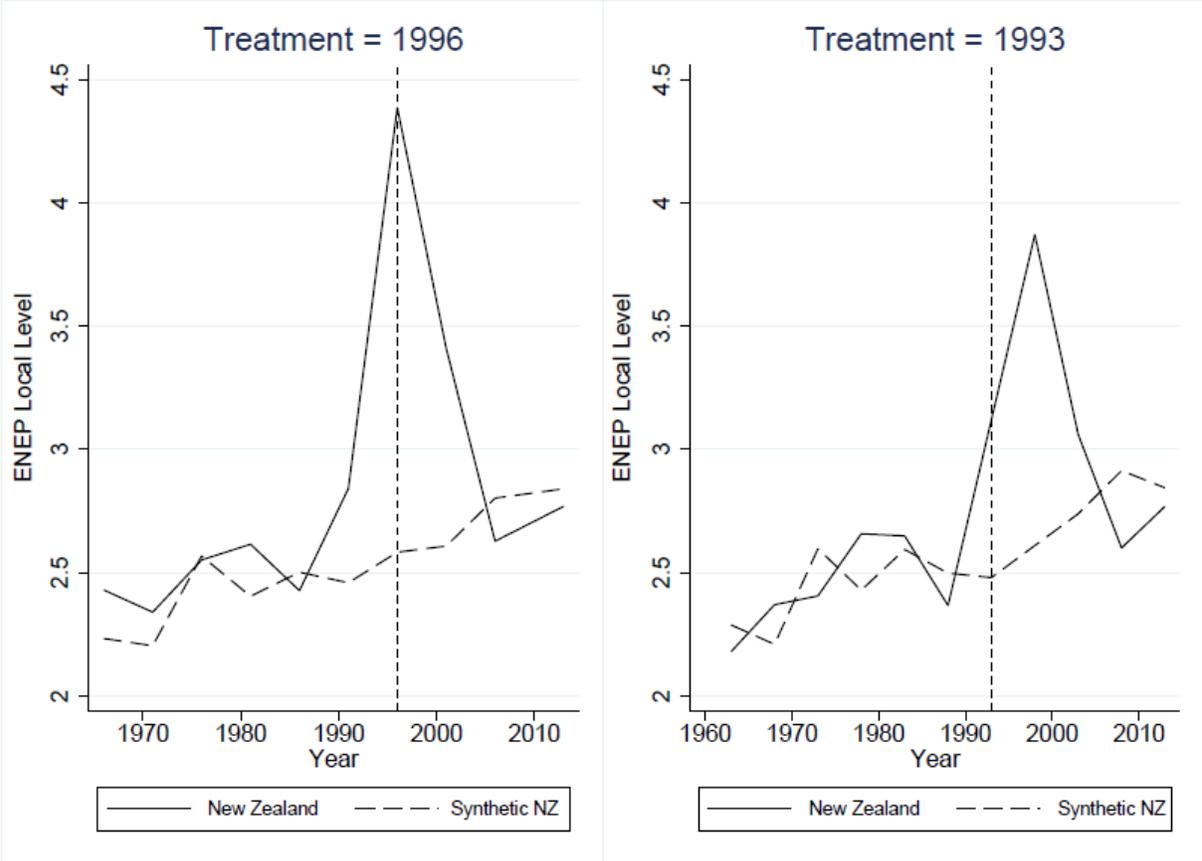
Note: Weights are calculated according to the synthetic control method algorithm, and are constrained to add to one.

Figure A1. Trends in Party System Fragmentation: New Zealand versus Rest of the FPTP Sample



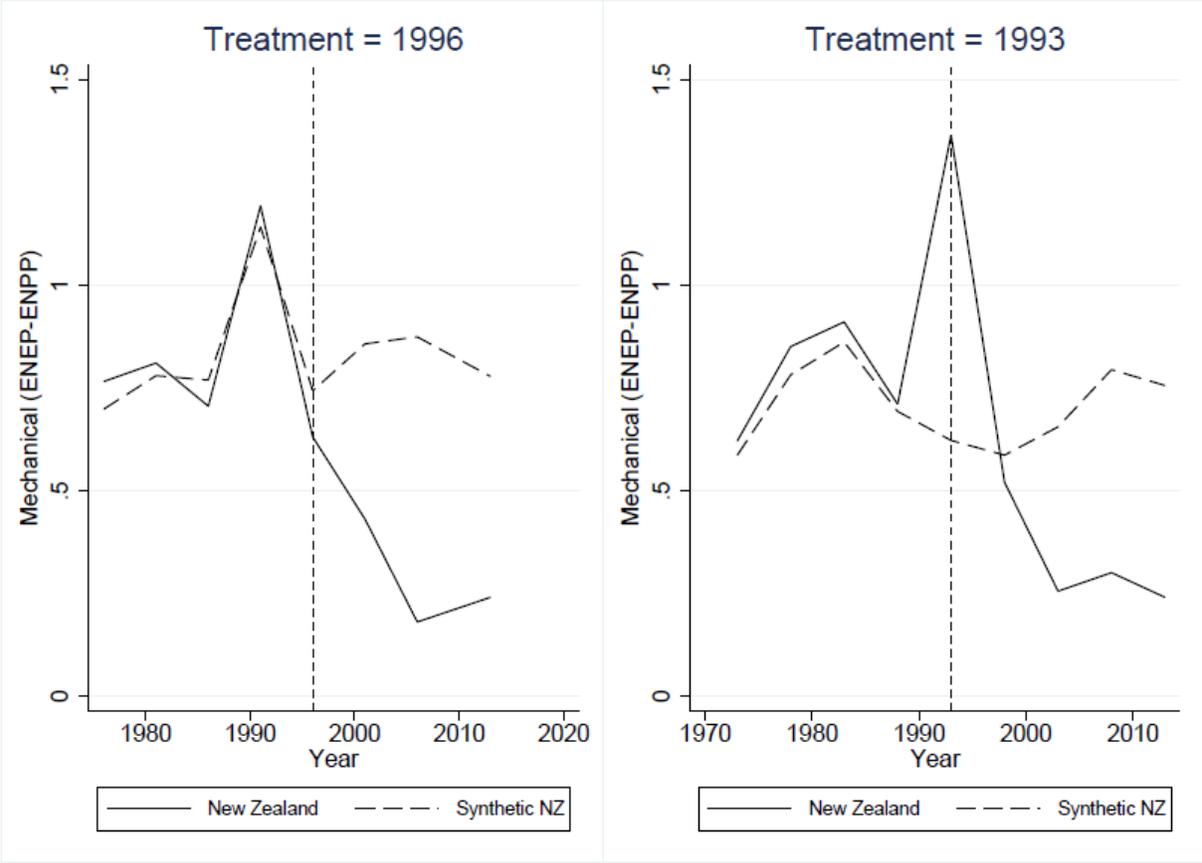
Note: The dashed vertical lines represent New Zealand’s electoral reform, which occurred in 1996 (first row), and New Zealand’s referendum on electoral reform, which occurred in 1993 (second row). The solid lines represent the effective number of parties (electoral and legislative) in New Zealand, and the dashed horizontal lines display the values of these indicators for the average FPTP country.

Figure A2. Effective Number of Electoral Parties at the Local (District) Level for New Zealand and Synthetic New Zealand



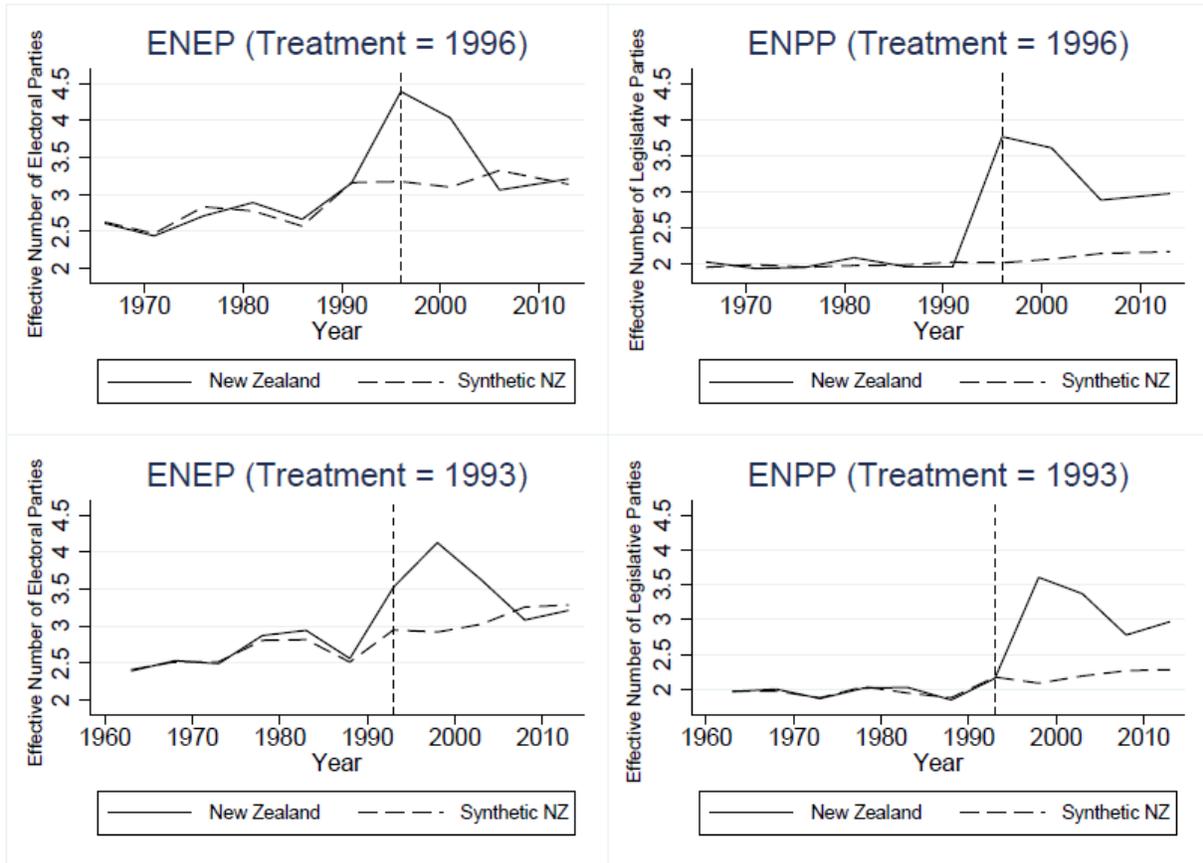
Note: The dashed vertical lines represent New Zealand’s electoral reform, which occurred in 1996 (first row), and New Zealand’s referendum on electoral reform, which occurred in 1993 (second row). The solid lines are the actual effective numbers of electoral parties at the local (district) level, and the dashed horizontal lines are values of this indicator for the synthetic controls. The synthetic controls are fitted to minimize differences in party system between 1966 and 1995 (first graph), and 1963 and 1992 (second graph).

Figure A3. Mechanical Effect (Effective Number of Electoral Parties minus Effective Number of Legislative Parties) for New Zealand and Synthetic New Zealand



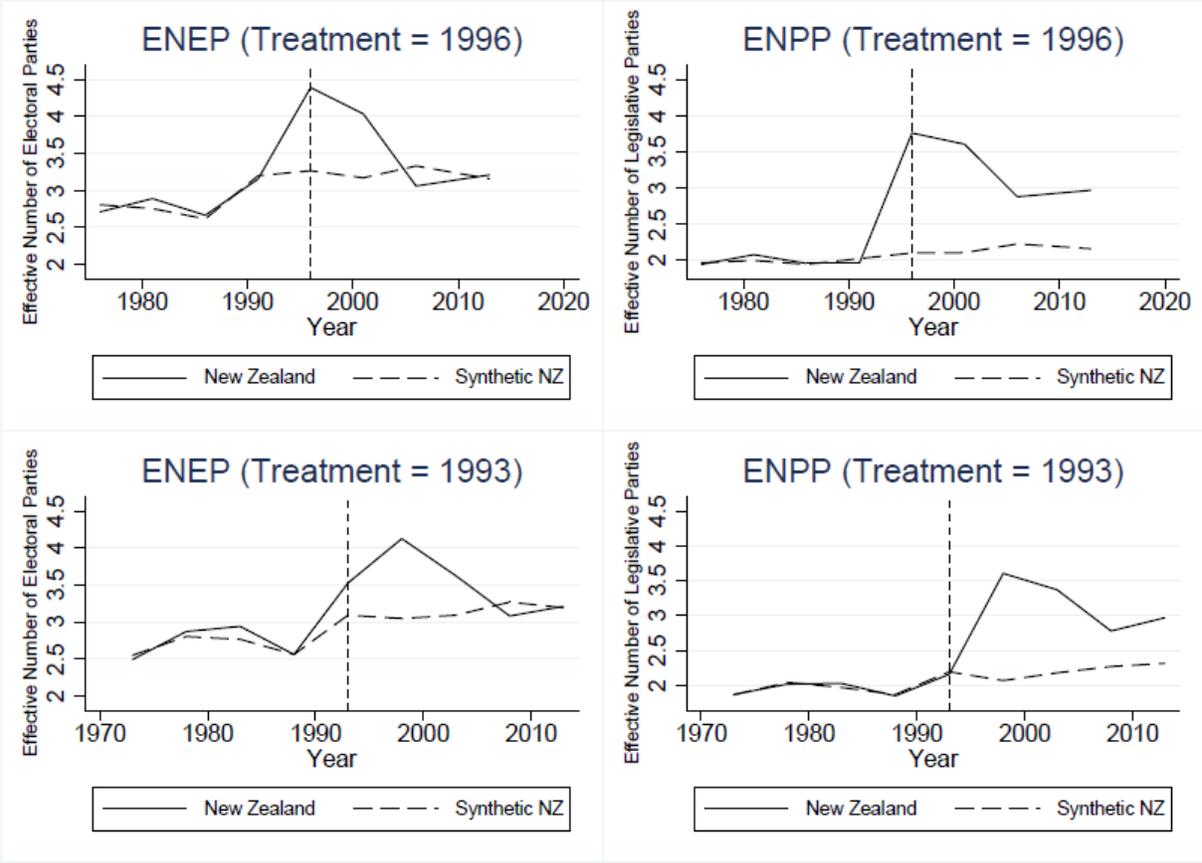
Note: The dashed vertical lines represent New Zealand’s electoral reform, which occurred in 1996 (first row), and New Zealand’s referendum on electoral reform, which occurred in 1993 (second row). The solid lines are the actual differences between the effective numbers of electoral and legislative parties, and the dashed horizontal lines are values of this indicator for the synthetic controls. The synthetic controls are fitted to minimize differences in party system between 1966 and 1995 (first graph), and 1963 and 1992 (second graph).

Figure A4. Party System Fragmentation at the Electoral and the Legislative Level for New Zealand and Synthetic New Zealand (II)



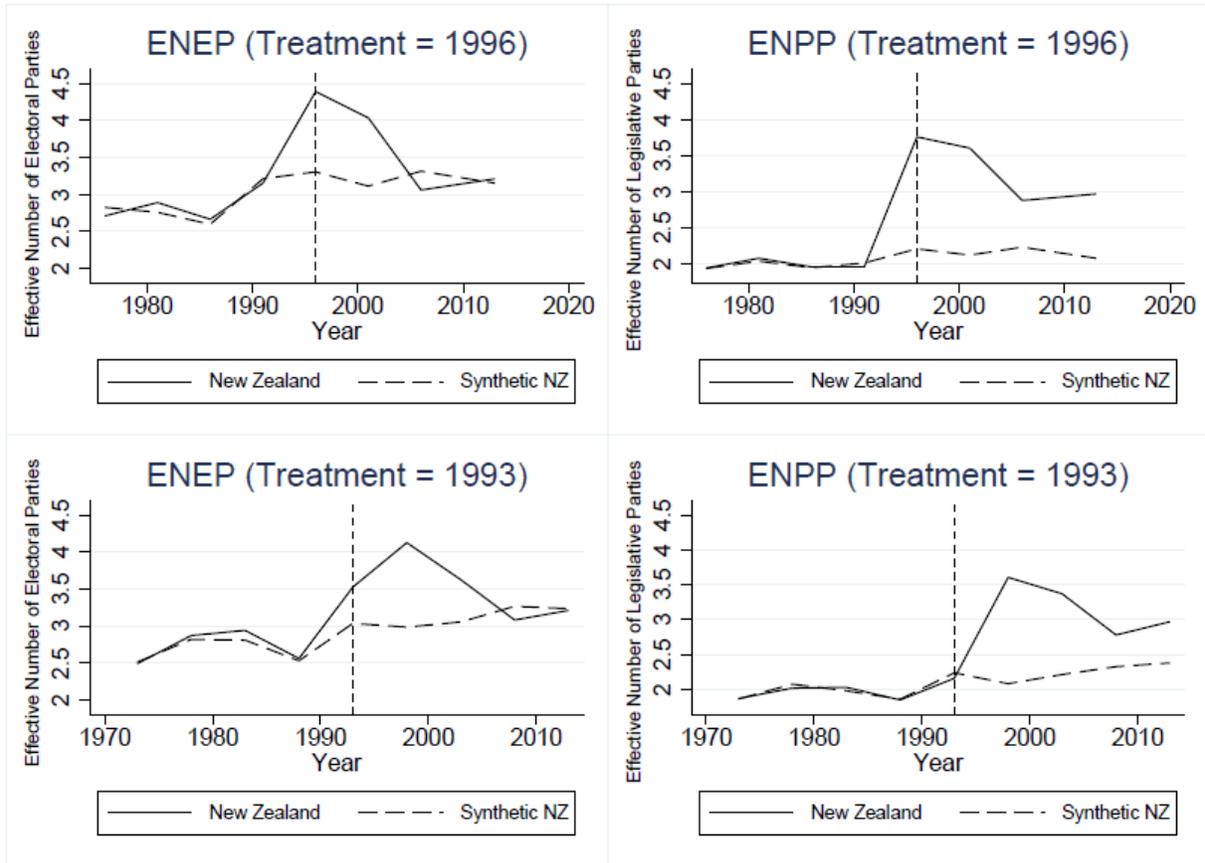
Note: Compared to Figure 1, these graphs use a restricted pool of donor countries (i.e., excluding Antigua and Barbuda, Bahamas, Barbados and St. Vincent and the Grenadines), a longer time series (i.e., since the mid-1960s) and presidentialism and democratic level (Polity IV) instead of assembly size and number of inhabitants as covariates.

Figure A5. Party System Fragmentation at the Electoral and the Legislative Level for New Zealand and Synthetic New Zealand (III)



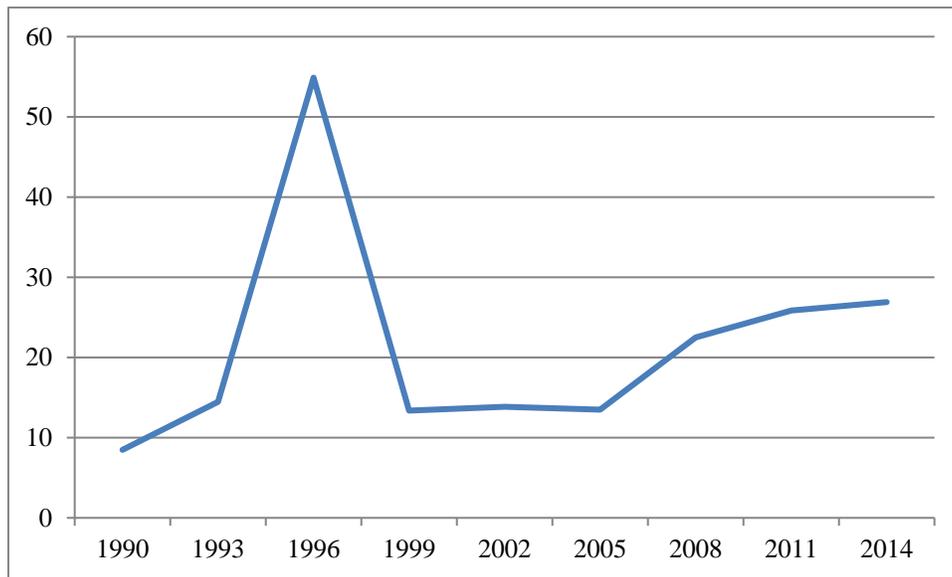
Note: Compared to Figure 1, these graphs use Alesina et al.'s (2003) ethnic fractionalization data instead of Fearon's as covariate.

Figure A6. Party System Fragmentation at the Electoral and the Legislative Level for New Zealand and Synthetic New Zealand (IV)



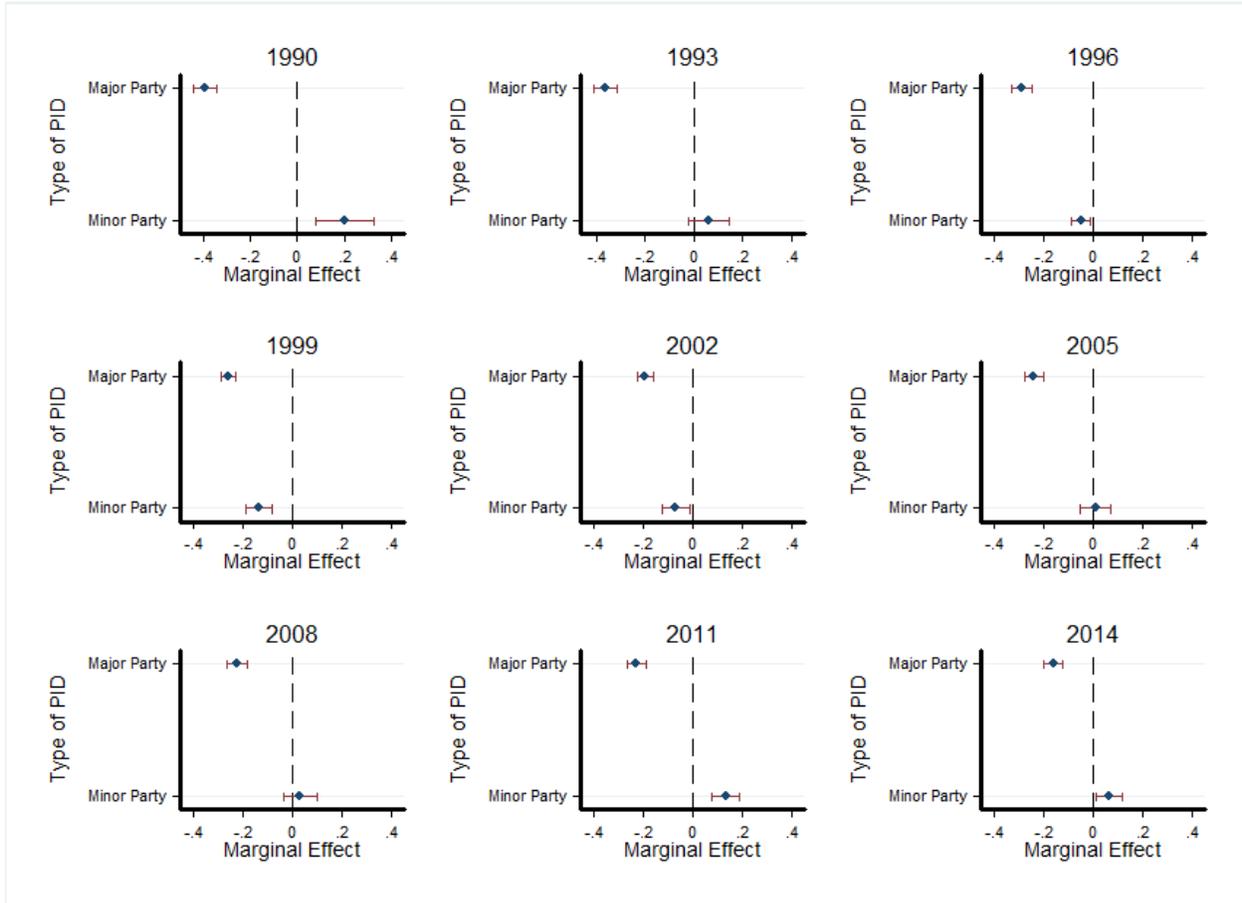
Note: Compared to Figure 1, these graphs use the values of the Regional Authority Index (Hooghe et al. 2016) instead of a mere dummy (i.e., federalism or not) as covariate.

Figure A7. The Evolution of Identification with Minor Parties, 1990-2014



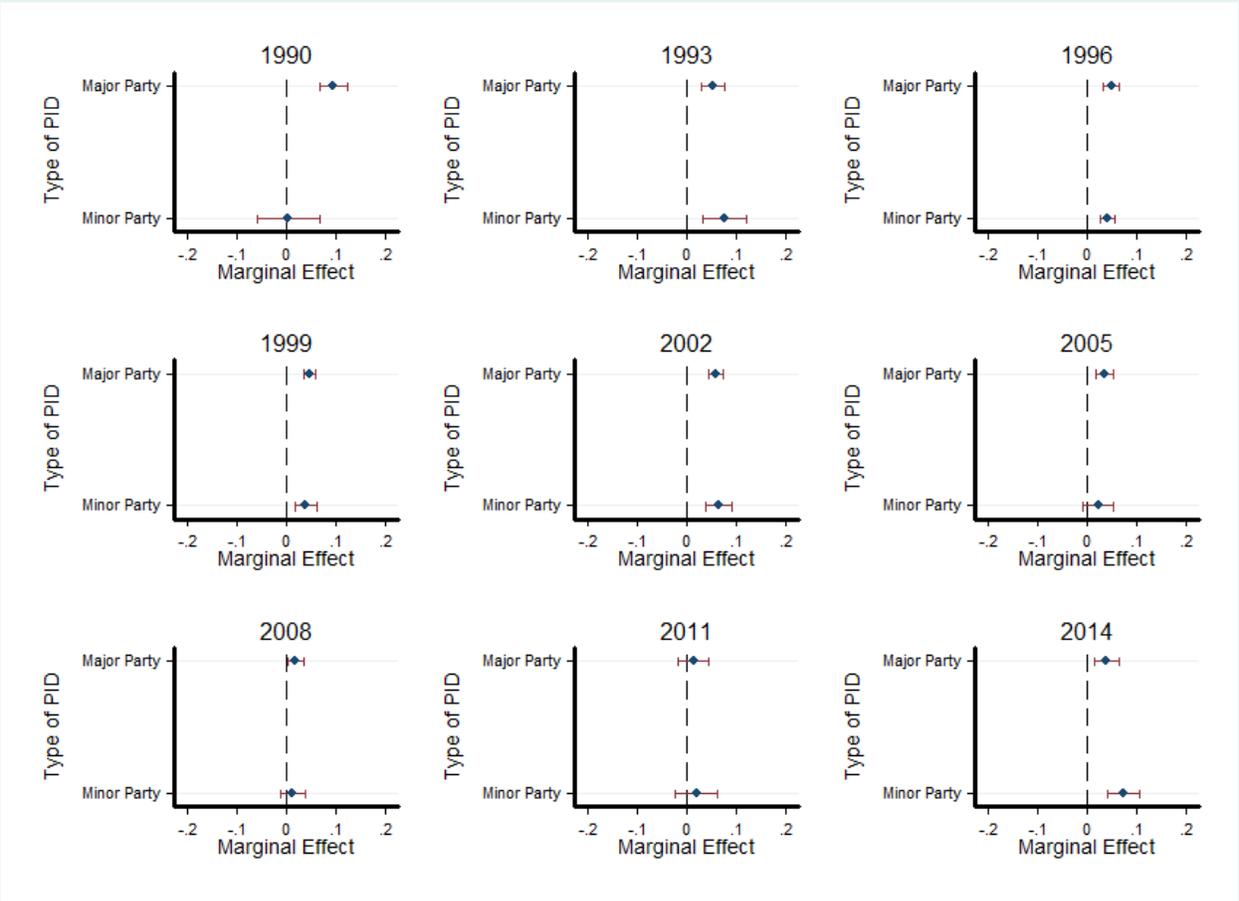
Note: In 1990, 1993, 1999, 2002 and 2005, the survey asks whether the respondent usually thinks of herself as one of the parties, whereas in 1996, 2008, 2011 and 2014, the survey asks whether the respondent thinks of herself as close to any party. Even though the amount of identifiers is always higher when the latter option is employed, the peak in 1996 must be due to other factors that go beyond the type of formulated question. *Source:* 1990, 1993, 1996, 1999, 2002, 2005, 2008, 2011 and 2014 New Zealand Election Studies.

Figure A8. The Impact of Type of Party Identification on Party Switching, 1990-2014



Note: Marginal effects with their corresponding 95% confidence intervals have been calculated according to a series of hierarchical linear probability models with random intercepts at the district level that include as control variables: age, gender, marriage, education, unemployment and birthplace. The reference category is non-identifiers with any party. *Source:* 1990, 1993, 1996, 1999, 2002, 2005, 2008, 2011 and 2014 New Zealand Election Studies.

Figure A9. The Impact of Type of Party Identification on Turnout, 1990-2014



Note: Marginal effects with their corresponding 95% confidence intervals have been calculated according to a series of hierarchical linear probability models with random intercepts at the district level that include as control variables: age, gender, marriage, education, unemployment, birthplace and Maori district. The reference category is non-identifiers with any party. *Source:* 1990, 1993, 1996, 1999, 2002, 2005, 2008, 2011 and 2014 New Zealand Election Studies.

References

Alesina, Alberto, Devleeschauwer, Arnaud, Easterly, William, and Kurlat, Sergio (2003).

"Fractionalization", *Journal of Economic Growth* 8(2): 155-94.

Hooghe, Liesbet, Marks, Gary, Schakel, Arjan H., Chapman-Osterkatz, Sandra, Niedzwiecki,

Sara, and Shair-Rosenfield, Sarah (2016). *Measuring regional authority. Volume I: a postfunctionalist theory of governance*. Oxford: Oxford University Press.