
Appendix (for Online Publication)

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A Multi-Country Panel Analysis

We created a new comprehensive data set of secessionist parties in regions in established democracies on which we base our multi-country panel analysis. The structure of our data set and the starting point for our estimations are two previous publications in political science by [Masseti & Schakel \(2013\)](#) (a) and [Sorens \(2005\)](#). We expand upon their data both regarding the included countries and regions, as well as with regard to the coverage of elections in existing regions. To this end, we collect data on regional and national GDP per capita, secessionist party vote shares, regional and national population over time, the seat distribution in regional and national parliaments, as well as the number of speakers of a distinct regional language. We explain the construction of our data set in detail below. In addition, a list of sources for each variable is provided in [Table 1](#) below.

1. First, we compile a list of regions which have secessionist potential. This is done in two steps. In a first step, we classify parties as either secessionist or not based on the variable *dum_ideology_cp* from the data set compiled by [Masseti & Schakel \(2013\)](#). In a second step, we collapse the data set at the regional level. Thereafter, we drop those regions where a secessionist party was listed on the ballot sheet, but which were not part of the party's secessionist plans. For instance, while campaigning for the independence of a northern Italian state, the *Lega Nord* (Northern League) was also listed as a party in Southern Italian regions. Our approach solves this issues by dropping the Southern regions (b). To follow the existing literature, we also also drop regions where secessionist parties never managed to gain more than 2 percent of the vote in a single election (c).
2. Furthermore, we expand upon this initial list by adding secessionist regions from Central and Eastern Europe, which fulfill the criteria stated above, but were not included by [Masseti & Schakel \(2013\)](#). Also we update the regions in [Masseti & Schakel \(2013\)](#) and collect more recent electoral data.
3. In a next step we increase the number of variables by adding information for relative income, regional language and regional population. We use the information from [Sorens \(2005\)](#) and fill the gaps, where possible, with own research (4).
4. Variables for relative income, secessionist vote share, as well as regional population are varying at the region-year level, the variable for the effective number of parties (*ENP*) varies at the region-year-election type level, and the variable for regional language is time-invariant.

Notes:

(a) The data are taken from the list *Ideology scores and electoral strength for 77 regionalist parties* provided by Arjan Schakel at <https://www.arjanschakel.nl/index.php/regional-parties>, last accessed on July 18, 2018.

(b) This choice of regions for countries that were already covered is based on Table A1 from the appendix of [Massetti & Schakel \(2016\)](#). For new countries, we check the party websites and manifestos to determine which regions are a part of their separatist claims.

(c) Many countries with proportional electoral systems have a percentage barrier, which bars parties that receive less than a certain amount of votes from taking seats in parliament. Most countries that have such a barrier apply it from 3 percent upwards (Belgium, for example, has a 5 percent barrier at the constituency level). Furthermore, depending on the constituency size, the effective percentage barrier can be much higher. We have decided to be somewhat more conservative in our approach and have hence only excluded parties that never managed to gain 2 percent of the vote.

(d) The sources are listed in Appendix Table 1.

Table 1: Multi-Country Panel Data

| Variable Name | Description | Source |
|--------------------------------|--|---|
| <i>Secessionist vote share</i> | Vote share of all separatist parties in a region in that election. | For cases from 1981 until 1999 Sorens (2005) as well as own collection and for cases 2000 until 2016 Massetti and Schakel (2013) as well as own collection. |
| <i>Relative income</i> | Ratio of regional GDP per capita to national GDP per capita | For cases from 1981 until 1999 Sorens (2005) and for cases 2000 until 2016 own calculation based on Eurostat. |
| <i>Regional election</i> | Is election a regional election? 1 = regional election 0 = national election | For cases from 1981 until 1999 Sorens as well as own collection and for cases 2000 until 2016 Massetti and Schakel (2013) as well as own collection. |
| <i>ENP</i> | Effective number of electoral parties ($N = \frac{1}{\sum_{j=1}^n s_{i,t-1}^2}$, where n is the number of parties and s is the number of seats won by party i in the most recent election) | Own calculation based on Sorens (2005) as well as own collection. |
| <i>Population</i> | Regional population in thousands | For cases from 1981 until 1999 Sorens (2005) as well as own collection and for cases 2000 until 2016 own calculation. |
| <i>Regional language</i> | Percentage of regional population speaking regional language. | Own calculation based on Sorens (2005) as well as own collection. |

Table 2: Regions and Parties Used in the Multi-Country Panel Regressions

| Country | Region | Parties | Years |
|------------------------|-----------------------|--|-------------|
| Belgium | Flanders | Nieuw Vlaamse Alliantie, Vlaams Belang, Volksunie | 1977 - 2014 |
| Belgium | Wallonia | Rassemblement Wallonie France | 2003 - 2007 |
| Bosnia and Herzegovina | Republika Srpska | Alliance of Independent Social Democrats, Serb Democratic Party | 1996 - 2014 |
| Canada | Alberta | Western Canada Concept (1) | 1982 - 1986 |
| Canada | Quebec | Action démocratique, Parti Québécois, Bloc Québécois, Parti Nationalist du Quebec, Quebec Solidaire, Rassemblement pour l'Indépendance National | 1981 - 2015 |
| Canada | Saskatchewan | Western Canada Concept (1) | 1982 - 1991 |
| Denmark | Faroe Islands | Fólkaflokkurin, Sjálvstýrisflokkurin, Tjóðveldi | 1946 - 2018 |
| Denmark | Greenland | Inuit Ataqatigiit, Siumut | 1979 - 2018 |
| France | Brittany | Union démocratique bretonne | 2007 - 2017 |
| France | Corse | Corsica Nazione, Accolta Naziunale Corsa, Pè a Corsica | 1978 - 2017 |
| France | New Caledonia | Front de Libération Nationale Kanak et Socialiste, Libération Kanak Socialiste, Parti travailliste | 1988 - 2017 |
| Germany | Bavaria | Bayernpartei | 1946 - 2017 |
| Italy | Aosta Valley | Union Valdôtaine, Stella Alpina, Federation Autonomiste, Vallée d'Aoste Vive, Renouveau Valdôtain, Union Valdôtaine Progressiste, Autonomie Liberté Participation Écologie | 1978 - 2018 |
| Italy | Friuli-Venezia Giulia | Lega Nord | 1979 - 2018 |
| Italy | Liguria | Lega Nord | 1979 - 2015 |
| Italy | Lombardy | Lega Nord | 1975 - 2018 |
| Italy | Piedmont | Lega Nord | 1975 - 2014 |
| Italy | Sicily | Movimento per l'Autonomia | 2006 - 2017 |
| Italy | Trentino-Alto Adige | Lega Nord, Die Freiheitlichen, Südtiroler Freiheit, Südtiroler Volkspartei, Union für Südtirol | 1948 - 2013 |
| Italy | Veneto | Lega Nord | 1975 - 2015 |
| Poland | Upper Silesia | Ruch Autonomii Slaska | 1991 - 2014 |
| Romania | Bihor | Uniunea Democrata Maghiara din Romania | 1990 - 2012 |
| Romania | Satu Mare | Uniunea Democrata Maghiara din Romania | 1990 - 2012 |

| Country | Region | Parties | Years |
|----------------|------------------|---|--------------------|
| Romania | Székely Land | Uniunea Democrata Maghiara din Romania | 1990 - 2012 (2) |
| Spain | Catalonia | Convergència I Unió, Esquerra Republicana de Catalunya, Candidatura d'Unitat Popular, Junts pel Sí | 1977 - 2017 |
| Spain | Galicia | Bloque Nacionalista Gallego | 1977 - 2016 |
| Spain | Basque Country | Euzko Alderdi Jeltzalea - Partido Nacionalista Vasco, Herri Batasuna - Heuskal Herritarrok - Batasuna, Eusko Alkartasuna, Euskadiko Ezkerra, Aralar | 1977 - 2016 |
| United Kingdom | Northern Ireland | Sinn Fein, SDLP | 1945- 2017 |
| United Kingdom | Scotland | SNP, Scottish Greens, Scottish Socialist Party | 1945 - 2017 |
| United Kingdom | Wales | Plaid Cymru | 1945 - 2017 |

(1) We analyze only provincial elections in Canada, as the separatist party did not run at the national level.

(2) Results reported for Székely Land are the average of the counties Covasna, Harghita and Mures.

Table 3: Descriptive Statistics

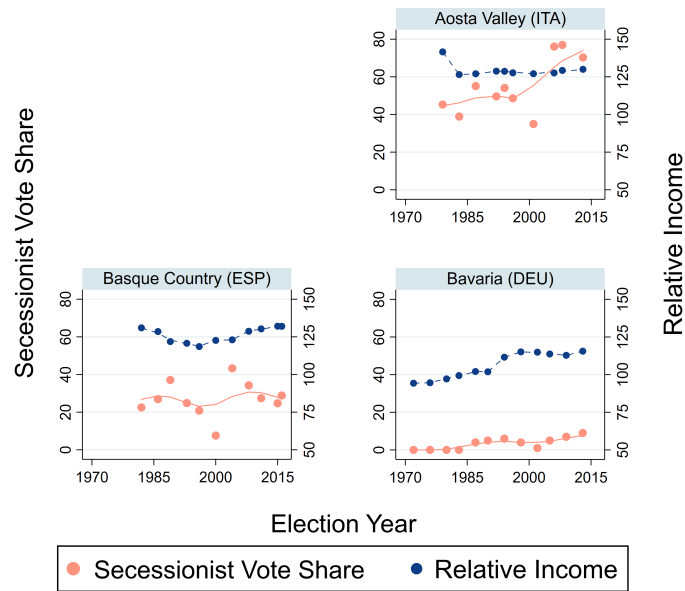
| | <i>N</i> | <i>Mean</i> | <i>SD</i> | <i>Min</i> | <i>Max</i> |
|--------------------------------|----------|-------------|-----------|------------|------------|
| <i>Secessionist vote share</i> | 401 | 23.19 | 19.91 | 0 | 79.80 |
| <i>Relative wealth</i> | 401 | 97.52 | 21.64 | 44.64 | 154.41 |
| <i>ENP</i> | 397 | 3.82 | 1.51 | 1.00 | 9.35 |
| <i>Regional language</i> | 401 | 39.46 | 36.00 | 0 | 95.00 |
| <i>Regional population</i> | 401 | 3491.26 | 3272.84 | 45.38 | 12562.00 |

The table shows descriptive statistics for all variables used in the analysis over the 1970-2016 period. *N* = number of observations, *Mean* = arithmetic mean, *SD* = standard deviation, *Min* = minimum value, *Max* = maximum value.

Correlation between regional relative income and secessionist vote share:

Note that *Secessionist vote share* in our model is a function of cultural and economic factors. We are interested in seeing whether economic factors have an influence beyond cultural factors. Accordingly, we are interested in whether there is on average a positive relationship between relative income and separatism. There are also changes in secessionist vote share that are driven by cultural factors and other incidents. For instance, a particular legislative decision or policy measure by the central government can strongly in- or decrease support for secession even without changes in relative regional income. Nonetheless, the following graphs show that on average there actually is a strong positive correlation between relative regional income and the vote share of secessionist parties.

Secessionist Vote Share and Relative Wealth (National Elections)



Secessionist Vote Share and Relative Wealth (Regional Elections)

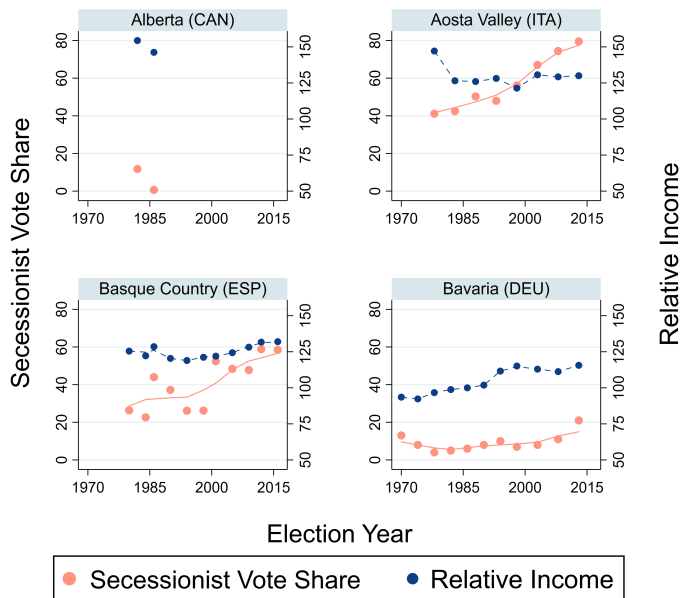
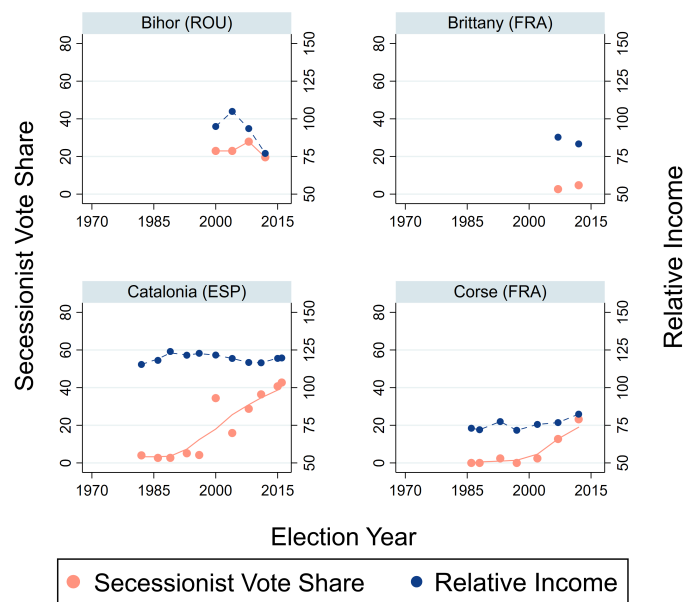


Figure 1: Relative Income and Secessionist Vote Share

The figures display *Relative income* in blue, and *Secessionist vote share* in light red. The upper graphs depict the national elections, and the lower graphs the regional elections. Our specifications using region fixed effects explore variations in the two variables over time. The connecting lines are created using a *lowess* estimation in Stata.

Secessionist Vote Share and Relative Wealth (National Elections)



Secessionist Vote Share and Relative Wealth (Regional Elections)

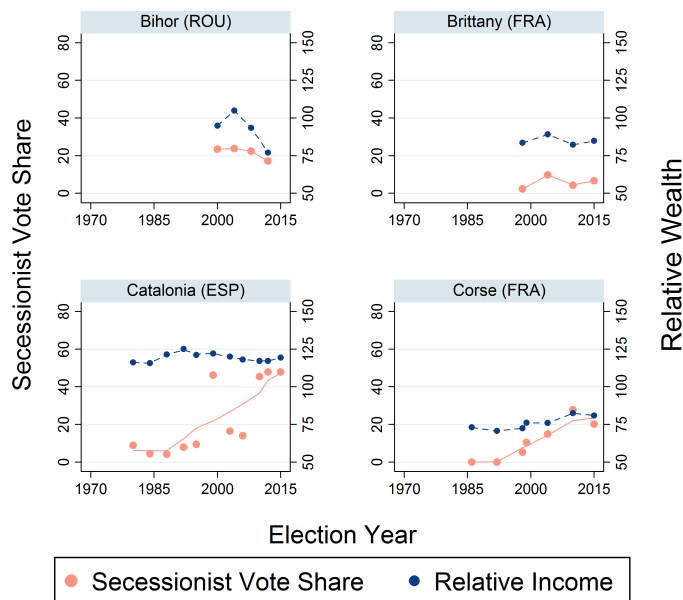
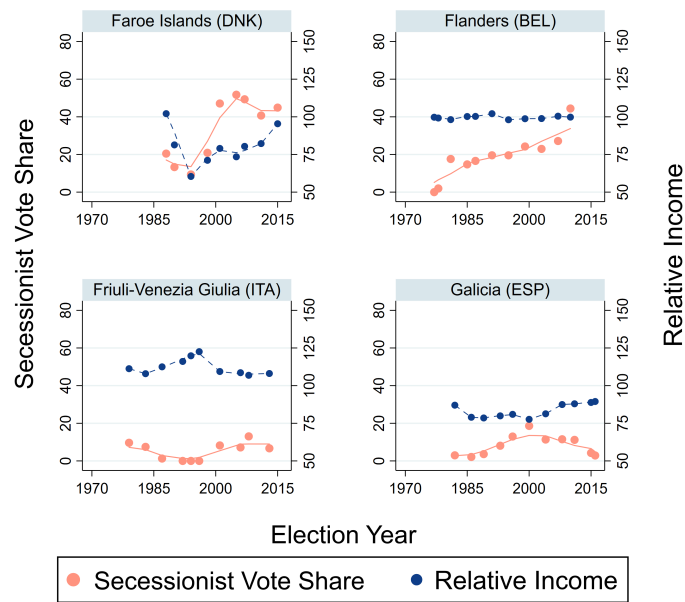


Figure 2: Relative Income and Seccessionist Vote Share

The figures display *Relative income* in blue, and *Secessionist vote share* in light red. The upper graphs depict the national elections, and the lower graphs the regional elections. Our specifications using region fixed effects explore variations in the two variables over time. The connecting lines are created using a lowess estimation in Stata.

Secessionist Vote Share and Relative Wealth (National Elections)



Secessionist Vote Share and Relative Wealth (Regional Elections)

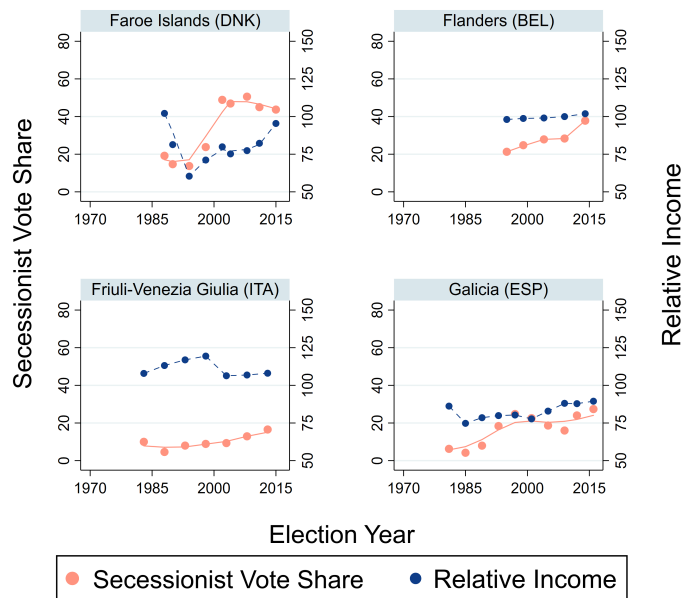
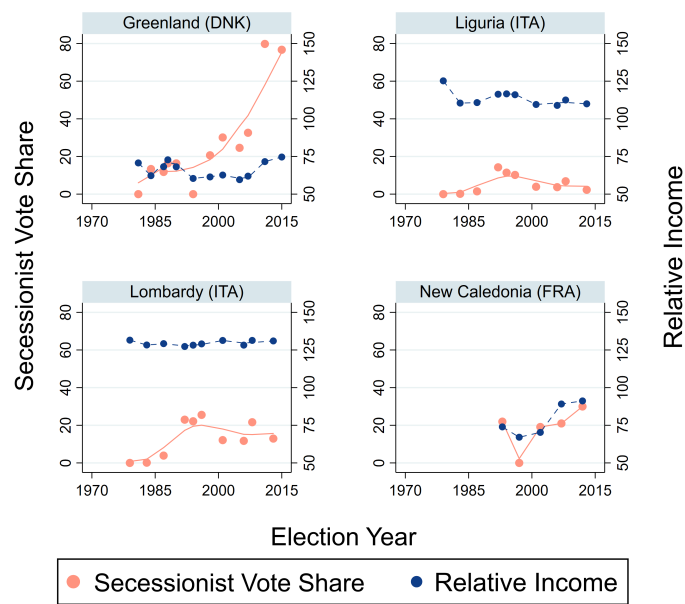


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Secessionist Vote Share and Relative Wealth (National Elections)



Secessionist Vote Share and Relative Wealth (Regional Elections)

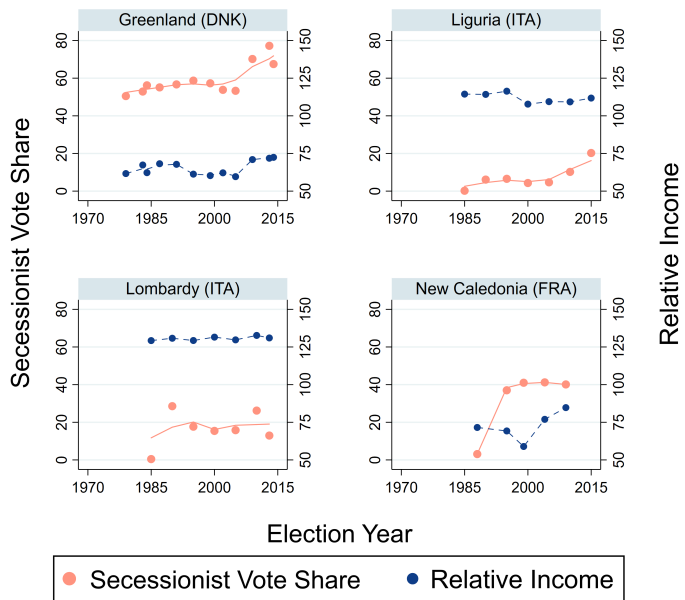
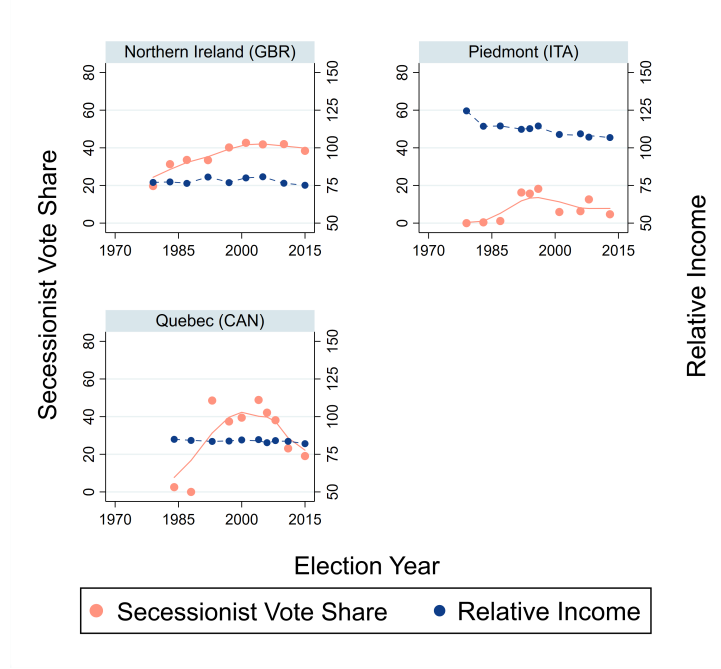


Figure 4: Relative Income and Seccessionist Vote Share

The figures display *Relative income* in blue, and *Secessionist vote share* in light red. The upper graphs depict the national elections, and the lower graphs the regional elections. Our specifications using region fixed effects explore variations in the two variables over time. The connecting lines are created using a lowess estimation in Stata.

Secessionist Vote Share and Relative Wealth (National Elections)



Secessionist Vote Share and Relative Wealth (Regional Elections)

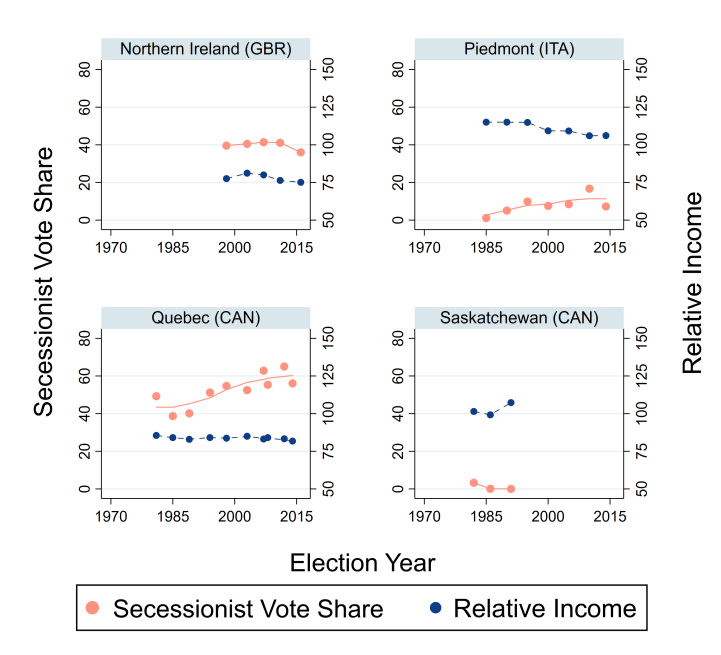
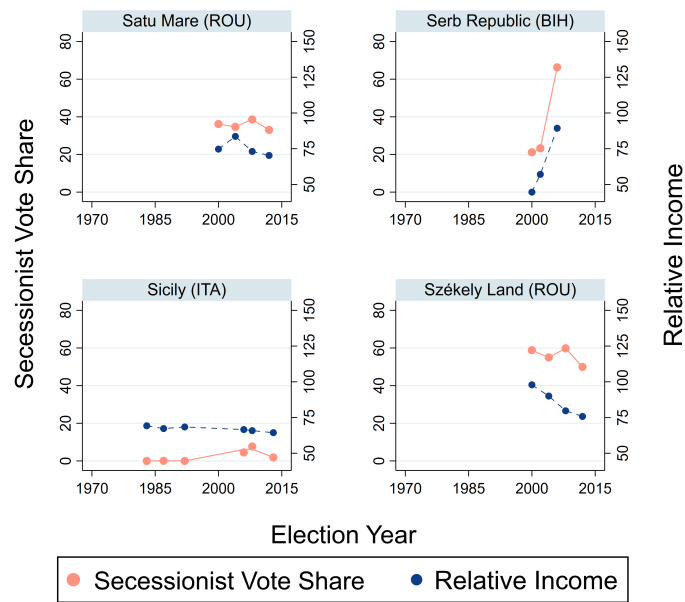


Figure 5: Relative Income and Seccessionist Vote Share

The figures display *Relative income* in blue, and *Secessionist vote share* in light red. The upper graphs depict the national elections, and the lower graphs the regional elections. Our specifications using region fixed effects explore variations in the two variables over time. The connecting lines are created using a *lowess* estimation in Stata.

Secessionist Vote Share and Relative Wealth (National Elections)



Secessionist Vote Share and Relative Wealth (Regional Elections)

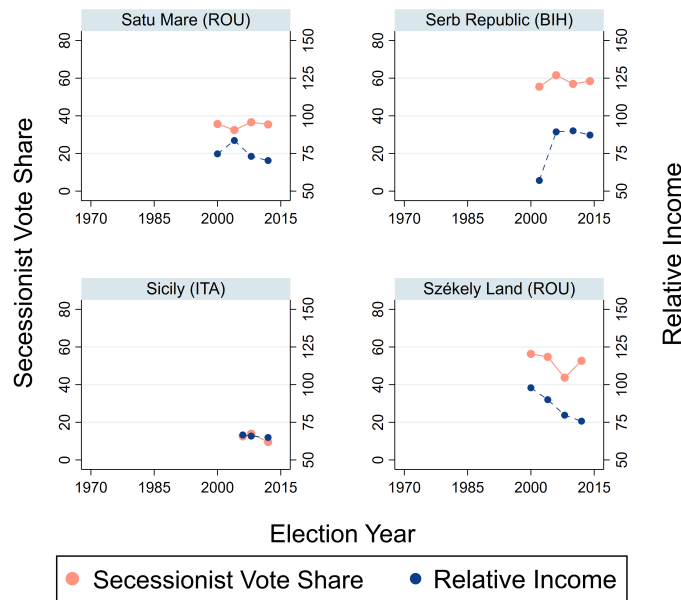
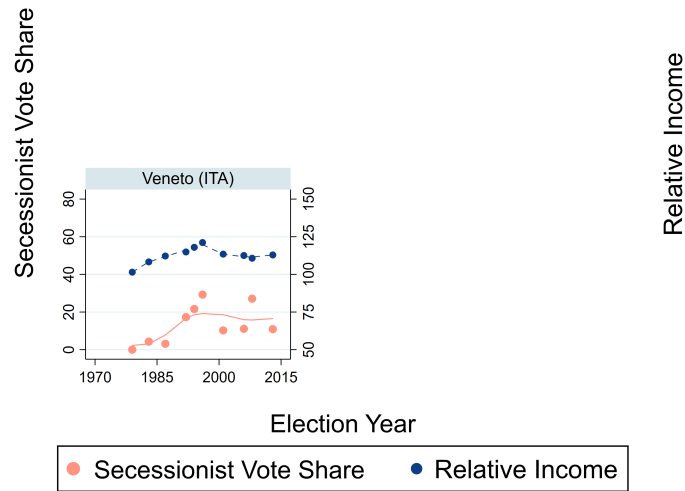


Figure 6: Relative Income and Secessionist Vote Share

The figures display *Relative income* in blue, and *Secessionist vote share* in light red. The upper graphs depict the national elections, and the lower graphs the regional elections. Our specifications using region fixed effects explore variations in the two variables over time. The connecting lines are created using a *lowess* estimation in Stata.

Secessionist Vote Share and Relative Wealth (National Elections)



Secessionist Vote Share and Relative Wealth (Regional Elections)

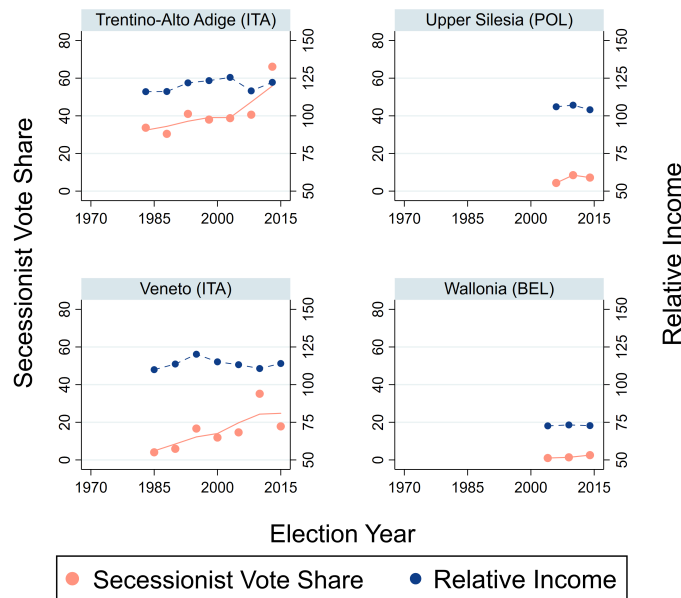


Figure 7: Relative Income and Secessionist Vote Share

The figures display *Relative income* in blue, and *Secessionist vote share* in light red. The upper graphs depict the national elections, and the lower graphs the regional elections. Our specifications using region fixed effects explore variations in the two variables over time. The connecting lines are created using a *lowess* estimation in Stata.

Multi-Country Panel Results - Alternative Clustering

Table 4: Multi-Country Panel Results

| Dependent variable: | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Relative income</i> | 0.320 [0.107] | 0.323 [0.110] | 0.306 [0.107] | 0.367 [0.105] | 0.389 [0.109] |
| p-value: <i>Relative income</i> | 0.003 | 0.003 | 0.004 | 0.000 | 0.000 |
| Time FE | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Controls | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Time Trends | <i>no</i> | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> |
| Adj. R-squared | 0.70 | 0.80 | 0.82 | 0.86 | 0.86 |
| Number of observations | 401 | 401 | 397 | 397 | 369 |

The table shows OLS regression results with the vote share of separatist parties in selected regions over the 1970-2016 period as the dependent variable. *Relative income* refers to the ratio of regional to national GDP per capita. All regressions include region-election type (regional/national) fixed effects. 'Controls' include regional population, the effective number of electoral parties (time-varying), and the population share speaking a regional language (time-invariant, interacted with time dummies). Time trends denotes region-election type-specific linear time trends. Standard errors are clustered at the region-election type level. Appendix A provides more details about the variables, as well as the included parties and regions.

Table 5: Multi-Country Panel Results

| Dependent variable: | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Relative income</i> | 0.320 [0.115] | 0.323 [0.114] | 0.306 [0.093] | 0.367 [0.109] | 0.389 [0.114] |
| p-value: <i>Relative income</i> | 0.005 | 0.005 | 0.001 | 0.001 | 0.001 |
| Time FE | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Controls | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Time trends | <i>no</i> | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> |
| Adj. R-squared | 0.70 | 0.80 | 0.82 | 0.86 | 0.86 |
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The table shows OLS regression results with the vote share of separatist parties in selected regions over the 1970-2016 period as the dependent variable. *Relative income* refers to the ratio of regional to national GDP per capita. All regressions include region-election type (regional/national) fixed effects. ‘Controls’ include regional population, the effective number of electoral parties (time-varying), and the population share speaking a regional language (time-invariant, interacted with time dummies). Time Trend is a region-election type-specific linear time trends. Standard errors are clustered at the region level. Appendix A provides more details about the variables, as well as the included parties and regions.

Table 6: Multi-Country Panel Results – Jackknife Drop Regions

| National elections | <i>BAS</i> | <i>BAV</i> | <i>BIH</i> | <i>BRT</i> | <i>CAT</i> | <i>COR</i> | <i>FAR</i> | <i>FLA</i> | <i>FVG</i> | <i>GAL</i> | <i>GRL</i> | <i>LIG</i> | <i>LOM</i> | <i>NCA</i> | |
|---------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Dropped region: | <i>(ESP)</i> | <i>(GER)</i> | <i>(ROM)</i> | <i>(FRA)</i> | <i>(ESP)</i> | <i>(FRA)</i> | <i>(DEN)</i> | <i>(BEL)</i> | <i>(ITA)</i> | <i>(ESP)</i> | <i>(DEN)</i> | <i>(ITA)</i> | <i>(ITA)</i> | <i>(FRA)</i> | |
| <i>Relative income</i> | 0.389 [0.126] | 0.368 [0.123] | 0.371 [0.121] | 0.367 [0.120] | 0.391 [0.116] | 0.378 [0.121] | 0.291 [0.104] | 0.356 [0.126] | 0.443 [0.103] | 0.372 [0.119] | 0.330 [0.128] | 0.368 [0.119] | 0.394 [0.105] | 0.357 [0.127] | |
| p-value | 0.002 | 0.003 | 0.002 | 0.002 | 0.001 | 0.002 | 0.005 | 0.005 | 0.000 | 0.002 | 0.010 | 0.002 | 0.000 | 0.005 | |
| Observations | 386 | 385 | 393 | 395 | 386 | 390 | 388 | 386 | 387 | 386 | 385 | 387 | 387 | 392 | |
| Regional elections | <i>ALB</i> | <i>BAS</i> | <i>BAV</i> | <i>BIH</i> | <i>BRT</i> | <i>CAT</i> | <i>COR</i> | <i>FAR</i> | <i>FLA</i> | <i>FVG</i> | <i>GAL</i> | <i>GRL</i> | <i>LIG</i> | <i>LOM</i> | <i>NCA</i> |
| Dropped region: | <i>(CAN)</i> | <i>(ESP)</i> | <i>(GER)</i> | <i>(ROM)</i> | <i>(FRA)</i> | <i>(ESP)</i> | <i>(FRA)</i> | <i>(DEN)</i> | <i>(BEL)</i> | <i>(ITA)</i> | <i>(ESP)</i> | <i>(DEN)</i> | <i>(ITA)</i> | <i>(ITA)</i> | <i>(FRA)</i> |
| <i>Relative income</i> | 0.367 [0.120] | 0.361 [0.124] | 0.347 [0.117] | 0.374 [0.123] | 0.367 [0.119] | 0.373 [0.123] | 0.363 [0.122] | 0.352 [0.129] | 0.366 [0.120] | 0.377 [0.119] | 0.395 [0.120] | 0.366 [0.123] | 0.357 [0.119] | 0.363 [0.120] | 0.371 [0.126] |
| p-value | 0.002 | 0.004 | 0.003 | 0.002 | 0.002 | 0.002 | 0.003 | 0.007 | 0.002 | 0.002 | 0.001 | 0.003 | 0.003 | 0.002 | 0.003 |
| Observations | 395 | 386 | 386 | 393 | 393 | 386 | 390 | 388 | 393 | 390 | 387 | 386 | 390 | 390 | 393 |
| National elections | <i>NIR</i> | <i>PMT</i> | <i>QUE</i> | <i>SRP</i> | <i>SMA</i> | <i>SCT</i> | <i>SIC</i> | <i>SZL</i> | | <i>VAO</i> | <i>VEN</i> | <i>WLS</i> | <i>WAL</i> | | |
| Dropped region: | <i>(UKD)</i> | <i>(ITA)</i> | <i>(CAN)</i> | <i>(BOH)</i> | <i>(ROM)</i> | <i>(UKD)</i> | <i>(ITA)</i> | <i>(ROM)</i> | | <i>(ITA)</i> | <i>(ITA)</i> | <i>(UKD)</i> | <i>(BEL)</i> | | |
| <i>Relative income</i> | 0.357 [0.124] | 0.376 [0.114] | 0.344 [0.112] | 0.356 [0.119] | 0.372 [0.119] | 0.367 [0.120] | 0.360 [0.115] | 0.371 [0.122] | | 0.354 [0.118] | 0.340 [0.124] | 0.377 [0.121] | 0.367 [0.120] | | |
| p-value | 0.004 | 0.001 | 0.002 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | | 0.003 | 0.006 | 0.002 | 0.002 | | |
| Observations | 388 | 387 | 387 | 394 | 393 | 388 | 391 | 393 | | 387 | 387 | 388 | 395 | | |
| Regional elections | <i>NIR</i> | <i>PMT</i> | <i>QUE</i> | <i>SRP</i> | <i>SAS</i> | <i>SMA</i> | <i>SCT</i> | <i>SIC</i> | <i>SZL</i> | <i>TAA</i> | <i>USL</i> | <i>VAO</i> | <i>VEN</i> | <i>WLS</i> | <i>WAL</i> |
| Dropped region: | <i>(UKD)</i> | <i>(ITA)</i> | <i>(CAN)</i> | <i>(BOH)</i> | <i>(CAN)</i> | <i>(ROM)</i> | <i>(UKD)</i> | <i>(ITA)</i> | <i>(ROM)</i> | <i>(ITA)</i> | <i>(POL)</i> | <i>(ITA)</i> | <i>(ITA)</i> | <i>(UKD)</i> | <i>(BEL)</i> |
| <i>Relative income</i> | 0.372 [0.120] | 0.373 [0.120] | 0.374 [0.121] | 0.382 [0.131] | 0.367 [0.120] | 0.376 [0.119] | 0.377 [0.119] | 0.368 [0.120] | 0.362 [0.119] | 0.358 [0.123] | 0.367 [0.120] | 0.355 [0.125] | 0.382 [0.121] | 0.368 [0.120] | 0.367 [0.119] |
| p-value | 0.002 | 0.002 | 0.002 | 0.004 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.004 | 0.002 | 0.005 | 0.002 | 0.002 | 0.002 |
| Observations | 392 | 390 | 387 | 393 | 394 | 393 | 392 | 394 | 393 | 390 | 395 | 389 | 390 | 392 | 394 |

The table shows OLS regression results with the vote share of separatist parties in selected regions over the 1970-2016 period as the dependent variable. *Relative income* refers to the ratio of regional to national GDP per capita. All regressions include region-election type (regional/national) fixed effects and region-election type-specific linear time trends. ‘Controls’ include regional population, the effective number of electoral parties (time-varying), and the population share speaking a regional language (time-invariant, interacted with time dummies). Standard errors are clustered at the year and region level. Appendix A provides more details about the variables, as well as the included parties and regions. Each column shows the result of one regression leaving out the region indicated in the column title. The stability of the coefficients shows that the relationship that we document is not driven by particular regions, which could constitute outliers. The abbreviations refer to the following regions: Alberta = ALB, Basque Country = BAS, Bavaria = BAV, Bihor = BIH, Brittany = BRT, Catalonia = CAT, Corse = COR, Faroe Islands = FAR, Flanders = FLA, Friulia-Venezia Giulia = FVG, Galicia = GAL, Greenland = GRL, Liguria = LIG, Lombardy = LOM, New Caledonia = NCA, Northern Ireland = NIR, Piedmont = PMT, Quebec = QUE, Republika Srpska = SRP, Saskatchewan = SAS, Satu Mare = SMA, Scotland = SCT, Sicily = SIC, Székely Land = SZL, Trentino Alto Adige = TAA, Upper Silesia = USL, Vallee Aosta = VAO, Veneto = VEN, Wales = WLS, Wallonia = WAL.

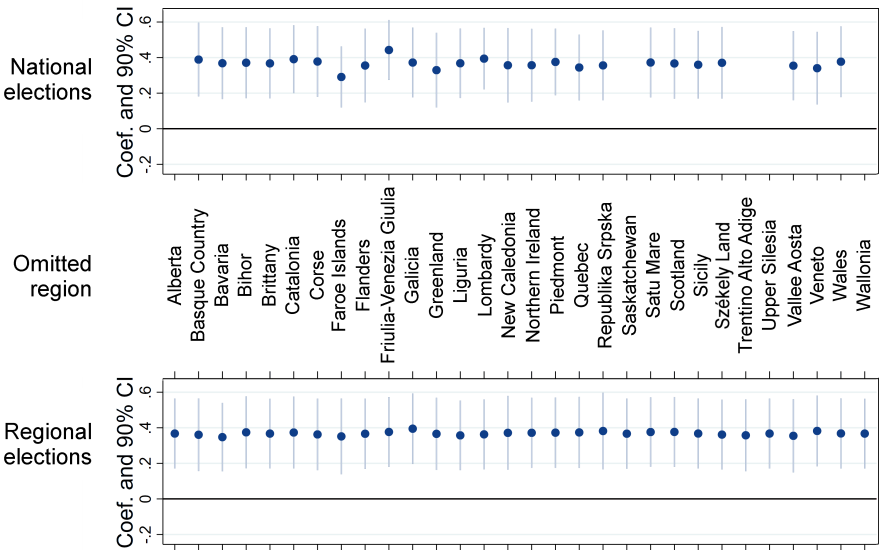


Figure 8: Coefficient Plot - Jackknife Drop of Individual Regions

The figure shows the regression coefficients for *Relative income* from 55 individual regressions. Each regression omits one national or regional election. The region that is omitted is indicated in the middle of the figure. The upper panel omits national, and the lower panel regional election results. The regression specification is equivalent to Table 1, column 4. 90% confidence intervals are based on standard errors that are multiway-clustered at the year and region level. Missing coefficients indicate that data are not available for this election type.

Table 7: Multi-Country Panel Results – Jackknife Drop Years

| Omitted year | 1970 | 1972 | 1974 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <i>Relative income</i> | 0.367 | 0.367 | 0.367 | 0.367 | 0.367 | 0.354 | 0.399 | 0.380 | 0.375 | 0.406 | 0.387 |
| | [0.120] | [0.120] | [0.120] | [0.120] | [0.120] | [0.126] | [0.122] | [0.122] | [0.119] | [0.117] | [0.112] |
| p-value | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.005 | 0.001 | 0.002 | 0.002 | 0.001 | 0.001 |
| Number of observations | 396 | 396 | 396 | 396 | 396 | 394 | 388 | 394 | 393 | 391 | 382 |
| Omitted year | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
| <i>Relative income</i> | 0.387 | 0.375 | 0.349 | 0.369 | 0.321 | 0.376 | 0.366 | 0.365 | 0.394 | 0.365 | 0.265 |
| | [0.124] | [0.119] | [0.120] | [0.118] | [0.124] | [0.122] | [0.122] | [0.119] | [0.108] | [0.119] | [0.104] |
| p-value | 0.002 | 0.002 | 0.004 | 0.002 | 0.010 | 0.002 | 0.003 | 0.002 | 0.000 | 0.002 | 0.011 |
| Number of observations | 392 | 390 | 388 | 383 | 388 | 392 | 387 | 394 | 385 | 387 | 384 |
| Omitted year | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| <i>Relative income</i> | 0.375 | 0.379 | 0.353 | 0.352 | 0.361 | 0.337 | 0.383 | 0.337 | 0.382 | 0.423 | 0.364 |
| | [0.134] | [0.114] | [0.124] | [0.134] | [0.125] | [0.125] | [0.118] | [0.122] | [0.118] | [0.120] | [0.121] |
| p-value | 0.005 | 0.001 | 0.004 | 0.008 | 0.004 | 0.007 | 0.001 | 0.006 | 0.001 | 0.000 | 0.003 |
| Number of observations | 389 | 388 | 390 | 384 | 389 | 382 | 384 | 390 | 386 | 381 | 384 |
| Omitted year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| <i>Relative income</i> | 0.326 | 0.355 | 0.341 | 0.375 | 0.380 | 0.354 | 0.378 | 0.365 | 0.394 | 0.347 | 0.377 |
| | [0.125] | [0.120] | [0.130] | [0.123] | [0.127] | [0.113] | [0.125] | [0.121] | [0.126] | [0.123] | [0.123] |
| p-value | 0.009 | 0.003 | 0.009 | 0.002 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 0.005 | 0.002 |
| Number of observations | 385 | 386 | 373 | 390 | 384 | 387 | 383 | 383 | 390 | 382 | 389 |

The table shows OLS regression results with the vote share of separatist parties in selected regions over the 1970-2016 period as the dependent variable. *Relative income* refers to the ratio of regional to national GDP per capita. All regressions include region-election type (regional/national) fixed effects and region-election type-specific linear time trends. ‘Controls’ include regional population, the effective number of electoral parties (time-varying), and the population share speaking a regional language (time-invariant, interacted with time dummies). Standard errors are multiway clustered at the year and region level. Appendix A provides more details about the variables, as well as the included parties and regions. Each column shows the result of one regression leaving out the year indicated in the column title. The stability of the coefficients shows that the relationship that we document is not driven by particular years, which could constitute outliers.

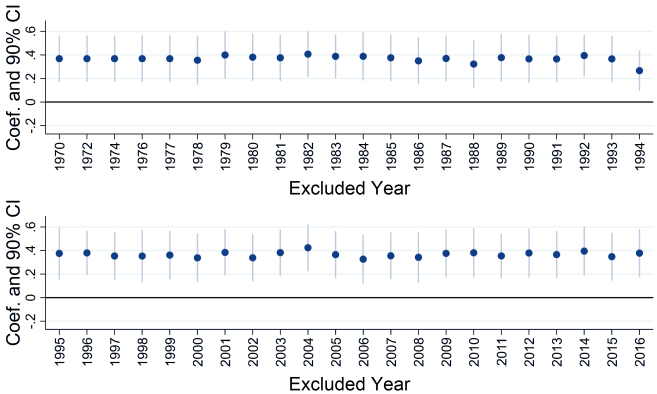


Figure 9: Coefficient Plots for Jackknife Drop of Years (Based on Table 7)

The figure plots the coefficients from Appendix Table 7). The left-out the year is indicated below the coefficients. The confidence intervals are at the 90% levels based on multiway-clustered standard errors at the the year and region level

Selection-on-unobservables

To assess the potential influence of omitted variables, we run a test for selection-on-unobservables (cf., Gehring & Schneider, 2018). We first apply the methods developed in Altonji *et al.* (2005) to assess how much larger the selection-bias based on unobserved factors would have to be compared to observed factors to fully explain our results. The strategy is to use selection-on-observables to assess the severity of potential selection bias for the results. We compare two regressions: one which contains only region-election type fixed effects (\mathcal{L} = limited) to one with a full set of controls (\mathcal{F} = full). \mathcal{F} accordingly comprises all variables from Table 1, column 3 in the main paper. Actually, compared to the raw correlation, the coefficients become larger in most specifications. This would suggest that controlling for further currently unobserved factors would actually cause a larger effect. To be as conservative as possible, we thus compare column 1 and column 3, the only comparison where the coefficient is moved closer to zero by conditioning on a larger set of controls and fixed effects.

Table 8, shows the “Selection ratio” (SR), the ratio of selection-on-unobservables to observables necessary to fully explain our coefficients. In simple terms: how likely is a bias due to unobserved time-variant factors captured neither by the controls nor the fixed effects? The resulting ratios indicate that for $\{\mathcal{L}, \mathcal{F}\}$, selection-on-unobservables would have to be 7.37 times as large as selection-on-observables to fully explain the positive relationship.

In addition, Oster (2016) explains that small changes in the coefficient only help in coming closer to a causal interpretation if the added variables also explain additional variation in the dependent variable. She argues that $R_{max} \in [R_{\mathcal{F}}, 1]$ and $\delta \in [0, 1]$ are plausible boundaries for the maximum share of the variance that can be systematically explained and the relationship of selection-on-unobservables to observables. For simplicity, we use the most conservative setting with $R_{max} = 1$ and $\delta = 1$.

We then calculate the boundary of the set $\beta^* = \beta_{\mathcal{F}} - \delta \times \frac{(\beta_{\mathcal{L}} - \beta_{\mathcal{F}}) \times (R_{max} - R_{\mathcal{F}})}{(R_{\mathcal{F}} - R_{\mathcal{L}})}$ and the identified set $\Delta_s = [\beta_{\mathcal{F}}, \beta^*] \forall \beta_{\mathcal{F}} \leq \beta^* \wedge \Delta_s = [\beta^*, \beta_{\mathcal{F}}] \forall \beta_{\mathcal{F}} > \beta^*$. Our sets of identified coefficients is $[0.29 \ 0.32]$; far from including 0. Even with the most conservative choice of the suggested boundaries, our full set is precisely estimated within the confidence intervals and does not include 0.

Table 8: **Robustness to Outliers and Sensitivity to Selection-on-Unobservables**

| Controls in the limited set | Controls in the full set | $\beta_{\mathcal{L}}$ | $\beta_{\mathcal{F}}$ | $SR = \beta_{\mathcal{F}} / (\beta_{\mathcal{L}} - \beta_{\mathcal{F}}) $ | Identified β -Set |
|-----------------------------|--|-----------------------|-----------------------|--|-------------------------|
| Region-election-type FE | Region-election type FE, Year FE, Controls | 0.32 | 0.31 | 22.15 | [0.29; 0.32] |

The table reports regression coefficients for *Relative income* and selection ratios (SR) based on the formula depicted. $\beta_{\mathcal{L}}$ refers to the coefficient of *Relative income* from a model that contains only region-election type fixed effects and $\beta_{\mathcal{F}}$ to the coefficient of *Relative income* from a model containing year FE and all control variables in addition to these fixed effects. The selection ratio indicates the extent of remaining selection bias due to unobservables relative to the observable variables in the model that would be necessary to drive the treatment effect down to 0. The full specification is identical with the specification shown in Table 1, column 3 in the paper. The beta-set is well identified if it does not include 0 (see also Oster, 2013).

B Region Profiles and Illustrative Cases

Cases and categorization (extended version of the description in the main paper)

Democratic secessionist movements fall in three broad categories. A first category consists of movements where economic arguments play no or only a very minor role. Although those cases are rather infrequent in democratic countries, it is important to remember that, also in our model, secessionism can arise for purely cultural reasons. In most cases, however, separatist movements are rather driven by “economic concerns than by cultural or ethnic criteria” (Ashbrook, 2008, p. 151).

The second category are regions where economic arguments play a major role for the separatist discourse, but the relative value of regional resources varies more between regions than over time, making clean econometric identification more difficult. Consider the formerly secessionist *Lega Nord* (now *Lega*) in Italy, whose central political goal was more autonomy for the North of Italy. Due to higher human and physical capital, the North has consistently been richer than the South since the Second World War. The movement is interesting as it “is not based in an area that has historic claims to nationhood. Instead, the *Lega* has attempted to invent an ethnicity [...] in order to justify its political claims for the protection of the economic interests of the region” (Cento Bull & Gilbert, 2001, p. 446). Despite no existing “Padanian” identity, the movement was politically successful by protesting against the redistribution of tax revenues, culminating in for instance a secession referendum in the 1990s.¹

Other examples include *Silesia* in Poland, a region rich in coal, lignite, zinc, lead, and iron deposit, and the *Republika Srpska* in Bosnia-Herzegovina, a region rich in minerals reaching from bauxite, to marble and silica sand. Both the *Silesian Autonomy Movement* and the *Republika Srpska Movement* campaign on the unjust redistribution of revenues from those resources. Still, resources do not need to be of common natural resource type only. In the Croatian region of Istria, endowed with beautiful beaches as well a flourishing processing and shipping industry, the *Istrian Democratic Assembly* and the separatist *Istrian Democratic Forum* successfully run similar campaigns about the redistributed revenues based on those “resources”.

A third category of regions features more variation in regional resource value over time and exhibits a positive correlation between secessionist success and the value of regional resources. In the former French colony New Caledonia, the success of the regionalist parties *Kanak and Socialist National Liberation Front* increases along with the rise of New Caledonia to the 5th largest nickel-producing country worldwide. As one observer puts it, “resource sovereignty in New Caledonia has come to be seen by independence leaders as a path to political independence” (Horowitz, 2004, p. 287). In Greenland’s parliament, the *Inuit Ataqatigiit*

¹ Protests against these transfers were a major reason for a secession referendum in the 1990s. See, e.g., *The Economist* from 27th May 1997 at <http://www.economist.com/node/150513>, last accessed September 19, 2019.

and the *Forward Party* campaign for more autonomy or full independence from Denmark. In Greenland, the mostly fishing-based economy was stagnant for a long time period and almost half of public spending was financed by grants from Denmark, so the parties' electoral success was limited. The discovery of oil and the fact that, due to the melting of the Arctic ice, larger areas become feasible for mining (e.g., rare metals and radioactive substances), lead to a strong increase in support for the secessionist parties *Inuit Ataqatigiit* and *Forward Party*.² In 2008, a non-binding referendum on more self-governance won in a landslide with 21,355 to 6,663 votes.³ However, the drastic collapse in crude oil prices since 2015 has made most Arctic oil unprofitable to exploit and led "Greenland to again put off plans to split from Denmark."⁴

Using variation over time within the same region is helpful, but ideally we want a suitable counterfactual region within the same country. The Belgian case comes closer to that ideal scenario, featuring two ethnically and culturally distinct regions. The mainly French speaking and historically politically dominant Wallonia, and the Flemish (Dutch) speaking Flanders. Up until the 1960s, Wallonia was one of the richest regions in Europe due to natural resources like coal and a comparative advantage in leading sectors at that time (such as steel production, see [Mnookin & Verbeke, 2009](#)). While Flemish independence movements campaigned on the suppression of the Flemish language and the political dominance of the smaller French part, support for secessionism never really took off until the economic situation reversed. Declining demand for coal and steel on the one side, and modernization and the increased value of possessing the important port of Antwerp on the other side made Flanders' regional resources relatively more valuable compared to those of Wallonia. This reversal of fortunes correlates with increasing vote shares for secessionist parties, until 2012, when the secessionist *New Flemish Alliance* became the largest party in the Belgian federal elections. It claims that "wealthy Flanders should not be subsidizing poorer Wallonia, whose regional government is alleged to be wasting money."⁵

² See *The Economist* from July 15, 2012 at <http://www.economist.com/blogs/graphicdetail/2012/06/daily-chart-9> and from March 31, 2013 at <http://www.economist.com/blogs/newsbook/2013/03/economist-explains-why-greenland-election-global-implications>, last accessed September 19, 2019.

³ See *The New York Times* from November 26, 2008 at http://www.nytimes.com/2008/11/27/world/europe/27greenland.html?_r=0, last accessed September 19, 2019.

⁴ See *The Economist* from January 21, 2015 at <http://www.economist.com/news/europe/21640224-falling-crude-prices-are-forcing-greenland-put-plans-split-denmark-independence-ice>, last accessed September 19, 2019.

⁵ See <http://knowledge.wharton.upenn.edu/article/secession-answer-case-catalonia-flanders-scotland/>, last accessed September 19, 2019.

Selected examples:**Flanders**

- Seeking independence from Belgium
- Political parties: *New Flemish Alliance* (secessionist), *Libertair Direct Democratisch* (secessionist), *Vlaams Belang* (secessionist), *Identity, Tradition, Sovereignty* (secessionist, defunct since 2007)

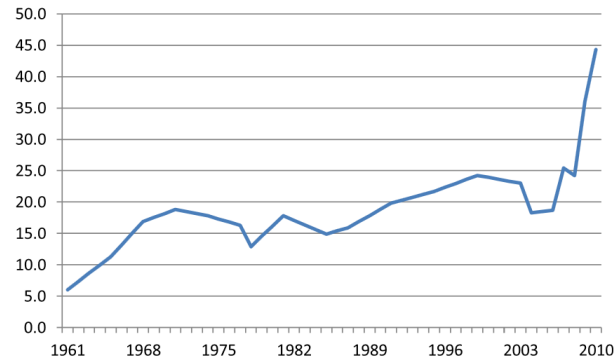


Logo of the New Flemish Alliance (Nieuw-Vlaamse Alliantie)

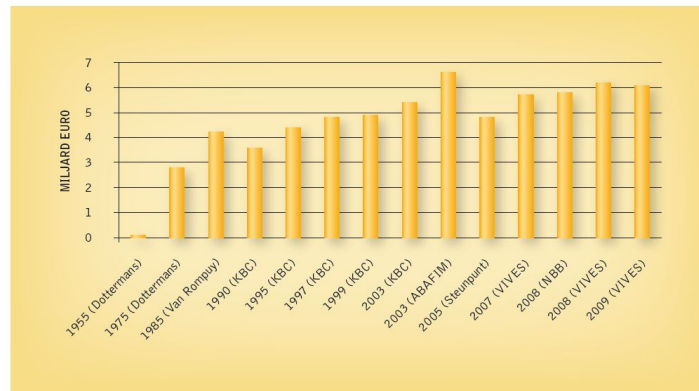
- Resources: Flanders was the poorer region in Belgium up until the Second World War, as it was the last Belgian region to industrialize, and relied strongly on the agricultural sector (1). This changed radically in the past 60 years due to Flanders' successful transformation to a knowledge-based economy with highly developed service and high-tech sectors (2). Today, supposedly 6 billion EUR per year are transferred to Wallonia and Brussels (3). Antwerp is home to the second largest European sea port by cargo volume and per capita GDP is 32,700 EUR compared to Wallonia's 26,100 EUR (2).

Electoral success and party strategies: The secessionist *New Flemish Alliance* presents the high regional transfers to Wallonia and Brussels as a key argument for independence, devoting an entire brochure titled "Vlaanderen betaalt de Belgische factuur" ("Flanders pays the Belgian bill") to the topic. Moreover, the support for regionalist and separatist parties steadily increased from only 5 percent in 1961 to almost 45 percent in 2010, correlating with Flanders' economic rise and a steady increase in regional transfers, despite the granting of equal linguistic rights in the 1950s (4). In particular, the abrupt increase from 7.3 to 7.9 billion EUR following the 2008 financial crisis goes hand in hand with a sharp upsurge in support for regionalist and secessionist parties (see figures below).

FIGURE 1
THE AGGREGATED SCORE OF REGIONALIST AND SEPARATIST PARTIES IN
FLANDERS SINCE 1961



Source: Deschouwer (2013, p, 349)



Source: “Flanders Pays the Belgian Bill”, New Flemish Alliance at https://www.n-va.be/sites/default/files/generated/files/brochure-attachment/brochure_vlaanderen_betaalt_de_belgische_factuuar.pdf (p. 12), last accessed on April 9, 2018

Sources:

- (1) See the Financial Times from November 3, 2015 at <https://www.ft.com/content/c45dfbd4-7349-11e5-bdb1-e6e4767162cc>, last accessed on April 9, 2018
- (2) See Knowledge@Wharton from December 2, 2013 at <http://knowledge.wharton.upenn.edu/article/secession-answer-case-catalonia-flanders-scotland/>, last accessed on April 9, 2018
- (3) See Hermans (2015)

- Quotes:

“The most dramatic example [of economic contrast] is in Belgium, where the growing gap between

Flanders and French-speaking Wallonia has exacerbated political and cultural tensions. The NVA party, which rules Flanders, believes that wealthy Flanders should not be subsidizing poorer Wallonia, whose regional government is alleged to be wasting money. Flemish nationalists feel strongly that their region is not receiving its fair share of the revenues that it contributes to the national economy.” (Knowledge@Wharton from December 2, 2013 at <http://knowledge.wharton.upenn.edu/article/secession-answer-case-catalonia-flanders-scotland/>, last accessed on April 9, 2018)

“Wallonia was among the first regions in northern Europe to industrialise in the 19th century, with industries such as glass making and coal mining. By contrast, the largely agrarian Flanders fell behind. But Flanders boomed in the postwar era, attracting much foreign investment.” (Financial Times from November 3, 2015 at <https://www.ft.com/content/c45dfbd4-7349-11e5-bdb1-e6e4767162cc>, last accessed on April 9, 2018)

“To this strong Flemish identity, an economic component has also been added over the course of recent decades. During the nineteenth and the first half of the twentieth century, Wallonia was the economically stronger region. That changed after the Second World War as a result of industrial decline in the south and the development of new economic activities in the north. Today, Flanders is the stronger region. However, the relative wealth of Flanders, combined with the operation of the welfare state put into place after the Second World War, has meant that a system of social redistribution has effectively become a system of territorial redistribution. When one aggregates per region the amount of money paid into the system and the amount of money received from the system, Flanders is a net contributor and Wallonia (and increasingly also Brussels) is a net recipient” (Deschouwer, 2013).

“Billions of euros in transfers are going to from Flanders to Wallonia and Brussels. And yet ordinary people in Wallonia and Brussels are not better off because of them. And the worse it gets for them, the higher the transfers are. Policymakers are therefore not at all encouraged to even change their actions. Achieving improvement inevitably means: less transfers, less money.” (“Flanders Pays the Belgian Bill”, New Flemish Alliance at https://www.n-va.be/sites/default/files/generated/files/brochure-attachment/brochure_vlaanderen_betaalt_de_belgische_factuur.pdf, last accessed on April 9, 2018)

Wallonia

- Seeking independence from Belgium
- Political parties: *Rassemblement Wallonie France* (formerly federalist, secessionist since 1985)



Logo of the Rassemblement Wallonie France (Rally Wallonia France)

- Resources: Wallonia was the the first Belgian region to industrialize in the 19th century (1), rendering it the richer part of Belgium up to the 1960s due to comparative advantages in steel production and coal mining (2). The steel crises of the 1970s and the general decline of the heavy industries in Europe caused Wallonia to experience strong economic decline(2). Today, Wallonia is the significantly poorer region with a per capita GDP of only 26,100 EUR compared to Flanders' 32,700 EUR and receives high transfers from Flanders (3).

Electoral success and party strategies: The first Walloon independence movements emerged in the 19th century, coinciding with the region's industrialization. However, unlike the Flemish nationalist parties, pro-independence parties in Wallonia never gained significant traction. One possible explanation in line with our theory is that although Wallonia was the significantly richer region up to the 1960s, there never was a perceived economic benefit of secession for Walloons. This is due to the fact that "[n]either in the nineteenth, nor in the twentieth century did a Walloon tax surplus flow to Flanders", as the Flemish historian Prof. em. Juul Hannes postulates (4), which can be explained by the absence of a welfare state prior to the Second World War. The construction of the welfare state in the post-war area in effect imposed a system of regional redistribution, with a Flemish tax surplus of approximately 150 million EUR flowing to Wallonia as early as 1955 (4). Accordingly, the *Rassemblement wallon* (RW), the main pro-autonomy party in the 20th century, received only 7 percent of the vote at its peek in the 1970s. Today, the *Walloon Rally* usually stays below the 2 percent mark in federal elections (5).

Sources:

(1) See the Financial Times from November 3, 2015 at <https://www.ft.com/content/c45dfbd4-7349-11e5-bdb1-e6e4767162cc>, last accessed on April 9, 2018

(2) See, e.g., Reid & Musyck (2000) and Witte (1992)

(3) See Knowledge@Wharton from December 2, 2013 at <http://knowledge.wharton.upenn.edu/article/secession-answer-case-catalonia-flanders-scotland/>, last accessed on April 9, 2018

(4) “Flanders Pays the Belgian Bill”, New Flemish Alliance at https://www.n-va.be/sites/default/files/generated/files/brochure-attachment/brochure_vlaanderen_betaalt_de_belgische_factuur.pdf, last accessed on April 9, 2018

(5) Duerr (2016, p. 12)

- Quotes:

“In the century and a half up to the 1960s, the Walloon economy was one of the most prosperous in Europe. [...] At the time of the first industrial revolution, Wallonia was equipped with numerous comparative advantages in the leading sectors of the epoch: coal mining, steel making and their spin-off activities. Natural resources, a highly skilled workforce and the dynamism of its engineers were the foundations on which Wallonia built its prosperity.” (Reid & Musyck, 2000, p. 183)

“Wallonia was among the first regions in northern Europe to industrialise in the 19th century, with industries such as glass making and coal mining. By contrast, the largely agrarian Flanders fell behind. But Flanders boomed in the postwar era, attracting much foreign investment. The Walloon economy, meanwhile, collapsed as the region’s main heavy industries faltered. Between 1980 and 2010, the number of jobs in manufacturing halved from one in four to just one in 10.”

(Financial Times from November 3, 2015 at <https://www.ft.com/content/c45dfbd4-7349-11e5-bdb1-e6e4767162cc>, last accessed on April 9, 2018)

“The region’s economic numbers are dire. Wallonia’s share of GDP is small and heading in the wrong direction. The region counts for a third of Belgium’s 11m population but less than a quarter of its GDP – and this number is falling.”

(Financial Times from November 6, 2014 <https://www.ft.com/content/7ee4c346-52e1-11e4-9221-00144feab7de>, last accessed on April 9, 2018)

“The unequal economic situation is one of the most striking aspects of this. Wallonia still has to face up to the problems of restructuring its old branches of industry and the Walloon economy has done relatively little towards setting up ‘high-tech’ sectors” (Witte, 1992, p. 109).

Catalonia

- Seeking independence from Spain
- Political parties: *Republican Left of Catalonia* (secessionist), *Democratic Convergence of Catalonia* (secessionist, till 2015), *Popular Unity Candidacy* (*Candidatura d'Unitat Popular*, *CUP*, secessionist)



Logo of the Esquerra Republicana de Catalunya (Republican Left of Catalonia)

- Resources: Historically, Catalonia was among the first Spanish regions to industrialize and featured a strong industrial as early as the beginning of the 19th century. Today, the region sets itself apart from the rest of Spain as the richest and most successful exporting region. Exports generate 28.1 percent of the regional GDP, compared with just 12 percent in Madrid. A new record was reached in 2012, with exports amounting to 58.2 billion EUR which is 15.4 percent higher than before the economic crisis (1).

Electoral success and party strategies: The economic crisis has strengthened resentment towards the Spanish system of regional redistribution which annually transfers 8 percent to 9 percent of Catalonia's GDP to less prosperous Spanish regions (1, 3). Secessionist parties like *Esquerra (Republican Left of Catalonia)* argue that Catalonia would benefit from complete fiscal autonomy, as part of Catalonia's debt can be blamed on the "wasteful central state" (4).

- In 2015 *Convergència* began to form a new coalition called *Junts pel Sí* together with *Esquerra Republicana de Catalunya*.

- Sources:

(1) See Knowledge@Wharton from December 2, 2013 at <http://knowledge.wharton.upenn.edu/article/secession-answer-case-catalonia-flanders-scotland/>, last accessed on April 9, 2018

(2) See Instituto Nacional de Estadística at http://www.ine.es/en/daco/daco42/cre00/b2010/homog/dacocre_base2010h_en.htm, last accessed on April 9, 2018

(3) See the Financial Times from September 26, 2012 at <https://www.ft.com/content/bad90798-07f4-11e2-9df2-00144feabdc0>, last accessed on April 9, 2018

(4) See Election Manifesto 2016, Republican Left of Catalonia (p. 4) at <http://www.esquerra.cat>

[/partit/programes/e2016-programa.pdf](#), last accessed on April 9, 2018

- Quotes:

“We suffer from the effects of a wasteful central state that, in addition to a 16,000 million annual fiscal deficit, throws out our resources for the AVE [high-speed rail in Spain] without passengers, airports without airplanes and military spending. We want a welfare state for ourselves, managing our resources and to ensure the construction of the infrastructure, because we need to go forward.”

(Election Manifesto 2016, Republican Left of Catalonia (p. 4) at <http://www.esquerra.cat/partit/programes/e2016-programa.pdf>, last accessed on April 9, 2018)

“A majority of Catalans feels Madrid takes too much of local income to redistribute elsewhere. The clamour for independence has become mainstream.”

(Financial Times from September 26, 2012 at <https://www.ft.com/content/bad90798-07f4-11e2-9df2-00144feabdc0>, last accessed on April 9, 2018)

“The perception that an independent Catalonia would perform better economically, based on the idea that the current fiscal relationship is detrimental to Catalonia’s interests, partly explains current support for independence.” Munoz & Tormos, 2015, p. 316

Greenland

- Seeking independence from Denmark
- Political parties: *Inuit Ataqatigiit* (separatist), *Siumut* (separatist), *Inuit Party* (separatist)



Logo of the Inuit Ataqatigiit (Community of the People) and of Siumut (Forward)

- Resources: The sparsely populated island (56,648 inhabitants) still strongly relies on the historic fish industry as the largest income earner (1), which does not generate enough revenue to finance Greenland's public expenditures, wherefore a Danish grant of 3.6 billion kroner (\$604m) accounts for over half of Greenland's revenues (2). The development of mining (rare metals and radioactive substances since 2013 (3)) and oil industries (discoveries by Carin Energy in 2010 (4)) spurred independence movements (3), but falling crude prices rendered independence less financially viable, with recent studies estimating that Greenland will depend on Danish grants for at least another 25 years (2).

Electoral success and party strategies: The recent oil discoveries instilled hopes for financial independence in separatist leaders, with the former prime minister Aleqa Hammond claiming that independence is possible "within her lifetime". But falling crude prices have made the new prime minister unequivocally less optimistic, and studies estimate that Greenland will remain financially dependent on Denmark for at least another 25 years (2).

Sources:

- (1) Government of Greenland, Economy and Industry in Greenland at <http://naalakkersuisut.gl/en/About-government-of-greenland/About-Greenland/Economy-and-Industry-in-Greenland>, last accessed on April 9, 2018
- (2) See The Economist from January 21, 2015 at <http://www.economist.com/news/europe/21640224-falling-crude-prices-are-forcing-greenland-put-plans-split-denmark-independence-ice>, last accessed on April 9, 2018
- (3) The Economist from March 31, 2013 <http://www.economist.com/blogs/newsbook/2013/03/economist-explains-why-greenland-election-global-implications>, last accessed on

April 9, 2018

(4) See The Economist from August 26, 2010 at <http://www.economist.com/node/16889623>, last accessed on April 9, 2018

- Quotes:

“When Cairn Energy, a British petrochemicals company, discovered traces of oil beneath Greenland’s territorial waters in 2010, it seemed the secessionists’ prayers had been answered. Oil and other minerals including aluminum and gold, it was hoped, would give the territory of just 56,200 inhabitants the financial clout to go it alone”

(The Economist from January 21, 2015 at <http://www.economist.com/news/europe/21640224-falling-crude-prices-are-forcing-greenland-put-plans-split-denmark-independence-ice>, last accessed on April 9, 2018)

“Greenland’s politicians were emboldened by the prospect of petrodollars. Aleqa Hammond, who served as her country’s first female prime minister between April 2013 and September 2014 (when a corruption scandal drove her from office), said independence was possible “within her lifetime”. [...] One year later, the political rhetoric has dropped a few tones. At a press conference on January 9th in Copenhagen, the new prime minister, Kim Kielsen, said the “light of independence burned within” but he was unsure if it would be realised in his lifetime. Mr Kielsen is 48, suggesting that the timeline has been pushed back a few decades.”

(The Economist from January 21, 2015 at <http://www.economist.com/news/europe/21640224-falling-crude-prices-are-forcing-greenland-put-plans-split-denmark-independence-ice>, last accessed on April 9, 2018)

“The world may not often be very interested in Greenland but it is fascinated by what lies beneath it. As the country’s ice cap melts, hidden mineral wealth is coming tantalisingly within reach. The country’s riches include “rare earth” metals that are essential in the production of many electronic devices, from electric-car batteries to television screens. Metals such as cerium (used in glass manufacturing) and yttrium (which goes into electronic displays) are among those that are hidden under the ice.”

(See The Economist from March 31, 2013 <http://www.economist.com/blogs/newsbook/2013/03/economist-explains-why-greenland-election-global-implications>, last accessed on April 9, 2018)

New Caledonia

- Seeking independence from France
- Political parties: *Kanak and Socialist National Liberation Front* (Caledonian Union, Party of Kanak Liberation, separatist), *Kanak Socialist Liberation* (separatist)



Logo of the Kanak and Socialist National Liberation Front (Front de Libération Nationale Kanak et Socialiste)

- Resources: As a French colony since 1853, New Caledonia still strongly relies on financial assistance from mainland France (1). This is hoped to be gradually alleviated through further expansions of the New Caledonian nickel industry, as the island is believed to hold roughly a quarter of the world's nickel resources and currently ranks 5th among the top nickel-producing countries (2). The Koniambo Project, a nickel mine in which Xstrata (merged with Glencore in 2013) invested \$6 billion, is the largest recent expansion of the Caledonian nickel industry (4, 5).

Electoral success/party strategies: Independence activists hope that achieving economic independence in the near future will lay the foundation for complete political independence. The Koniambo Project has further instilled hopes for independence in independence leaders, which emphasize the opportunity for a largely Kanak organization (Société minière du Sud Pacifique) to work with a non-French company (Xstrata, now Glencore Xstrata), further reducing New Caledonia's economic dependence on mainland France. The fact that Société minière du Sud Pacifique, the involved local mining company, is owned by Kanak from the largely pro-independence Northern Province is viewed as an additional benefit (3).

- Sources:

(1) See The Economist from May 25, 2013 at <http://www.economist.com/news/asia/21578438-pressures-independence-are-alive-not-always-kicking-ends-empire>, last accessed on April 9, 2018

- (2) See, e.g., BBC News from June 16, 2016 at <http://www.bbc.com/news/world-asia-pacific-16740838>, last accessed on April 9, 2018
- (3) See Horowitz (2004)
- (4) See Financial Times from June 7, 2007 at http://www.ft.com/cms/s/0/b5d6b672-1494-11dc-88cb-000b5df10621.html?ft_site=falcon&desktop=true#axzz4LXUJ59MK, last accessed on April 9, 2017
- (5) Bloomberg from August 2, 2011 at <http://www.bloomberg.com/news/articles/2011-08-02/xstrata-first-half-profit-rises-27-as-commodity-prices-climb>, last accessed on April 9, 2018

- Quotes:

“In New Caledonia, pro-independence leaders perceive economic autonomy as a prerequisite for political independence. The Koniambo Project, a joint venture between a Canadian multinational and a local mining company, is seen by many Kanak as an opportunity to loosen economic ties to metropolitan France” (Horowitz, 2004, p. 318)

“For half-century pioneers developed the idea that the Caledonians had the right to decide what to do with their mineral resources. From there on, this concern was central to the commitment to independence of the FLNKS Front: to have control. To have control over our natural resources, to have control over industrial tools, to have the control over mining and metallurgical annuity.”

(Statement on Nickel Mining, Caledonian Union at <http://unioncaledonienne.com/wp-content/uploads/2015/10/D%C3%A9claration-liminaire-UC-FLNKS-14-10-15.pdf>, last accessed on April 9, 2018)

“The Pacific territory with the most realistic chance of decolonization is nickel-rich New Caledonia, a French colony since 1853.”

(The Economist from May 25, 2013 at <http://www.economist.com/news/asia/21578438-pressures-independence-are-alive-not-always-kicking-ends-empire>, last accessed on April 9, 2018)

Upper Silesia

- Seeking independence from Poland
- Political parties: *Silesian Autonomy Movement* (separatist)



Logo of the Silesian Autonomy Movement (Ruch Autonomii Śląska)

- Resources: The region possesses extensive lignite and brown coal deposits, with the state-owned Kompania Weglowa (KW) being the largest coal-mining company in Europe (1) and 100,000 people employed in mines. In addition, the region features a flourishing car manufacturing industry, large chemical works and leading scientific research institutions, together make Upper Silesia the second richest of Poland's 16 voivodships (2).
- Electoral success and party strategies: In 2010 the *Silesian Autonomy Movement* election slogan was "Silesian Money for Silesian People", very reminiscent of the SNP's "It's Scotland's Oil!" campaign. The election campaign was centered on Poland's system of regional redistribution, which separatist leaders argue takes too much from Upper Silesia's tax money to distribute elsewhere. At the election for the district parliament in 2010 the Silesian Autonomy Movement received 8.5 percent of the votes (3).
- Sources:
 - (1) See The Economist from June 28, 2014 at <http://www.economist.com/news/special-report/21604686-traditional-industries-are-declining-outsourcing-offshoring-and-subcontracting-are>, last accessed on April 9, 2018
 - (2) See The Guardian from April 8, 2011 at <https://www.theguardian.com/world/2011/apr/08/upper-silesia-flags-up-independence>, last accessed on April 9, 2018
 - (3) See Bundeszentrale für politische Bildung <http://www.bpb.de/internationales/europa/polen/202995/tabellen-und-grafiken-zum-text-wahlergebnisse-in-der-woiwodschaft-schlesien>, last accessed on April 9, 2018

- Quotes:

“But whereas Scotland has drilled down into the North Sea to make the money it resents being made to channel via Westminster, Upper Silesia’s riches come from under solid ground. It still employs 100,000 people in coalmines, and thousands more in the many steelworks. Plus, it boasts a booming car manufacturing industry – Opel has a plant in Gliwice and Fiats are made in Tychy and Bielsko-Biala – and big chemical works at Kedzierzyn Kozle and Zdzeszowice, and has a great track record for scientific research, particularly in clean coal technology, soil detoxification and renewable energy.

"We are officially the second richest of 16 voivodships in Poland, after Warsaw and Masovia, and provide 14 percent of the GDP," said Gorzelik [leader of the RAS], "and we feel we don't get enough back from the national government." The RAS's election slogan last year was "Silesian Money for Silesian People", arguing that Upper Silesia should receive more money back from Warsaw, and be given the autonomy to spend it as it wishes.”

“The money, which will develop the people of our region, will remain at our disposal. The inhabitants of the land will decide on the distribution of these funds. The Silesian mining law will be discussed by local experts from the mining industry, not the MPs from Szczecin.”

(FAQ Section, Silesian Autonomy Movement at <http://autonomia.pl/faq/>, last accessed on April 9, 2018)

Northern Italy

- Seeking Independence from Italy
- Political parties: *Lega Nord per l'Indipendenza della Padania* (formerly secessionist, separatist since 2006)



Logo of the Lega Nord per l'Indipendenza della Padania (North League)

- Resources: Northern and Southern Italy are regularly referenced as a particularly salient example of regional economic divide, owing partially to its longevity. Northern Italy was the first part of Italy to industrialize in the 19th century, and remains the most developed and productive area of Italy to the present day. For instance, unemployment in 2014 was 21.7 percent in Southern Italy, compared with only 13.6 percent in the whole of Italy, indicating not only a much weaker economic performance, but also a lack of human capital in comparison to Northern Italy (1).
- Electoral success and party strategies: Unlike most other regionalist parties, the *Lega Nord* could not rely on a historic nation-state as an argument for independence, but instead proclaimed its own hypothetical state called “Padania”. In the *Lega Nord*’s Padanian Declaration of Independence from 1996, the economic strength of the region is put forward as a key argument for independence, while the Italian central state is accused of economically exploiting “Padania”. The results of the *Lega Nord* in the Chamber of deputies after the introduction of the new electoral system in 2005 fluctuated. They held 26 of the 617 seats after the 2006 Election and even increased its share to 60 seats in 2008. It has decreased significantly in 2013, when *Lega Nord* lost a total of 42 seats (2).
- Sources:
 - (1) See The Economist from May 16, 2015 at <http://www.economist.com/news/finance-and-economics/21651261-north-limps-ahead-south-swoons-tale-two-economies>, last accessed on April 9, 2018
 - (2) See Election Resources at <http://www.electionresources.org/it/>, last accessed April 9, 2018

- Quotes:

“In contrast, the history of the Italian State has become the history of colonial oppression, of economic exploitation, and of moral violence; The Italian State has, over time, systematically occupied Padania’s economic and social system through its parasitic bureaucratic apparatus.”

(Padanian Declaration of Independence 1996 at <https://web.archive.org/web/20001207094000/http://www.leganord.org/frames/english.htm>, last accessed on April 9, 2018)

“The key difference between the LN’s political project and the majority of other regionalist political parties is the fact that it is not based in an area that has historic claims to nationhood. Instead, the LN has attempted to invent an ethnicity for the North of Italy in order to justify its political claims for the protection of the economic interests of the region.” (Giordano, 2000, p. 446)

C Oil Discoveries

| Name | Year Discovered | Start of Production | Reserves |
|-------------------------|-----------------|---------------------|--------------|
| Alba | 1984 | Jan. 1994 | 400 MMstb. |
| Alwyn North | 1971 | Nov. 1987 | 309 MMstb. |
| Andrew | 1974 | Jun. 1996 | 150 MMstb. |
| Arbroath | 1969 | Apr. 1990 | 97.9 MMstb. |
| Balmoral | 1975 | Nov. 1986 | 100 MMstb. |
| Beatrice | 1979 | Sep. 1981 | 495 MMstb. |
| Bentley | 1977 | Jul. 1905 | 880.9 MMstb. |
| Beryl | 1972 | Jun. 1976 | 2100 MMstb. |
| Brae-North and South | 1975 | Jun. 1905 | 70 MMstb. |
| Brent | 1971 | Nov. 1976 | 3500 MMstb. |
| Bressay | 1978 | Jul. 1905 | 200 MMstb. |
| Buchan | 1974 | May 1981 | 120 MMstb. |
| Buzzard | 2001 | Jan. 2007 | 1500 MMstb. |
| Captain | 1977 | Mar. 1997 | 700 MMstb. |
| Clair | 1977 | Feb. 2005 | 5000 MMstb. |
| Claymore | 1974 | Nov. 1977 | 662 MMstb. |
| Cormorant North | 1972 | Feb. 1982 | 90 MMstb. |
| Crawford | 1975 | Apr. 1989 | 130 MMstb. |
| Donan | 1987 | Jan. 2007 | 60.3 MMstb. |
| Douglas (Wales) | 1990 | Jan. 1996 | 225 MMstb. |
| Dunbar (Alwyn S. S. A.) | 1972 | Dec. 1994 | 850 MMstb. |
| Dunlin | 1973 | Aug. 1978 | 363 MMstb. |
| Eider | 1976 | Nov. 1988 | 85 MMstb. |
| Elgin-Franklin Fields | 1985 | Jun. 1905 | 365 MMstb. |
| ETAP | 1995 | Nov. 1998 | 490 MMstb. |
| Foinaven | 1990 | Nov. 1997 | 600 MMstb. |
| Forties | 1970 | Sep. 1975 | 5000 MMstb. |
| Fulmar | 1975 | Feb. 1982 | 73 MMstb. |
| Gannet (A,C,D,E,F,G) | 1973 | Nov. 1993 | 214 MMstb. |
| Golden Eagle | 2001 | Nov. 2014 | 140 MMstb. |

| Name | Year Discovered | Start of Production | Reserves |
|------------------|-----------------|---------------------|----------------|
| Gryphon | 1987 | Oct. 1993 | 207 MMstb. |
| Harding | 1987 | Apr. 1996 | 322 MMstb. |
| Heather | 1973 | Oct. 1978 | 464 MMstb. |
| Hutton | 1973 | Aug. 1984 | 265 MMstb. |
| Ivanhoe | 1975 | Jul. 1989 | 100 MMstb. |
| Janice | 1990 | Feb. 1999 | 70 MMstb. |
| Kittiwake | 1981 | Sep. 1990 | 70 MMstb. |
| Kraken | 1985 | Jul. 1905 | 137 MMstb. |
| Leadon | 1989 | Jun. 1905 | 120 MMstb. |
| Macculloch | 1990 | Aug. 1997 | 58 MMstb. |
| Magnus | 1974 | Aug. 1983 | 1540 MMstb. |
| Mariner Oilfield | 1981 | Jul. 1905 | 250 MMstb. |
| Maureen | 1973 | Sep. 1983 | 210 MMstb. |
| Miller | 1983 | Jun. 1992 | 345 MMstb. |
| Montrose | 1971 | Jun. 1976 | 93.6 MMstb. |
| Murchison (UK) | 1975 | Sep. 1980 | 400 MMstb. |
| Nelson | 1988 | Feb. 1994 | 790 MMstb. |
| Ninian | 1974 | Dec. 1978 | 2920 MMstb. |
| Northwest Hutton | 1975 | Jun. 1905 | 265 MMstb. |
| Osprey | 1974 | Jun. 1905 | 158 MMstb. |
| Pierce | 1975 | Feb. 1999 | 100 MMstb. |
| Piper | 1973 | Dec. 1976 | 618 MMstb. |
| Ross | 1981 | Apr. 1999 | 100 MMstb. |
| Saltire | 1988 | May 1993 | 224 MMstb. |
| Schiehallion | 1993 | Jun. 1905 | 450-600 MMstb. |
| Scott | 1983 | Sep. 1993 | 440 MMstb. |
| South Cormorant | 1972 | Dec. 1979 | 90 MMstb. |
| Tartan | 1974 | Jan. 1981 | 116 MMstb. |
| T-Block | 1976 | Nov. 1993 | 100 MMstb. |
| Tern | 1975 | Jun. 1989 | 175 MMstb. |
| Thistle | 1972 | Feb. 1978 | 824 MMstb. |

A main data source was <https://www.gov.uk/guidance/oil-and-gas-uk-field-data> ~~Zuk-oil-and-gas-reserves-and-resources~~, last accessed on July 15, 2017. The site is apparently constantly updated, but the main link <https://www.ogauthority.co.uk/data-centre/> should remain intact, last accessed on April 10, 2018.

Each individual discovery, its discovery date, and size were verified using various sources. These were: Casey *et al.* (1993); Coward *et al.* (1991); Eneyok *et al.* (2003); EnQuest (2013, n.d.); E.ON (2013); Favero *et al.* (1994); Fee & O’Dea (2005); Glennie & Armstrong (1991); Guscott *et al.* (2003); Jayasekera *et al.* (1999); Kavanagh (2013); Kay (2003); Kunka *et al.* (2003); Nexen/CNOOC (2013); Pye & Brown (2002); Ritchie (2003); Talisman Energy (2006a,b, 2007); The Maersk Group (2014); Tonkin & Fraser (1991); United Kingdom Government (2013); Van Vessem & Gan (1991); Walker (1994).

D Party Leaders of the SNP and Plaid Cymru

Table 9: List of Party Leaders

| SNP | Term begin | Term end |
|---------------------------|------------|----------|
| <i>Bruce Watson</i> | 1945 | 1947 |
| <i>Robert McIntyre</i> | 1947 | 1956 |
| <i>James Halliday</i> | 1956 | 1960 |
| <i>Arthur Donaldson</i> | 1960 | 1969 |
| <i>William Wolfe</i> | 1969 | 1979 |
| <i>Gordon Wilson</i> | 1979 | 1990 |
| <i>Alex Salmond</i> | 1990 | 2000 |
| <i>John Swinney</i> | 2000 | 2004 |
| Plaid Cymru | Term begin | Term end |
| <i>Gwynfor Evans</i> | 1945 | 1981 |
| <i>Dafydd Wigley</i> | 1981 | 1984 |
| <i>Dafydd Elis-Thomas</i> | 1984 | 1991 |
| <i>Dafydd Wigley</i> | 1991 | 2000 |
| <i>Ieuan Wyn Jones</i> | 2000 | 2012 |

The leaders' terms were cross-verified using the following sources (all last accessed on August 10, 2017):

- <http://aberdeensnp.org/node/9>
- <https://www.britannica.com/biography/Richard-Gwynfor-Evans>
- <http://www.parliament.uk/biographies/lords/lord-wigley/547>
- <http://www.parliament.uk/biographies/lords/lord-elis-thomas/2816>
- <http://www.bbc.co.uk/news/uk-wales-22944836>

E Regional Identity Survey Questions

Table 10 shows that almost a decade after the first discoveries, regional identity was still stronger in Wales. Compared to Scotland, a larger share of people consider themselves to be Welsh, and the share of people stating a regional instead of British identity is also higher in Wales. The data can be accessed through <https://discover.ukdataservice.ac.uk>.

Table 10: **Regional Versus National Identity**

| | Percentage share of regional identity 1979 | Percentage share of national identity 1979 | Ratio of regional/national identity 1979 |
|----------|--|--|--|
| Scotland | 23% | 15% | 1.47 |
| Wales | 56% | 32% | 1.75 |

Based on the Scottish and Welsh election study in 1979. The exact survey question we use was: “Do you consider yourself to be British or Scottish or English or Irish or something else? [If you had to choose one, which would you say you were?]”. In the case of Scotland (Wales), we coded the people answering “Scottish” (“Welsh”) and set them in relation to those answering “British”.

F Further References and Details about the Initial Rise of the SNP and Plaid Cymru

The literature does not fully agree about the non-oil related initial rise for both parties, but there are several plausible explanations.

One aspect frequently mentioned is the professionalization that both parties underwent in the 1960s. The literature mentions a “dramatic organisational expansion” (Lynch, 2011, p.120), “wide-ranging internal reforms“, and that “among the changes made, one could mention the creation of constituency associations (in addition to local branches) [...] or the recruitment of full-time staff” (Webb, 1978, p.106). Another aspect cited is the British crisis in self-confidence due to a perceived decline of British greatness as a result of economic depression, industrial strife and the disintegration of the Empire (Duclos, 2017). The importance of the disintegration of the British Empire is also echoed in Hutchison (2001). Scholars also write about a temporary disaffection with the two major British parties, generally growing disaffection with the two-party system, class and partisan dealignment (Duclos, 2017).

Similarly, McAllister (1981, pp. 244) writes about the “decline of the British two-party system” and of “the erosion of traditional political allegiances.” Mitchell (2000, cited in Duclos 2017) describes a headline from the Economist newspaper in which the Conservative slogan “Labour isn’t working” had been replaced with “Britain isn’t working”, a headline which he believed “summed up a feeling which had been developing from the 1960s”.

Nonetheless, this qualitative literature also acknowledges that “this interpretation is insufficient, as it fails to explain why Scottish people opted for one minor party (the SNP) instead of another (the Liberals); in other words, it can “explain why Scots turned away from the old parties” but not “why they turned to nationalism” (Levy, 1990, p.23). Still, it fails to explain why “its (the SNP’s) vote fluctuated so much in the 1970s and 1980s” (Cameron, 2010, p.292).

G Different Event Windows for Discoveries (Based on Table 4)

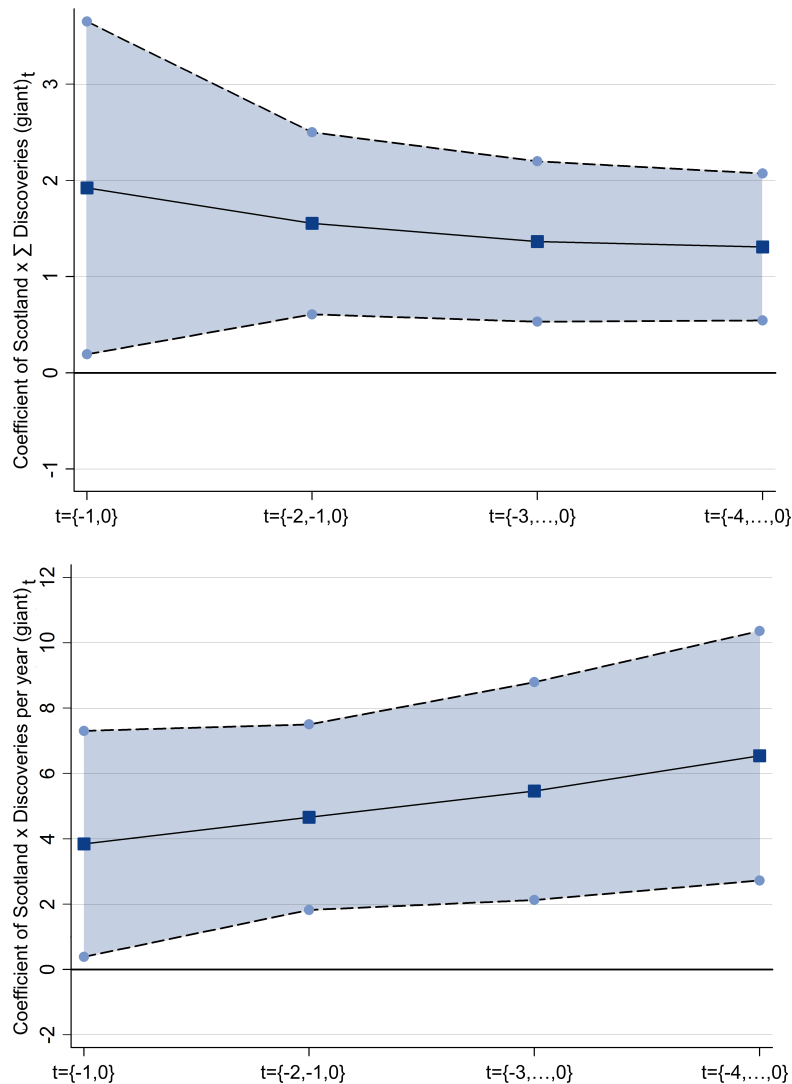


Figure 10: Effect of the Sum of Giant Discoveries and Giant Discoveries per Year

The upper graph shows the estimated coefficients and the respective 95-percent confidence interval from the first row in Table 4. The lower graph displays the estimates from the second row reported in Table 4.

H Calculation of Constituency Results

To compute the election results for the individual constituencies based on the 2001 boundaries, we applied the following procedure. First, we superimposed historical electoral maps with a graphical software to detect whether constituency boundaries have changed. For each period, we calculated how the 2001-constituencies consist of the historical constituencies used in previous GEs. As there exists no better estimate for the population distribution within a constituency, we assume a uniform distribution. To describe the overlapping

area of the historical constituencies and the 2001-constituencies, we use fifths gradations. Election results of constituencies included in the panel are then extrapolated based on the following formula. First, assume the historical constituencies 1, 2,..., n from the GE in t overlap with the 2001-constituency j . The extrapolation for this constituency is given by: $Y_{j,t} = \frac{\sum_{i=1}^n x_{i,t} \times Y_{i,t}}{\sum_{i=1}^n x_{i,t}}$, $x_{i,t} \in \{0, \frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}, 1\}$, with $Y_{i,t}$ being the election result of an original constituency in year t , $Y_{j,t}$ being the projected result of a 2001-constituency in t , and $x_{i,t}$ representing the shares of the n original constituencies i overlapping with the 2001-constituency j . By this pattern, the results from historical constituencies are included in a weighted form in the extrapolated result based on the boundaries of 2001-constituencies. If only one historical constituency accounts for a 2001-constituency, the result is adopted without further computation. For transparency reasons, we provide the entire weightings for all constituencies in all time periods on the following pages.



The map shows the Scottish 2001-constituencies to which the older election results are projected. It provides an example of the GIS maps, which we used to build the dataset analysed. Source: <http://www.bcomm-scotland.independent.gov.uk/maps/datafiles/>.

Sources: Boundary Commission for Scotland (<http://www.bcomm-scotland.independent.gov.uk/boundary-maps/constituency-maps>), David Boothroyd (<http://www.election.demon.co.uk/>), UK Data Service (https://census.edina.ac.uk/easy_download.html); all last accessed on August 19, 2015.

| | Base: 1997-2004 | 1945-1949 | 1950-1954 | 1955-1973 | 1974-1982 | 1983-1996 |
|----------|--|--|---|---|---|---|
| Wales | Aberavon | Aberavon | Aberavon | Aberavon | Aberavon | Aberavon |
| Scotland | Aberdeen Central | Aberdeen North + 2/5 Aberdeen South | Aberdeen North | Aberdeen North | Aberdeen North | Aberdeen North |
| Scotland | Aberdeen North | Central Aberdeenshire | West Aberdeenshire | West Aberdeenshire | West Aberdeenshire | Aberdeen North |
| Scotland | Aberdeen South | Aberdeen South | Aberdeen South | Aberdeen South | Aberdeen South | Aberdeen South |
| Scotland | Aberdeenshire West and Kincardine | Kincardine and West Aberdeenshire | 3/5 West Aberdeenshire + 3/5 North Angus and Mearns | 3/5 West Aberdeenshire + 3/5 North Angus and Mearns | 3/5 West Aberdeenshire + 3/5 North Angus and Mearns | Kincardeene and Deeside + 2/5 Gordon |
| Scotland | Airdrie and Shotts | North Lanarkshire | North Lanarkshire | North Lanarkshire | North Lanarkshire | Monklandes East + 3/5 Motherwell North |
| Wales | Alyn and Deeside | Flint | East Flint | East Flint | East Flint | Alyn and Deeside |
| Scotland | Angus | 2/5 Forfar +2/5 Montrose District of Burghs | 2/5 South Angus + 1/5 North Angus and Mearns | 2/5 South Angus + 1/5 North Angus and Mearns | 2/5 South Angus + 1/5 North Angus and Mearns | Angus East |
| Scotland | Anniesland (Glasgow) | 2/5 Hillhead + 2/5 Patrick | 3/5 Hillhead + 4/5 Scotstoun | 3/5 Hillhead + 4/5 Scotstoun | 3/5 Hillhead + Garscadden | 1/5 Hillhead + Garscadden |
| Scotland | Argyll and Bute | Argyll | Argyll | Argyll | Argyll | Argyll and Bute |
| Scotland | Ayr | 2/5 Ayr District of Burghs + 1/5 Kilmarnock | 4/5 Ayr + 1/5 Central Ayrshire | 4/5 Ayr + 1/5 Central Ayrshire | Ayr | Ayr |
| Scotland | Baillieston (Glasgow) | Bothwell | 3/5 Camlachie + 1/5 Bothwell | 3/5 Provan +1/5 Bothwell | 3/5 Provan + 1/5 Ruhterglen | 3/5 Provan + 3/5 Shettleston |
| Scotland | Banff and Buchan | 3/5 East Aberdeenshire + 2/5 Banff | 3/5 East Aberdeenshire + 2/5 Banff | 3/5 East Aberdeenshire + 2/5 Banff | 3/5 East Aberdeenshire + 2/5 Banff | Banff and Buchan |
| Wales | Blaenau Gwent | Ebbw Vale +2/5 Abertillery | Ebbw Vale +2/5 Abertillery | Ebbw Vale +2/5 Abertillery | Ebbw Vale +2/5 Abertillery | Blaenau Gwent |
| Wales | Brecon and Radnor | Brecon and Rednor | Brecon and Rednor | Brecon and Rednor | Brecon and Rednor | Brecon and Rednor |
| Wales | Bridgend | 1/5 Aberavon + 2/5 Ogmore | 1/5 Aberavon + 2/5 Ogmore | 1/5 Aberavon + 2/5 Ogmore | 1/5 Aberavon + 2/5 Ogmore | Bridgend |
| Wales | Caernarvon | Caernarvonshire + 2/5 Caernarvon District | Caernarvon | Caernarvon | Caernarvon | Caernarvon |
| Wales | Caerphilly | Caerphilly | Caerphilly | Caerphilly | Caerphilly | Caerphilly |
| Scotland | Caithness, Sutherland and Easter Ross | Caithness and Sutherland | Caithness and Sutherland | Caithness and Sutherland | Caithness and Sutherland | Caithness and Sutherland |
| Wales | Cardiff Central | Cardiff Central | Cardiff North | Cardiff North | Cardiff North | Cardiff Central |

| | Base: 1997-2004 | 1945-1949 | 1950-1954 | 1955-1973 | 1974-1982 | 1983-1996 |
|----------|--|--|--|--|--|--|
| Wales | Cardiff North | Cardiff North + 1/5 Llandaff and Barry | Cardiff North + 1/5 Barry | Cardiff North + 1/5 Barry | Cardiff North West | Cardiff North |
| Wales | Cardiff South and Penarth | Cardiff South + Cardiff East | Cardiff South East | Cardiff South East | Cardiff South East | Cardiff South and Penarth |
| Wales | Cardiff West | Llandaff and Barry | Cardiff West | Cardiff West | Cardiff West | Cardiff West |
| Wales | Carmarthen East and Dinefwr | Carmarthen | Carmarthen | Carmarthen | Carmarthen | Carmarthen |
| Wales | Carmarthen West and Pembrokeshire South | 1/5 Camarthen + 2/5 Pembroke | 1/5 Camarthen + 2/5 Pembroke | 1/5 Camarthen + 2/5 Pembroke | 1/5 Camarthen + 2/5 Pembroke | 1/5 Camarthen + 2/5 Pembroke |
| Scotland | Carrick, Cumnock and Doon Valley | South Ayrshire | South Ayrshire | South Ayrshire | South Ayrshire | Carrick, Cunnock and Doon Valley |
| Scotland | Cathcart (Glasgow) | 1/5 Rutherglen + Cathcart | Cathcart | Cathcart | Cathcart + 1/5 Pollok | Cathcart |
| Wales | Ceredigion Gogledd Penfro | Cardigan | Cardigan | Cardigan | Cardigan | Ceredigion and Pembroke North |
| Wales | Clwyd South | 3/5 Wrexham + 2/5 Denbigh | 3/5 Wrexham + 2/5 Denbigh | 3/5 Wrexham + 2/5 Denbigh | 3/5 Wrexham + 2/5 Denbigh | 3/5 Wrexham + 2/5 Clwyd South West |
| Wales | Clwyd West | Denbigh | Denbigh | Denbigh | Denbigh | 2/5 Clwyd South West + 2/5 Clwyd North West |
| Scotland | Clydebank and Milngavie | Dunbartonshire + 2/5 Dumbarton District of Burghs | 1/5 East Dunbartonshire + 3/5 Central Dunbartonshire | 1/5 East Dunbartonshire + 3/5 Central Dunbartonshire | Central Dunbartonshire | Clydebank and Milngavie |
| Scotland | Clydesdale | Lanark | Lanark | Lanark | Lanark | Clydesdale |
| Scotland | Coatbridge and Chryston | 1/5 North Lanarkshire + 3/5 Coath- bridge+ 1/5 Bothwell | 1/5 North Lanarkshire + 3/5 Coatbridge and Airdrie | 1/5 North Lanarkshire + 3/5 Coatbridge and Airdrie | 1/5 North Lanarkshire + 3/5 Coatbridge and Airdrie | Monklands West |
| Wales | Conway | Caernarvonshire + 3/5 Caernarvon District | Conway | Conway | Conway | Conway |
| Scotland | Cumbernauld and Kilsyth | East Dunbartonshire | Dunbartonshire | Dunbartonshire | East Dunbartonshire | Cumbernauld und Kilsyth |
| Scotland | Cunninghame North | Bute and North Ayrshire | Bute and North Ayrshire | Bute and North Ayrshire | Bute and North Ayrshire | Cunninghame North |
| Scotland | Cunninghame South | 1/5 Ayr District of Burghs + 1/5 Bute and North Ayrshire | Central Ayrshire | Central Ayrshire | Central Ayrshire | Cunninghame South |
| Wales | Cynon Valley | Aberdare + 1/5 Merthyr | Aberdare | Aberdare | Aberdare | Cynon Valley |
| Wales | Delyn | Flint | 4/5 Flint West + 2/5 Flint East | 4/5 Flint West + 2/5 Flint East | 4/5 Flint West + 2/5 Flint East | Delyn |

| Base: 1997-2004 | | 1945-1949 | 1950-1954 | 1955-1973 | 1974-1982 | 1983-1996 |
|-----------------|-----------------------------------|---|--|--|--|--|
| Scotland | Dumbarton | 4/5 Dunbartonshire + Dumbar- ton District of Burghs | West Dunbartonshire | West Dunbartonshire | West Dunbartonshire | Dumbarton |
| Scotland | Dumfries | Dumfriesshire | Dumfries | Dumfries | Dumfries | Dumfries |
| Scotland | Dundee East | Dundee | Dundee East | Dundee East | Dundee East | Dundee East |
| Scotland | Dundee West | Dundee | Dundee West | Dundee West | Dundee West | Dundee West |
| Scotland | Dunfermline East | West Fife | West Fife | West Fife | 3/5 Central Fife + 2/5 Dunfermline | Dunfermline East + 1/5 Dunfermline West |
| Scotland | Dunfermline West | 2/5 West Fife + Dunfermline District of Burghs | 2/5 West Fife + Dunfermline Burghs | 2/5 West Fife + Dunfermline Burghs | Dunfermline | Dunfermline West |
| Scotland | East Kilbride | Lanark | Lanark | Lanark | East Kilbride | East Kilbride |
| Scotland | East Lothian | Berwick and Haddington | Berwick and East Lothian | Berwick and East Lothian | Berwick and East Lothian | East Lothian |
| Scotland | Eastwood | East Renfrewshire | East Renfrewshire | East Renfrewshire | East Renfrewshire | Eastwood |
| Scotland | Edinburgh Central | Edinburgh West + Edinburgh Central | Edinburgh Central | Edinburgh Central | Edinburgh Central + 1/5 Edinburgh North + 1/5 Edinburgh West | Edinburgh Central + 1/5 Edinburgh West |
| Scotland | Edinburgh East and Musselburgh | Edinburgh East | Edinburgh East | Edinburgh East | Edinburgh East | Edinburgh East |
| Scotland | Edinburgh North and Leith | Leith + Edinburgh North + 1/5 Edinburgh West | Edinburgh Leith + Edinburgh North | Edinburgh Leith + 3/5 Edinburgh North | Edinburgh Leith + 3/5 Edinburgh North | Edinburgh Leith |
| Scotland | Edinburgh South | Edinburgh South | Edinburgh South | Edinburgh South | Edinburgh South | Edinburgh South |
| Scotland | Edinburgh West | 1/5 North Midlothian + 1/5 Linlithgowshire | Edinburgh West + 1/5 West Lothian | Edinburgh West + 1/5 West Lothian | Edinburgh West + 1/5 West Lothian | Edinburgh West + 1/5 Livingston + 1/5 Linlithgow |
| Scotland | Falkirk East | 2/5 Clackmannan and East Stirling + 1/5 Linlithgowshire | 3/5 Stirling and Falkirk Grangemouth + 1/5 West Lothian + 3/5 Clackmannan and East Stirling | 3/5 Stirling and Falkirk Grangemouth + 1/5 West Lothian + 3/5 Clackmannan and East Stirling | 3/5 Stirling and Falkirk Grangemouth + 1/5 West Lothian + 3/5 Clackmannan and East Stirling | Falkirk East + 1/5 Clackmannan |
| Scotland | Falkirk West | 1/5 Clackmannan and West Stirlingshire + 1/5 Stirling Districts of Burghs | Stirling and Falkirk Grangemouth | Stirling and Falkirk Grangemouth | Stirling and Falkirk Grangemouth | Falkirk West |
| Scotland | Fife Central | 3/5 West Fife | West Fife | West Fife | Central Fife | Central Fife |

| | Base: 1997-2004 | 1945-1949 | 1950-1954 | 1955-1973 | 1974-1982 | 1983-1996 |
|----------|------------------------------------|--|---|---|---|---|
| Scotland | Fife North East | Fife East | Fife East | Fife East | Fife East | Fife North East |
| Scotland | Galloway and Upper Nithsdale | Galloway + 2/5 Dumfries | Galloway + 2/5 Dumfries | Galloway + 2/5 Dumfries | Galloway + 2/5 Dumfries | Galloway and Unpper Nithsdale |
| Scotland | Gordon | 4/5 Central Aberdeenshire + 1/5 Banff + 1/5 East Aberdeenshire | 1/5 West Aberdeenshire + 1/5 Banff + 3/5 East Aberdeenshire | 1/5 West Aberdeenshire + 1/5 Banff + 2/5 East Aberdeenshire | 1/5 West Aberdeenshire + 1/5 Banff + 2/5 East Aberdeenshire | 1/5 Banff und Buchan + 3/5 Gordon + 1/5 Moray |
| Scotland | Govan (Glasgow) | 4/5 Pollok + Govan + Tradeston | 1/5 Pollok + 2/5 Govan + Tradeston | Govan + 2/5 Pollak | Govan + 1/5 Pollak | 2/5 Govan + 1/5 Pollak + 1/5 Central |
| Wales | Gower | Gower | Gower | Gower | Gower | Gower |
| Scotland | Greenock and Inverclyde | Greenock + 1/5 West Renfrewshire | Greenock + 1/5 West Renfrewshire | Greenock + 1/5 West Renfrewshire | 3/5 Greenock + 1/5 West Renfrewshire | 1/5 Renfrew West and Inverclyde + 3/5 Greenock and Port Glasgow |
| Scotland | Hamilton North and Bellshill | 4/5 Bothwell + 1/5 Hamilton | 4/5 Bothwell + 1/5 Hamilton | 4/5 Bothwell + 1/5 Hamilton | 3/5 Motherwell North + 2/5 Hamilton | 2/5 Motherwell North + 1/5 Hamilton |
| Scotland | Hamilton South | 3/5 Hamilton + 1/5 Rutherglen | Hamilton | Hamilton | 1/5 East Kilbride + 3/5 Hamilton | Hamilton |
| Scotland | Inverness East, Nairn and Lochaber | 3/5 Inverness + 1/5 Argyll + 2/5 Moray and Nairn | 3/5 Inverness + 1/5 Argyll + 2/5 Moray and Nairn | 3/5 Inverness + 1/5 Argyll + 2/5 Moray and Nairn | 3/5 Inverness + 1/5 Argyll + 2/5 Moray and Nairn | Inverness, Nairn und Lochaber |
| Wales | Islwyn | Bedwelty | Bedwelty + 2/5 Abertillery | Bedwelty + 2/5 Abertillery | Bedwelty + 2/5 Abertillery | Islwyn |
| Scotland | Kelvin (Glasgow) | 2/5 Patrick + 4/5 Central + Kelvingrove + 2/5 Hillhead | 2/5 Hillhead + 2/5 Scoutstoun + Kelvin + 4/5 Central | Kelvingrove + 2/5 Central + 2/5 Woodside + 2/5 Hillhead | 2/5 Hillhead + 3/5 Kelvingrove + 2/5 Central | 4/5 Hillhead + 1/5 Central |
| Scotland | Kilmarnock and Loudoun | 3/5 Kilmarnock + 1/5 Bute and North Ayrshire | Kilmarnock + 1/5 Central Ayrshire | Kilmarnock + 1/5 Central Ayrshire | Kilmarnock | Kilmarnock and Loudon |
| Scotland | Kirkcaldy | 1/5 West Fife + 2/5 Kirkcaldy District of Burghs | 1/5 West Fife + 3/5 Kirkcaldy Burghs | 1/5 West Fife + 3/5 Kirkcaldy Burghs | Kirkcaldy | Kirkcaldy |
| Scotland | Linlithgow | Linlithgowshire | West Lothian | West Lothian | West Lothian | Linlithgow |
| Scotland | Livingston | 2/5 North Midlothian + 1/5 Linlithgowshire | West Lothian | 1/5 Midlothian + 1/5 Westlothian | 1/5 Midlothian + 1/5 Westlothian | Livingston |
| Wales | Llanelly | Llanelly | Llanelly | Llanelly | Llanelly | Llanelly |
| Scotland | Maryhill (Glasgow) | 2/5 Glasgow St. Rollox + Maryhill | 3/5 Woodside + Maryhill | 1/5 Woodside + Maryhill | 1/5 Kelvingrove + Maryhill | 1/5 Springburn + Maryhill |

| | Base: 1997-2004 | 1945-1949 | 1950-1954 | 1955-1973 | 1974-1982 | 1983-1996 |
|----------|----------------------------|---|--|--|--|--|
| Wales | Meirionnydd Nant Conwy | 4/5 Merionethshire (Merioneth) + 1/5 Caernarvonshire + 2/5 Caernarvon District | 4/5 Merionethshire (Merioneth) + 3/5 Conway | 4/5 Merionethshire (Merioneth) + 3/5 Conway | 4/5 Merionethshire (Merioneth) + 3/5 Conway | Meirionnydd Nant Conwy |
| Wales | Merthyr Tydfil and Rhymney | Merthyr + 1/5 Caerphilly | Merthyr + 1/5 Caerphilly | Merthyr + 1/5 Caerphilly | Merthyr + 1/5 Caerphilly | Merthyr Tydfil and Rhymney |
| Scotland | Midlothian | Peebles and South Midlothian | Midlothian and Peebles | Midlothian | Midlothian | Midlothian |
| Wales | Monmouth | Monmouth | Monmouth | Monmouth | Monmouth | Monmouth |
| Wales | Montgomeryshire | Montgomery | Montgomery | Montgomery | Montgomery | Montgomery |
| Scotland | Moray | 3/5 Moray and Nairn + 3/5 Banff | 3/5 Moray and Nairn + 3/5 Banff | 3/5 Moray and Nairn + 3/5 Banff | 3/5 Moray and Nairn + 3/5 Banff | Moray |
| Scotland | Motherwell and Wishaw | Motherwell | Motherwell | Motherwell | Motherwell and Wishaw | Motherwell South |
| Wales | Neath | Neath | 4/5 Neath + 1/5 Gower | 4/5 Neath + 1/5 Gower | 4/5 Neath + 1/5 Gower | Neath |
| Wales | Newport East | 2/5 Newport + 1/5 Monmouth | 2/5 Newport + 3/5 Monmouth | 2/5 Newport + 3/5 Monmouth | 2/5 Newport + 3/5 Monmouth | Newport East |
| Wales | Newport West | 2/5 Newport | 2/5 Newport | 2/5 Newport | 2/5 Newport | Newport West |
| Scotland | Ochil | 1/5 Kinross and Westperthshire + 4/5 Clackmann and East Stirlingshire | 1/5 Kinross and Westperthshire + 4/5 Clackmann and East Stirlingshire | 1/5 Kinross and Westperthshire + 4/5 Clackmann and East Stirlingshire | 1/5 Kinross and Westperthshire + 4/5 Clackmann and East Stirlingshire | 4/5 Clackmannan + 1/5 Perth and Kinross |
| Wales | Ogmore | 3/5 Ogmore + 1/5 Pontypridd + 1/5 Aberavon | 3/5 Ogmore + 1/5 Pontypridd + 1/5 Aberavon | 3/5 Ogmore + 1/5 Pontypridd + 1/5 Aberavon | 3/5 Ogmore + 1/5 Pontypridd + 1/5 Aberavon | Ogmore |
| Scotland | Orkney and Shetland | Orkney and Zetland | Orkney and Zetland | Orkney and Zetland | Orkney and Zetland | Orkney and Shetland |
| Scotland | Paisley North | 3/5 Paisley + 1/5 East Renfrewshire | Paisley | Paisley | Paisley | 3/5 Paisley North |
| Scotland | Paisley South | 1/5 East Renfrewshire + 1/5 Paisley | Paisley | Paisley | Paisley | Paisley South |
| Scotland | Pentlands (Edinburgh) | North Midlothian | Pentlands | Pentlands | Pentlands | Pentlands |
| Scotland | Perth | 1/5 Kinross and West... + 3/5 Perth and East Perthshire | 1/5 Kinross and Westperthshire + 3/5 Perth and East Perthshire | 1/5 Kinross and Westperthshire + 3/5 Perth and East Perthshire | 1/5 Kinross and Westperthshire + 3/5 Perth and East Perthshire | Perth and Kinross |

| | Base: 1997-2004 | 1945-1949 | 1950-1954 | 1955-1973 | 1974-1982 | 1983-1996 |
|----------|-------------------------------|--|--|--|--|--|
| Scotland | Pollok (Glasgow) | 1/5 Pollok + 1/5 East Renfrewshire | 2/5 Pollok + 2/5 Govan | 2/5 Pollok + Craigton | 2/5 Pollok + Craigton | Pollok + 2/5 Govan |
| Wales | Pontypridd | Pontypridd | Pontypridd | Pontypridd | Pontypridd | Pontypridd |
| Wales | Preseli Pembrokeshire | Pembroke | Pembroke | Pembroke | Pembroke | 1/5 Ceredigion and Pembroke North + 3/5 Pembroke |
| Scotland | Renfrewshire West | West Renfrewshire | West Renfrewshire | West Renfrewshire | Renfrew West and Inverclyde | |
| Wales | Rhondda | Rhondda East + Rhondda West | Rhondda East + Rhondda West | Rhondda East + Rhondda West | Rhondda | Rhondda |
| Scotland | Ross, Skye and Inverness West | 2/5 Inverness + 3/5 Ross und Cromarty | 2/5 Inverness + 3/5 Ross und Cromarty | 2/5 Inverness + 3/5 Ross und Cromarty | 2/5 Inverness + 3/5 Ross und Cromarty | Ross, Skye and Inverness |
| Scotland | Roxburgh and Berwickshire | 2/5 Berwick and Haddington + 2/5 Roxburgh and Selkirk | 2/5 Berwick and East Lothian + 2/5 Roxburgh and Selkirk | 2/5 Berwick and East Lothian + 2/5 Roxburgh, Selkirk and Peebles | 2/5 Berwick and East Lothian + 2/5 Roxburgh, Selkirk and Peebles | Roxburgh and Berwickshire |
| Scotland | Rutherglen (Glasgow) | Rutherglen | Rutherglen | Rutherglen | Rutherglen | Rutherglen |
| Scotland | Shettleston (Glasgow) | Gorbals + Bridgeton + Shettleston | Gorbals + Bridgeton + Shettleston | 4/5 Gorbals + Bridgeton + Shettleston | 3/5 Queen's Park + 3/5 Central + Shettleston | 3/5 Central + 2/5 Shettleston |
| Scotland | Springburn (Glasgow) | Springburn | 1/5 Camlachie | Springburn + 2/5 Provan | Springburn + 1/5 Provan | 4/5 Springburn + 1/5 Provan |
| Scotland | Stirling | 4/5 West Stirlingshire + 2/5 Kinross and West Perthshire | 4/5 West Stirlingshire + 2/5 Kinross and West Perthshire | 4/5 West Stirlingshire + 2/5 Kinross and West Perthshire | 4/5 West Stirlingshire + 2/5 Kinross and West Perthshire | Stirling |
| Scotland | Strathkelvin and Bearsden | 1/5 West Stirlingshire + 1/5 Dunbartonshire | 1/5 West Stirlingshire + 1/5 Dunbartonshire | 1/5 West Stirlingshire + 1/5 Dunbartonshire | 1/5 West Stirlingshire + 1/5 Dunbartonshire | Strathkelvin and Bearsden + 2/5 Monklands West |
| Wales | Swansea East | Swansea East | Swansea East | Swansea East | Swansea East | Swansea East |
| Wales | Swansea West | Swansea West | Swansea West | Swansea West | Swansea West | Swansea West |
| Scotland | Tayside North | 3/5 Kinross and West Perthshire + 4/5 Perth + 3/5 Forfar | 2/5 Kinross and West Perthshire + 3/5 Perth an East P. + 3/5 South Angus + 1/5 Noth Angus and Mearns | 2/5 Kinross and West Perthshire + 3/5 Perth an East P. + 3/5 South Angus + 1/5 Noth Angus and Mearns | 2/5 Kinross and West Perthshire + 3/5 Perth an East P. + 3/5 South Angus + 1/5 Noth Angus and Mearns | North Tayside + 2/5 Angus East |

| | Base: 1997-2004 | 1945-1949 | 1950-1954 | 1955-1973 | 1974-1982 | 1983-1996 |
|----------|--------------------------------------|--|--|--|---|--|
| Wales | Torfaen | Pontypool + 1/5 Monmouth | Pontypool | Pontypool | Pontypool | Torfaen |
| Scotland | Tweeddale, Ettrick and Lauderdale | 3/5 Peebles and South Midlothian +2/5 Roxburgh and Selkirk | 3/5 Peebles and South Midlothian +2/5 Roxburgh and Selkirk | 3/5 Roxburgh, Selkirk and Peebles + 1/5 Midlothian + 1/5 Berwick and East Lothian | 3/5 Roxburgh, Selkirk and Peebles + 1/5 Midlothian | Tewwdale, Ettrick and Lauderdale |
| Wales | Vale of Clwyd | 1/5 Denbigh + 2/5 Flint | 1/5 Denbigh + 2/5 Flint West | 1/5 Denbigh + 2/5 Flint West | 3/5 Denbigh + 2/5 Flint West | 3/5 Clwyd North West + 1/5 Clwyd South West |
| Wales | Vale of Glamorgan | 3/5 Llandaff and Barry + 3/5 Pontypridd | 3/5 Barry + 3/5 Pontypridd | 3/5 Barry + 3/5 Pontypridd | 3/5 Barry + 3/5 Pontypridd | Vale of Glamorgan |
| Scotland | Western Isles | Western Isles | Western Isles | Western Isles | Western Isles | Western Isles |
| Wales | Wrexham | Wrexham | Wrexham | Wrexham | Wrexham | Wrexham |
| Wales | Ynys Mon | Anglesey | Anglesey | Anglesey | Ynys Mon | Ynys Mon |

I Description of Variables

| | |
|---|--|
| <i>Secessionist vote share</i> | Share of votes received by <i>SNP/Plaid Cymru</i> in UK Parliament elections in a single constituency (in percent). |
| <i>Discoveries (giant)</i> | Number of giant oil discoveries in year t and $t - 1$. An oil field classified as 'giant' contains ultimate recoverable reserves of 500 million barrels or more before the extraction starts. |
| <i>Discoveries (all)</i> | Number of oil discoveries in year t and $t - 1$. All oil fields with 50 million barrels or more are captured. |
| <i>Amount of new reserves</i> | Reserves of discovered oil fields in year t and $t - 1$ in 1000 million barrels of oil (MMstb.). |
| <i>Scotland</i> | Binary variable indicating Scottish constituencies (1 if the constituency is Scottish, 0 otherwise). |
| <i>Oil price^a</i> | Real price of Brent crude oil (year average). The unit is constant 2001-USD. |
| <i>Oil price_t - Avg. oil price_{t-4,...,t}</i> | Deviation of annual real Brent oil price from 5-year average. The unit is constant 2001-USD. |
| <i>Oil price SD (within-year)^a</i> | Within-year standard deviation of monthly Brent oil price. |
| <i>Oil production</i> | UK oil production in million barrels. |
| <i>GDP per capita</i> | Relative regional per capita gross domestic product for Scotland and Wales (in percent of UK average). |
| <i>Unemployment rate</i> | Regional rate of registered unemployed (Claimant count) for Scotland and Wales (in percent). |
| <i>Near border (50)^b</i> | Binary indicator for constituencies that are within 50 km of the English border (1 if the constituency is within this distance, 0 otherwise). |
| <i>Near border (75)^b</i> | Binary indicator for constituencies that are within 75 km of the English border (1 if the constituency is within this distance, 0 otherwise). |
| <i>Near border (100)^b</i> | Binary indicator for constituencies that are within 100 km of the English border (1 if the constituency is within this distance, 0 otherwise). |

| | |
|---|--|
| <i>Landlocked constituency^b</i> | Binary indicator for constituencies without coastal access (1 if the constituency has no sea access, 0 otherwise). |
| <i>Distance to Aberdeen^b</i> | Distance from a constituency to Aberdeen (in km). |
| <i>Share of English residents^e</i> | Share of English born people relative to residents present. |
| <i>Initial vote share</i> | Avg. vote share in general elections in the 1950s and 1960s. |
| <i>Share with low education</i> | Proportion of people who left school under the age of 15 relative to all people educated. |
| <i>Share in educ. sector</i> | Proportion of people working in university jobs relative to all residents. |
| <i>Share of white collar workers</i> | Proportion of white-collar workers relative to total active workforce. |
| <i>Share in govt. sector</i> | Proportion of people working in the government sector. |
| <i>Share in industry sector</i> | Proportion of people working in the industry sector. |
| <i>Share in agric. sector</i> | Proportion of people working in the agricultural sector. |
| <i>Avg. soil suitability^c</i> | Average soil suitability for production of potatoes, barley, and wheat. (medium input intensity and irrigation). |
| <i>Ruggedness index^d</i> | Index of variance of elevation in each constituency. |
| <i>Mining</i> | Proportion of people working in mining (almost all coal mining in Wales). |

^a Source for the oil price data: Baumeister & Peersman (2013) for 1957-2001 and the the Federal Reserve Bank of St. Louis for 1946-1956. To calculate the real oil price, we used US inflation data from the Bureau of Labor Statistics (see the data at <http://www.usinflationcalculator.com/>, last accessed on August 19, 2015). The Brent price prior to 1957 is approximately projected using data for the sort WTI.

^b Variables are calculated using ArcGIS. Data are taken from <http://www.gadm.org>, Boundary Commission for Scotland (<http://www.bcomm-scotland.independent.gov.uk/maps/datafiles/>), David Boothroyd (<http://www.election.demon.co.uk/>), UK Data Service (https://census.edina.ac.uk/easy_download.html); all last accessed on August 19, 2015.

^c Data are taken from the Global Elevation Data Set (<http://diegopuga.org/data/rugged/>).

^d Data are taken from <http://www.fao.org/nr/gaez/en/>.

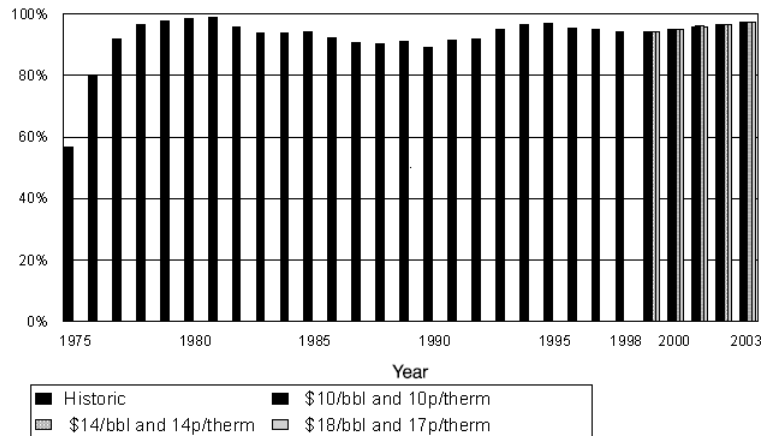
^e Data are taken from Casweb and Vision of Britain, see <http://casweb.digitalresources.jisc.ac.uk/step0.cfm> and <http://www.visionofbritain.org.uk/data/>, last accessed on December 20, 2018. All values are taken from the pre-treatment period from the available aggregated census data in 1971, with the exception being the share of people with low education, which in the pre-treatment period was only available in 1951.

Table 11: Descriptive Statistics

| | <i>N</i> | <i>Mean</i> | <i>SD</i> | <i>Min</i> | <i>Max</i> |
|---|----------|-------------|-----------|------------|------------|
| <i>Secessionist vote share</i> | 1883 | 10.25 | 11.89 | 0 | 67.05 |
| <i>Discoveries (giant)</i> | 1883 | 0.62 | 1.31 | 0 | 4.00 |
| <i>Discoveries (all)</i> | 1883 | 1.40 | 2.26 | 0 | 7.00 |
| <i>Scotland</i> | 1883 | 0.65 | 0.48 | 0 | 1 |
| <i>Oil price</i> | 1883 | 25.83 | 19.10 | 7.62 | 81.39 |
| <i>Oil price_t - Avg. oil price_{t-4,...,t}</i> | 1883 | 3.89 | 12.24 | -16.14 | 30.79 |
| <i>Oil price SD (within-year)</i> | 1883 | 2.49 | 4.67 | 0 | 19.38 |
| <i>Oil production</i> | 1883 | 296.41 | 394.03 | 0 | 1004.21 |
| <i>Unemployment rate</i> | 1883 | 4.95 | 3.11 | 1.80 | 13.10 |
| <i>GDP per capita</i> | 1883 | 90.58 | 5.21 | 78.50 | 102.40 |
| <i>Amount of new reserves (giant)</i> | 1883 | 1.10 | 2.13 | 0 | 8.50 |
| <i>Amount of new reserves</i> | 1883 | 1.49 | 2.65 | 0 | 8.90 |
| <i>Near border (50)</i> | 1883 | 0.25 | 0.43 | 0 | 1 |
| <i>Near border (75)</i> | 1883 | 0.40 | 0.49 | 0 | 1 |
| <i>Near border (100)</i> | 1883 | 0.58 | 0.49 | 0 | 1 |
| <i>Landlocked constituency</i> | 1883 | 0.43 | 0.49 | 0 | 1 |
| <i>Distance to Aberdeen</i> | 1883 | 311.11 | 207.57 | 3.19 | 641.06 |
| <i>Avg. soil suitability</i> | 1883 | 3.76 | 1.26 | 0.17 | 5.32 |
| <i>Ruggedness index</i> | 1883 | 53.37 | 36.72 | 1.93 | 170.47 |
| <i>Share of English residents</i> | 1883 | 0.09 | 0.07 | 0.03 | 0.35 |
| <i>Share in industry sector</i> | 1883 | 0.49 | 0.10 | 0.19 | 0.61 |
| <i>Share in agric. sector</i> | 1883 | 0.07 | 0.09 | 0 | 0.37 |
| <i>Share in govt. sector</i> | 1883 | 0.07 | 0.02 | 0.04 | 0.17 |
| <i>Share of white collar workers</i> | 1883 | 0.47 | 0.04 | 0.40 | 0.60 |
| <i>Share in education sector</i> | 1883 | 0.02 | 0.01 | 0 | 0.05 |
| <i>Share with low education</i> | 1883 | 0.74 | 0.04 | 0.59 | 0.81 |

The table shows descriptive statistics for all variables used in the analysis over the 1945-2001 period. *N* = number of observations, *Mean* = arithmetic mean, *SD* = standard deviation, *Min* = minimum value, *Max* = maximum value. *Amount of new reserves* is measured in million stock tank barrels (MMstb.) in period *t* and *t-1*. *Discoveries (giant/all)* denotes the number of giant/all oil fields discovered in *t* and *t-1*. Distances are in kilometers.

J Estimated Scottish Shares



Scottish Shares of Total UK Oil Production

Source: (Kemp & Stephen, 2000)

The estimations by (Kemp & Stephen, 2000) are based on the assumption of the equidistance line as the maritime border; that is, “a dividing line on which all points are the same distance from the Scottish and rest of the UK coastline” (Brocklehurst, 2013). Another possible border would be the 55°50' latitude, established for juristical reasons in 1968 (Brocklehurst, 2013; Lee, 1976). Alexander G. Kemp remarks that “from the economic point of view, it does not make much difference because there are just a handful of fields, and not very important ones now, between the median line and the line north of Berwick” (Brocklehurst, 2013). In addition to that: “[t]hese considerations aside, there is no doubt that most of the oil lies in the northern North Sea. However, two-thirds of known reserves are 100 miles east of the Shetland Islands and can morally be claimed by their inhabitants” (Lee, 1976, 310).

K Calculation: Relative vs. Absolute Change in Resource Value

In the following, we explain the underlying calculation for Figure 6 in the main paper. The calculation is based on the following population numbers: Scottish population = 5140935.484; overall UK population (including England, Scotland, Wales, Northern Ireland) = 57057067.74.⁶

Per capita benefits from \$1 additional oil for all regions in the UK at the status quo: $B_1 = \frac{1}{Population\ UK}$.
Additional p.c. benefits for Scotland from \$1 oil if Scotland becomes an independent nation:

$$B_2 = \frac{1}{Pop.\ Scotland} - \frac{1}{Pop.\ UK}.$$

If Scotland became an independent nation, Scottish voters' per capita benefits from North Sea oil would increase by B_2 and Welsh voters would lose B_1 because of the end of transfers from Scotland. The ratio of the Scots' p.c. win to the Welsh' p.c. loss is $B_2/B_1 = 10.099$. An additional dollar of oil increases per capita benefits for an independent Scotland by ten times more than it would cost Welsh voters. We compute three scenarios:

- i.) Assuming that Welsh voters react equally strong to a change in per capita benefits.
- ii.) How much stronger would the reaction of Welsh voters (ψ) have to be to make the coefficient only borderline significant at the 10-percent level.
- iii.) How much stronger would the reaction of Welsh voters have to be to push the coefficient to zero.

Note that, in all likelihood, Scottish voters should be expected to react more strongly, as it is plausible that the issue of regional resource redistribution is most salient in the area possessing the resources. The formula to compute the critical beta (ii.) is:

$$\beta_{crit.} = \beta - \psi \times \left(\frac{1}{B_2/B_1}\right) \times \beta,$$

where β is the estimated coefficient from the regressions. $\beta_{crit.}$ denotes the coefficient size necessary (assuming a constant standard error), to reach a certain level of statistical significance. Inserting 1.654 for the 10-percent confidence level yields a coefficient size of 1.455, and would require Welsh voters to react about 2.456 times as strong as Scottish voters. Obviously, there are no realistic reasons to assume such a disproportionate reaction. Under the already conservative assumption that the Welsh react as strong as Scottish voters, the coefficient is still 1.733 and statistically significant. Results:

| $\beta_{crit.}$ | t-value | ψ |
|-----------------|---------|--------|
| 1.923 | 2.18 | 0 |
| 1.733 | 1.96 | 1 |
| 1.455 | 1.65 | 2.456 |
| 0 | 0 | 10.099 |

⁶ Source: Office for National Statistics, averages from 1971-2001; see <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatestimeseriesdataset>, last accessed September 19, 2019.

L Responses from Surveys in Scotland and Wales

Scotland and Wales: Satisfaction with Government (1969)

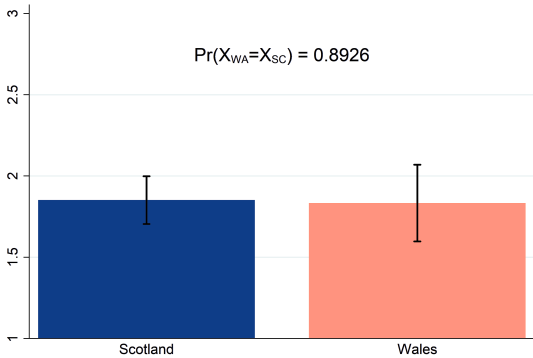


Figure 11: Comparison of Government Satisfaction

The figure displays the satisfaction of Scottish and Welsh voters with the national Labour Government. The variable on the y-axis is an index from 1 - 3. The higher the value, the more positive the respondent's view on the government. Black lines depict the 95%-confidence intervals. Note that the United Kingdom had a Labour Government from 1964 to 1970. It is obvious that prior to oil discoveries there were no significant differences between the two regions. Moreover, the figure also shows the result of a t-test about the equality of the two means, confirming this observation.

Source: The data is from the British Election Study (1969), provided by the UK Data Archive Data Dictionary. The specific question in the 1969 survey is to be found in the document "Political Change in Britain, 1969/1970" provided by D. Butler and D. Stokes via the Inter-university Consortium for Political and Social Research. It reads: "Did the Labour Government make you better or worse off, or didn't it make much difference?"

Scotland and Wales: Trust in Government (1974)

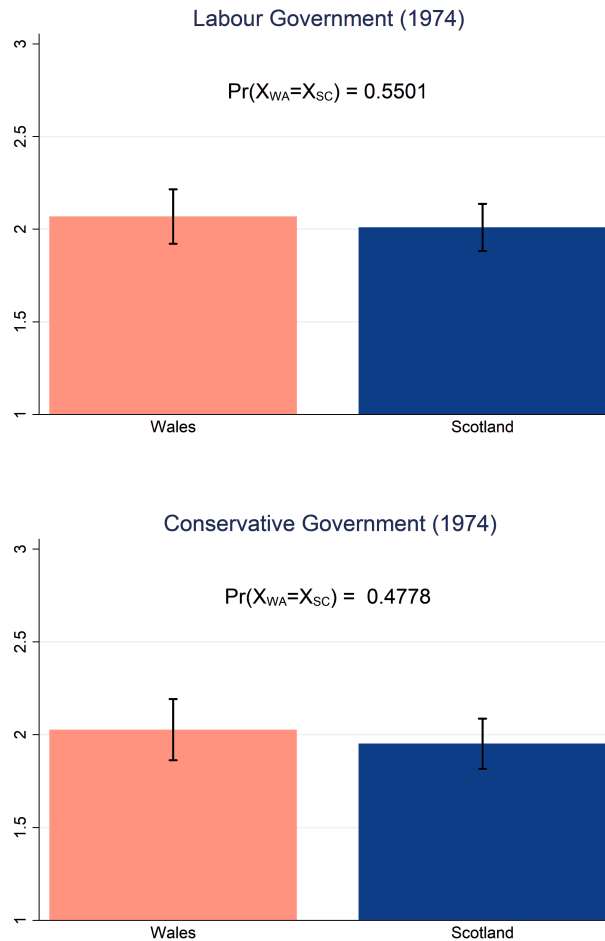


Figure 12: Comparison of Trust in Government

The figures display trust in the national government in Scotland and Wales. The variable on the y-axis is in both cases an index from 1 - 3. The higher the value, the more positive the respondent's view on the government. Black lines depict the 95%-confidence intervals. Differences in trust could moderate the impact of changes in relative regional resource value. If regions had higher trust in the central government and the way it uses revenues from regional resources, the effect of changes in regional resources might be smaller or even zero. For instance, if trust corresponds to the underlying support for the union of regions in our model, and is sufficiently high, moderate changes in regional resources might not affect secessionist party support in a measurable way.

We are not focusing on this moderating role of trust, as changes in trust would also be endogenous to changes in our treatment variable. This "bad control" problem makes such an analysis difficult to conduct. What the figures show is that in 1974, there were no existing differences in trust in the treatment and control region. Moreover, the figures also show the results of t-tests about the equality of the two means, confirming this observation.

Source: The data is from the British Election Study (February 1974), provided by the UK Data Archive Data Dictionary. The specific questions in the 1974 survey were: "Now, think about all the things a government has to do. When the Conservative Party is in power, how far do you feel you can rely on the Government to do what is right - usually, some of the time, or only rarely?" and "And when the Labour Party is in power, how much of the time do you feel you can rely on the Government to do what is right - usually, some of the time, or only rarely?" Note that the United Kingdom had a Conservative Government from 1970 to 1974 and a Labour Government between 1974 and 1979.

North Sea Oil and the Scottish National Party

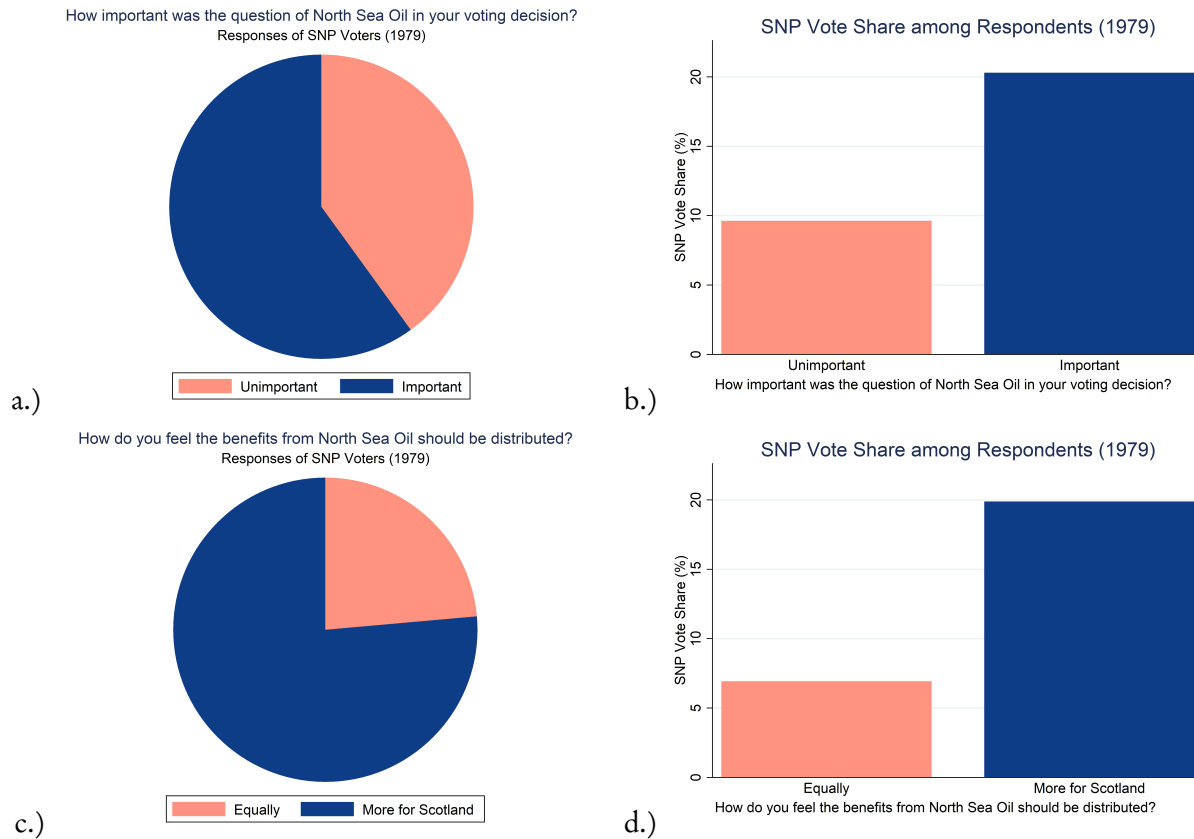


Figure 13: Opinion on North Sea Oil among SNP Voters

Figure a.) displays the importance of the distribution of North Sea Oil for SNP voters in their voting decision. A clear majority considers the distribution of North Sea oil as an important factor to vote for the SNP.

Figure b.) shows that the vote share of the SNP in the overall sample was nearly twice as high among respondents who considered the distribution of North Sea Oil an important issue.

Figure c.) shows that among SNP voters, more than 75% think that Scotland deserves a higher share of the oil revenues.

Figure d.) shows that the vote share of the SNP in the overall sample was more than three times as high among respondents who think that Scotland deserves a higher share of the oil revenues.

Source: Scottish and Welsh Election Studies 1979, provided by the UK Data Archive Data Dictionary. The questions are depicted in the respective sub-figure.

M Additional Figures

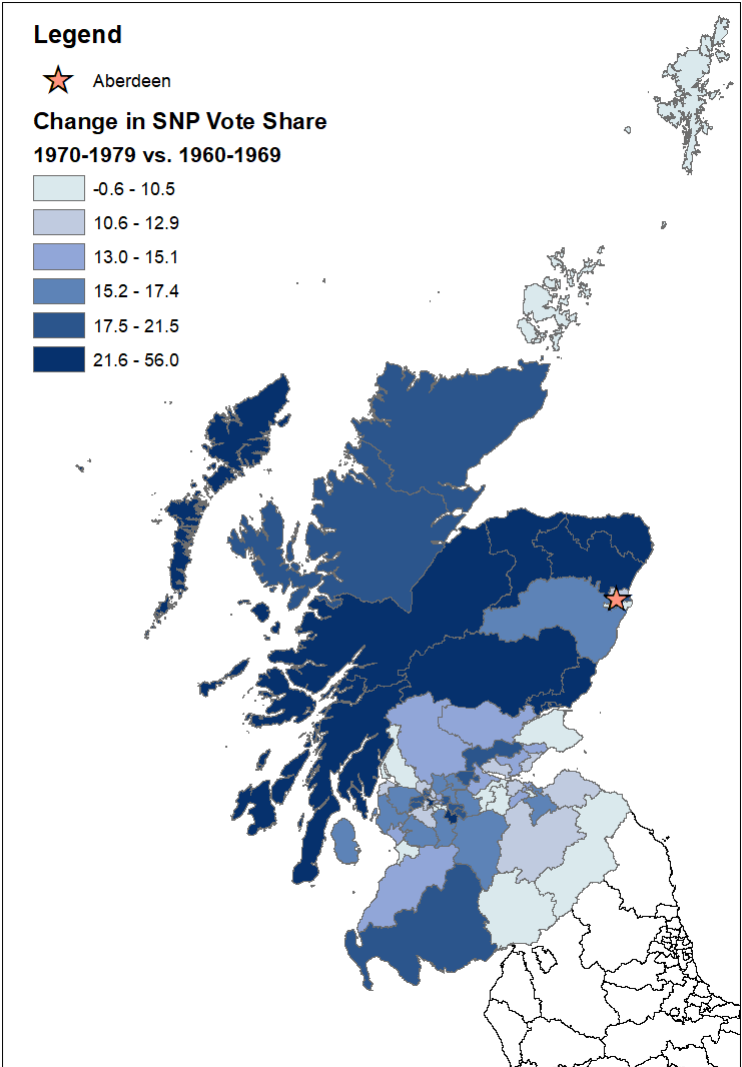


Figure 14: Spatial Distribution of Average Change in SNP Vote Share after First Oil Discoveries

The map is based on our data, depicting the overall change in *SNP* vote shares between the 1960s (pre-oil discoveries) and the 1970s (post- oil discoveries). We analyze and explain the heterogeneities in the distribution of the gains in Table 6.

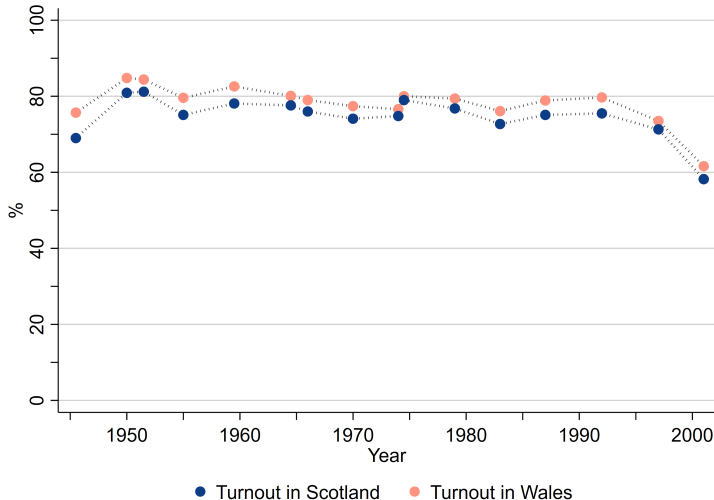


Figure 15: Development of Turnout in Scotland and Wales over the Sample Period

The figure depicts the average turnout over Scottish (in blue) and Welsh (in light-red) constituencies over the 1945-2001 period.

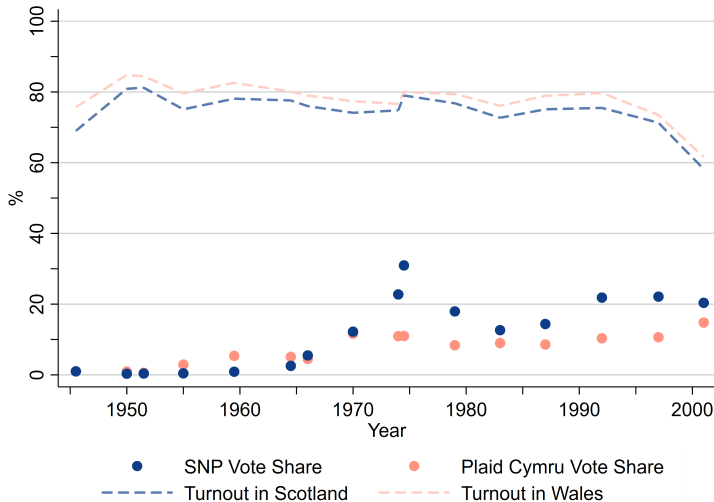


Figure 16: Development of Turnout and Vote Shares in Scotland and Wales

The figure depicts the average turnout over Scottish (blue dashed line) and Welsh (light-red dashed line) constituencies over the 1945-2001 period. Moreover, it shows the average vote shares of the two parties, clearly indicating that changes in the relative vote share do not coincide in a systematic way with turnout.

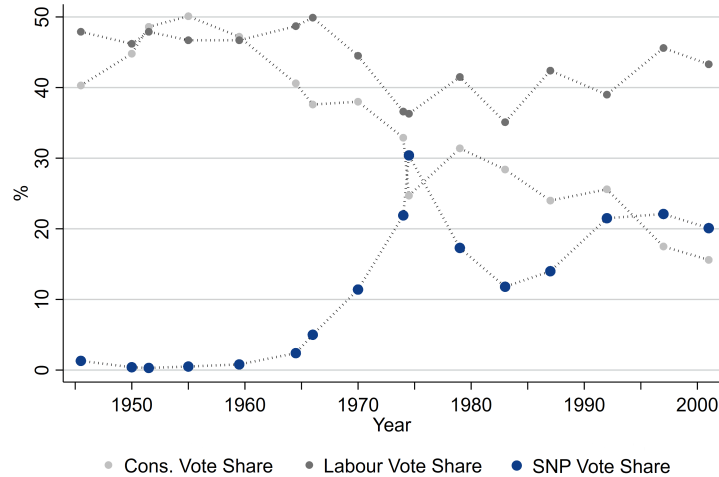


Figure 17: Relationship SNP Vote Share and Labour/Conservative Share

The figure depicts the average turnout of the Conservative and the Labour party in the UK in Scottish constituencies over the 1945-2001 period. It becomes apparent that both parties lost at the expense of the SNP, the Tories a bit more than Labour.

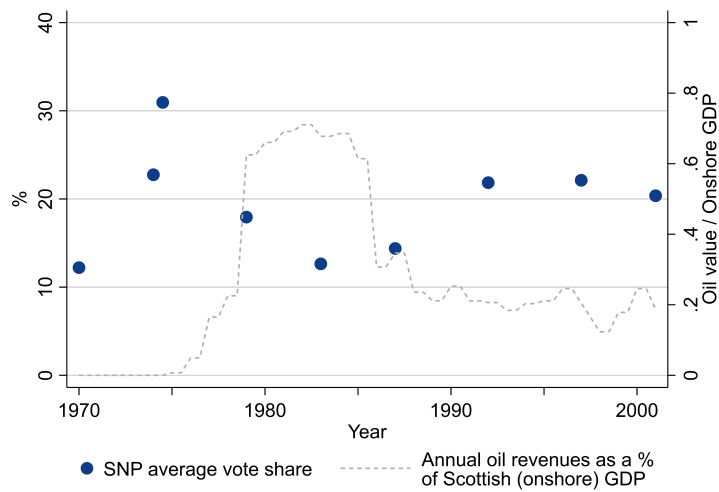


Figure 18: SNP Vote Shares and Actual Oil Production Value Relative to Onshore GDP

This figure supports the notion that voters react positively to discoveries, but show no reaction to actual production in a specific year. The apparent negative graphical correlation with revenues turns out to be small and insignificant in a DiD regression with the Welsh *Plaid Cymru* as the counterfactual. It is plausible and in line with the literature on secessionist conflict in developing countries that voters react to discoveries, which are more salient and publicly known than detailed revenues.

N Alternative Clustering of Standard Errors

Our main estimations cluster standard errors on the constituency and time level, but other choices could also plausibly be argued for, which can be critical in a DiD framework (Bertrand *et al.*, 2004). This is why we test for the robustness of the main results in Table 3 to alternative assumptions about the structure of the error terms. The two potential issues in the DiD framework are serial correlation in the outcome and in the treatment variable. Our setup contains two regions and the treatment is region-year-specific and affects all Scottish constituencies at the same time. Based on the argumentation in Arezki *et al.* (2017) and Lei & Michaels (2014), serial correlation in the oil discoveries should be a minor concern, at least for the plausibly exogenous giant discoveries.

This leaves us with serial correlation in the outcome as the main remaining potential issue. The logic behind our initial choice was that clustering at the constituency level allows for such serial correlation given that the voting results are constituency-specific. Clustering at the time level in addition allows for outcomes to be also correlated across all constituencies due to time-specific common shocks. Nevertheless, secessionist party success could also be correlated within a whole region for each election. If, for instance, a regionalist party runs a particularly successful campaign, this might affect all constituencies in the respective region. Clustering on the region \times time level allows for this possibility. Another possibility is that error terms are correlated not only within the region at a specific point in time, but also over time within the region. Not taking this into account could lead to an underestimation of standard errors. There is no consistent estimator for standard errors with only two clusters, hence we are facing a trade-off between better properties of the estimator for more clusters and allowing for more correlation within the cluster over a longer time period. Accordingly, we also categorize our sample period in five time categories and cluster on the region \times time-category level. This allows error terms to be correlated within the whole region and over approximately one decade, which leaves us with ten clusters. It is similar to assuming that there is region-wide serial correlation but that the correlation diminishes over time and does not extend beyond one decade. To account for potential problems related to relatively few clusters, we also apply a wild-cluster bootstrap procedure with 10,000 repetitions, using the two most conservative specifications. Simulation evidence indicates that this yields consistent estimates for these numbers of clusters (Cameron & Miller, 2015). For completeness and transparency reasons, we also run specifications that cluster solely on the constituency or time level, and we use panel-corrected standard errors which model auto-correlation more specifically. In all specifications, the null hypothesis of the coefficient of the variable of interest being zero is rejected with p-values of at least 0.05 or less and with p-values between 0.066 and 0.100 for the wild-cluster simulations (see Tables 11-16 below).

Table 12: Regression Results – Alternative Clustering (Table 3)

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Discoveries (giant)</i> | - | 3.261 [0.304] | 2.862 [0.290] | 1.923 [0.332] | 1.926 [0.335] |
| <i>Scotland</i> | - | 2.263 [1.129] | -3.500 [0.508] | - | - |
| <i>Discoveries (giant)</i> | 4.494 [0.253] | - | - | - | - |
| p-value: <i>Scotland</i> × <i>Disc. (giant)</i> | - | 0.000 | 0.000 | 0.000 | 0.000 |
| Biannual fixed effects | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Constituency-fixed effects | <i>yes</i> | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> |
| Linear time trend Scotland | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>no</i> |
| Constituency-specific time trends | <i>no</i> | <i>no</i> | <i>no</i> | <i>no</i> | <i>yes</i> |
| Adj. R-squared | 0.58 | 0.50 | 0.52 | 0.74 | 0.83 |
| Number of observations | 1216 | 1883 | 1883 | 1883 | 1883 |

The table displays regression coefficients with standard errors in brackets. It corresponds to Table 3 in the paper, but standard errors are clustered on the constituency level using the *ivreg2* command in Stata. *Discoveries (giant)* denotes the number of giant oil fields discovered in $t=0$ and $t=-1$. The unit of analysis is the constituency-half-year and the sample covers the 1945-2001 period.

Table 13: Regression Results – Alternative Clustering (Table 3)

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Discoveries (giant)</i> | - | 3.261 [0.823] | 2.862 [0.781] | 1.923 [0.870] | 1.926 [0.868] |
| <i>Scotland</i> | - | 2.263 [1.429] | -3.500 [1.434] | - | - |
| <i>Discoveries (giant)</i> | 4.494 [1.124] | - | - | - | - |
| p-value: <i>Scotland</i> × <i>Disc. (giant)</i> | - | 0.000 | 0.000 | 0.027 | 0.027 |
| Biannual fixed effects | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Constituency-fixed effects | <i>yes</i> | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> |
| Linear time trend Scotland | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>no</i> |
| Constituency-specific time trends | <i>no</i> | <i>no</i> | <i>no</i> | <i>no</i> | <i>yes</i> |
| Adj. R-squared | 0.58 | 0.50 | 0.52 | 0.74 | 0.83 |
| Number of observations | 1216 | 1883 | 1883 | 1883 | 1883 |

The table displays regression coefficients with standard errors in brackets. It corresponds to Table 3 in the paper, but standard errors are clustered on the biannual level using the *ivreg2* command in Stata. *Discoveries (giant)* denotes the number of giant oil fields discovered in $t=0$ and $t=-1$. The unit of analysis is the constituency-half-year and the sample covers the 1945-2001 period.

Table 14: Regression Results – Alternative Clustering (Table 3)

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Discoveries (giant)</i> | - | 3.261 [0.605] | 2.862 [0.574] | 1.923 [0.640] | 1.926 [0.638] |
| <i>Scotland</i> | - | 2.263 [1.051] | -3.500 [1.055] | - | - |
| <i>Discoveries (giant)</i> | 4.494 [1.124] | - | - | - | - |
| p-value: <i>Scotland</i> × <i>Disc. (giant)</i> | - | 0.000 | 0.000 | 0.003 | 0.003 |
| Biannual fixed effects | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Constituency-fixed effects | <i>yes</i> | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> |
| Linear time trend Scotland | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>no</i> |
| Constituency-specific time trends | <i>no</i> | <i>no</i> | <i>no</i> | <i>no</i> | <i>yes</i> |
| Adj. R-squared | 0.58 | 0.50 | 0.52 | 0.74 | 0.83 |
| Number of observations | 1216 | 1883 | 1883 | 1883 | 1883 |

The table displays regression coefficients with standard errors in brackets. It corresponds to Table 3 in the paper but standard errors are clustered on the country × time level using the *ivreg2* command in Stata. *Discoveries (giant)* denotes the number of giant oil fields discovered in $t=0$ and $t=-1$. The unit of analysis is the constituency-half-year and the sample covers the 1945-2001 period.

Table 15: Regression Results – Alternative Clustering (Table 3)

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Discoveries (giant)</i> | - | 3.261 [0.605] | 2.862 [0.574] | 1.923 [0.140] | 1.926 [0.132] |
| <i>Scotland</i> | - | 2.263 [1.051] | -3.500 [1.055] | - | - |
| <i>Discoveries (giant)</i> | 4.494 [1.422] | - | - | - | - |
| p-value: <i>Scotland</i> × <i>Disc. (giant)</i> | - | 0.000 | 0.000 | 0.000 | 0.000 |
| Biannual fixed effects | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Constituency-fixed effects | <i>yes</i> | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> |
| Linear time trend Scotland | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>no</i> |
| Constituency-specific time trends | <i>no</i> | <i>no</i> | <i>no</i> | <i>no</i> | <i>yes</i> |
| Adj. R-squared | 0.58 | 0.50 | 0.52 | 0.74 | 0.83 |
| Number of observations | 1216 | 1883 | 1883 | 1883 | 1883 |

The table displays regression coefficients with standard errors in brackets. It corresponds to Table 3 in the paper but standard errors are clustered on the country × time-category level using the *ivreg2* command in Stata with 5 successive time-categories. *Discoveries (giant)* denotes the number of giant oil fields discovered in $t=0$ and $t=-1$. The unit of analysis is the constituency-half-year and the sample covers the 1945-2001 period.

Table 16: Regression Results – Alternative Clustering (Table 3)

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Discoveries (giant)</i> | - | 3.174 | 2.705 | 1.846 | 1.865 |
| | | [1.189] | [0.862] | [0.826] | [0.817] |
| <i>Scotland</i> | - | 2.317 | -3.461 | 11.479 | -3.173 |
| | | [1.436] | [1.794] | [4.565] | [2.805] |
| <i>Discoveries (giant)</i> | 4.497 | -6.904 | 2.959 | 10.830 | -9.385 |
| | [1.088] | [4.612] | [2.193] | [4.001] | [9.627] |
| p-value: <i>Scotland</i> × <i>Disc. (giant)</i> | - | 0.008 | 0.002 | 0.025 | 0.022 |
| Biannual fixed effects | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Constituency-fixed effects | <i>yes</i> | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> |
| Linear time trend Scotland | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>no</i> |
| Constituency-specific time trends | <i>no</i> | <i>no</i> | <i>no</i> | <i>no</i> | <i>yes</i> |
| Number of observations | 1152 | 1883 | 1883 | 1883 | 1883 |

The table displays regression coefficients with standard errors in brackets. It corresponds to Table 3 in the paper but the estimation uses panel-corrected standard errors with panel-specific auto-correlation. *Discoveries (giant)* denotes the number of giant oil fields discovered in $t=0$ and $t=-1$. The unit of analysis is the constituency-half-year and the sample covers the 1945-2001 period.

Table 17: Regression Results – Alternative Clustering (Table 3) - Bootstrap

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Discoveries (giant)</i> | 1.923 | 1.926 | 1.923 | 1.926 |
| | [0.640] | [0.638] | [0.140] | [0.132] |
| Bootstrap p-value (2-point): <i>Scotland</i> × <i>Disc. (giant)</i> | 0.100 | 0.086 | 0.065 | 0.065 |
| Biannual fixed effects | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Constituency-fixed effects | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Linear time trend Scotland | <i>yes</i> | <i>no</i> | <i>yes</i> | <i>no</i> |
| Constituency-specific time trends | <i>no</i> | <i>yes</i> | <i>no</i> | <i>yes</i> |
| Adj. R-squared | 0.74 | 0.83 | 0.74 | 0.83 |
| Number of observations | 1883 | 1883 | 1883 | 1883 |

The table displays regression coefficients with standard errors in brackets. Estimations correspond to the two last columns in Table 3 in the paper. Standard errors are clustered on the country × time level (in the left two columns) and the country × time-category level (in the right two columns) using the *ivreg2* command in Stata. Bootstrap p-value refers to p-values estimated with two wild-cluster bootstrap procedures (using a 2-point distribution) with 10,000 repetitions. *Discoveries (giant)* denotes the number of giant oil fields discovered in $t=0$ and $t=-1$. The unit of analysis is the constituency-half-year and the sample covers the 1945-2001 period.

O Additional Regressions

Table 18: Regression Results – Without By-Elections (Table 3)

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Discoveries (giant)</i> | - | 3.211 [0.805] | 2.849 [0.748] | 2.053 [0.893] | 2.053 [0.911] |
| <i>Scotland</i> | - | 2.406 [1.794] | -3.158 [1.424] | - | - |
| <i>Discoveries (giant)</i> | 4.520 [0.246] | - | - | - | - |
| p-value: <i>Scotland</i> × <i>Disc. (giant)</i> | - | 0.000 | 0.000 | 0.022 | 0.024 |
| Biannual fixed effects | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> | <i>yes</i> |
| Constituency-fixed effects | <i>yes</i> | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> |
| Linear time trend Scotland | <i>no</i> | <i>no</i> | <i>yes</i> | <i>yes</i> | <i>no</i> |
| Constituency-specific time trends | <i>no</i> | <i>no</i> | <i>no</i> | <i>no</i> | <i>yes</i> |
| Adj. R-squared | 0.60 | 0.49 | 0.51 | 0.75 | 0.84 |
| Number of observations | 1152 | 1792 | 1792 | 1792 | 1792 |

The table displays regression coefficients with standard errors in brackets. It corresponds to Table 3 in the paper but election results from by-elections are excluded. *Discoveries (giant)* denotes the number of giant oil fields discovered in $t=0$ and $t=-1$. The unit of analysis is the constituency-half-year and the sample covers the 1945-2001 period.

Our main results include by-elections as our approach was to include all informative and available information for identification. The table above demonstrates that excluding by-elections does not affect our main results.

Table 19: Regression Results – Oil Price Interacted with Different Oil Proxies

| Dependent variable: <i>Secessionist vote share</i> | <i>Discoveries (all)</i> | <i>Discoveries (giant)</i> | <i>Amount of new reserves</i> | <i>Amount of new reserves (giant)</i> |
|---|------------------------------|--------------------------------|-----------------------------------|---|
| <i>Scotland</i> × <i>Oil price</i> | −0.051 [0.038] | 0.049 [0.025] | 0.034 [0.031] | 0.063 [0.030] |
| <i>X</i> × <i>Scotland</i> | −2.860 [0.861] | −6.373 [2.905] | −1.057 [0.348] | −1.056 [0.329] |
| <i>X</i> × <i>Scotland</i> × <i>Oil price</i> | 0.078 [0.021] | 0.174 [0.064] | 0.045 [0.013] | 0.050 [0.015] |

This is the complete version of Table 8 in the paper, displaying all constituent terms of the interactions. The table displays coefficients with standard errors in brackets. All estimations include constituency-fixed effects, biannual time-fixed effects, a linear time trend for Scotland as well as the control variables *GDP per capita* and *Unemployment rate* (as in Table 3, column 4). All other main effects are captured by the fixed effects. Standard errors are twoway-clustered on the constituency level and biannual level using the *ivreg2* command in Stata. $t = \{-x, 0\}$ denotes the number of discoveries and the amount of discovered oil reserves between t and the x years prior to t . The sample covers the 1945-2001 period and the number of observations is 1883 at the constituency-half-year level.

Table 20: Regression Results – Triple Differences Design with Oil Price

| Dependent Variable: <i>Secessionist vote share</i> | $t = \{-1, 0\}$ | $t = \{-2, -1, 0\}$ | $t = \{-3, \dots, 0\}$ | $t = \{-4, \dots, 0\}$ |
|---|------------------|---------------------|------------------------|------------------------|
| Σ <i>Amount of new reserves</i> _{t} × <i>Scotland</i> × <i>Oil price</i> | 0.090 [0.026] | 0.072 [0.034] | 0.097 [0.032] | 0.088 [0.038] |
| <i>Amount of new reserves per year</i> _{t} × <i>Scotland</i> × <i>Oil price</i> | 0.045 [0.013] | 0.024 [0.011] | 0.024 [0.008] | 0.018 [0.008] |

The table displays coefficients of 8 individual regressions with standard errors in brackets. All estimations include constituency-fixed effects, biannual time-fixed effects, a linear time trend for Scotland as well as the control variables *GDP per capita* and *Unemployment rate* (as in Table 3, column 4). All other main effects are included, but not displayed here. Standard errors are twoway-clustered on the constituency level and biannual level using the *ivreg2* command in Stata. $t = \{-x, 0\}$ denotes the sum/average amount of new discovered oil reserves in t and the x years prior to t . The sample covers the 1945-2001 period and the number of observations is 1883 at the constituency-half-year level.

The tables above extend the triple-differences results in the main paper and show specifications using the alternative lag-structures, as well as an interaction with other proxies of oil discoveries or the amount of existing oil in the region. The upper table shows the full set of main effects and interaction terms that are not captured by the included fixed effects. It shows the triple-interaction interacted with the number of discoveries, as well as interacted with the amount of reserves. The interaction term is positive and highly significant in all specifications, further supporting the causal nature of the relationship we discover. The bottom table focuses on different lag-structures, similar to what we do for the DiD-specification in the paper. As for the main results using a DiD-design in the paper, all results are robust to using these alternative specifications.

Table 21: Regression Results – Amount of New Oil Reserves

| Dependent Variable: <i>Secessionist vote share</i> | $t=\{-1,0\}$ | $t=\{-2,-1,0\}$ | $t=\{-3,\dots,0\}$ | $t=\{-4,\dots,0\}$ |
|---|------------------|------------------|--------------------|--------------------|
| Σ <i>Amount of new reserves</i> _t × <i>Scotland</i> | 0.735 [0.494] | 0.787 [0.277] | 0.655 [0.217] | 0.532 [0.168] |
| <i>Amount of new reserves per year</i> _t × <i>Scotland</i> | 1.470 [0.988] | 2.362 [0.831] | 2.621 [0.869] | 2.661 [0.838] |

The table displays coefficients of 8 individual regressions with standard errors in brackets. All estimations include constituency fixed effects, biannual time fixed effects, a linear time trend for Scotland as well as the control variables *GDP per capita* and *Unemployment rate* (as in Table 3, column 4). Standard errors are twoway-clustered on the constituency level and biannual level using the *ivreg2* command in Stata. $t=\{-x,0\}$ denotes the sum/average amount of new discovered oil reserves in t and the x years prior to t . The sample covers the 1945-2001 period and the number of observations is 1883 at the constituency-half-year level.

Table 21 shows alternative results for different measurements of the extent of oil discoveries, validating the main results. First, it focuses again on the cumulative amount of oil discovered in all fields (row 1), and then on the average amount of oil discovered per year (row 2). The coefficients remain positive throughout in both cases. They become statistically significant at the 1-percent level when the amount of oil discovered is confirmed over a course of at least three years. Again, the results are in line with the hypothesis that voters react more strongly when the signals are confirmed over a longer period of time. Exploring the coefficients and standard errors also indicates that the exact amount of oil discovered is a much noisier measure of what voters actually perceive, indicating that it is best to use the number of discoveries as a proxy. Discovering an additional 1000 MMstb. of oil per year over the previous four year period leads to an increase in the SNP's vote share of about 2.5 percentage points. In terms of economic significance, discoveries of 4000 MMstb. (about the scope of the discoveries in the early 1970s) explain an increase of around 10 percentage points in the SNP's vote shares.

Table 22: Regression Results – Only Within-Decade Variation

| Dependent Variable | <i>Secessionist vote Share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|---|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Discoveries (giant)</i> | 2.629 [1.335] | 2.751 [1.163] | 1.716 [0.835] |
| <i>Scotland</i> × <i>Decade (1940-1949)</i> | -5.200 [4.604] | 3.571 [11.036] | - |
| <i>Scotland</i> × <i>Decade (1950-1959)</i> | -6.675 [4.686] | -0.403 [8.791] | - |
| <i>Scotland</i> × <i>Decade (1960-1969)</i> | -5.375 [4.698] | -2.408 [5.406] | - |
| <i>Scotland</i> × <i>Decade (1980-1989)</i> | 0.315 [4.557] | -2.551 [4.251] | - |
| <i>Scotland</i> × <i>Decade (1990-1999)</i> | 6.953 [4.527] | 1.294 [6.541] | - |
| <i>Scotland</i> × <i>Decade (2000-2010)</i> | -1.601 [3.420] | -9.295 [8.408] | - |
| p-value: <i>Scotland</i> × <i>Discoveries (giant)</i> | 0.049 | 0.018 | 0.040 |
| Biannual fixed effects | yes | yes | yes |
| Constituency fixed effects | yes | yes | yes |
| Linear time trend Scotland | no | yes | yes |
| Number of observations | 1883 | 1883 | 1654 |

All estimations include constituency-fixed effects, biannual time-fixed effects, as well as the control variables *GDP per capita* and *Unemployment rate* (as in Table 3, column 4). All other main effects are included, but not displayed here. Standard errors are twoway-clustered on the constituency level and biannual level using the *ivreg2* command in Stata. The sample covers the 1945-2001 period. The decade 1970-1979 is the reference category in the first two columns. Decade indicators are formed so that one decades ends in 1969, directly before the first oil discovery. Accordingly, the specification captures changes in party leadership to a large degree and identifies the treatment effect only from variation within a decade. The last column excludes years after 1997, the year where Scotland gained additional administrative and institutional competences.

Table 23: Regression Results – Omitting Multiple Years and Decades

| Omitted decade: | 1960-1969 | 1970-1979 | 1980-1989 | 1990-1999 | 1970-1974 | < 1980 |
|---|------------------|------------------|------------------|------------------|------------------|-------------------|
| <i>Scotland</i> × <i>Discoveries</i> (<i>giant</i>) | 1.517 [0.799] | 6.783 [2.720] | 1.528 [0.793] | 1.380 [0.727] | 7.005 [2.632] | 10.090 [3.308] |
| p-value: <i>Scot.</i> × <i>Disc.</i> (<i>giant</i>) | 0.057 | 0.013 | 0.054 | 0.058 | 0.008 | 0.002 |
| Observations | 1637 | 1425 | 1648 | 1649 | 1540 | 584 |

All estimations include constituency-fixed effects, biannual time-fixed effects, as well as the control variables *GDP per capita* and *Unemployment rate* (as in Table 3, column 4), and decade fixed effects to only use within decade-variation when dropping time periods. All other main effects are included, but not displayed here. Standard errors are twoway-clustered on the constituency level and biannual level using the *ivreg2* command in Stata. The sample covers the 1945-2001 period. Note that this specification should be treated with extreme caution. It is reassuring that all results hold, but excluding individual years or periods also violates the DiD assumptions because, for instance, trends cannot be properly estimated.

Table 24: Regression Results – Simple DiD and Lead-Variable

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <i>Scotland</i> × <i>Post-1970 Indicator</i> | 10.524 [2.309] | - | - | - | - |
| <i>Scotland</i> × \sum <i>Discoveries (giant)</i> _{t={-1,0}} | - | 3.267 [0.796] | - | - | - |
| <i>Scotland</i> × \sum <i>Disc. (giant)</i> _{t={+1,+2}} (<i>2-yr. lead</i>) | - | -0.428 [0.913] | - | - | - |
| <i>Scotland</i> × \sum <i>Discoveries (giant)</i> _{t={-2,...,0}} | - | - | 2.209 [0.435] | - | - |
| <i>Scotland</i> × \sum <i>Disc. (giant)</i> _{t={+1,...,+3}} (<i>3-yr. lead</i>) | - | - | -0.136 [0.517] | - | - |
| <i>Scotland</i> × \sum <i>Discoveries (giant)</i> _{t={-3,...,0}} | - | - | - | 1.898 [0.390] | - |
| <i>Scotland</i> × \sum <i>Disc. (giant)</i> _{t={+1,...,+4}} (<i>4-yr. lead</i>) | - | - | - | -0.037 [0.328] | - |
| <i>Scotland</i> × \sum <i>Discoveries (giant)</i> _{t={-4,...,0}} | - | - | - | - | 1.855 [0.340] |
| <i>Scotland</i> × \sum <i>Disc. (giant)</i> _{t={+1,...,+5}} (<i>5-yr. lead</i>) | - | - | - | - | -0.028 [0.230] |
| Number of observations | 1883 | 1767 | 1767 | 1766 | 1654 |

These specifications include only the necessary components of a DiD-regression. All regressions include a binary indicator for Scottish observations and time fixed effects, in addition to the variables shown in the table. Column 1 demonstrates that our results are not depending on particular choices or control variables and hold when using a simple before-and-after specification. Standard errors are twoway-clustered on the constituency level and biannual level using the *ivreg2* command in Stata. The sample covers the 1945-2001 period. The number of observations is lower in the right columns due to including lead-variables and the exclusion of by-elections.

The table above displays five specifications. The first column shows a simple before-and-after DiD-specification. Instead of relying on individual (giant) oil discoveries, we only distinguish the sample-period into a pre-and a post-treatment period. This is less precise, but interesting as it avoids the problem of discoveries at a later point of time potentially being correlated to the amount of discoveries before. We can see that even in this simple specification, there is a strong and highly significant treatment effect. It suggests that all oil discoveries taken together have lifted the vote share of the SNP by more than 10 percentage points. The second to fifth column show results using discoveries over periods from one to four years. To further support the fact that giant oil discoveries cannot be predicted, and that voters did not anticipate them, they also include lead-variables each capturing future discoveries for four different lag structures. As we expect, the point estimates of our treatment effect remain positive and highly significant when including the lead-variables.

Table 25: Regression Results – Robustness

| Weighted Least Squares | $t=\{-1,0\}$ | $t=\{-2,-1,0\}$ | $t=\{-3,\dots,0\}$ | $t=\{-4,\dots,0\}$ |
|---|------------------|------------------|--------------------|--------------------|
| $\sum Discoveries (giant)_t \times Scotland$ | 1.884 [0.896] | 1.534 [0.493] | 1.349 [0.434] | 1.299 [0.398] |
| p-value: $\sum Disc. (giant)_t \times Scotland$ | 0.035 | 0.002 | 0.002 | 0.001 |
| Excluding Zero Vote Shares | | | | |
| $\sum Discoveries (giant)_t \times Scotland$ | 1.743 [1.104] | 1.803 [0.655] | 1.589 [0.569] | 1.606 [0.494] |
| p-value: $\sum Disc. (giant)_t \times Scotland$ | 0.114 | 0.006 | 0.005 | 0.001 |
| Initial Vote Shares (1960s) | | | | |
| $\sum Discoveries (giant)_t \times Scotland$ | 2.372 [0.957] | 1.859 [0.533] | 1.621 [0.467] | 1.581 [0.424] |
| p-value: $\sum Disc. (giant)_t \times Scotland$ | 0.013 | 0.000 | 0.001 | 0.000 |
| Initial Vote Shares (1950s) | | | | |
| $\sum Discoveries (giant)_t \times Scotland$ | 2.139 [0.908] | 1.689 [0.499] | 1.478 [0.438] | 1.443 [0.398] |
| p-value: $\sum Disc. (giant)_t \times Scotland$ | 0.019 | 0.001 | 0.001 | 0.000 |
| Initial Vote Shares (1950s & 1960s) | | | | |
| $\sum Discoveries (giant)_t \times Scotland$ | 2.326 [0.945] | 1.821 [0.527] | 1.588 [0.461] | 1.557 [0.418] |
| p-value: $\sum Disc. (giant)_t \times Scotland$ | 0.014 | 0.001 | 0.001 | 0.000 |

Each panel displays coefficients of 4 individual regressions with standard errors in brackets. All estimations also include constituency fixed effects, biannual time fixed effects, a linear time trend for Scotland as well as the control variables *GDP per capita* and *Unemployment rate* (as in Table 3, column 4). Standard errors are twoway-clustered on the constituency level and biannual level using the *ivreg2* command in Stata. $t = \{-x, 0\}$ denotes the number of (giant) oil discoveries in year t and the x years prior to t . The sample covers the 1945-2001 period and the number of observations is 1883 at the constituency-half-year level. Panel 1 weights observations by the size of the electorate, measured in 2001. Panel 2 excluded all observations where secessionist vote share is equal to zero. Panel 3 to 5 condition on the initial pre-treatment vote shares of the secessionist parties. Panel 3 uses the average over the 1960s, Panel 4 over the 1950s, and Panel 5 over the whole 1950-1970 period. Our results are robust to all these choices.

Table 26: Regression Results – Oil Price Deviation

| Dependent variable | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> | <i>Secessionist vote share</i> |
|--|------------------------------------|------------------------------------|------------------------------------|
| <i>Oil price SD (within-year) × Scotland</i> | 0.121 [0.061] | 0.435 [0.208] | - |
| <i>Oil price SD (within-year) × Scotland × Disc. (giant)</i> | 1.327 [0.378] | -4.495 [1.620] | - |
| <i>Oil price × Scotland</i> | - | -0.102 [0.078] | - |
| <i>Oil price × Scotland × Disc. (giant)</i> | - | 0.951 [0.193] | - |
| <i>Oil price_t - Avg. oil price_{t-4,...,t} × Scotland</i> | - | - | 0.046 [0.038] |
| <i>Oil price_t - Avg. oil price_{t-4,...,t} × Scotland × Disc. (giant)</i> | - | - | 0.254 [0.068] |
| Number of observations | 1042 | 1042 | 1883 |

The table displays regressions coefficients with standard errors in brackets. All estimations also include constituency fixed effects, biannual time fixed effects, a linear time trend for Scotland as well as the control variables *GDP per capita* and *Unemployment rate* (as in Table 3, column 4). Standard errors are twoway-clustered on the constituency level and biannual level using the *ivreg2* command in Stata. The sample covers the 1945-2001 period and the number of observations is 1883 at the constituency-half-year level. *SD (within-year)* is the standard deviation of the oil price within a particular year, available only after 1970.

P It's Scotland's Oil!



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Poster from the SNP's "It's Scotland's Oil" campaign in the 1970s

Q Additional References

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