Forecasting presidential elections: What about within-mode effects?

Presented by

Claire Durand,
Professor, Dept. Of sociology,
Université de Montréal,

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Are all the polls equal?

- What about modes... and sampling sources?
- The U.S. 2020 presidential election
  - The survey environment
  - Mode use and sampling sources: opt-in panels and mixed-mode
  - Impact on estimated trends and forecast
  - Validation and implications
- The French 2022 presidential election
  - The survey environment
  - Mode use and sampling sources: opt-in panels or not?
  - Impact on estimated trends and forecast,
  - Implications
- Comparison U.S. and France
- Conclusion

Are all the polls equal?

The question

- Polls are used for forecasting, either as such or combined with other information.
- Aggregators produce poll averages
  - Some grade the pollsters and weight according to these grades
  - Generally, they do not formally take into account modes of administration and sampling sources.
- Recent research found that there are indeed differences in the quality of estimates according to mode (Durand & Johnson, 2021; Pennay et al., 2020).

U.S. Presidential elections

The survey environment

- AAPOR transparency initiative aims at improving information on the published polls, but not many pollsters are members.
- Any firm can conduct a poll, not necessarily specialists. New British pollsters were present.
- In the 2020 election, from September 1st,
  - 33% of the pollsters conducted only one poll.
  - 20% conducted at least one poll per week.

Data

- 222 independent polls conducted from September 1st 2020 to November 2, by 51 pollsters.

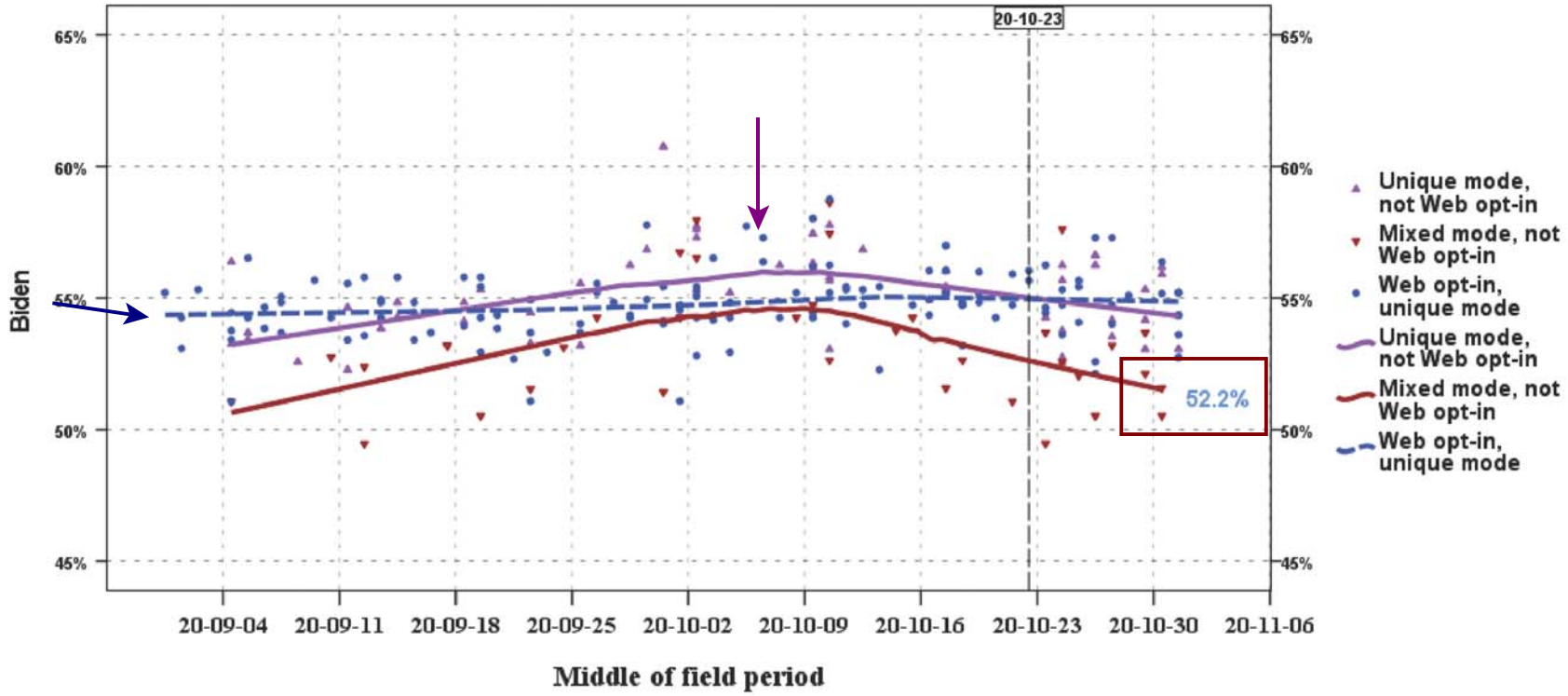
Main Mode and Mixed Mode use - Sept. 1st - Nov. 2				
	Pollsters		Polls	
	N	%	N	%
IVR	2	4	11	5
Web Opt-in	26	51	131	59
Live Phone	13	25	33	15
Other (Web prob, mobile, Mturk, RDE)	10	20	47	21
Mixed-mode use	10	20	36	16
Total	51	100	222	100

- Average of 4.3 polls by pollster
  - IVR pollsters: 5.5
  - Web Opt-in pollsters: 5.0
  - Live phone pollsters: 2.5

Analysis

- Dependent variable: At the national level, the difference bw estimates and election results: Biden/(Biden+Trump)
- 1. Visualize trends according to use of mixed mode & opt-in panels as unique source: *local regression*
- 2. Validate differences between trends statistically: *multilevel analysis*, polls nested within pollsters
  - **Three categories of polls:**
    - **1. Polls using mixed mode.**
    - **2. Polls using one mode but not only opt-in panels.**
    - **3. Polls using only opt-in panels.**
  - Controlling for relevant methodological features
    - At the poll level, timing, sampling size, nb days in field
    - At the pollster level, experience (nb polls during period)
  - 3. More in-depth: the last 10 days.

Are trends similar according to mode and sampling source? No.



Each point represents a poll estimate positioned at the middle of the field work. Lines represent Loess estimates of change over time using Epanechnikov .65 estimation. The dotted vertical lines represent the weeks. October 23 starts the last 10 days period.

First results

- The trends portrayed by mixed-mode polls and by polls who do not use only opt-in panels is quadratic, with support for Biden going up until the middle of the campaign and down afterwards, while...
- The polls using only opt-in panels show a stable trend in support for Biden.
- Polls using mixed-mode have a close to perfect forecast of the results.
- But this is without control for other methodological features.

Second analysis

Table 1. Prediction of error for Biden according to mode combination

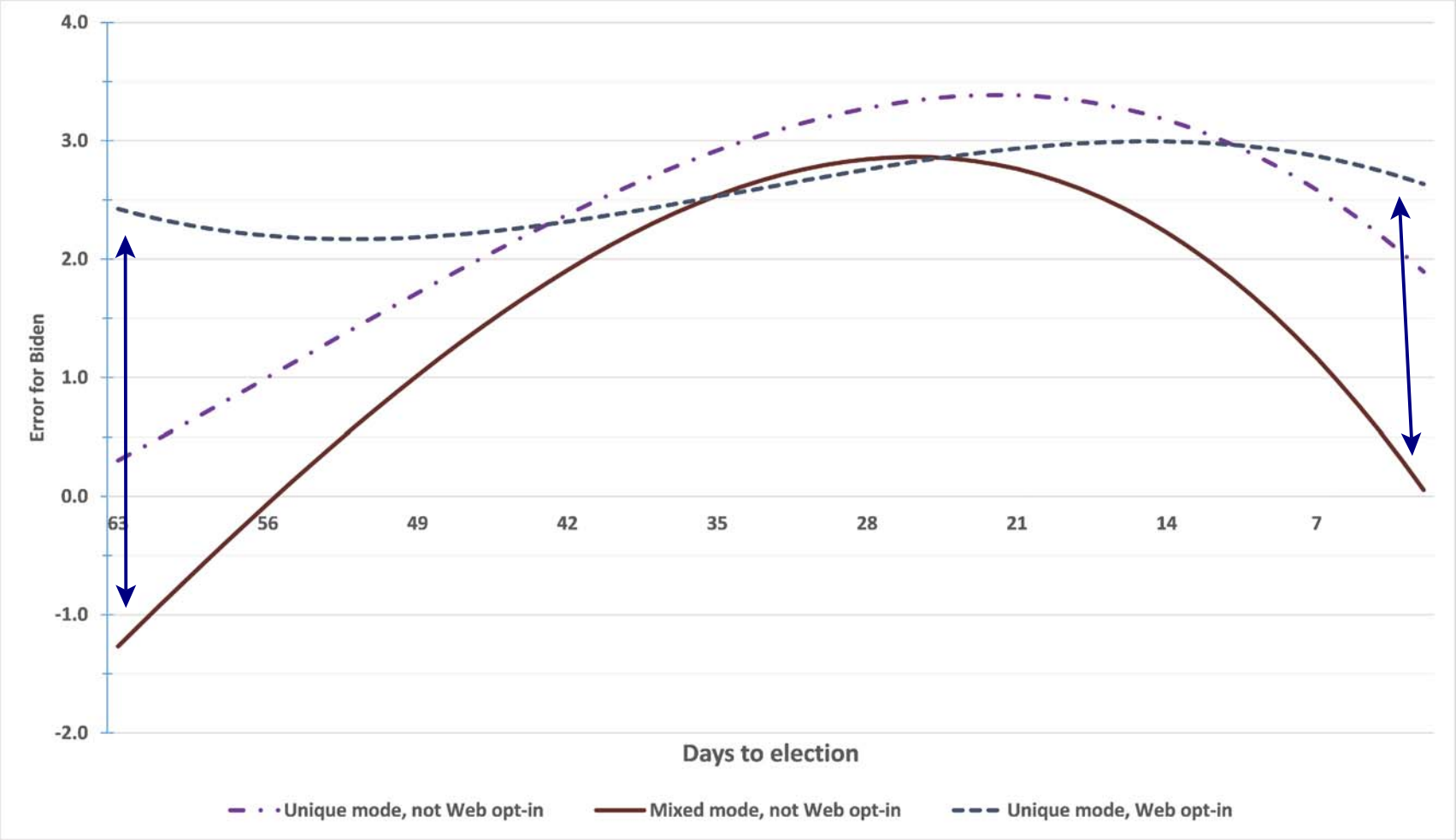
	Model 0	Model 0 longit.	Poll level	Pollster level	Polls&pollsters	Interaction	Parsimonious Mixed + Web Opt-in
Intercept	2,469 ***	2,690	1,928 ***	2,876 ***	1,957 **	3,046 ***	3,042 ***
Poll level							
Time centered		0,045 ***	0,047 ***	0,045 ***	0,047 ***	0,052 *	0,058 ***
- *Mixed*						0,016	-0,003
- *Web Opt-in*						-0,022	-0,025 *
Time centered^2 (*100)		0,098 *	-0,092 *	-0,100 *	-0,094 *	-0,208 ***	-0,207 ***
- *Mixed*						-0,125 *	-0,142 *
- *Web Opt-in*						0,199 **	0,203 ***
Time centered^3 (*1000)		-0,043 ***	-0,043 ***	-0,043 ***	-0,044 ***	-0,023	-0,033 *
- *Mixed*						0,034	
- *Web Opt-in*						0,004	
Nbdays in field			0,051 ‡		0,057 ‡		
MOE Biden			0,295		0,329		
Likely voter model			-0,387		-0,401		
Pollsters level							
Nb polls since sept				-0,014	0,002		
Mixed mode				-0,824	-0,901	-0,422	-0,381
Web Opt-in				0,117	0,084	-0,439	-0,446
Variance Poll level	1,491	1,261	1,261	1,269	1,271	1,107	1,109
Variance Pollster level	1,837	1,776	1,587	1,599	1,391	1,664	1,668
Part of var. at pollster level	55,2%	58,5%	55,7%	55,8%	52,3%	60,0%	60,1%
Compared with model 0 long.							
Explained var at poll level		*15,4% comp.*	*0,0%*	*-0,6%*	*-0,8%*	*12,2%*	*12,0%*
Explained var at pollster level		*3,3% comp.*	*10,6%*	*9,9%*	*21,7%*	*6,3%*	*6,1%*

‡: p < 0.1; *: p<0.05; **: p<0.01; ***: p<0.001

Final results

- Multilevel analysis shows that, on average, there is no impact of
  - The margin of error or of the use of a likely voter model, at the poll level
  - The pollster's experience, the use of mixed-mode or of sole opt-in panels, at the pollster level.
- The only significant impact is for:
  - When the poll was conducted, linear, quadratic & cubic trends are significant.
  - More importantly, different trends traced by the three categories of polls.
  - In short, multiple modes or sampling sources give more accurate estimates.
- Which translates into the following graph:

Figure from multilevel analysis



Mixed-mode leads to no error.

Concretely, on 46 polls,

The best performing polls use either multiple mode, or multiple sources or *Random device engagement*.

Table A1. Last 10 days, prediction of support for Biden, within MOE/CI & less than one point difference

	Start date	End date	Sample size	Estimate Biden/ (Trump+ Biden)	Difference with final results	Mixed mode?	2nd mode	Comment
IVR polls (1 out of 3 polls)								
Gravis	27-oct	29-oct	1281	53.2	1.0	**Yes**	Web (?%)	
Telephone polls (2 out of 8 polls)								
IBD/TIPP	27-oct	31-oct	1072	52.1	-0.1	**Yes**	Web (37%)	tracking
IBD/TIPP	28-oct	01-nov	1072	51.6	-0.6	**Yes**	Web (37%)	tracking
Web polls (10 out of 35 polls)								
RMG Research[1]	23-oct	24-oct	1842	52.1	-0.1	**Yes**	IVR (10%)	RDE
RMG Research[1]	29-oct	31-oct	1200	52.6	0.4	**Yes**	IVR (10%)	RDE
Emerson College	25-oct	26-oct	1121	52.0	-0.2	**Yes**	IVR (36%)	mult. sources
Winston	23-oct	26-oct	1000	52.8	0.6	**No**		
Swayable	23-oct	26-oct	11714	52.6	0.4	No		RDE similar
Swayable	29-oct	31-oct	3115	53.1	0.9	No		RDE similar
Swayable	01-nov	01-nov	5174	53.1	0.9	No		RDE similar
Harris	25-oct	28-oct	2093	52.1	-0.1	No		Propensity scores
Atlas Intel	26-oct	28-oct	1726	52.6	0.4	No		Propensity scores
Zogby	01-nov	01-nov	1008	52.8	0.5	No		
1: Hypothesis of high participation by Republicans								

French presidential election

Survey environment

- The publication of polls is closely monitored by the “Commission des sondages” (Survey Commission) and its experts.
- The Commission decides from when the pollsters must report on their polls (January 1st)
- Pollsters need to provide precise information about their methodology and the data file.
- All the information provided by the pollsters -- but not the data -- is published on a web site.
- The Commission may issue “warnings” related to the methodology adopted by a pollster.

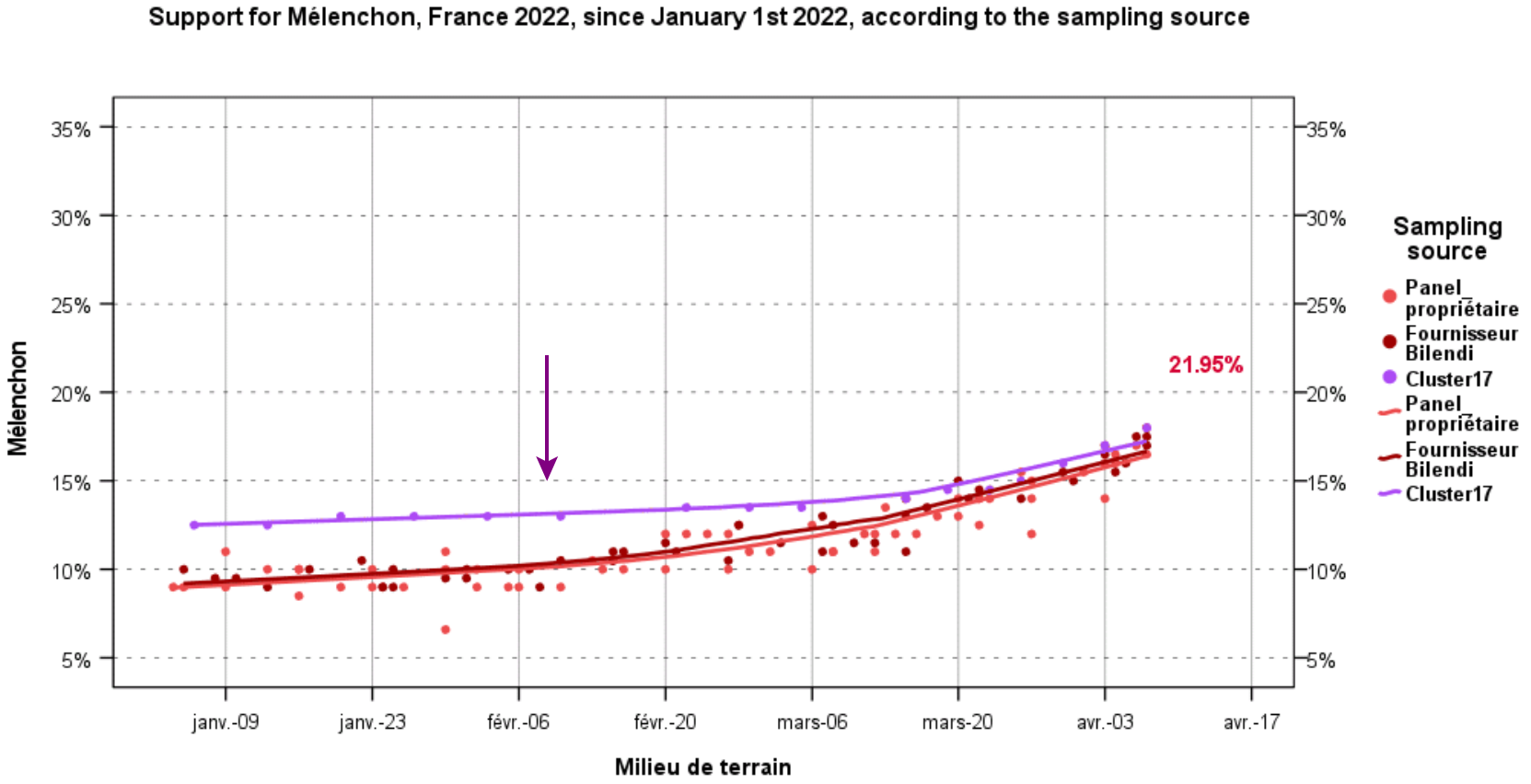
Data

- 10 pollsters, conducting 126 polls, from January 1st to April 9, 24 hours before the 1st round election day on April 10, 2022.
- All the pollsters use the web as main mode.
- Most pollsters -- but one -- share a few opt-in panel sources as main source: their own panel (n=81) or Bilendi (n=61). Also Dynata& Profiles.
- One pollster (Cluster 17) opted for a more probabilistic method (n=20). He received recurrent warnings from the Survey Commission which did not accept that he did not use an opt-in source. The logic of quotas is prevailing.

Are trends similar according to sampling source?

- There is no difference on average between the pollsters who use opt-in panels, whatever the source.
- On average, Cluster 17
  - Had a better estimation of support for Mélenchon (extreme-left)
  - But it slightly underestimated, more than the others, Macron (center) and Le Pen (extreme-right), the two leading candidates
  - And slightly overestimated Zenmour (extreme right).
  - In short, higher estimation of the extremes.

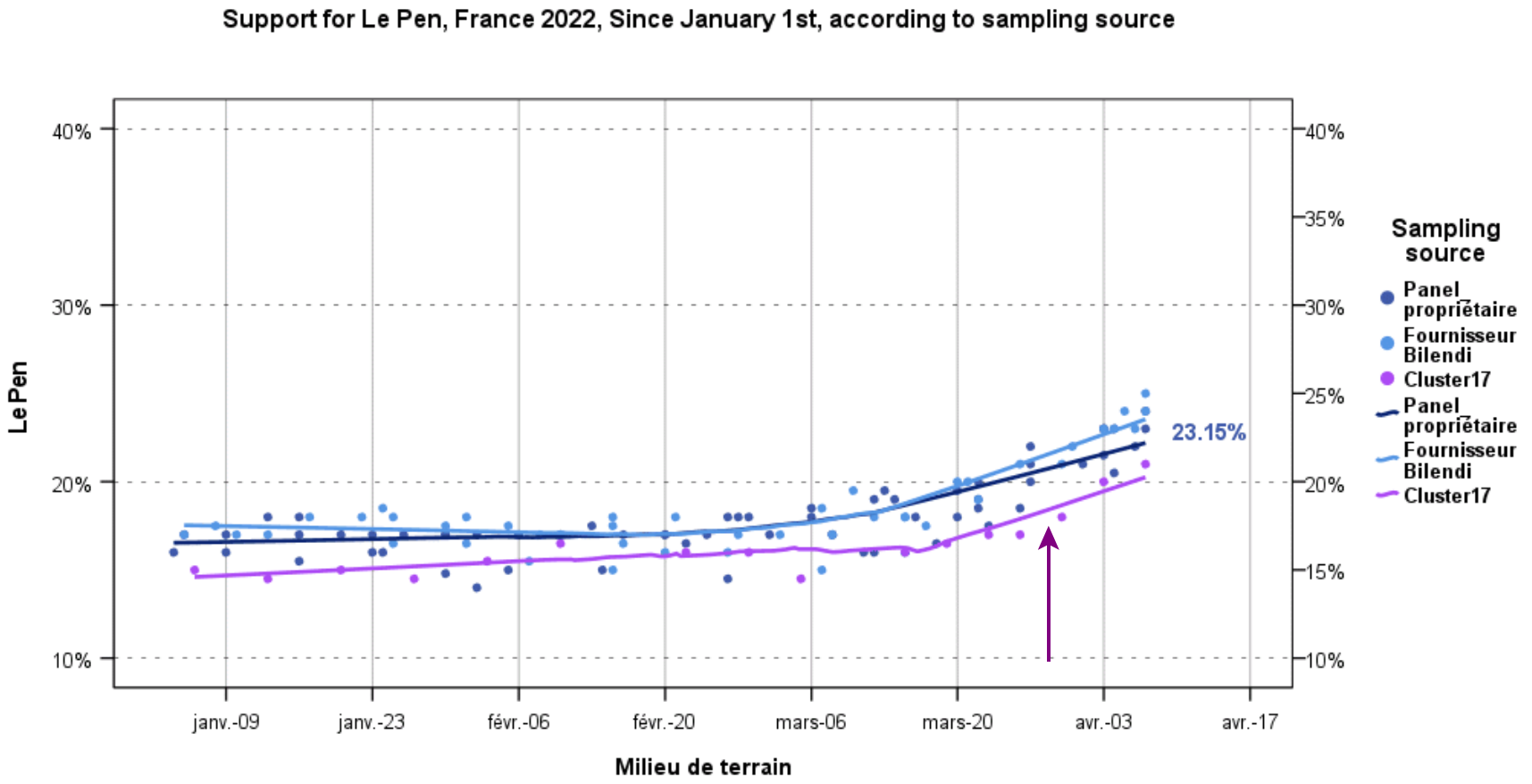
Support for Mélenchon



Chaque point représente une estimation positionné au milieu de la période de terrain. Les lignes représentent les estimés loess de l'évolution dans le temps en utilisant une estimation Epanechnikov .65. © C. Durand, 2017.

A different trend for Cluster 17

Support for Le Pen



Chaque point représente une estimation positionné au milieu de la période de terrain. Les lignes représentent les estimés loess de l'évolution dans le temps en utilisant une estimation Epanechnikov .65. © C. Durand, 2022.

A different forecast for Cluster 17

Final results

- A significant -- but not substantial -- average difference according to sampling source.
- Contrary to the polls of the U.S. election, no substantial difference in trends.

U.S. and France, what do we learn?

- Doing surveys has become a “Cat and mouse” operation where pollsters try to reach respondents and people try to avoid being reached.
- In both countries, *some* pollsters seem to think that opt-in panels are not a reliable method on the long term.
  - They try to diversify the sources of respondents, either by
    - Using multiple modes or
    - Using multiple sampling sources with the same mode.
  - It appears very important to have diverse methodologies to assess their performance.

Conclusion

- For which periods, and using which methods, are polls reliable to forecast?
- We think we have multiple polls but if the sampling source is the same or is homogenous accross polls, then what...?
- Emergence of new methodologies to conduct polls
  - Combining modes
  - Combining sampling sources
  - Reintroducing randomness
- These new methods do not always give the same estimates of average support or of trends/ forecast in support.
- We need to monitor these new developments.
  - And not use polls as if they were all equal and differences between them are random.