Innovative Research Group, Inc.

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Toronto :: Vancouver

Election Surveys 2015 Wave 6:
Seat Modelling

Methodology

- These are the findings of an Innovative Research Group (INNOVATIVE) poll conducted from October 5th to October 8th, 2015. In the following slides we will refer to data from this poll as "Wave 6 (October)".

- This online survey of 3,417 Canadians was conducted using a combination of INNOVATIVE's Canada 20/20 panel (n=1,505) and Survey Sampling International (n=1,912).

- Tracking is drawn from five previous waves of online polling: "Wave 1 (July)" from July 24th-30th, 2015, n=2,833; and "Wave 2 (August)" from August 24th to August 31st, 2015, n=3,631; "Wave 3 (September)" from September 4th-10th, 2015, n=2,121; and "Wave 4 (September 2)" from September 20th-24th, 2015, n=2,805; and "Wave 5 (October)" from September 29th to October 1st (n=1,514).

- The sample is then weighted to ensure that the overall sample's composition reflects that of the actual Canadian population according to Census data.

- To control for a possible attitudinal bias in online sample, we weight online data using party identification from a randomized telephone poll. Waves, 1, 2, and 4 were weighted in this way. No recent telephone data was available for Wave 3, 5 or the current Wave 6.

- Because the sample included oversamples in BC, Prairies, Quebec and Atlantic, the final sample is weighted to N=2,000.

- INNOVATIVE provides each panellist with a unique URL via an email invitation so that only invited panel members are able to complete the survey and panel members can only complete a particular survey once.

- Since online surveys are not random probability based samples, a margin of error can not be calculated. The Marketing Research and Intelligence Association prohibits statements about margins of sampling error or population estimates with regard to most online panels.

Note: *Graphs and tables may not always total 100% due to rounding values rather than any error in data. Sums are added before rounding numbers.*

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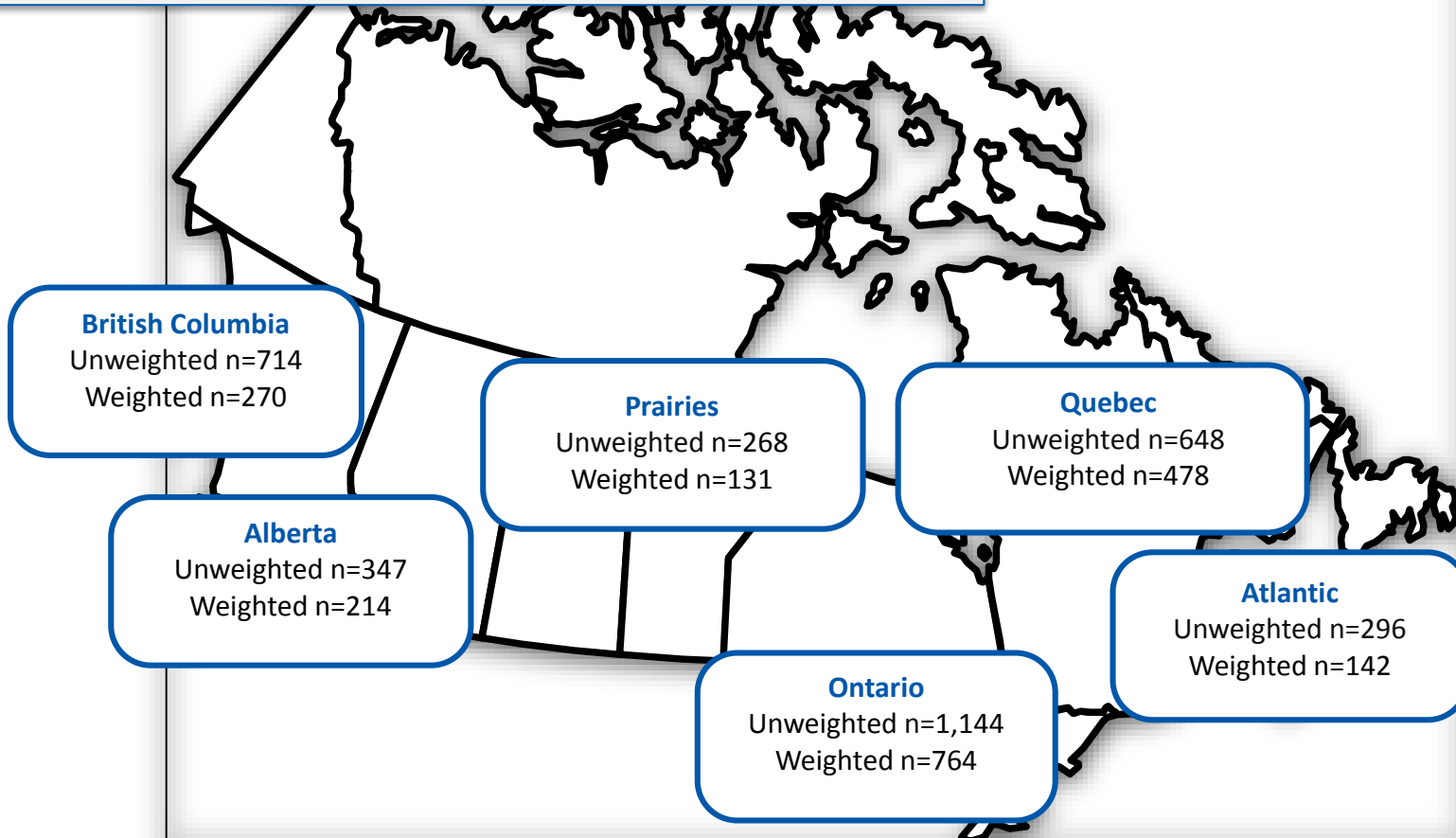RESEARCH GROUP

Regions: Where did respondents come from?

Regional groupings include:
- British Columbia (Yukon)
- Alberta (Northwest Territories)
- Prairie Region (Manitoba, Saskatchewan and Nunavut)
- Ontario
- Quebec
- Atlantic (PEI, New Brunswick, Nova Scotia and Newfoundland & Labrador)

National
Unweighted n=3,417
Weighted n=2,000

British Columbia
Unweighted n=714
Weighted n=270

Prairies
Unweighted n=268
Weighted n=131

Quebec
Unweighted n=648
Weighted n=478

Alberta
Unweighted n=347
Weighted n=214

Atlantic
Unweighted n=296
Weighted n=142

Ontario
Unweighted n=1,144
Weighted n=764

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Seat Models

Seat modelling methodology

How we predict the outcome

- Our seat models are each based on a Monte Carlo simulation of 10,000 possible outcomes of the election, assuming the results played out the way that our polling says.

- It is not a prediction of what might happen after accounting for changes in the polls, or dynamics in specific seats that polls can't account for. It is just a model of how the distribution of votes that we see in our own polling would be likely to translate into seat results.

- A Monte Carlo simulation runs the election in each riding over and over again to give us an overall sense of what the distribution of possible parliaments would be. This requires us to give the model a probability of each outcome in each riding.

Riding level probabilities

- The riding by riding probabilities are derived in two steps:

    - First a basic proportional swing model gives a predicted outcome for each riding. If the Liberals have doubled their vote in BC, then the proportionate swing we apply to their 2011 results in that province is 2.0.

    - Next we account for how this outcome might vary due to both sampling error (i.e. the margin of error of the poll, but calculated more precisely for each particular prediction) and also an additional amount of random error to account for the possibility of riding by riding discrepancies that a swing model can't pick up.

    - Like the overall possibilities of different parliaments, the possibilities in each riding are also modelled using a Monte Carlo simulation, allowing each run to vary according to the error terms we've specified. From this simulation we can determine the predicted probability of each outcome to feed into the overall model

How the models differ

- The key difference between the two models is how which results we use for the intial proportionate swing model. The first model uses the results region by region to generate a swing for each party in each region. The second model groups our sample according to the dynamics of the riding that they live in, and calculates swing seat cluster by seat cluster in our 10 seat clusters.

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When we look at what is going in particular types of races, the Liberals look much better off

REGIONS BASED PROPORTIONAL SWING

	CPC	LPC	NDP	BQ	GRN	OTH	
0.50%	102	112	89	1	1	0	
2.50%	104	114	92	1	1	0	
5.00%	105	115	93	2	1	0	
10.00%	107	117	94	2	1	0	
20.00%	108	118	96	3	1	0	
30.00%	110	119	97	3	1	0	
40.00%	111	120	98	4	1	0	
50.00%	112	121	99	4	1	1	MEDIAN
60.00%	113	122	100	5	1	1	
70.00%	114	123	101	5	1	1	
80.00%	115	124	102	6	1	1	
90.00%	117	126	104	7	1	2	
95.00%	118	127	105	7	1	2	
97.50%	119	128	106	8	1	3	
99.50%	122	130	108	9	2	3	
OVERALL MEAN	112	121	99	4	1	1	

(90% CONFIDENCE, 95% CONFIDENCE, 99% CONFIDENCE)

Regional model

When we look at swings region by region the race remains close. While the liberals are given the edge (our model predicts they would get a plurality of seats, or tie for it, 94% of the time) the Conservatives remain a close second. In this worldview a small swing in the polling back to the Conservatives would be enough to win them a minority.

CLUSTER BASED MODEL

	CPC	LPC	NDP	BQ	GRN	OTH	
0.50%	87	133	78	0	0	0	
2.50%	90	136	81	0	0	0	
5.00%	91	137	82	1	0	0	
10.00%	93	139	84	1	0	0	
20.00%	95	141	86	2	0	0	
30.00%	97	143	87	2	1	0	
40.00%	98	144	88	3	1	0	
50.00%	99	145	89	3	1	0	MEDIAN
60.00%	101	147	90	3	1	0	
70.00%	102	148	92	4	1	0	
80.00%	104	149	93	4	1	0	
90.00%	106	151	95	5	2	0	
95.00%	108	153	97	6	2	0	
97.50%	109	155	98	6	2	0	
99.50%	113	158	101	7	3	0	
OVERALL MEAN	99	145	89	3	1	0	

(90% CONFIDENCE, 95% CONFIDENCE, 99% CONFIDENCE)

Seat cluster model

On the other hand, when we model swing within the seat clusters, a different picture emerges. The Liberal gains have been efficient enough to gain them a clear advantage. The model thinks, if these results held up cluster by cluster, that they would be guaranteed the most seats with a clear lead over the other parties.

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Research-based strategic advice.

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