Technical Appendix

# The measurement of affect

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| Table A1. Wordings for thermometer queries | | |
| 1988 | Now let's talk about your feelings towards the political parties, their leaders and their candidates. I'll read a name and ask you to rate a person or a party on a thermometer that runs from 0 to 100 degrees. Ratings between 50 and 100 degrees mean that you feel favourable toward that person. Ratings between 0 and 50 degrees mean that you feel unfavourable toward that person. You may use any number from 0 to 100 to tell me how you feel. | Parlons maintenant de vos réactions à l'égard des partis, des chefs de partis et des candidats locaux.  Je vais vous lire un nom et vous demander d'évaluer cette personne ou ce parti sur un thermomètre allant de 0 à 100 degrés.  Les évaluations entre 50 et 100 indiquent que vous avez une réaction positive à l'égard de cette personne.  Les évaluations entre 0 et 50 indiquent que vous avez une réaction négative à l'égard de cette personne. Vous pouvez prendre n'importe quel nombre entre 0 et 100 pour indiquer vos réactions. |
| 1993 | Now, I'll ask you to rate each political party on a scale that runs from 0 to 100. Ratings between 0 and 50 mean that you rate that party UNFAVOURABLY. Ratings between 50 and 100 mean that you rate that party FAVOURABLY. You may use any number from 0 to 100. | Maintenant je vais vous demander d'évaluer chaque parti sur une échelle allant de 0 à 100. Les évaluations entre 0 et 50 indiquent que vous évaluez DÉFAVORABLEMENT cette parti. Les évaluations entre 50 et 100 indiquent que vous évaluez FAVORABLEMENT cette parti. Vous pouvez prendre n'importe quel nombre entre 0 et 100. |
| 1997 | Now we're going to ask you how you feel about each political party on the same scale. The scale runs from 0 to 100, where 0 means an extremely bad rating and 100 means an extremely good rating | Nous allons maintenant vous demander ce que vous pensez des partis sur la même échelle. L'échelle va de 0 à 100 où 0 veut dire que vous n'aimez vraiment pas du tout le parti, et 100 veut dire que vous l'aimez vraiment beaucoup. |
| 2000-19 | [And] Now [how do you feel about] the political parties. On the same scale, where zero means you REALLY DISLIKE the party and one hundred means you REALLY LIKE the party | Et maintenant, que pensez-vous des partis politiques? Utilisez une échelle de ZERO à CENT. Zéro veut dire que vous N'AIMEZ VRAIMENT PAS DU TOUT un parti, et cent veut dire que vous L'AIMEZ VRAIMENT BEAUCOUP |

# The impact of mode

Feelings are clearly more polarized in the online samples than in the RDD ones. The evidence is in Table A2. The contrast is especially acute in 2019. Some of the difference reflects missing data: in both years, the web sample has significantly more missing, from about twice to about thrice as many missing cases. Online statistics for 2021 (no RDD component) also appear here as a support for discussion in the main text.

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| Table A2. Mode and dispersion | | |  |  |
|  | Dispersion | | Missing | |
|  | Phone | Online | Phone | Online |
|  | 2015 | | | |
| NDP | 26.47 | 27.12 | 8.6 | 15.5 |
| Liberal | 26.50 | 28.49 | 7.6 | 13.2 |
| Conservative | 30.41 | 31.43 | 6.9 | 12.9 |
|  | 2019 | | | |
| NDP | 26.45 | 29.39 | 4.1 | 10.2 |
| Liberal | 29.16 | 33.30 | 2.0 | 7.0 |
| Conservative | 28.88 | 33.96 | 2.7 | 7.4 |
|  | 2021 | | | |
| NDP |  | 29.67 |  | 10.0 |
| Liberal |  | 32.30 |  | 16.0 |
| Conservative |  | 31.63 |  | 16.6 |
| *Note:* Entries are standard deviations for thermometer ratings of the party | | | | |

Non-response comes at the expense of the middle, 50 “degrees”, category. This is illustrated by the histograms in Figure A1, which show densities for the Conservative party. The pattern for the other parties is essentially the same. Phone respondents are almost as likely to tent on 50 degrees as on zero. For many, such a rating is a de facto “don’t know”. (Tenting is common in both modes on other multiples of 10.) In 2015 the middle is cut roughly in half relative to the phone sample and in 2019, virtually no web respondent chooses that value.

Non-response is not the entirety of the story. Among those who give a valid answer, web response is also more extreme. Mostly this is on the negative side: zero scores are roughly half again as likely on the web as on the phone. The gap is larger in 2019 than in 2015. In 2019, the positive extreme, 100 degrees, has the second highest density.

There is no intrinsic reason to privilege phone over web response. Indeed, the web may be a superior guide to sentiment. Phone response from 2019 should be treated with special care, because of the very low response rate. On this see the next section.

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| Figure A1. Centre and extremes |
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| *Note:* Each box is a histogram of densities for Conservative ratings, 2015 and 2019 |

Mode effects extend to estimated impact from respondents’ party identification. Table A3 presents estimates for the target party with the largest effects, the Conservatives. Estimations are both for the full sequence, 1988-2019 for RDD only respondents (no RDD component in 2021) and 1988-2021 where either mode is present. There was no RDD component in 2021. Both modes were present in 2015 and 2019, and these years provide the critical comparison, as well as a bridge to the future. In both years, Liberal/Conservative gaps are wider in the online mode than in the RDD one. The gap is especially wide in 2019. Patterns for other parties are similar. NDP identifiers seem relatively impervious to the mode effect.

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| Table A3. The Impact of Mode on Feeling about the Conservative Party | | |
|  | RDD only | + Online |
| 2011 | | |
| Liberal | -9.09 | -- |
|  | [-12.43, -5.75] |  |
| Conservative | 3.97 | -- |
|  | [0.86, 7.09] |  |
| NDP | -7.24 | -- |
|  | [-11.41, -3.07] |  |
| 2015 | | |
| Liberal | -7.25 | -8.19 |
|  | [-10.49, -4.00] | [-11.11, -5.26] |
| Conservative | 8.82 | 11.53 |
|  | [5.77, 11.87] | [8.77, 14.29] |
| NDP | -9.20 | -9.43 |
|  | [-13.17, -5.24] | [-12.97, -5.90] |
| 2019 | | |
| Liberal | -5.89 | -9.92 |
|  | [-9.08, -2.70] | [-12.53, -7.32] |
| Conservative | 9.50 | 17.24 |
|  | [6.46, 12.54] | [14.80, 19.68] |
| NDP | -9.32 | -7.42 |
|  | [-13.32, -5.31] | [-10.62, -4.22] |
| 2021 | | |
| Liberal | -- | -8.60 |
|  |  | [-11.50, -5.70] |
| Conservative | -- | 13.42 |
|  |  | [10.65, 16.18] |
| NDP | -- | -9.99 |
|  |  | [-13.45, -6.53] |
| R2-adjusted | 0.31 | 0.44 |
| *N* | *25080* | *66051* |
| *Note:* Extracted from estimations encompassing all years, 1988-2019-2021. 95% confidence intervals in square brackets. | | |

# Partisan intensity and ideological leaning

## Knowledge or interest

Receptivity to new information is best captured by pre-existing factual knowledge (Price and Zaller 1993). The CES acknowledged this by including a knowledge quiz, usually with four items, in every iteration since 1997. Unfortunately, the only constant in the quiz is the identity of the premier of the respondent’s province. The content and the difficulty of the other items vary across studies, such that creating a common index would be a research programme in itself. Alternative measures, apart from being weaker indicators of message receptivity, are similarly inconsistent in measurement. Interest in the campaign has been measured irregularly. General interest in politics was captured in every survey but 1993. Since 1997, such a question has consistent in wording but not in placement. Before 2008, it appeared in the campaign wave but in 2011 was moved to the post-election wave, with a massive loss in comparability

## Partisan intensity and ideological direction

Relative to its major competitors, the Liberal party remains the fixed point on the partisan landscape. Liberals—at least the ones recruited to the CES—have become modestly more intense in their partisanship. The mean values for 1988-2004 indicate that the average Liberal was “fairly strongly” identified with the party. Thereafter, the balance shifted modestly toward stronger identification: by 2015 strong Liberals outnumbered weak ones 2:1. “Fairly strong” identification was still the mode with about the same frequency as before: 50 to 55 percent of all Liberals.

The Conservative identifiers are generally more volatile than Liberal ones. This is not because there are fewer Liberals than Conservatives; in the non-Quebec sample the numbers are very close (apart from the late 90s). The gains after 2000 are clear and dramatic, and they occur where we would most expect them: right after the unification of the right, largely on the terms of supporters on the right flank. By 2006, “strong” Conservatives outnumber weak ones by about 3:1.

Broadly the same is true for NDP identifiers. This group is even more tilted toward strong identification. The key, though is that NDP and Conservative dynamics roughly track each other toward more intense identification.

As indicated in the main text, both of these groups warmed to their parties as they regained electoral credibility. Conservatives warmed even more so as the party and its followers became more closely aligned ideologically.

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| Figure A2. The time path of partisan intensity, by party |
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| *Note:* Entries are means on a 0,1 partisan intensity measure (where nonpartisans score 0) conditional on the direction of party identification, with associated 95% confidence intervals. Non-Quebec respondents only. |

The relative stasis of Liberal intensity aligns with the relatively non-ideological pattern of Liberal intensity. Figure A3 shows this with a plot of left-right self-placement, conditional on both direction and intensity of identification. Data in most years are from the post-election mailback wave, and thus are not from representative samples. I start with 2004, so as to focus on the period since the reconsolidation of the political right. Values for partisans with seemingly zero intensity are imputed; there are in fact no such persons. For the flanking parties, ideology and partisan intensity go together: the more intense the partisanship, the more-off-centre the ideology. This is especially true for Conservative identifiers: a “strong” Conservative is four times as far to the right as a “weak” one. The corresponding ratio for New Democrats is more like 1.5:1 (although weakly identified New Democrats are further to the left than their Conservative equivalents are to the right.

Liberals, in contrast barely get off centre. Figure A3 hints at a leftward lean, with a slope that just crosses the conventional threshold for statistical significance. But the modelled gap between a weak and a strong Liberal is a tiny 0.06 on the -1,+1 scale.

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| Figure A3. Partisan intensity and ideological leaning, by party |
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| *Note:* Entries are means on a -1,+1 left-right self-placement measure (rescaled from original 0-10) conditional on the direction and intensity of party identification, with associated 95% confidence intervals. Non-Quebec respondents 2004-2015. |

There is no trend toward ideologization of Liberal identification, according to Figure A4. There is leftward lean in 2008 and 2011, relative to 2004, but a reversion in 2015. None of the relationships passes the conventional significance relationship in individual years.

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| Figure A4. Trends in the intensity-ideology relationship for Liberal identifiers |
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| *Note:* Entries are means on a -1,+1 left-right self-placement measure (rescaled from original 0-10) conditional on the direction and intensity of Liberal identification, with associated 95% confidence intervals. Non-Quebec respondents 2004-2015. |

# Sample composition

There is reason to worry about comparisons spanning three decades given changes in the representativeness of the CES of the eligible population. Most of these have to do with trends in coverage and compliance. Offsetting this evidence that the CES continues to correspond to the active electorate, at least in its ability to forecast the result.

## Coverage

According to the CES 2015 technical report (quoting Statistics Canada, *The Daily*) one household in five at the time was cell phone only. In contrast, cell numbers made up 4-5% of the CES vendor’s RDD samples (CES 2015 Technical Documentation, p2n2). In contrast, for the 2019 study only 34% of CPS phone completions were on a landline. For each phone type, the mean number of contact attempts was 3 and the median, 2. There is no appreciable difference out in the tail. Type is strongly related to age: each year of age increases the cell share by about one percentage point. Virtually no respondents in their 20s participated by landline. These are for 2019 only, of course. The de facto exclusion of progressively increasing numbers of cellphone-only households in earlier years was a growing issue, and this probably accounts for the apparent major shift between 2015 and 2019 on the next issue, compliance.

## Compliance

According to Cavari and Freedman (2022), compliance—more to the point, non-compliance—is the critical statistic for artifactual increases in measured polarization. Response rates for all RDD-based studies have fallen. For the CES, the exact time path is murky because of the spotty availability of technical documents. But the pattern is clear. The CES uses a conservative rate calculation, completed interviews as a percentage of all numbers dialled that are deemed eligible, with an imputation of eligibility for numbers that were never answered (so called “ring-no answer”). For the first decade of CES RDD surveys the rate fluctuated just under 60%. By 2011 (no numbers in hand for 2000-4-6-8), the rate was down to 41 percent. The 2015 rate was 37 percent. Although seems roughly comparable to recent US National Election Studies (*Ibid.* Figure 1), the comparison is probably misleading. The NES base of eligibles is physical households identified by sight, as opposed to telephone diallings that elicit a ring. The concentration on landlines that prevailed through 2015 must have suppressed the number of possible refusals, callbacks and ring-no answers.

With the shift to a new vendor in 2019, the rate plummeted to 5.6 percent, with a massively greater share of the total disposition file assigned to refused to non-compliant eligibles. The upshot is that, although the 2019 study has a low response rate, it is more representative than its recent predecessors. Even so, the 2019 study exists in a low-compliance world. The tilt toward older, highly educated and, and politically engaged respondents remains.

## Sample vs electorate

These trends make the representativeness of the sample an open question. The evidence is conflicting.

### Turnout

On turnout, the sample has clearly become less representative of the pools of eligible or registered voters. Turnout in survey samples has always been higher than in official returns. Figure A5 gives turnout levels in the CES sample and in two alternative representations of the electorate, registered voters and the voting age population (VAP). It also presents the gaps between the survey and each official estimate.

From 1988 to 2000, the gap fluctuated in the teens (averaging 16 points) for the registered vote and in the 20s (average of 24) for VAP. In 2004, the gaps bumped up 10 points for the registered electorate and between 9 and 10 for eligibles. Some of the blame lies with voters, some with the CES. Turnout dropped from 1988 to 2000, maintained a rough level in the 2000s, and went up in the 2010s. In the last decade, turnout was roughly at the level of 1993 or 1997, depending on the indicator. (Discrepancies between registered and VAP lines reflect teething difficulties in the transition to a permanent roll, initiated in 1997). Although the CES also shows a curvilinear path for its estimate (and, interestingly, catches the turnout bump of 2006), the basic story since 2000 is that CES turnout has just continued to grow, such that—in contrast to electorate—it is now higher than in 1988.

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| Figure A5. Turnout, Sample versus electorate | |
| Turnout | Gap with CES |
|  |  |
| *Notes:* Electorate data from IDEA online database (<https://www.idea.int/data-tools> | |

### Predictive accuracy

It is not clear, however, that this makes the CES any less representative of the *active electorate*. The CES remains as a good predictor as ever of the final result. A reasonable representation of this is Table A4, which shows forecasts for the incumbent party and for early-campaign frontrunner in the rare instances (1993 and 2015) with a non-incumbent frontrunner. The results are taken from another paper, focussed on campaign dynamics. In that paper, daily readings for incumbents and frontrunners are smoothed with by a Generalized Additive Model (GAM) with a restricted maximum-likelihood (REML) estimator and cubic regression splines.[[1]](#footnote-1) The degree of smoothing is dictated by cross-validation.

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| Table A4. Forecasting errors | | | | | |
| Year | Incumbent | Frontrunner | Year | Incumbent | Frontrunner | |
| 1988 | -3.65378 |  | 2006 | 2.393791 |  | |
| 1993 | 1.887331 | 3.81494 | 2008 | 1.655743 |  | |
| 1997 | 3.203145 |  | 2011 | 0.6528539 |  | |
| 2000 | -1.430024 |  | 2015 | 4.766607 | -0.82916 | |
| 2004 | 2.150937 |  | 2019 | 1.381577 |  | |

The smoothing was carried forward to election day (one day beyond the last recorded raw value). The forecasting error in Table A4 is the gap between the election-day imputation and the official returns. The average absolute error across the twelve cases is 2.3. Considering that these forecasts disproportionately reflect the modest number of interviews in the last week or so of the campaign and that no doctoring of the data other than graphical smoothing has occurred, this is a pretty good record. By way of comparison, the industry as a whole missed the target for incumbents by four points in each of 2004 and 2006 (Pickup and Johnston 2007, Figure 2). Most critical for my purposes, however, is (1) there is no net bias; and (2) even more importantly, no trend in the actual or the absolute errors. If out of sample prediction is the gold standard for assessing a survey, the CES stands up very well.

# Placebos

Is there something about thermometers as such that encouraged the increased polarization of party ratings? This would have especially persuasive if, say, younger respondents were more familiar the very idea of rating objects. (If so, this would fly in the face of the contrary evidence from age and cohort, below.) Or perhaps, society has just grown more comfortable with disagreement, and not only in relation to parties. One way to address this is to look at placebos. Below is a comparison over an 18-year gap of response to a number of nominally non-partisan groups. The survey designs are basically identical for the two years. The items are from the post-election wave in each case and Quebec respondents are excluded in both cases. The overall pattern is one of very little change. The average dispersion is, if anything, smaller than before. Especially notable is the reduced disagreement about Aboriginal peoples. If the long-term changes are an artifact of sample composition or respondents’ interview styles, there is no evidence of a corresponding change in these data.

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| Table A5. Thermometer ratings of non-political groups, 1997 versus 2015 non-Quebec RDD respondents only | | |
|  | Standard deviations | |
| Group | 1997 | 2015 |
| Canada | 15.3 | 10.5 |
| Quebec | 28.4 | 26.0 |
| The United States | 22.3 | 19.9 |
| Racial minorities | 23.0 | 20.1 |
| Gays and lesbians | 23.4 | 25.2 |
| Aboriginal peoples | 28.9 | 19.8 |
| Feminists | 24.0 | 24.3 |

# Notes on demographic representativeness

## General patterns

The average age of telephone respondents has increased by about 9 percentage points and the median by about 13, according to Table A6. In part, this tracks real-world trends: according to census estimates for the whole population, the 1988-2019 change in the mean was 6.6 points and in the median, 8.6. I do not have means and medians for the population over 18. The sample has probably aged more quickly than the population. And the endpoint comparison understates the changes: the 1988-2015 shift was bigger than the 1988-2019 one. The 2015-19 shift probably reflects the better representation of mobile users in 2019.

Comparisons with official statistics are possible for the years since 2004, and here the discrepancy seems less dire. In 2004, the median CES respondent was only three years older than the median eligible voter. The gap widens over succeeding years, to a maximum of ten years in 2015. 2019 closes the gap entirely, and then some. All that said, the gap is probably smaller than Table A3 suggests. The reported estimate from Elections Canada is of all registered voters, not of those who turn out.

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| Table A6. Median age, population versus sample, RDD respondents only | | | | |
| Year | Population | Sample | Gap | Registered voters\* |
| 1988 | 32.2 | 38 | 5.8 |  |
| 1993 | 34 | 40 | 6 |  |
| 1997 | 35.6 | 42 | 6.4 |  |
| 2000 | 36.8 | 45 | 8.2 |  |
| 2004 | 38.3 | 48 | 9.7 | 45 |
| 2006 | 38.9 | 50 | 11.1 | 45 |
| 2008 | 39.4 | 51 | 11.6 | 46 |
| 2011 | 40 | 55 | 15 | 47 |
| 2015 | 40.7 | 58 | 17.3 | 48 |
| 2019 | 40.8 | 51 | 10.2 | 50 |
| \* Estimated, Elections Canada | | | | |

## Age and polarization

Polarization might reflect the aging of the populationin apurely compositional sense. We know that party identification becomes more ubiquitous and more intense as voters age, a life-course effect. Given the relationship between partisanship and polarization, the mere fact of an aging electorate could contribute to polarization. This substantive possibility would not an artifact, just a fact and no less relevant for that. The question for this paper is whether over-sampling of older voters leads to over-estimation of the degree of polarization.

Table A7 gives a summary of age-related demography for feelings about the Conservative party. It groups respondents into birth-decade cohorts and, within cohorts, into age groups. For example, respondents born before 1920 appear three times: in their 60s, 70s and 80s. Most of those in their 60s appear in the 1988 CES. Of course, many of those in their 70s and 80s were the 1988 study, but their numbers would diminish rapidly after that. At the other end, the 1990s birth cohort would not start arriving in the electorate until well into the 21st century. Cohorts born in intervening decades appear more often, a maximum of five times.

Time is implicit in the table, in that cohorts are strictly ordered by the passage of time. “Gains” across rows might be taken to indicate the how much of the polarization is the product of cohort succession. The 1950s cohort, which started coming of age in the 1970s was much less polarized at its entry than the 1990s cohort was at its. The same seems true at the other end of the age distribution. In 1988 the 80-somethings were all from the pre-1920 cohort. In later elections their ranks came increasingly from the 1920s and 1930s cohorts, and each of these was more polarized than the one before. And so it is across most spans of cohort succession. On average, a cohort is about 1.6 units more polarized (“cohort average”) than its immediate predecessor. Gains across the life cycle are also almost always positive, and seemingly stronger. The average decade of a citizen’s time in the electorate increases polarization by 2.27 units (“age average”).

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| Table A7. Demography and Polarization | | | | | | | | | | | |
|  | Birth cohort | | | | | | | | | | |
| Age group | Pre 20s | 1920s | 1930s | 1940s | 1950s | 1960s | 1970s | 1980s | 1990s | Total gain | Average gain |
| 18-30 |  |  |  |  | 22.4 | 21.7 | 23.1 | 27.8 | 29.0 | 6.6 | 1.65 |
| 31-40 |  |  |  | 19.0 | 22.2 | 23.9 | 27.4 | 29.5 |  | 10.5 | 2.63 |
| 41-50 |  |  | 22.8 | 22.5 | 24.9 | 26.6 | 28.1 |  |  | 5.3 | 1.33 |
| 51-60 |  | 25.3 | 23.9 | 25.5 | 28.3 | 28.7 |  |  |  | 2.4 | 0.6 |
| 61-70 | 24.8 | 24.0 | 26.6 | 29.6 | 30.0 |  |  |  |  | 5.2 | 1.3 |
| 71-80 | 25.1 | 27.7 | 31.2 | 32.2 |  |  |  |  |  | 7.1 | 2.37 |
| 81- | 28.4 | 30.6 | 34.3 |  |  |  |  |  |  | 5.9 | 2.95 |
| Total gain | 3.6 | 5.3 | 11.5 | 13.2 | 7.6 | 7.0 | 5.0 | 1.7 |  | Age avg | Cohort avg |
| Average gain | 1.8 | 1.77 | 2.88 | 3.3 | 1.9 | 2.33 | 2.5 | 1.7 |  | 2.27 | 1.6 |
| Note: Entries are standard deviations of feeling toward the Conservative party for birth cohorts at different stages of their life course. Non-Quebec respondents and telephone mode only. | | | | | | | | | | | |

But is either of these patterns really demographic as such? Missing from Figure A7 is the election year. That is, I have masked the year component, the “period effect,” which properly belongs in all demographic analyses. I did this because simultaneous identification of all three components (age, period, cohort) is very hard, some would say impossible. We can triangulate the effects, though, by juxtaposing two dimensions in relation to the third. Below I show how age and cohort groups move through election time.

First is a plot of age groups by election, Figure A6. While the axes pick up the impact of the life cycle on polarization, the election-specific plots pick up period effects. The life-course pattern is basically the same in each election. On average, indicated by the polynomial fit, the oldest age group is about 3 units more polarized than the youngest one. The pattern is heteroscedastic in that, counterintuitively, old age groups are more dispersed than younger ones. (This could be a product of small cell sizes.) But more striking is the growth in polarization within each age group, as indicated by the starting and ending points in the election-specific plots. From 1988 to the 2010s, each age group became about 6 points more polarized, about twice the typical life-course gain. The whole life-course surface was elevated.

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| Figure A6. Age groups and Conservative polarization, by election year |
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| Note: plots are of SDs on the Conservative feeling thermometer, by 10-year age groups. All elections 1988-2019, phone respondents only. Quebec respondents excluded. |

The power of period effects is also clear if age groups are replaced by birth cohorts. The cohorts mirror the age groups, now with an apparently decreasing effect across succeeding cohorts. The decrease is a bit of an illusion as a cohort is not being compared with earlier or later ones at the point of entry. Rather, all earlier cohorts have had more time accumulated partisan bias than all later ones. When both the life course and cohort succession are considered simultaneously, as in Table A7, each has a positive effect on polarization independent of the other. The real point in this figure is the power of period effects: earlier and later cohorts are alike more polarized in 21st century elections than in late 20th-century ones. (The extreme dispersal on the far right of the picture reflects variation in sample size. The number of respondents born in the 1990s in the 2008 election is small, all of them born in the first nine months of 1990. By 2011, the number is larger, with 2.5 additional birth years. By 2015, most of that decade’s cohort has become eligible; by 2019, all of it.

An arithmetic implication of all this is that the aging of the electorate alone will deliver some polarization, even on an otherwise static landscape. This would be compounded if the CES sample is aging more quickly than the electorate, which (according to Table A6) it is. Or it was before 2019. This is the nub of the worry that some of what appears in the main body of the paper is a demographic artifact, and artifact in particular of age bias in sample composition. This possibility should make us reluctant to stake claims about the absolute scale of change. But the direction is clear, as is the contribution to it of age groups and birth cohorts. The effect is overwhelmingly a period spanning multiple elections.

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| Figure A7. Cohorts and Conservative polarization, by election year |
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| *Note:* plots are of SDs on the Conservative feeling thermometer, by 10-year birth cohorts. All elections 1988-2019, phone respondents only. Quebec respondents excluded. |

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| Table A8. Affect and party identification, Quebec (Figure 4 in text) | | | | | |
|  | | Party being evaluated | | | |
|  | NDP | | Liberal | Conservative | Reform | |
| *Year* |  | |  |  |  | |
| 1993 | -5.69 | | 4.89 | -1.90 |  | |
|  | (1.17) | | (1.16) | (1.16) |  | |
| 1997 | -5.81 | | 1.00 | -5.12 | -2.83 | |
|  | (1.19) | | (1.17) | (1.19) | (1.19) | |
| 2000 | -2.04 | | 3.07 | -0.48 | 0.93 | |
|  | (1.20) | | (1.18) | (1.19) | (1.19) | |
| 2004 | -0.82 | | -7.02 | -1.73 |  | |
|  | (1.14) | | (1.12) | (1.13) | -7.83 | |
| 2006 | 0.92 | | -4.95 | -2.20 | (1.23) | |
|  | (1.20) | | (1.18) | (1.19) | 0.12 | |
| 2008 | 4.87 | | 0.37 | 5.46 | (1.28) | |
|  | (1.29) | | (1.28) | (1.28) | -8.80 | |
| 2011 | 2.62 | | -2.71 | 2.88 | (1.75) | |
|  | (1.25) | | (1.24) | (1.24) | 30.84 | |
| 2015 | 5.08 | | 2.19 | -5.20 | (1.88) | |
|  | (1.02) | | (1.01) | (1.01) |  | |
| 2019 | 3.36 | | -5.49 | -5.00 |  | |
|  | (0.91) | | (0.89) | (0.89) |  | |
| 2021 | 5.91 | | -2.44 | -3.90 |  | |
|  | (1.09) | | (1.08) | (1.08) |  | |
| *Party identification* |  | |  |  |  | |
| Liberal | -1.05 | | 17.83 | -1.82 | -7.83 | |
|  | (1.28) | | (1.26) | (1.26) | (1.23) | |
| Conservative | -10.31 | | -4.82 | 22.52 | 0.12 | |
|  | (1.19) | | (1.17) | (1.17) | (1.28) | |
| NDP | 27.93 | | -4.49 | -9.40 | -8.80 | |
|  | (1.55) | | (1.54) | (1.55) | (1.75) | |
| Reform | -14.58 | | -17.10 | -2.60 | 30.84 | |
|  | (1.60) | | (1.58) | (1.59) | (1.88) | |
| *Year x PID interaction* | | | | | | |
| *1993* |  | |  |  |  | |
| Liberal | 1.48 | | -1.00 | 0.23 |  | |
|  | (1.76) | | (1.73) | (1.74) |  | |
| Conservative | 4.57 | | 4.12 | -4.11 |  | |
|  | (1.74) | | (1.72) | (1.72) |  | |
| NDP | -2.05 | | 6.60 | 1.37 |  | |
|  | (2.31) | | (2.30) | (2.31) |  | |
| Reform | 6.40 | | 9.91 | -0.75 |  | |
|  | (2.47) | | (2.45) | (2.46) |  | |
| *1997* |  | |  |  |  | |
| Liberal | 1.41 | | 3.24 | 4.17 | -1.25 | |
|  | (1.76) | | (1.73) | (1.75) | (1.72) | |
| Conservative | 2.85 | | 3.81 | 0.07 | 1.19 | |
|  | (1.83) | | (1.80) | (1.81) | (1.89) | |
| NDP | 0.37 | | 3.83 | 2.12 | -7.16 | |
|  | (2.28) | | (2.26) | (2.28) | (2.42) | |
| Reform | 3.05 | | 7.01 | -0.74 | 3.54 | |
|  | (2.30) | | (2.27) | (2.30) | (2.48) | |
| 2000 |  | |  |  |  | |
| Liberal | 0.27 | | 4.55 | -0.54 | -3.03 | |
|  | (1.80) | | (1.77) | (1.78) | (1.76) | |
| Conservative | 10.02 | | 0.64 | 0.10 | -1.82 | |
|  | (2.13) | | (2.11) | (2.11) | (2.19) | |
| NDP | 1.82 | | 3.55 | 1.07 | -11.40 | |
|  | (2.59) | | (2.57) | (2.59) | (2.71) | |
| Reform |  | |  |  | 3.85 | |
|  |  | |  |  | (2.45) | |
| *2004* |  | |  |  |  | |
| Liberal | 2.10 | | 7.63 | 0.02 |  | |
|  | (1.70) | | (1.67) | (1.68) |  | |
| Conservative | 0.74 | | 0.90 | 2.88 |  | |
|  | (1.67) | | (1.64) | (1.65) |  | |
| NDP | 1.23 | | 5.15 | -4.11 |  | |
|  | (2.22) | | (2.21) | (2.24) |  | |
| 2006 |  | |  |  |  | |
| Liberal | 2.76 | | 7.61 | -4.16 |  | |
|  | (1.74) | | (1.71) | (1.72) |  | |
| Conservative | 0.29 | | -8.28 | 6.84 |  | |
|  | (1.70) | | (1.67) | (1.68) |  | |
| NDP | 0.69 | | 6.75 | -2.76 |  | |
|  | (2.19) | | (2.17) | (2.19) |  | |
| *2008* |  | |  |  |  | |
| Liberal | 3.26 | | 2.53 | -5.11 |  | |
|  | (1.90) | | (1.88) | (1.88) |  | |
| Conservative | -0.52 | | -2.90 | 2.24 |  | |
|  | (1.81) | | (1.79) | (1.79) |  | |
| NDP | -1.98 | | 1.79 | -6.78 |  | |
|  | (2.33) | | (2.33) | (2.34) |  | |
| *2011* |  | |  |  |  | |
| Liberal | 6.00 | | 3.49 | -9.09 |  | |
|  | (1.81) | | (1.78) | (1.79) |  | |
| Conservative | -1.57 | | -7.21 | 3.97 |  | |
|  | (1.69) | | (1.67) | (1.67) |  | |
| NDP | 0.98 | | 6.64 | -7.24 |  | |
|  | (2.23) | | (2.22) | (2.23) |  | |
| *2015* |  | |  |  |  | |
| Liberal | 7.92 | | 8.78 | -8.19 |  | |
|  | (1.51) | | (1.49) | (1.49) |  | |
| Conservative | -3.85 | | -7.38 | 11.53 |  | |
|  | (1.43) | | (1.41) | (1.41) |  | |
| NDP | 2.45 | | 9.10 | -9.43 |  | |
|  | (1.80) | | (1.79) | (1.80) |  | |
| 2019 |  | |  |  |  | |
| Liberal | 9.21 | | 18.29 | -9.92 |  | |
|  | (1.35) | | (1.32) | (1.33) |  | |
| Conservative | -4.74 | | -13.49 | 17.24 |  | |
|  | (1.26) | | (1.24) | (1.24) |  | |
| NDP | 6.20 | | 12.65 | -7.42 |  | |
|  | (1.63) | | (1.62) | (1.63) |  | |
| *2021* |  | |  |  |  | |
| Liberal | 9.57 | | 14.32 | -8.60 |  | |
|  | (1.49) | | (1.47) | (1.48) |  | |
| Conservative | -7.49 | | -18.46 | 13.42 |  | |
|  | (1.42) | | (1.41) | (1.41) |  | |
| NDP | 7.13 | | 10.04 | -9.99 |  | |
|  | (1.76) | | (1.75) | (1.76) |  | |
| Intercept | 43.07 | | 46.10 | 44.77 | 41.83 | |
|  | (0.84) | | (0.83) | (0.83) | (0.84) | |
| Adjusted R2 | 0.31 | | 0.41 | 0.44 | 0.24 | |
| *N* | *65679* | | *67105* | *66821* | *7002* | |
| |  | | --- | | *Notes:* (1) OLS regression; (2) Residual categories: nonpartisans, 1988 (1993 for Reform); (3) standard errors in parentheses. | | | | | | | |

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| Table A9. Affect and party identification, Quebec (Figure 4 in text) | | | | |
|  | Party being evaluated | | | |
|  | NDP | Liberal | Conservative | Bloc |
| *Year* |  |  |  |  |
| 1993 | -8.79 | -0.60 | -6.10 | -10.28 |
|  | (2.06) | (1.97) | (2.04) | (2.23) |
| 1997 | -15.84 | -1.54 | -7.70 | -4.04 |
|  | (2.15) | (2.03) | (2.13) | (2.06) |
| 2000 | -11.99 | -1.41 | -16.13 | -7.27 |
|  | (1.97) | (1.85) | (1.95) | (2.34) |
| 2004 | -8.46 | -7.09 | -10.31 | -10.21 |
|  | (2.25) | (2.12) | (2.26) | (2.51) |
| 2006 | -6.59 | -10.64 | -11.08 | -3.71 |
|  | (2.34) | (2.23) | (2.37) | (2.46) |
| 2008 | 0.08 | -1.63 | -8.58 | -9.17 |
|  | (2.29) | (2.22) | (2.31) | (2.32) |
| 2011 | 3.39 | -6.25 | -13.29 | -10.66 |
|  | (2.17) | (2.11) | (2.19) | (1.82) |
| 2015 | 5.16 | -0.08 | -17.00 | -7.03 |
|  | (1.67) | (1.63) | (1.69) | (1.69) |
| 2019 | 0.13 | -2.63 | -16.40 | -0.55 |
|  | (1.57) | (1.52) | (1.58) | (1.90) |
| 2021 | -0.84 | -1.14 | -12.39 | -10.28 |
|  | (1.75) | (1.72) | (1.78) | (2.23) |
| *Party identification* |  |  |  |  |
| Liberal | -3.78 | 18.00 | -4.55 | -15.53 |
|  | (2.17) | (2.10) | (2.19) | (2.30) |
| Conservative | -6.19 | -2.37 | 18.50 | -5.08 |
|  | (2.35) | (2.28) | (2.37) | (2.84) |
| NDP | 21.36 | -2.44 | -9.02 | -10.08 |
|  | (3.47) | (3.47) | (3.63) | (7.43) |
| Bloc | -1.31 | -8.04 | -5.15 | 27.07 |
|  | (1.16) | (1.16) | (1.20) | (2.23) |
|  |  |  |  |  |
| *Year x PID interaction* |  |  |  |  |
| *1993* |  |  |  |  |
| Liberal | 5.82 | 2.45 | 2.92 |  |
|  | (3.08) | (2.95) | (3.07) |  |
| Conservative | 3.45 | 7.04 | 0.39 |  |
|  | (3.58) | (3.45) | (3.57) |  |
| NDP | 11.91 | 4.73 | 3.46 |  |
|  | (7.63) | (7.60) | (8.14) |  |
| Bloc | 3.51 | 0.13 | 0.82 |  |
|  | (2.43) | (2.34) | (2.43) |  |
| *1997* |  |  |  |  |
| Liberal | 6.74 | 6.60 | 12.22 | 3.97 |
|  | (3.10) | (2.94) | (3.09) | (3.23) |
| Conservative | 5.41 | 7.07 | 3.20 | 1.81 |
|  | (4.35) | (4.02) | (4.17) | (4.61) |
| NDP | 18.43 | -5.18 | -9.59 | -3.11 |
|  | (7.66) | (7.62) | (7.92) | (10.52) |
| Bloc | -0.74 | -0.70 | -0.81 | 3.56 |
|  | (2.52) | (2.37) | (2.49) | (3.18) |
| *2000* |  |  |  |  |
| Liberal | 5.00 | 8.52 | 8.44 | 0.92 |
|  | (2.96) | (2.78) | (2.94) | (3.07) |
| Conservative | 6.57 | 3.34 | 7.99 | 12.03 |
|  | (6.12) | (5.71) | (5.93) | (6.42) |
| NDP | 16.99 | 3.24 | 14.25 | 12.42 |
|  | (7.21) | (7.18) | (7.46) | (10.31) |
| Bloc | 3.75 | -0.11 | 10.15 | -0.78 |
|  | (2.29) |  | (2.26) | (3.00) |
| *2004* |  | 5.30 |  |  |
| Liberal | 4.29 | (2.96) | 7.12 | 4.89 |
|  | (3.12) | 0.31 | (3.14) | (3.25) |
| Conservative | 9.13 | (5.30) | 3.00 | 11.01 |
|  | (5.53) | 6.56 | (5.53) | (5.98) |
| NDP | 8.13 | (5.98) | -6.91 | 21.80 |
|  | (6.02) | 3.12 | (6.24) | (9.16) |
| Bloc | 5.26 | 5.30 | 1.12 | 2.55 |
|  | (2.51) | (2.96) | (2.55) | (3.19) |
| *2006* |  |  |  |  |
| Liberal | 5.64 | 9.74 | 6.21 | 2.03 |
|  | (3.19) | (3.07) | (3.24) | (3.41) |
| Conservative | 10.26 | 1.34 | 7.35 | 8.25 |
|  | (4.40) | (4.34) | (4.51) | (4.95) |
| NDP | 14.79 | 12.61 | 4.89 | 21.88 |
|  | (5.60) | (5.56) | (5.81) | (8.85) |
| Bloc | 11.00 | -0.29 | 3.00 | 11.94 |
|  | (2.53) | (2.45) | (2.59) | (3.29) |
| *2008* |  |  |  |  |
| Liberal | 7.09 | 0.72 | 10.17 | 8.05 |
|  | (3.37) | (3.25) | (3.39) | (3.58) |
| Conservative | 5.57 | 6.30 | 9.83 | 2.18 |
|  | (3.85) | (3.74) | (3.87) | (4.33) |
| NDP | 11.18 | 12.69 | 0.61 | 14.66 |
|  | (5.54) | (5.52) | (5.74) | (8.83) |
| Bloc | 9.62 | 5.92 | -2.91 | 7.24 |
|  | (2.60) | (2.54) | (2.64) | (3.35) |
| *2011* |  |  |  |  |
| Liberal | 6.86 | 4.78 | 6.21 | 9.24 |
|  | (3.07) | (2.99) | (3.12) | (3.28) |
| Conservative | 2.55 | 1.89 | 9.94 | -8.83 |
|  | (3.49) | (3.41) | (3.53) | (3.97) |
| NDP | 7.35 | 3.88 | -0.17 | 16.61 |
|  | (4.43) | (4.41) | (4.59) | (8.01) |
| Bloc | 9.26 | 5.62 | -2.55 | 5.22 |
|  | (2.39) | (2.35) | (2.44) | (3.16) |
| *2015* |  |  |  |  |
| Liberal | 10.31 | 11.19 | 5.86 | 0.55 |
|  | (2.51) | (2.43) | (2.54) | (2.70) |
| Conservative | -0.54 | -2.61 | 21.98 | -7.14 |
|  | (2.75) | (2.69) | (2.79) | (3.27) |
| NDP | 9.50 | 4.46 | -4.22 | 12.33 |
|  | (3.71) | (3.71) | (3.87) | (7.57) |
| Bloc | 3.97 | -4.07 | -5.01 | 12.71 |
|  | (1.75) | (1.73) | (1.79) | (2.65) |
| *2019* |  |  |  |  |
| Liberal | 9.57 | 16.78 | 0.96 | 4.76 |
|  | (2.31) | (2.24) | (2.34) | (2.46) |
| Conservative | 0.33 | -11.79 | 23.81 | -0.39 |
|  | (2.55) | (2.48) | (2.58) | (3.04) |
| NDP | 11.52 | 9.30 | -2.22 | 13.17 |
|  | (3.63) | (3.63) | (3.79) | (7.52) |
| Bloc | 3.11 | 1.41 | -0.80 | 6.80 |
|  | (1.44) | (1.43) | (1.48) | (2.41) |
| *2021* |  |  |  |  |
| Liberal | 10.81 | 12.40 | -1.32 | 3.59 |
|  | (2.47) | (2.40) | (2.51) | (2.63) |
| Conservative | -5.78 | -17.66 | 19.13 | -1.46 |
|  | (2.70) | (2.64) | (2.74) | (3.19) |
| NDP | 16.35 | 9.78 | -11.88 | 7.31 |
|  | (3.74) | (3.74) | (3.90) | (7.58) |
| Bloc |  |  |  | 6.71 |
|  |  |  |  | (2.57) |
| Intercept | 43.97 | 44.08 | 51.23 | 47.77 |
|  | (1.42) | (1.38) | (1.43) | (1.53) |
| Adjusted R2 | 0.21 | 0.34 | 0.27 | 0.35 |
| N | 23471 | 24543 | 24319 | 23554 |
| *Notes:* (1) OLS regression; (2) Residual categories: nonpartisans, 1988 (1993 for Bloc); (3) standard errors in parentheses. | | | | |

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| Table A10. Right-left positioning and party affect, ROC (Figure 5 in text) | | | |
|  | Party being evaluated | | |
|  | NDP | Liberal | Conservative |
|  |  |  |  |
| Party’s right-left score | 0.25 | -0.01 | -0.38 |
|  | (0.14) | (0.14) | (0.10) |
| *Party identification* |  |  |  |
| Liberal | -22.36 | 20.56 | 7.60 |
|  | (1.10) | (0.68) | (1.13) |
| Non-partisan | -30.27 | -0.27 | 7.76 |
|  | (1.11) | (0.67) | (1.12) |
| Conservative | -45.07 | -5.61 | 28.16 |
|  | (1.09) | (0.70) | (1.21) |
| Reform | -25.48 | -12.12 | 4.87 |
|  | (5.62) | (1.01) | (1.45) |
| *Party identification x right-left score* |  |  |  |
| Liberal | 0.17 | -0.10 | 0.04 |
|  | (0.05) | (0.05) | (0.05) |
| Non-partisan | -0.07 | 0.11 | 0.31 |
|  | (0.05) | (0.05) | (0.05) |
| Conservative | -0.26 | 0.37 | 0.65 |
|  | (0.05) | (0.05) | (0.05) |
| Reform | 0.49 | 0.51 | 0.25 |
|  | (0.18) | (0.10) | (0.09) |
| Intercept | 77.91 | 46.65 | 37.06 |
|  | (3.69) | (1.81) | (1.94) |
| *Random-effects parameters* |  |  |  |
| Var (intercept) | 1.28 | 1.40 | 0.94 |
|  | (0.27) | (0.27) | (0.28) |
| Var (residual) | 3.10 | 3.10 | 3.13 |
|  | (0.00) | (0.00) | (0.00) |
| N | 26299 | 26858 | 26699 |
| *Notes:* (1) Mixed-effects REML regression, degrees of freedom for the *t*-distribution calculated by the residual method, group variable = year (2) Residual category is NDP supporters; (3) asymptotic standard errors in parentheses. | | | |

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| Table A11. Right-left positioning and party affect, Quebec (Figure 5 in text) | | | |
|  | | | | |
|  | Party being evaluated | | | |
|  | Bloc | Liberal | Conservative | |
| Party’s right-left score | -0.18 | 0.11 | -0.37 | |
|  | (0.19) | (0.15) | (0.19) | |
| *Party identification* |  |  |  | |
| Bloc | 30.82 | -9.18 | 2.66 | |
|  | (1.25) | (1.95) | (3.17) | |
| Non-partisan | -1.82 | -1.90 | 1.98 | |
|  | (1.24) | (1.95) | (3.15) | |
| Liberal | -14.46 | 19.34 | 6.71 | |
|  | (1.26) | (1.96) | (3.17) | |
| Conservative | -11.45 | -0.44 | 18.57 | |
|  | (1.40) | (2.12) | (3.67) | |
| *Party identification x right-left score* |  |  |  | |
| Bloc | 0.11 | 0.16 | 0.04 | |
|  | (0.16) | (0.11) | (0.12) | |
| Non-partisan | 0.08 | -0.02 | 0.39 | |
|  | (0.16) | (0.11) | (0.12) | |
| Liberal | 0.17 | -0.26 | 0.24 | |
|  | (0.16) | (0.11) | (0.12) | |
| Conservative | -0.12 | 0.26 | 1.01 | |
|  | (0.18) | (0.12) | (0.15) | |
| Intercept | 42.90 | 44.44 | 38.49 | |
|  | (1.80) | (2.25) | (4.12) | |
| *Random-effects parameters* |  |  |  | |
| Var (intercept) | 1.24 | 1.09 | 1.46 | |
|  | (0.30) | (0.28) | (0.27) | |
| Var (residual) | 3.21 | 3.14 | 3.16 | |
|  | (0.01) | (0.01) | (0.01) | |
| N | 10081 | 11068 | 10874 | |
| *Notes:* (1) Mixed-effects REML regression, degrees of freedom for the *t*-distribution calculated by the residual method, group variable = year (2) Residual category is NDP supporters; (3) asymptotic standard errors in parentheses. | | | | |

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| Table A12. Right-left impact conditioned by partisan intensity, ROC (Figure 6 in text) | | |
|  | Party being evaluated | |
|  | NDP | Conservative |
| Party’s right-left score | 0.19 | -0.04 |
|  | (0.17) | (0.10) |
| Partisan intensity | 3.17 | -0.84 |
|  | (0.41) | (0.36) |
| *Partisan intensity x right-left score* | 0.10 | -0.12 |
|  | (0.02) | (0.02) |
| Intercept | 48.04 | 45.16 |
|  | (4.47) | (1.95) |
| *Random-effects parameters* |  |  |
| Var (intercept) | 19.62 | 8.37 |
|  | (10.67) | (4.65) |
| Var (residual) | 514.22 | 577.68 |
|  | (5.87) | 6.54 |
| N | 15343 | 15599 |
| *Notes:* (1) Mixed-effects REML regression, degrees of freedom for the *t*-distribution calculated by the residual method, group variable = year; (2) asymptotic standard errors in parentheses; (3) Non-partisans and Liberal partisans only. | | |

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| Table A13. Conservative positioning and affect, ROC, REML v Bayesian comparison | | | | | | | | |
|  | REML | | | | Bayesian | | | |
|  |  |  | [95% conf. interval] | | Mean | SD | [95% cred. interval] | |
| Party’s right-left score | -0.38 | 0.09 | [-0.58, -0.19] | | -0.35 | 0.15 | -0.63 | -0.08 |
|  |  |  |  |  |  |  |  |  |
| *Party identification* |  |  |  |  |  |  |  |  |
| Liberal | 7.60 | 1.16 | [5.39, 9.82] | | 7.62 | 1.14 | 5.38 | 9.84 |
|  |  |  |  |  |  |  |  |  |
| Non-partisan | 7.76 | 1.15 | [5.57, 9.95] | | 7.78 | 1.13 | 5.58 | 10.00 |
|  |  |  |  |  |  |  |  |  |
| Conservative | 28.16 | 1.24 | [25.80, 30.53] | | 28.16 | 1.21 | 25.78 | 30.49 |
|  |  |  |  |  |  |  |  |  |
| Reform | 4.87 | 1.46 | [2.04, 7.71] | | 4.89 | 1.48 | 2.02 | 7.81 |
|  |  |  |  |  |  |  |  |  |
| *Party identification x right-left score* |  |  |  |  |  |  |  |  |
| Liberal | 0.04 | 0.06 | [-0.06, 0.14] | | 0.04 | 0.05 | -0.06 | 0.14 |
|  |  |  |  |  |  |  |  |  |
| Non-partisan | 0.31 | 0.06 | [0.21, 0.42] | | 0.31 | 0.05 | 0.21 | 0.42 |
|  |  |  |  |  |  |  |  |  |
| Conservative | 0.65 | 0.06 | [0.55, 0.76] | | 0.65 | 0.05 | 0.55 | 0.76 |
|  |  |  |  |  |  |  |  |  |
| Reform | 0.25 | 0.09 | [0.08, 0.43] | | 0.25 | 0.09 | 0.07 | 0.43 |
|  |  |  |  |  |  |  |  |  |
| Intercept | 37.06 | 1.80 | [33.26, 40.85] | | 37.21 | 2.84 | 31.66 | 42.67 |
|  |  |  |  |  |  |  |  |  |
| *Random-effects parameters* |  |  |  |  |  |  |  |  |
| Var (intercept) | 6.58 | 3.63 | 2.23 | 19.40 | 13.19 | 12.59 | 3.22 | 44.40 |
|  |  |  |  |  |  |  |  |  |
| Var (residual) | 518.58 | 4.90 | 497.08 | 509.85 | 527.45 | 4.51 | 510.03 | 527.68 |
|  |  |  |  |  |  |  |  |  |
| N | 26699 | | | | | | | |
| *Notes:* (1) Mixed-effects REML regression, degrees of freedom for the *t*-distribution calculated by the residual method, group variable = year (2) Bayesian: uninformative priors, 12,500 MCMC iterations (2500 burn-in + 10000), Gibbs sampling; (3) Residual category is NDP supporters. | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table A14. Conservative positioning and affect, ROC, REML v Huber-White clusters | | | | | | | | |
|  | REML | | | | Clustered OLS | | | |
|  |  |  | [95% conf. interval] | |  |  | [95% conf. interval] | |
| Party’s right-left score | -0.38 | 0.09 | [-0.58, -0.19] | | -0.27 | 0.14 | -0.59 | 0.05 |
|  |  |  |  |  |  |  |  |  |
| *Party identification* |  |  |  |  |  |  |  |  |
| Liberal | 7.60 | 1.16 | [5.39, 9.82] | | 7.44 | 1.48 | 4.02 | 10.87 |
|  |  |  |  |  |  |  |  |  |
| Non-partisan | 7.76 | 1.15 | [5.57, 9.95] | | 8.25 | 1.90 | 3.85 | 12.64 |
|  |  |  |  |  |  |  |  |  |
| Conservative | 28.16 | 1.24 | [25.80, 30.53] | | 31.64 | 3.86 | 22.75 | 40.54 |
|  |  |  |  |  |  |  |  |  |
| Reform | 4.87 | 1.46 | [2.04, 7.71] | | 4.13 | 2.17 | -0.88 | 9.13 |
|  |  |  |  |  |  |  |  |  |
| *Party identification x right-left score* |  |  |  |  |  |  |  |  |
| Liberal | 0.04 | 0.06 | [-0.06, 0.14] | | 0.04 | 0.08 | -0.15 | 0.22 |
|  |  |  |  |  |  |  |  |  |
| Non-partisan | 0.31 | 0.06 | [0.21, 0.42] | | 0.24 | 0.12 | -0.03 | 0.52 |
|  |  |  |  |  |  |  |  |  |
| Conservative | 0.65 | 0.06 | [0.55, 0.76] | | 0.38 | 0.25 | -0.20 | 0.96 |
|  |  |  |  |  |  |  |  |  |
| Reform | 0.25 | 0.09 | [0.08, 0.43] | | 0.16 | 0.15 | -0.17 | 0.50 |
|  |  |  |  |  |  |  |  |  |
| Intercept | 37.06 | 1.80 | [33.26, 40.85] | | 35.98 | 1.68 | 32.10 | 39.86 |
|  |  |  |  |  |  |  |  |  |
| *Random-effects parameters* |  |  |  |  |  |  |  |  |
| Var (intercept) / R2 | 6.58 | 3.63 | 2.23 | |  | 0.27 | |  |
|  |  |  |  |  |  |  |  |  |
| Var (residual) / RMSE | 518.58 | 4.90 | 497.08 | |  | 22.58 | |  |
|  |  |  |  |  |  |  |  |  |
| N | 26699 | | | | | | | |
| *Notes:* (1) Mixed-effects REML regression, degrees of freedom for the *t*-distribution calculated by the residual method, group variable = year (2) OLS with Huber-White sandwich SEs; (3) Residual category is NDP supporters. | | | | | | | | |

1. The estimation with R package mgcv, and the function gam(). [↑](#footnote-ref-1)