Mode effects in electoral polls, a comparative perspective

By Claire Durand,
Deparment of Sociology,
Université de Montréal

Presented at the AAPOR 71st Annual Conference,
May 12-15, Austin, Texas

Outline

- The question: How do Web and IVR polls perform compared with trad. Polls.?
- What should we be looking at?
- The data
  - US 2012
  - Canada 2015
  - Scotland 2014
  - Brexit
- The results in a comparative perspective
  - Likely change in support
  - Same according to mode?
  - Variance by mode
- Conclusion

The question: It's all about modes

- Web and IVR polls have spread
  - Web in all markets
  - IVR, mostly, almost uniquely, in North America
- Particularly present in small markets where the media cannot or do not want to invest large amounts of money on polls.
- The argument is that IVR and Web polls are as good as traditional polls since response rates for traditional polls are very low.

What should we be looking at?

- Systematic error where some methods tend to produce different, biased, estimates
  - ♦ However, when it occurs, it is rather easy to correct for bias or at least, it is possible to inform the reader.
- Level of random error where some methods tend to produce estimates that are more variable than others.
  - ♦ The problem is that we never know at what point any given estimate is reliable.
- We need to take into account the change in preferences during a campaign. Are differences between modes similar throughout the campaign?

The data

- US 2012: 406 polls from January to election
  - 50% telephone, 33% IVR, 15% Web opt-in or mixed.
- Scotland 2014: 67 polls from January to referendum
  - 75% Web, 10% telephone, 15% face-to-face.
- Canada 2015: 78 polls from beginning of campaign to election
  - 36% Web, 36% IVR, 28% telephone or mixed.
- Brexit 2016: 118 from UK election to April 20.
  - 83% Web, 17% telephone.

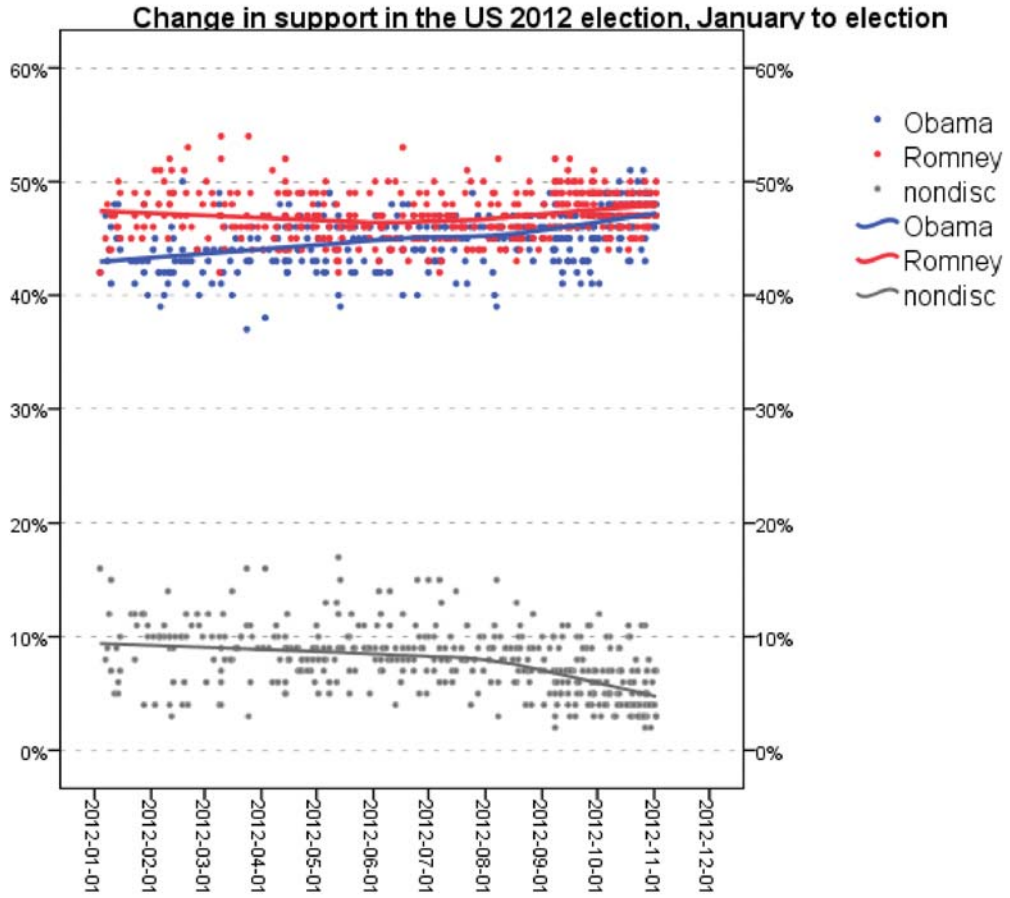
Analysis

- Do different methods trace the same change in preferences?
  - ♦ Local regressions (loess - epanechnikov)
- Do they yield similar estimations and variances:
  - ♦ Anova and box-and-whiskers plot.

USA 2012

USA 2012

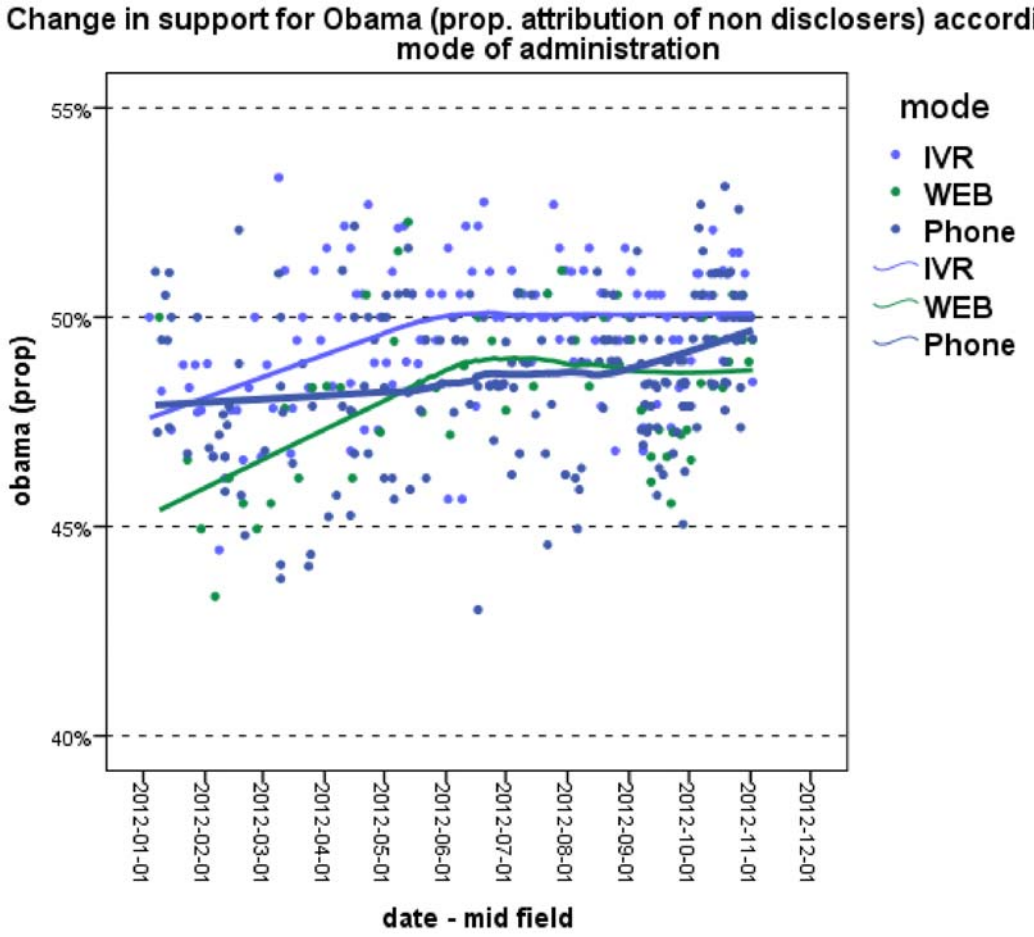
Change in support, January to election



Support for Obama increases, proportion of non-disclosers decreases.

USA 2012 - Support for Obama

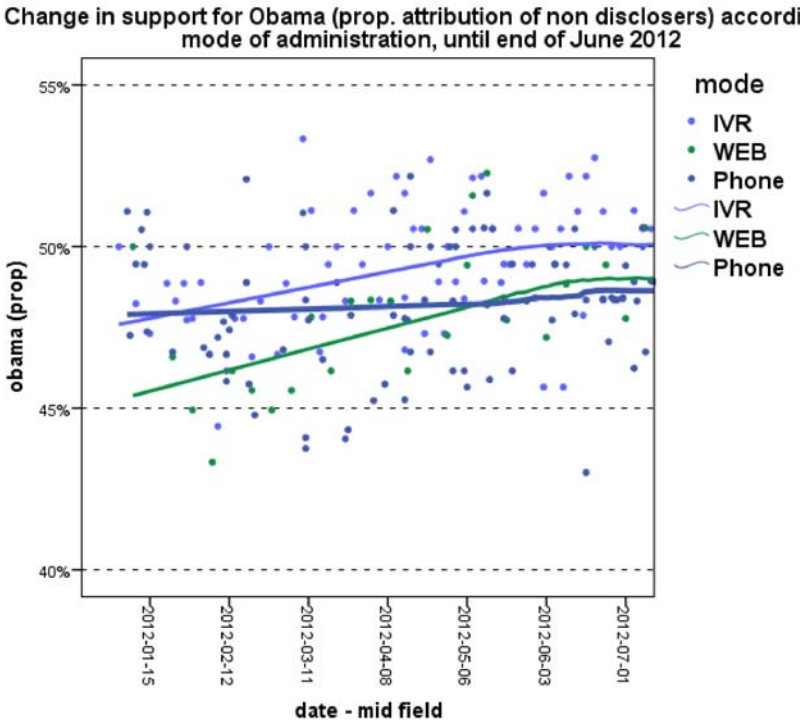
What about modes?

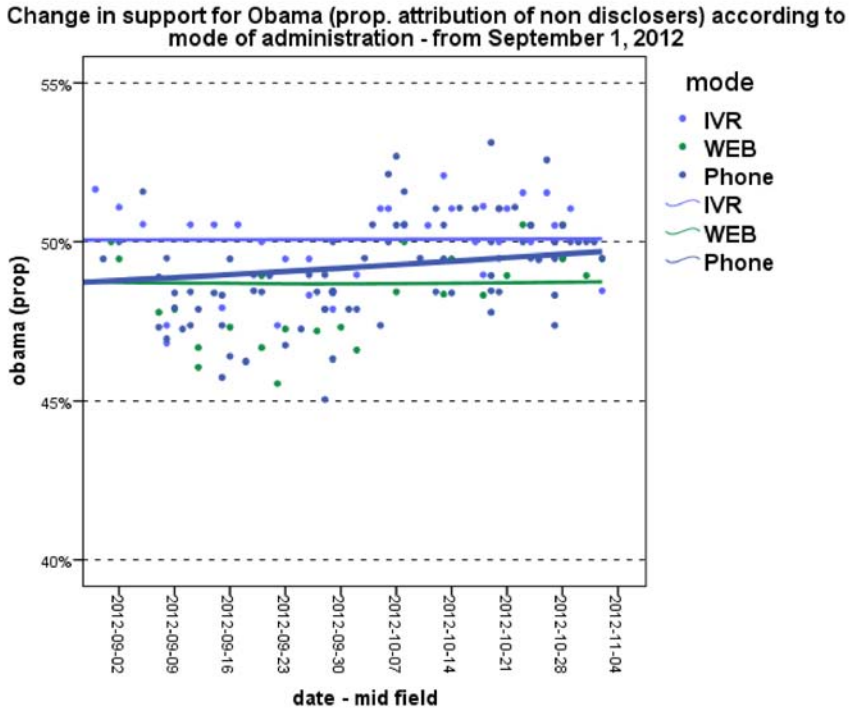


- IVR systematically higher than opt-in Web.
- IVR & opt-in Web polls do not trace the same portrait of change in support for Obama than telephone polls.

USA 2012 - Support for Obama

What about modes? FOCUS

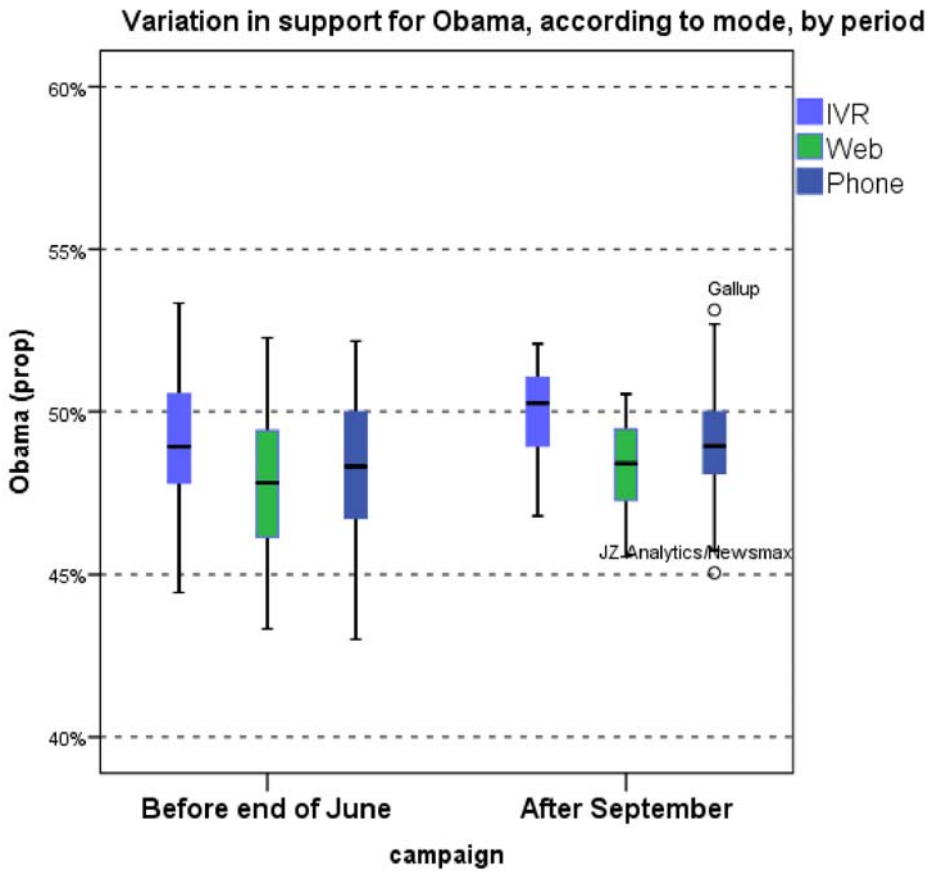




Before June, increase according to Web & IVR only. After September, increase in support according to telephone only.

USA 2012 - Support for Obama

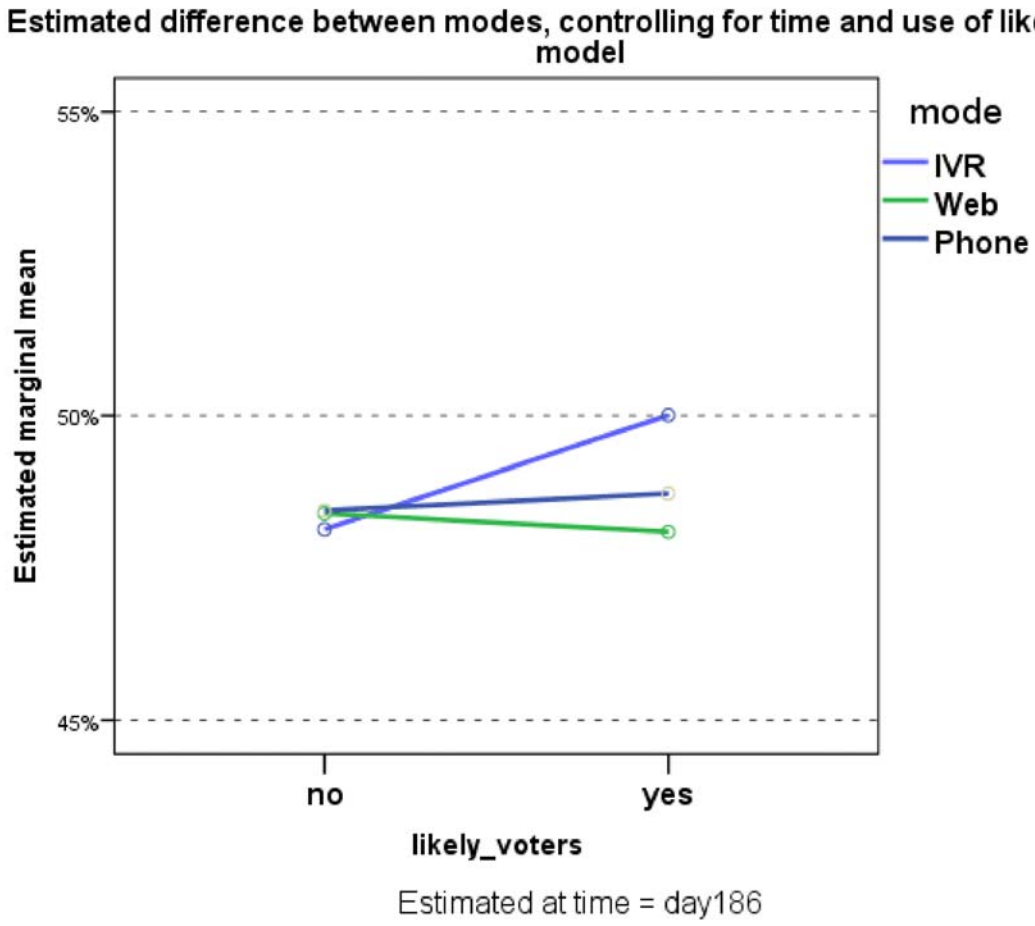
What about modes? Variation



- IVR polls tend to have a higher median, particularly after September.
- Variation seems similar for the three methods after control for period.

USA 2012 - Support for Obama

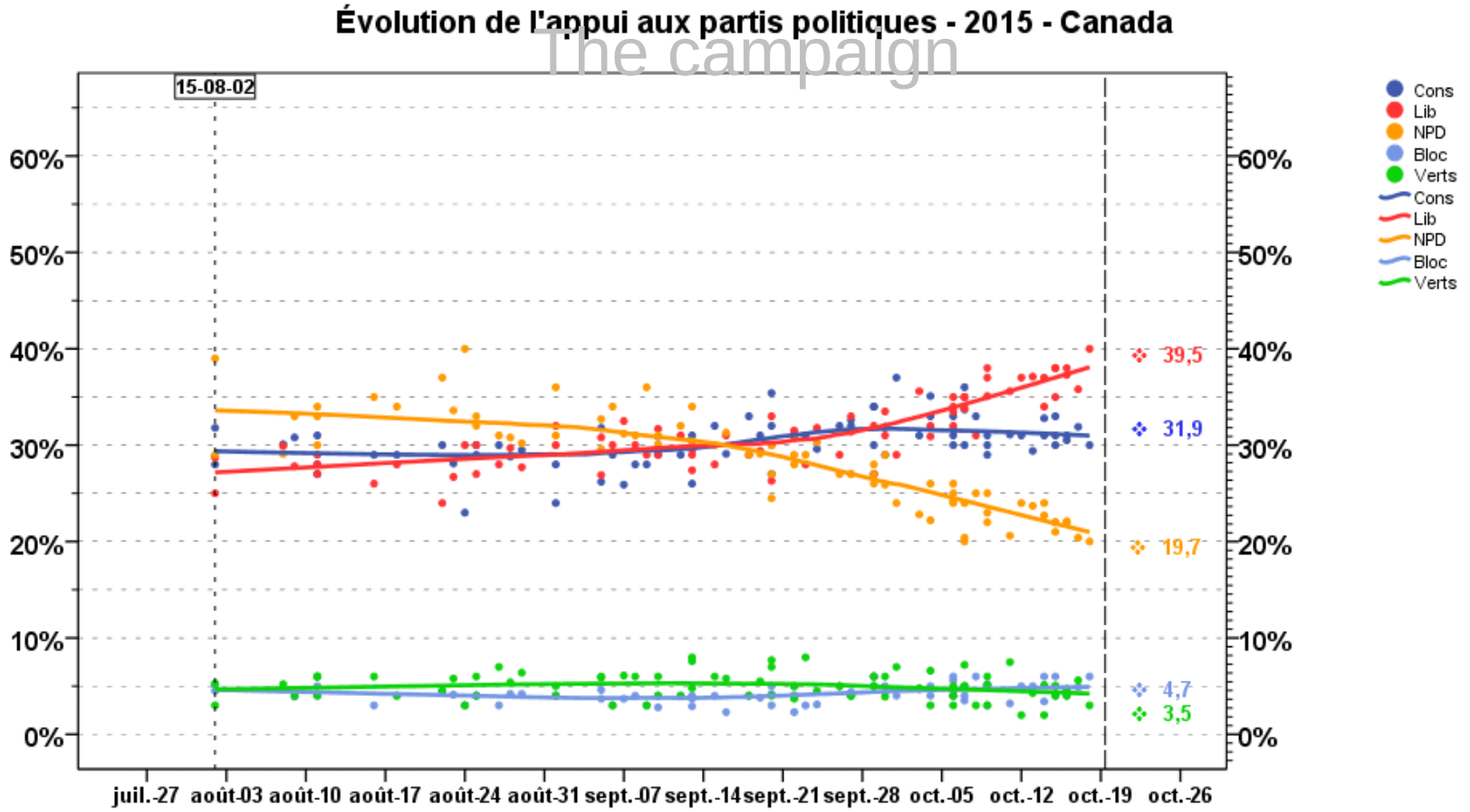
Modes and likely voter models



GLM analysis shows that the only difference between methods appears when a likely voter model is used (controlling for time).

Canada 2015

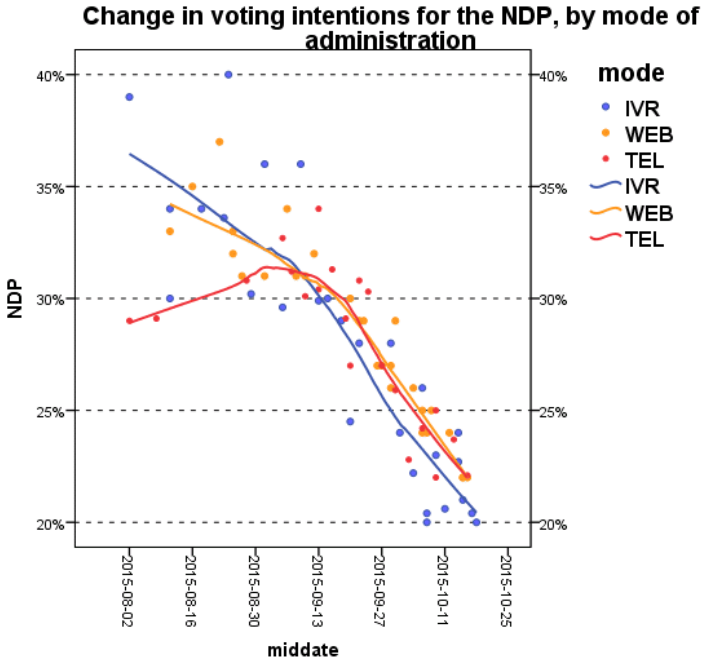
Canada 2015

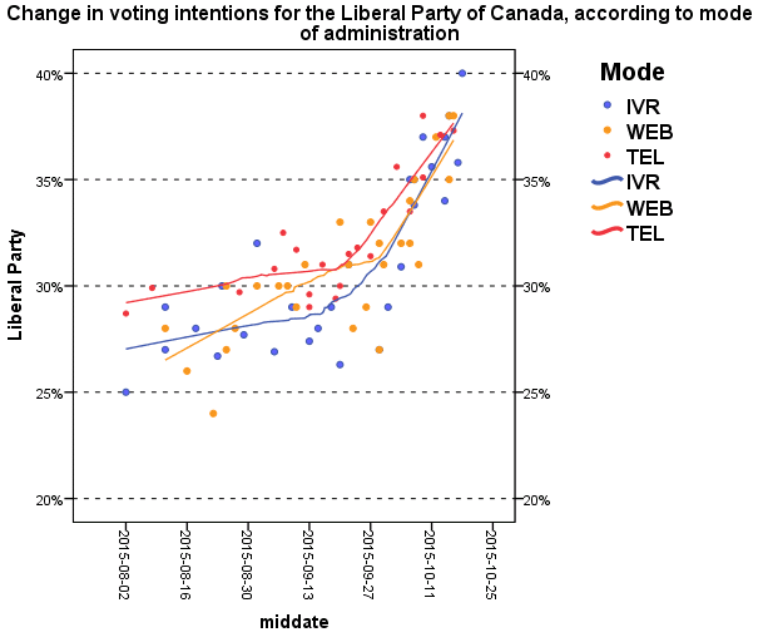


Le graphique présente les données publiées jusqu'au 18 octobre 2015. Chaque point représente l'estimation d'un sondage positionné sur la date de milieu de terrain. La ligne verticale représente le début de la campagne électorale. Les courbes représentent l'évolution estimée avec la régression locale (Loess).

Canada 2015

Change in preferences by mode



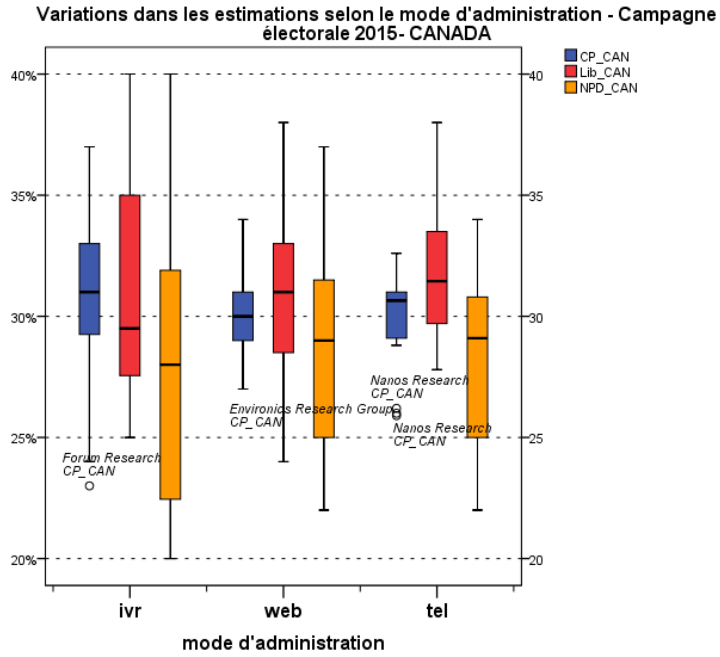


Difference by mode at the beginning of the campaign only?

Canada 2015

Is there more variability according to mode

Canada				
		Conserv.	Liberal	NPD/NDP
IVR	moy./mean	31.04	31.11	27.72
Web		30.21	31.04	28.50
Tel.		30.00	32.04	28.25
IVR	variance	10.55	17.78	36.90
Web		3.21	12.26	17.37
Tel.		3.64	8.78	13.50
IVR	médiane	31.00	29.50	28.00
Web		30.00	31.00	29.00
Tel.		30.65	31.45	29.10

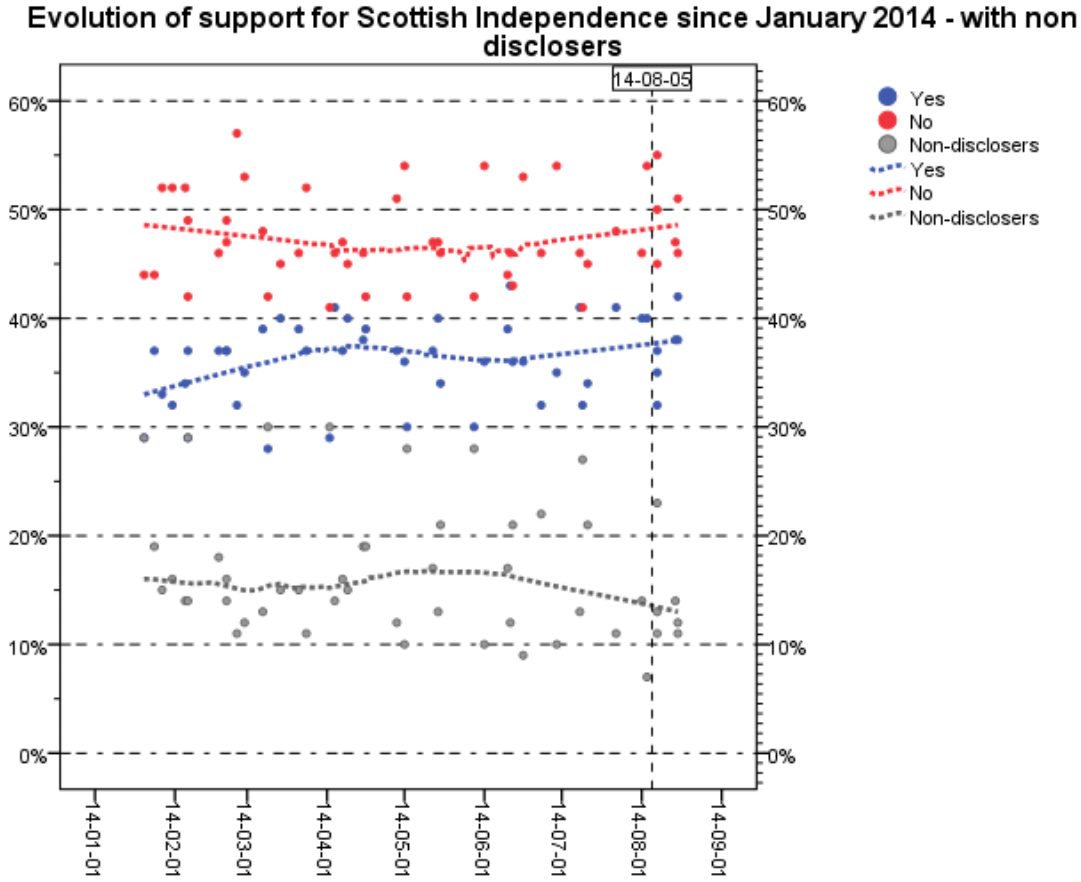


- More variance in IVR polls, similar means and modes.
  - Mostly due to beginning of campaign: var= 13.5, web 3.8, tel 3.0. and to some regions (not shown).

Scotland 2014

What happened in Scotland?

The first stretch

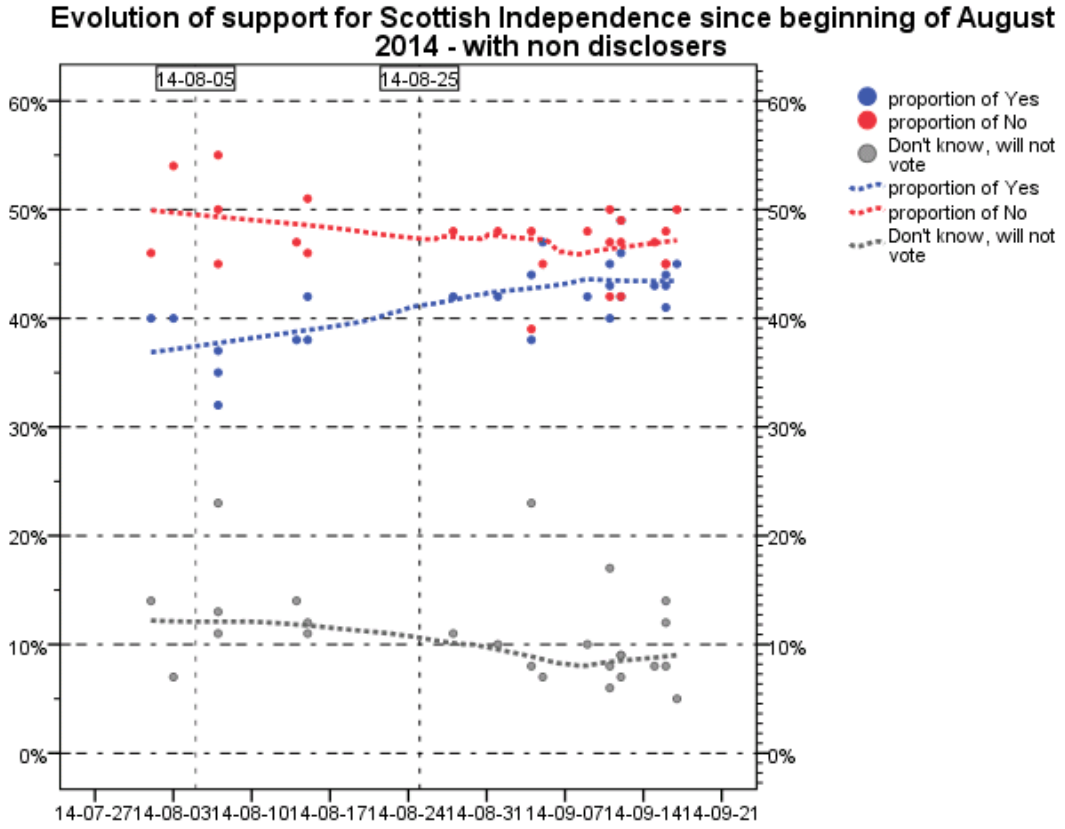


Each point represents a poll estimate positioned at the end of the fieldwork; lines represent the likely change in support estimated using Loess. © C. Durand, 2014.

- **January - August**:
- The campaign started and went on with a clear advantage for the No side.

What happened in Scotland?

The last stretch

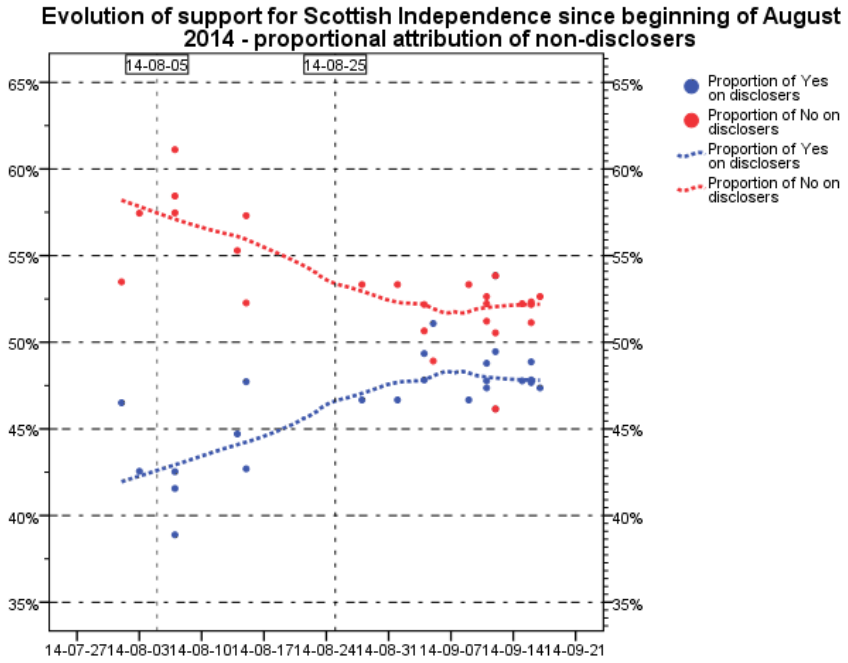


Each point represents a poll estimate positioned at the end of the fieldwork; lines represent the likely change in support estimated using Loess; vertical lines represent the two debates. © C. Durand, 2014.

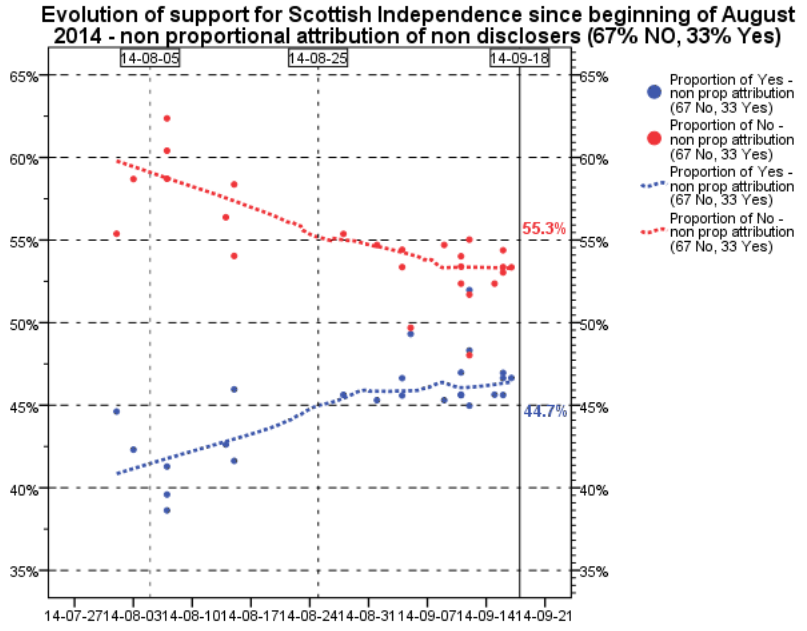
- The two sides seem to get closer.
- The proportion of non-disclosers still does not decrease much on average.

What about attribution of non-disclosers?

Non-proportional attribution leads to better estimates



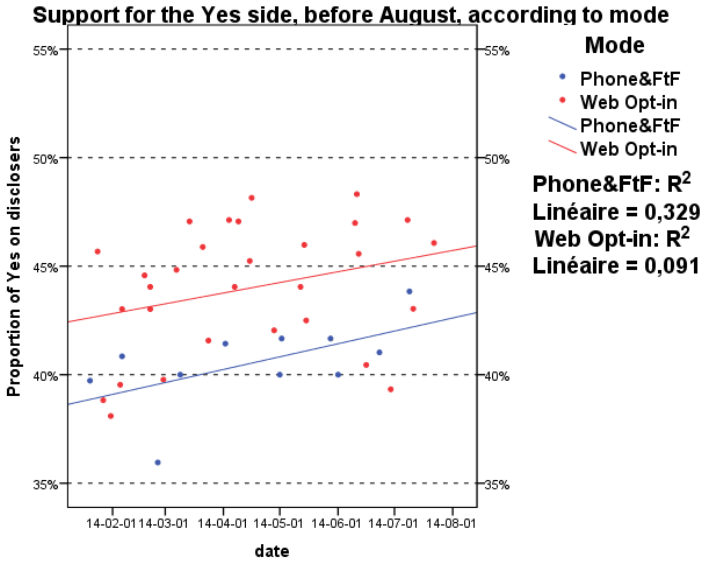
Each point represents a poll estimate positioned at the end of the fieldwork; lines represent the likely change in support estimated using Loess; vertical lines represent the two debates. © C. Durand, 2014.

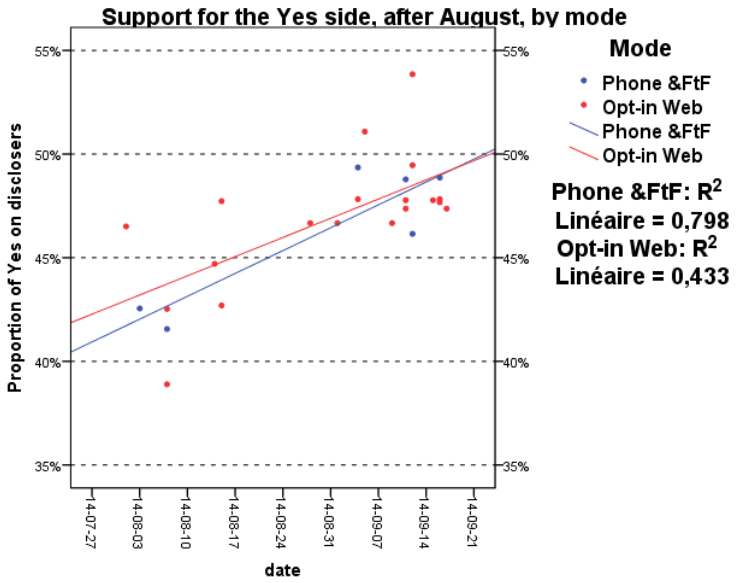


Each point represents a poll estimate positioned at the end of the fieldwork; lines represent the likely change in support estimated using Loess; vertical lines represent the two debates. © C. Durand, 2014.

Differences between methods?

It depends...first and last stretch

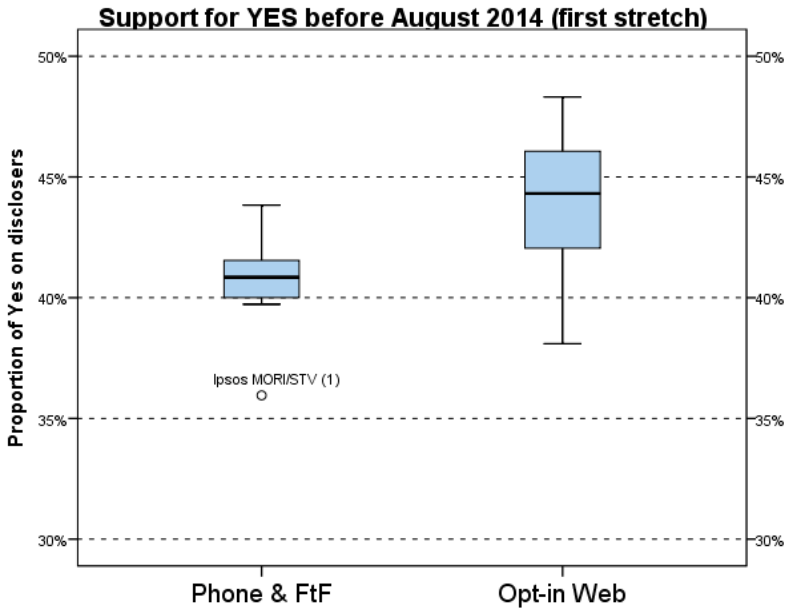


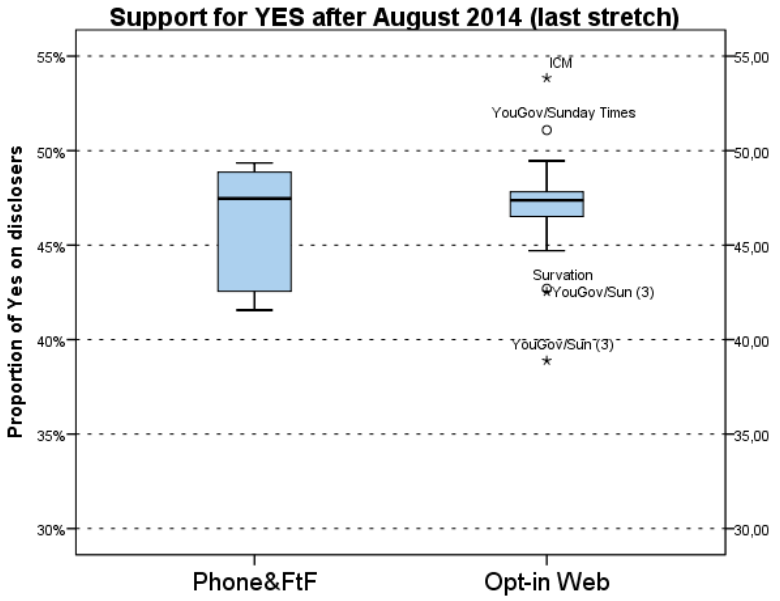


- Before August, Web estimates higher than non web and more variable.
- After August, Web estimates similar to non Web on average with outliers.

Differences between methods?

It depends...first and last stretch





- Before August, Web estimates higher than non web and more variable.
- After August, Web estimates similar to non Web on average AND less variable, with outliers.

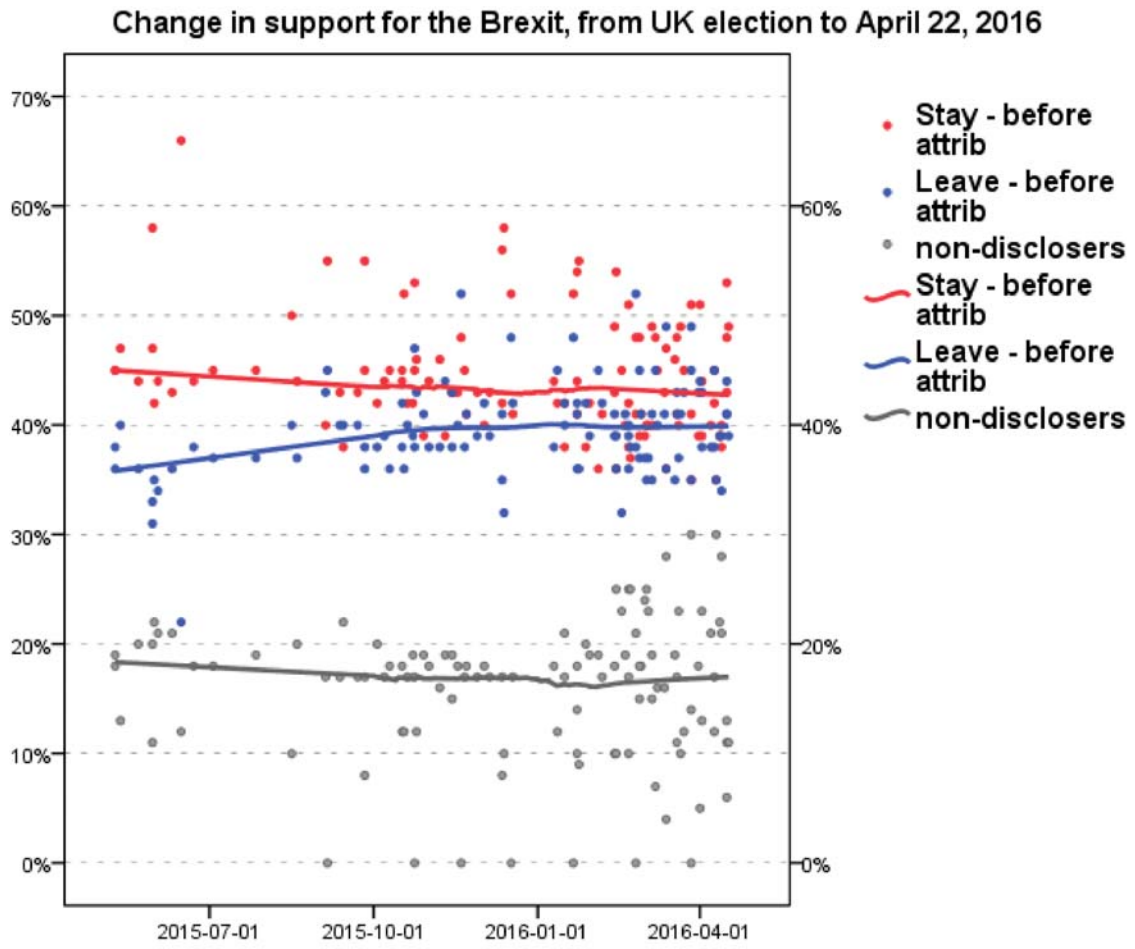
What happened in Scotland?

Differences between pollsters/methods?

- For the polls published between January 2014 and August 10,
- Controlling for time,
  - Opt-in web polls (including YouGov) estimated the support for the Yes side, **3.1 points higher**, on average, than the other polls (telephone & FTF).
  - Opt-in web polls (Survation, ICM and Panelbase) **excluding YouGov** estimated the support for the Yes side, **4.6 points higher**, on average, than the other polls.
- **The difference between methods disappeared for the polls conducted during the last month.**

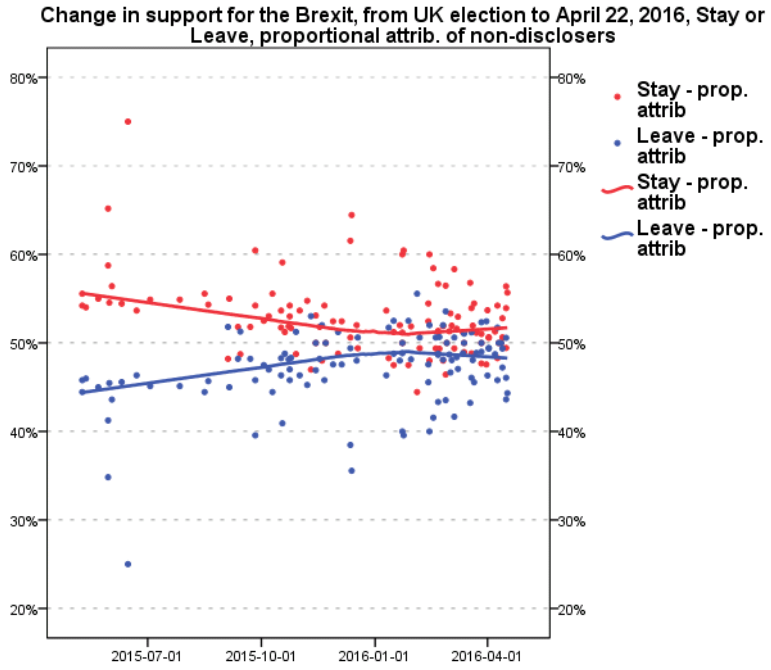
Brexit 2016

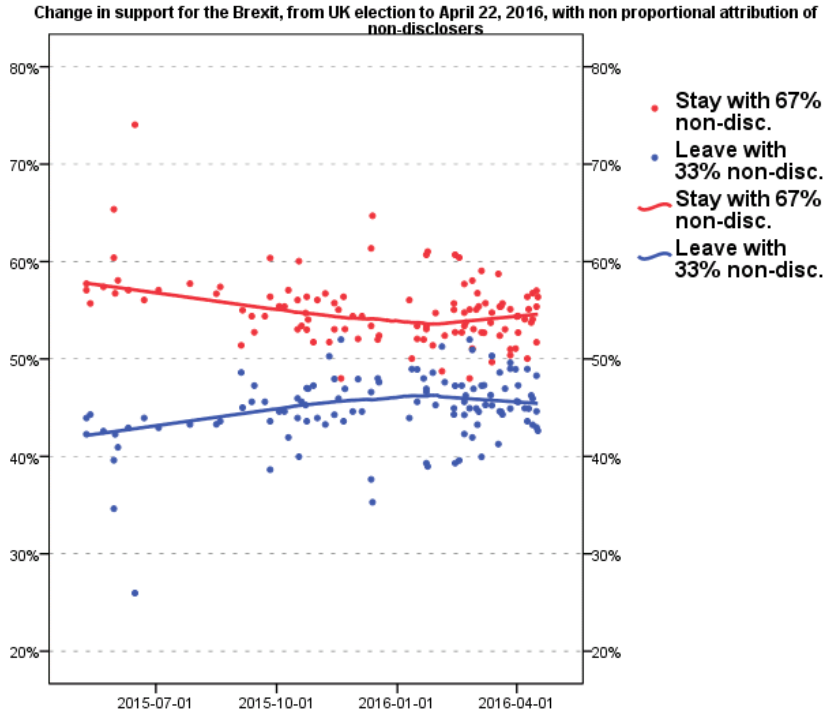
Brexit 2016



Brexit 2016

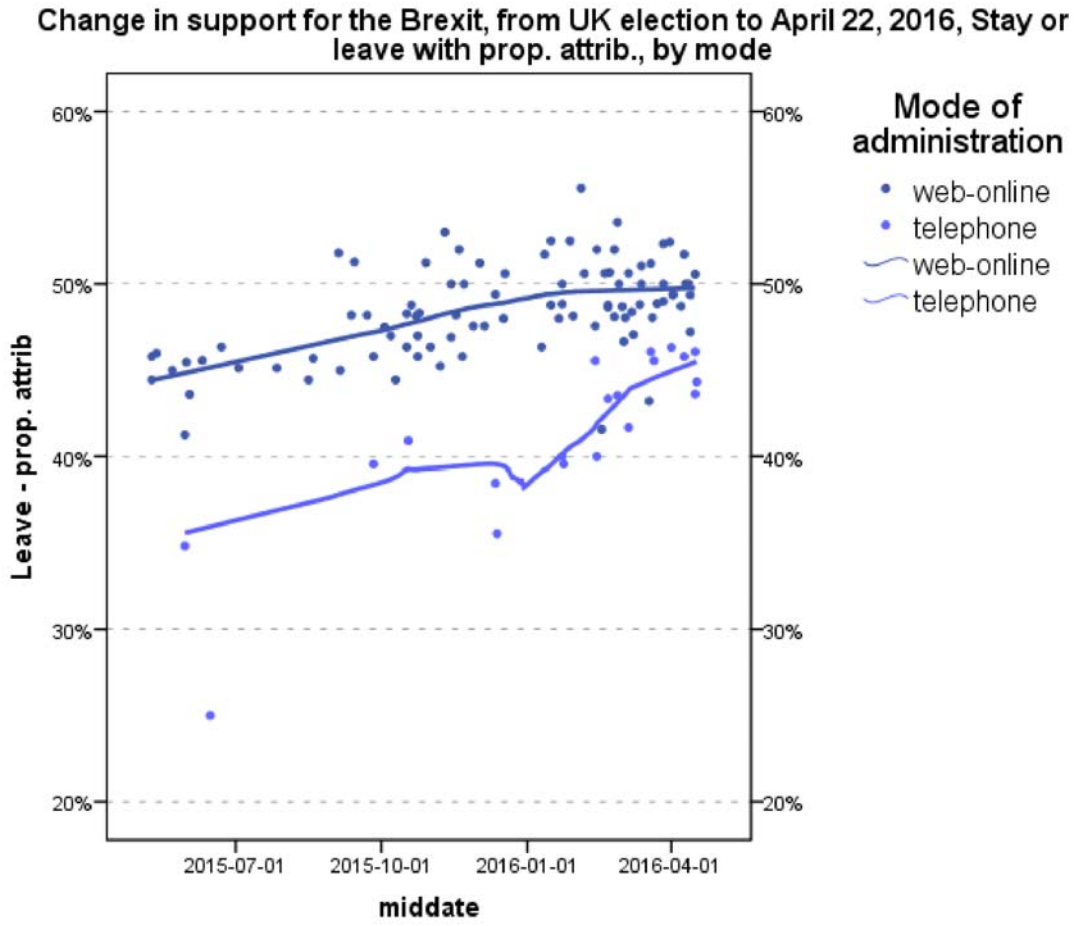
What about attribution of non disclosers?





Brexit 2016

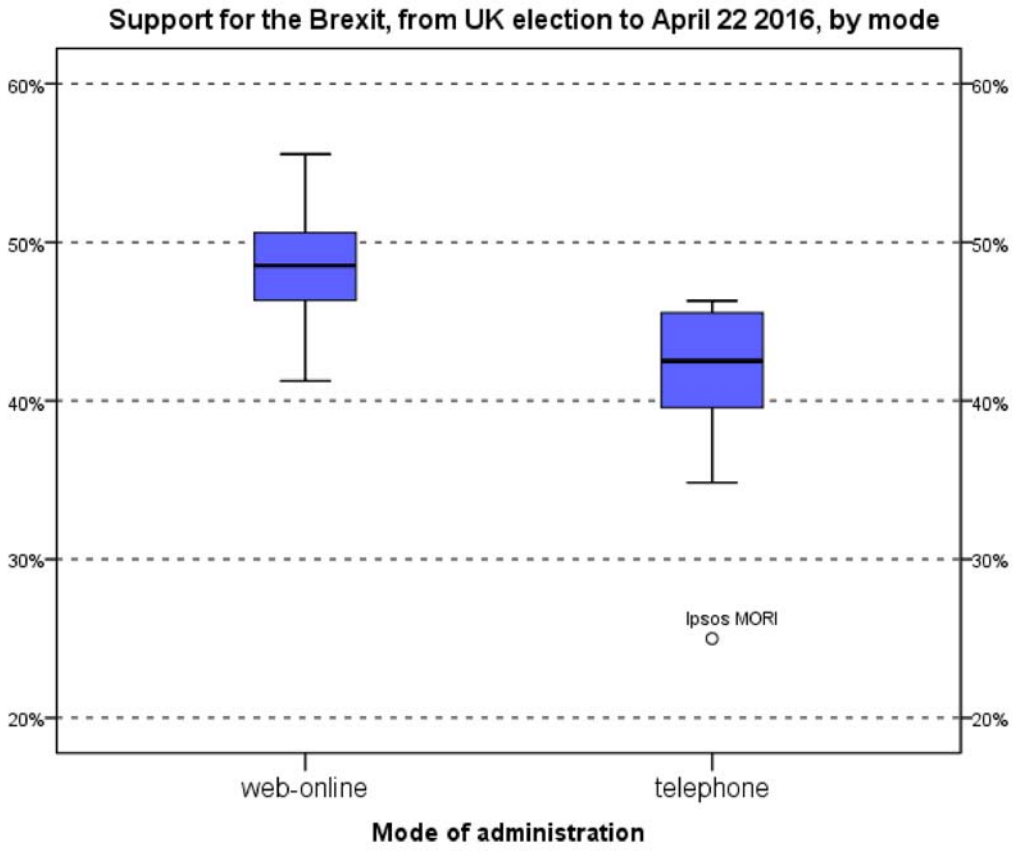
Is the portrait similar by mode?



Systematic higher estimates with web opt-in polls.

Brexit 2016

Is the variability similar by mode?



As of April 22 2016, similar variability, different estimates.

Synthesis - IVR Polls

- US 2012:
  - Estimates higher than Web opt-in polls.
  - Do not show the same change over time.
  - Higher median particularly after September.
  - Not larger variance.
  - Difference in estimates when a likely voter model is used.
- Canada 2015:
  - Change over time somewhat different from other modes at the beginning of the campaign.
  - More variance, particularly at the beginning of the campaign & in some regions.

Synthesis Web Opt-in Polls

- US 2012:
  - Web estimates similar to phone **BUT** do not trace the same portrait of change over time.
- Canada 2015:
  - Web estimates similar to phone in terms of variance
  - BUT do not trace the same portrait of change over time at beginning of the campaign.
- Scotland 2014:
  - Web estimates higher than phone UNTIL the last 6 weeks.
  - Phone less variable than Web first stretch, more variable last stretch.
- Brexit 2016:
  - Web higher estimates (+5), similar variance.

Discussion

- There appears to be variation within methods as well as between methods
  - Yougov vs other Web polls in Scotland.
  - IVR with vs without Likely Voter model.
- There appears to be variation according to the period where polls are conducted.
  - In Scotland – and possibly in other elections in the UK – reduce variance at the end.
  - Change in methods during the campaign?
- When much reduced variance, outliers may come from the best pollsters.
- What about attribution of non-disclosers?

Conclusion

Research needed

- On the differences in methodological features within methods:
  - Weighting.
  - Proportion of cell phones in samples.
  - Proportion of non-disclosers.
- On the appropriateness of changing methods during a campaign.
- On the likely voter models.
- On the possibility of finding ways to create banks of email addresses that would represent most of the population and allow for random sampling by all pollsters.

Canada 2015: at the subnational level

Québec					
		Conserv.	Liberal	NPD/NDP	BQ
IVR	moy./mean	20.38	24.00	34.22	16.94
Web		17.57	23.46	36.00	19.14
Tel.		15.54	25.87	38.64	16.10
IVR	variance	13.98	23.63	58.58	9.71
Web		14.11	12.78	55.18	12.87
Tel.		10.56	14.75	47.14	13.38
IVR	médiane	20.50	23.00	33.40	17.00
Web		17.50	23.00	35.50	19.00
Tel.		15.30	27.15	38.90	15.95

Ontario				
		Conserv.	Liberal	NPD/NDP
IVR	moy./mean	33.32	36.25	24.40
Web		32.71	36.57	25.43
Tel.		34.48	38.38	22.12
IVR	variance	15.97	36.12	43.80
Web		7.40	20.85	14.10
Tel.		9.84	23.13	8.19
IVR	médiane	33.00	33.80	23.65
Web		33.00	37.00	25.00
Tel.		34.45	38.25	22.10

- Québec and Ontario: more variance in IVR polls.
- Québec: Web overestimate BQ, IVR overestimate Conservatives.
- Ontario: Web & IVR oversestimate NDP;Telephone differ in estimates of Conservatives and Liberals.