

Recovering the French Party Space from Twitter Data

François Briatte and Ewen Gallic

Slides at goo.gl/BJmDDX

Results in these slides: 'Model 07' (2015)



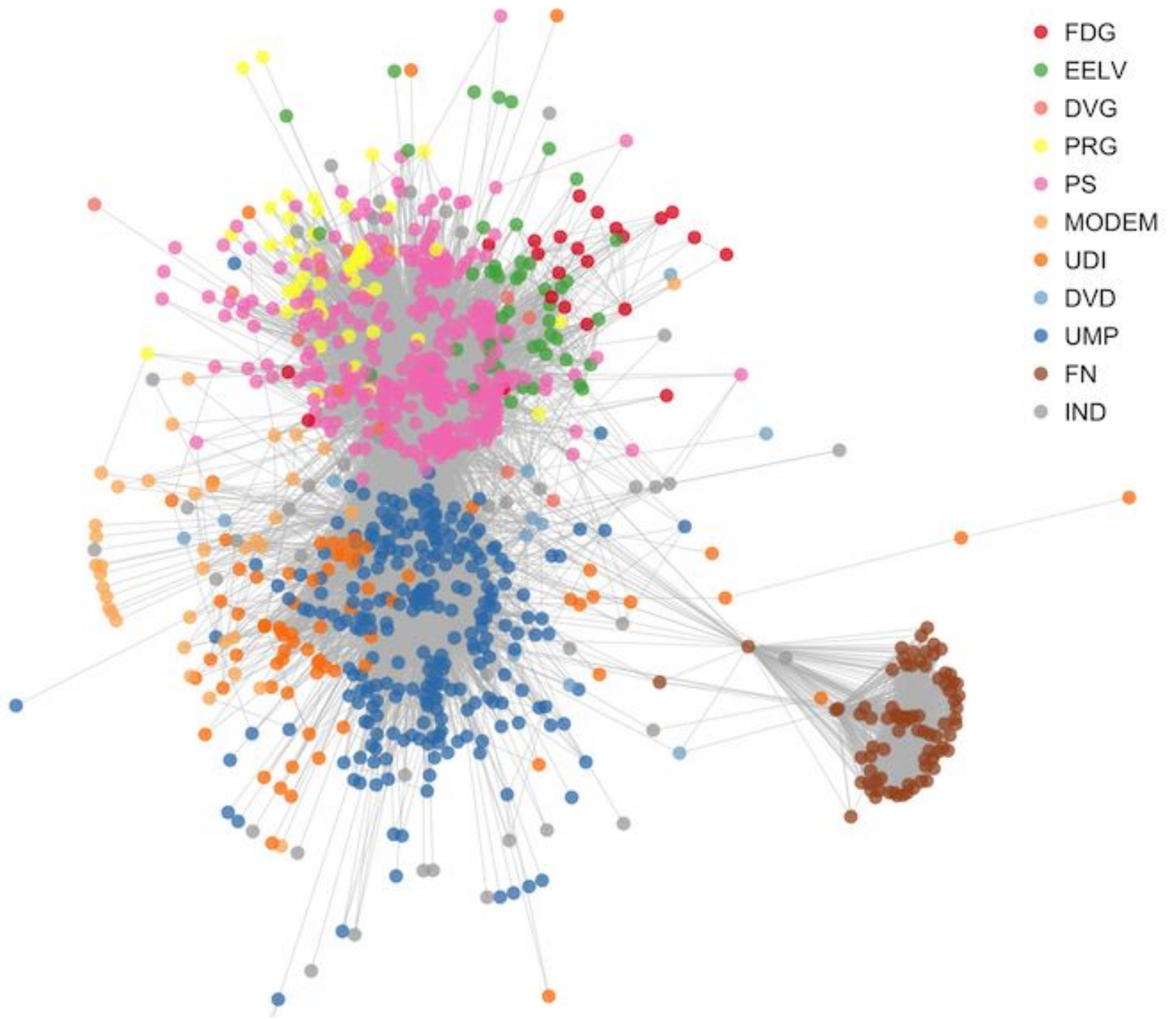
Questions

- How do **online mass publics** break down in terms of their socio-demographics?
- Does **online ideological polarization** in the general public match its 'offline' equivalents?
- Are there **online behavioural traits** associated with ideological extremity?

Data

- **1,762 French politicians' Twitter accounts:**
389 MPs, 200 Senators, 66 MEPs, mayors, local councillors, party leaders...
- **3.14 million Twitter users** follow at least one of them (mean politicians followed ~ 4)

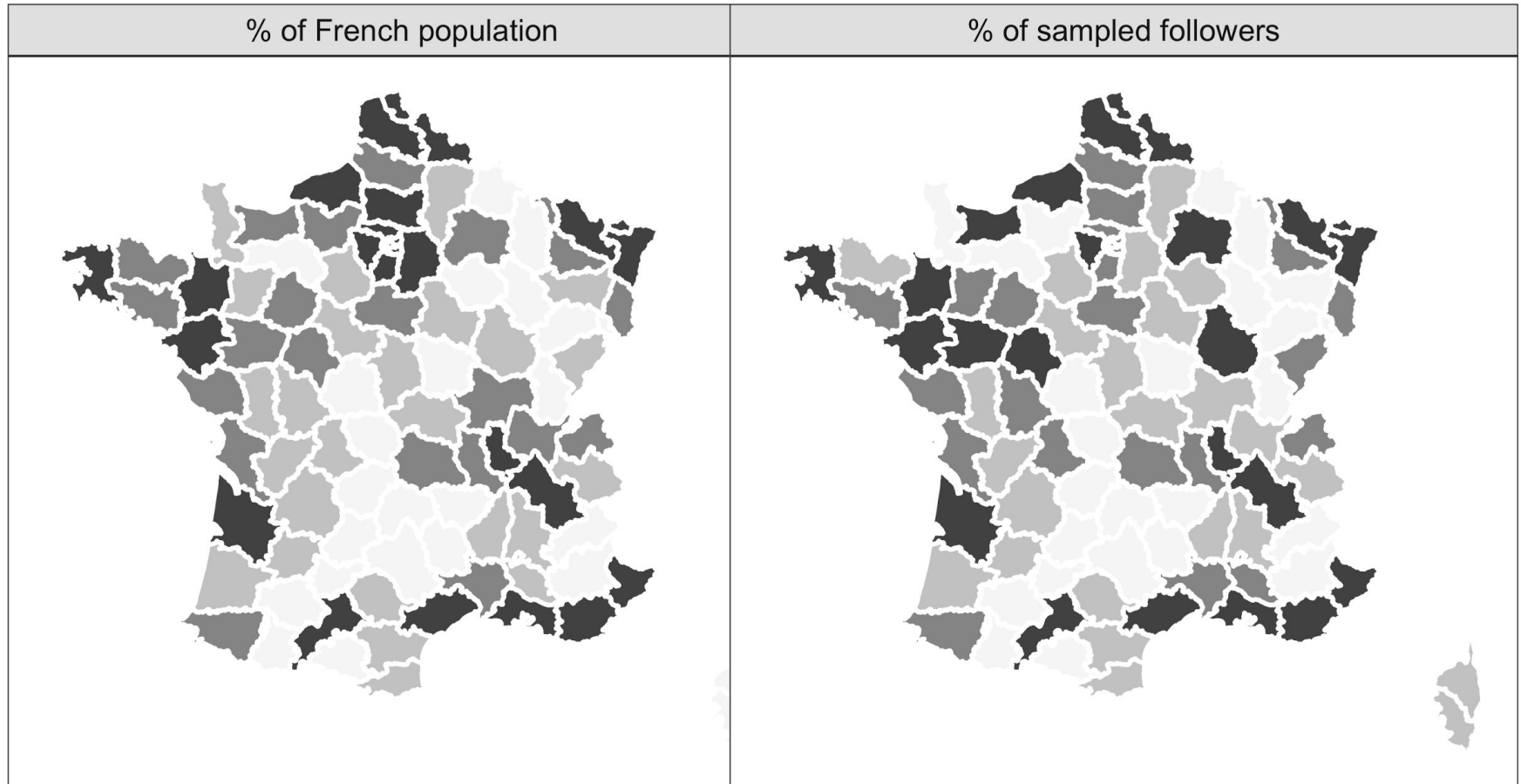
Note: politicians' accounts are restricted to **nominal** ones, followers' accounts are not



Sampling

- **76,116 followers** are active on Twitter and (most probably) located in France
- **42,627 ‘informative’ users** follow 10+ active politicians’ accounts
- **1,051 politicians** from all political parties are followed by 200+ ‘informative’ users

Geography



■ < 0.5 ■ < 0.9 ■ < 1.3 ■ < 4.1

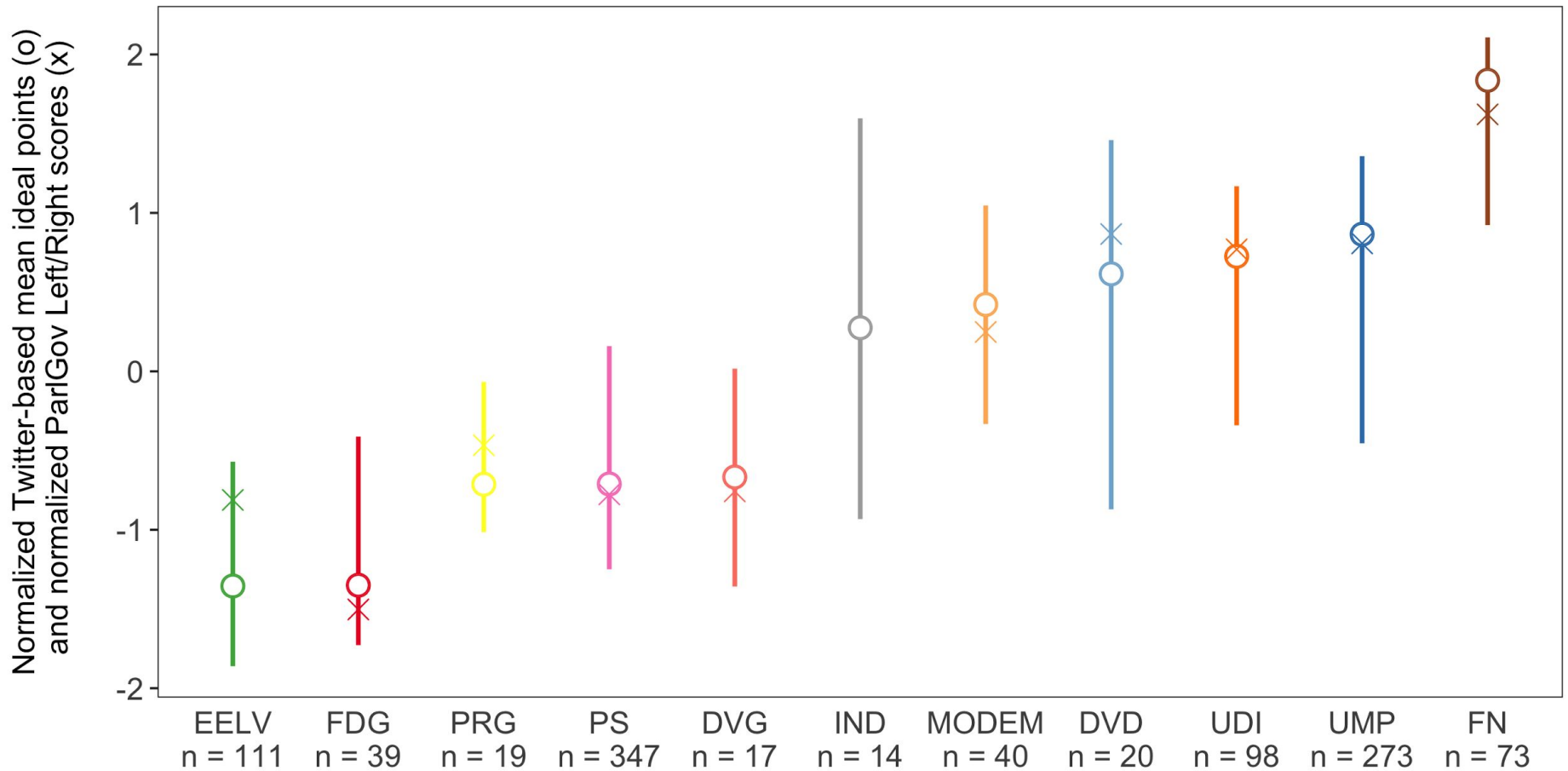
■ < 0.1 ■ < 0.3 ■ < 0.7 ■ < 43.2

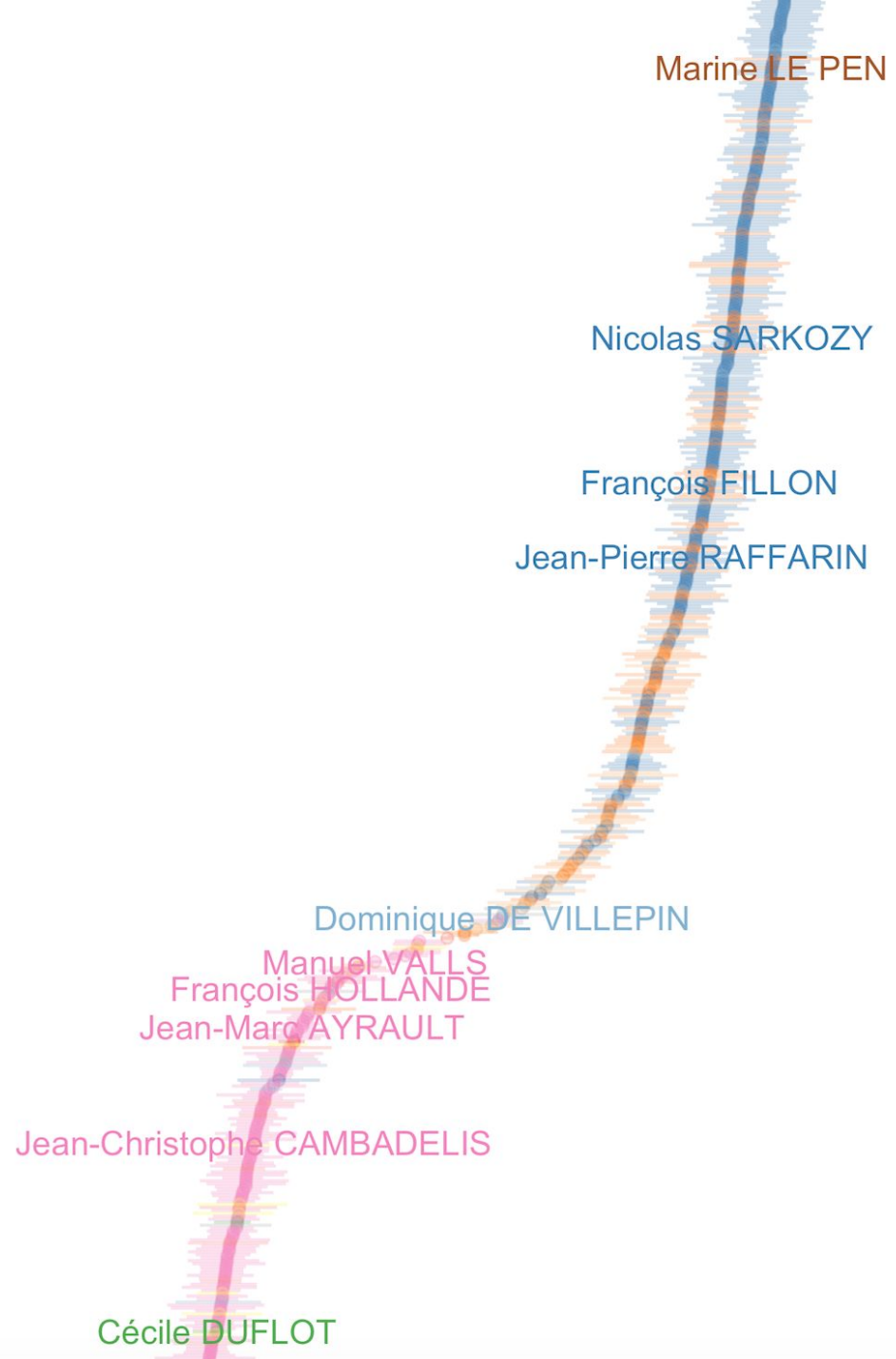
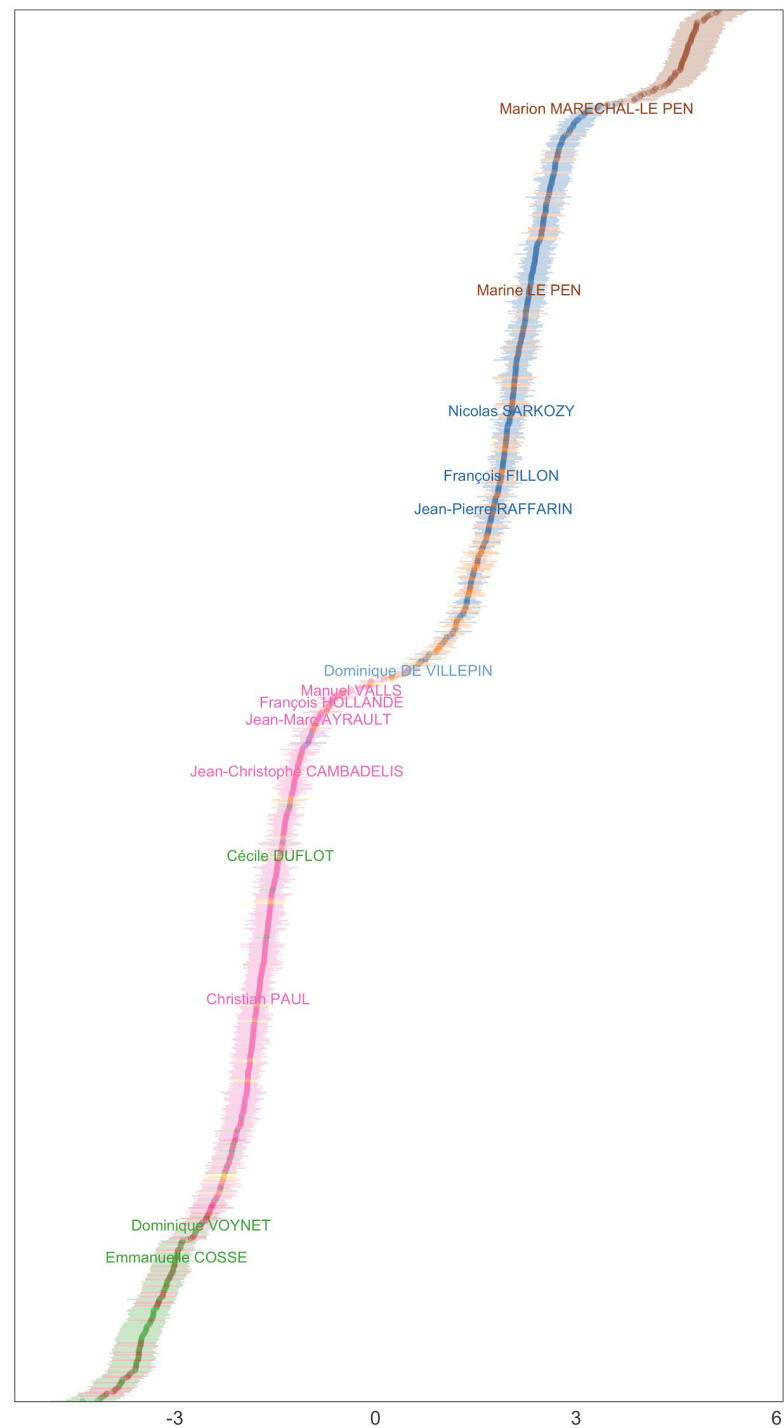
Model (Barberá 2015)

- **Adjacency matrix** of i users and j politicians, letting $Y_{ij} = 1$ if user i follows politician j
- **Spatial Following Model** to estimate the Euclidean distance, net of random effects (MCMC estimation via RStan)

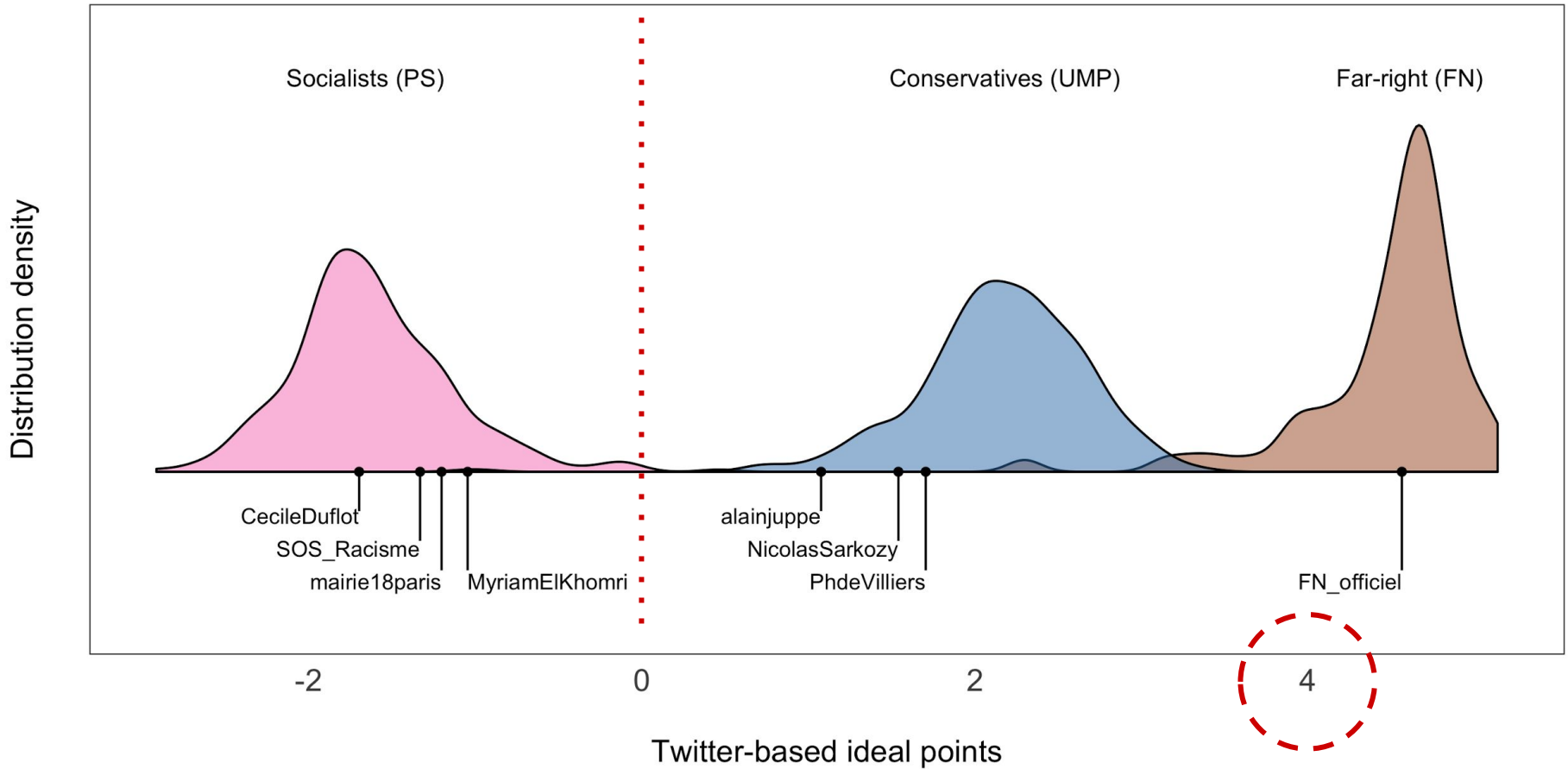
$$P(y_{ij} = 1 | \alpha_j, \beta_i, \gamma, \theta_i, \phi_j) = \text{logit}^{-1}(\alpha_j + \beta_i - \gamma \|\theta_i - \phi_j\|^2)$$

Results: politicians ($N = 1,051$)

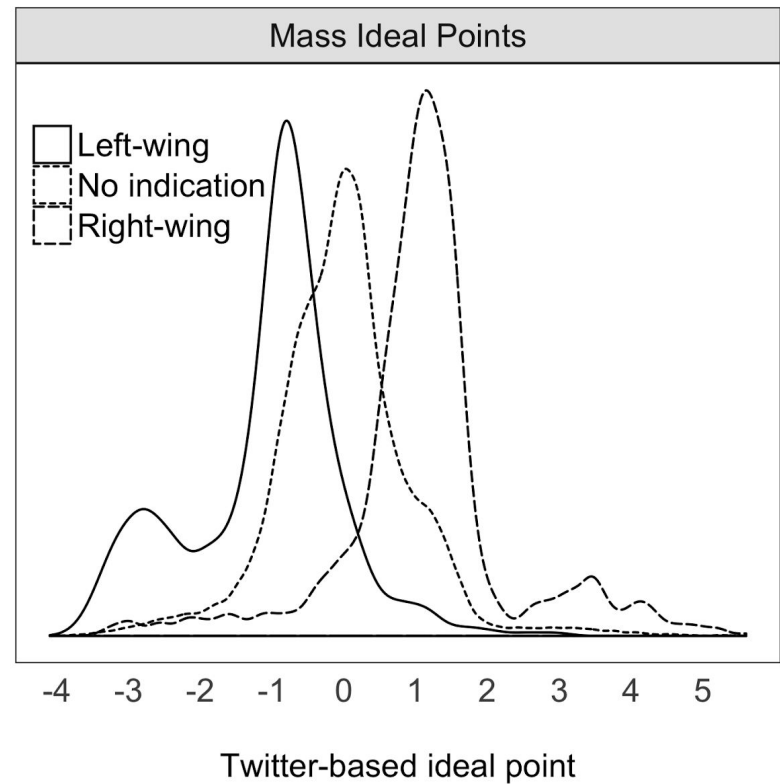
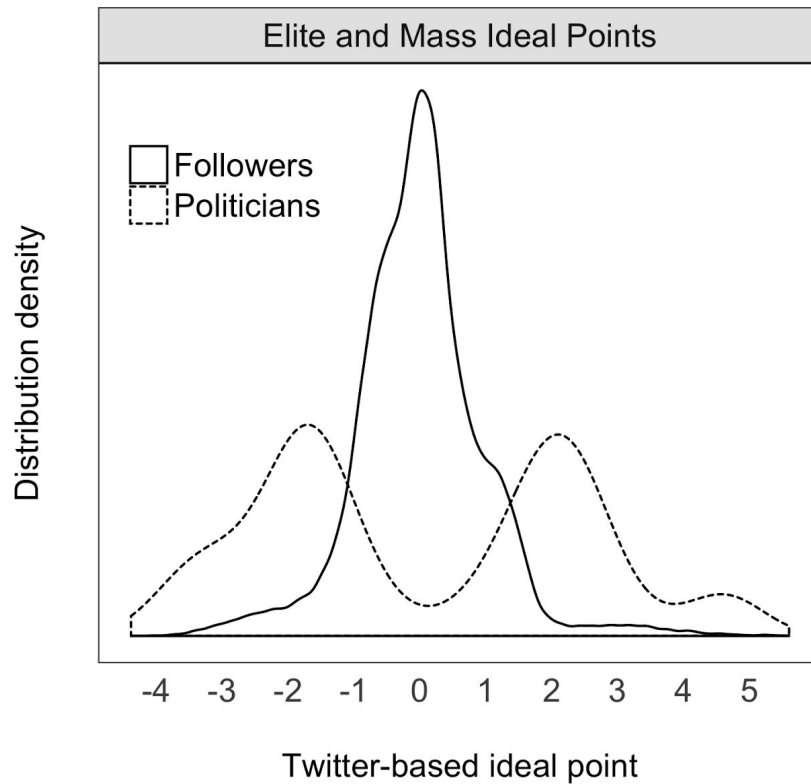




Ideological extremity

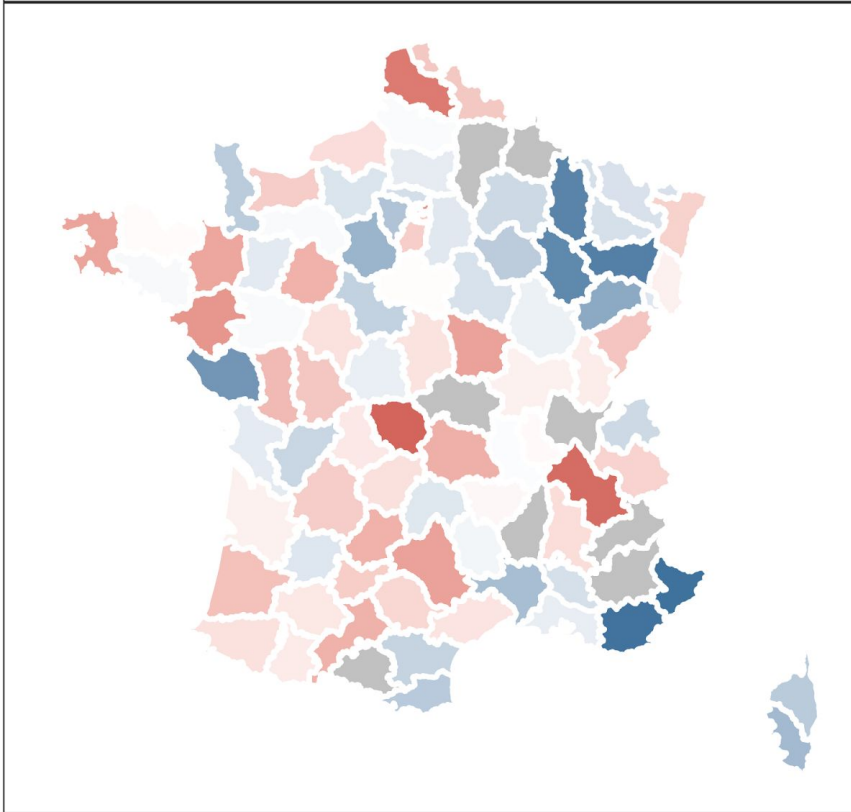


Elite v. Mass distributions

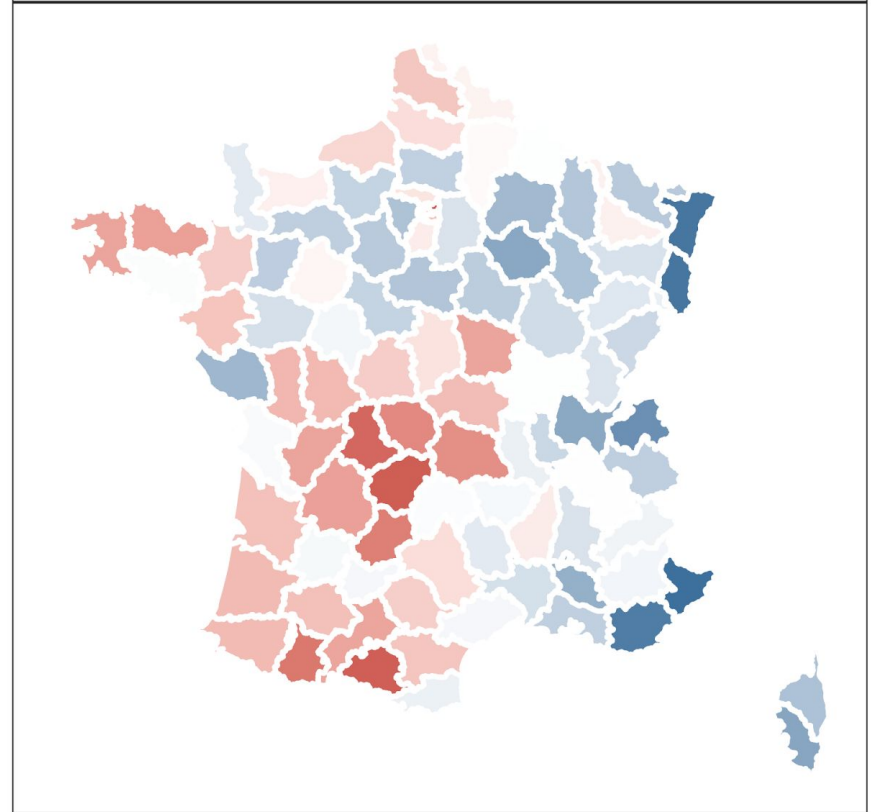


Geography

Mean ideal point of followers



Sarkozy vote share, 2012 round 2



Progress

- **Replication material and draft paper** at github.com/briatte/elus
- **Next step:** estimating 'Model 08' using 2017 sample (requires HPC infrastructure + R + Stan)
- **Additional findings** based on tweet samples and on detrended correspondence analysis

Thank you for your attention

François Briatte
[@phnk](#)

Ewen Gallic
[@3wen](#)



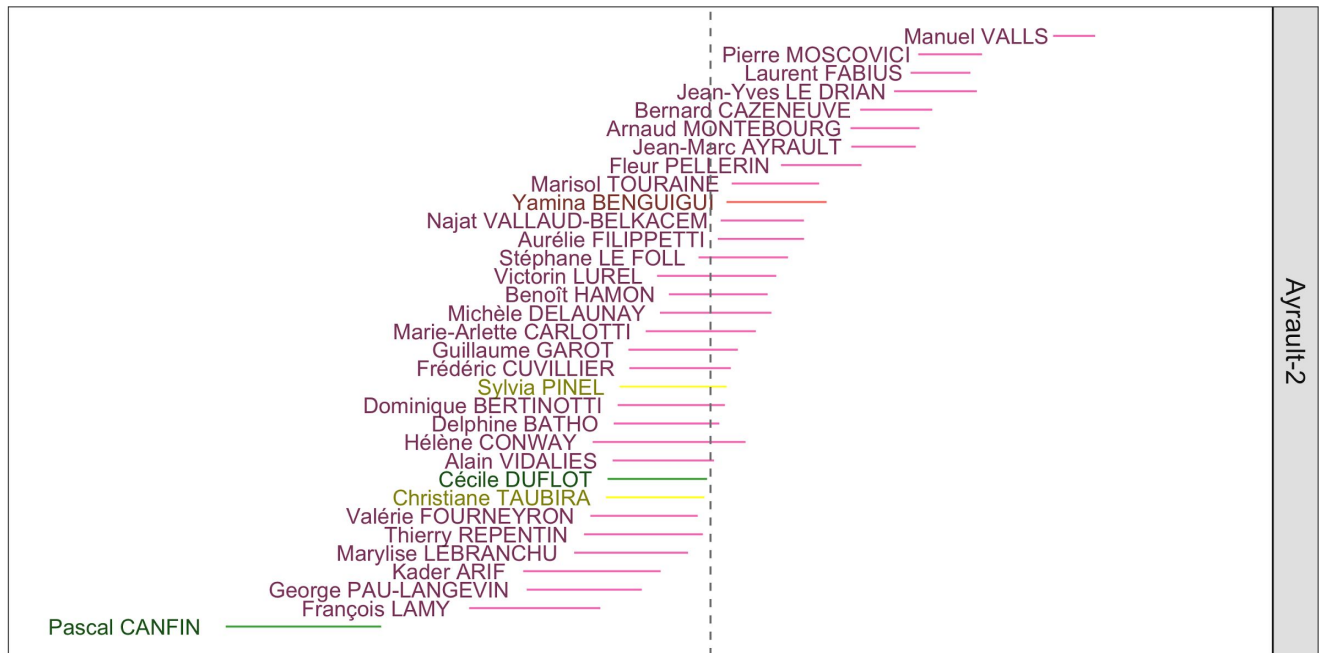
Politicians full sample

Party	Accounts	Females	Males	Sample weight (%)
PS	533	193	340	48.50
UMP	451	108	343	41.00
EELV	189	68	121	17.20
UDI	185	47	138	16.80
FN	138	32	106	12.50
FDG	98	32	66	8.90
IND	77	16	61	7.00
MODEM	64	17	47	5.80
PRG	56	14	42	5.10
DVD	44	8	36	4.00
DVG	42	7	35	3.80

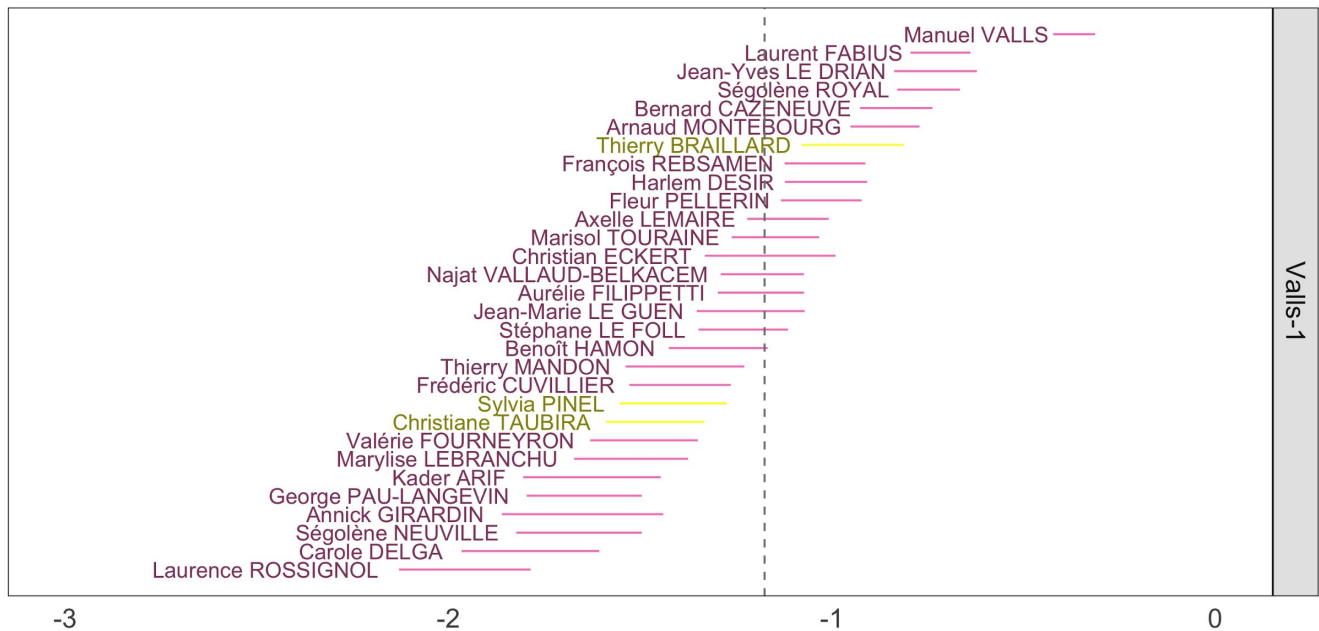
Table 2: Politicians sample, by party affiliation.

Government members

Government member



Ayraut-2

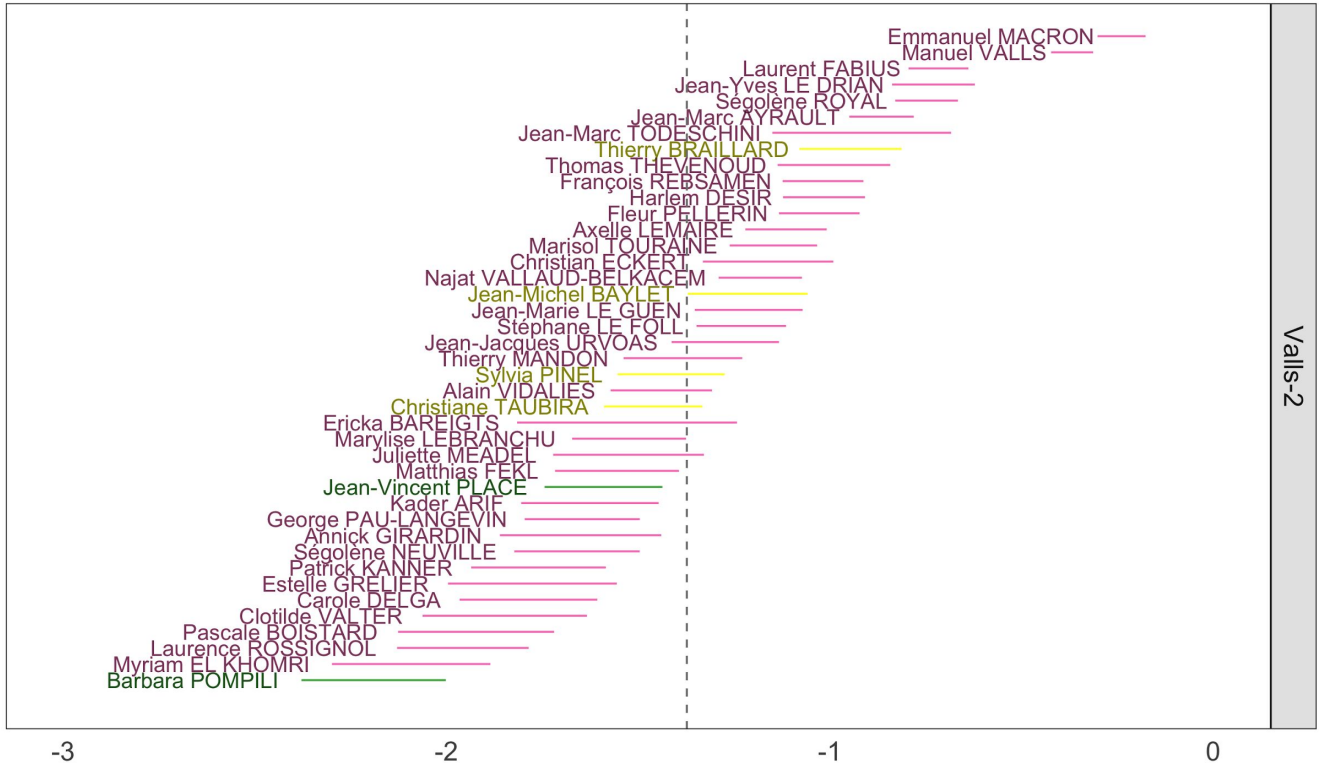
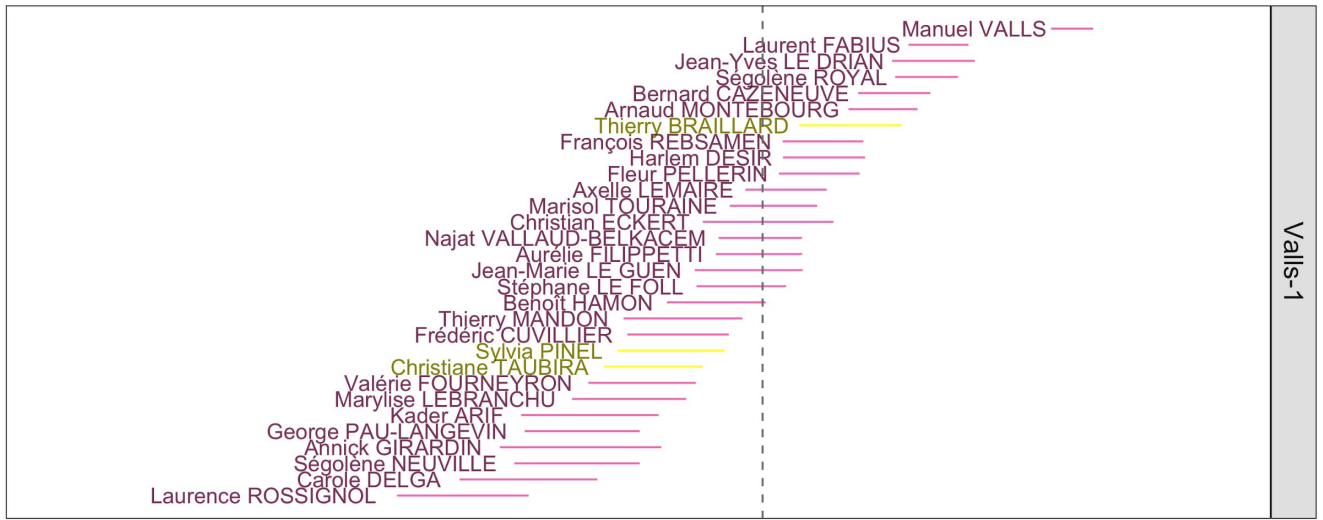


Valls-1

Twitter-based ideal point (dashed line at median)

Government members

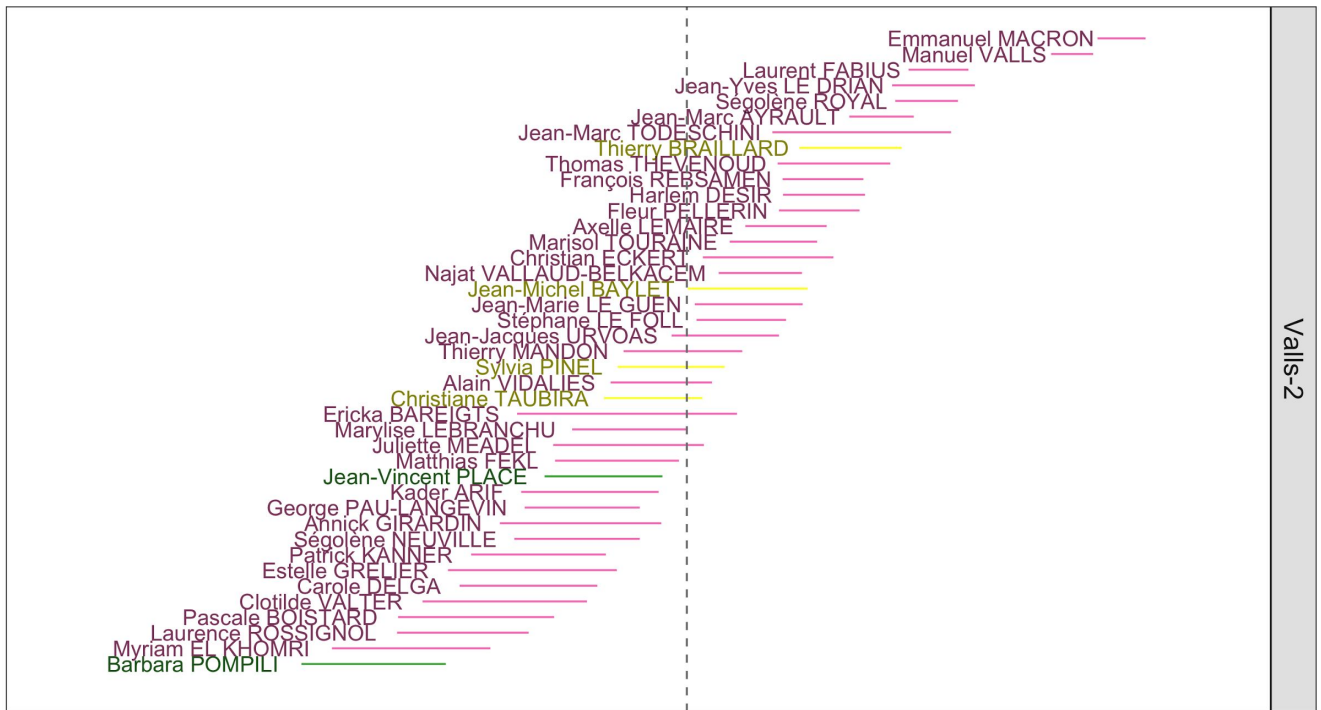
Government member



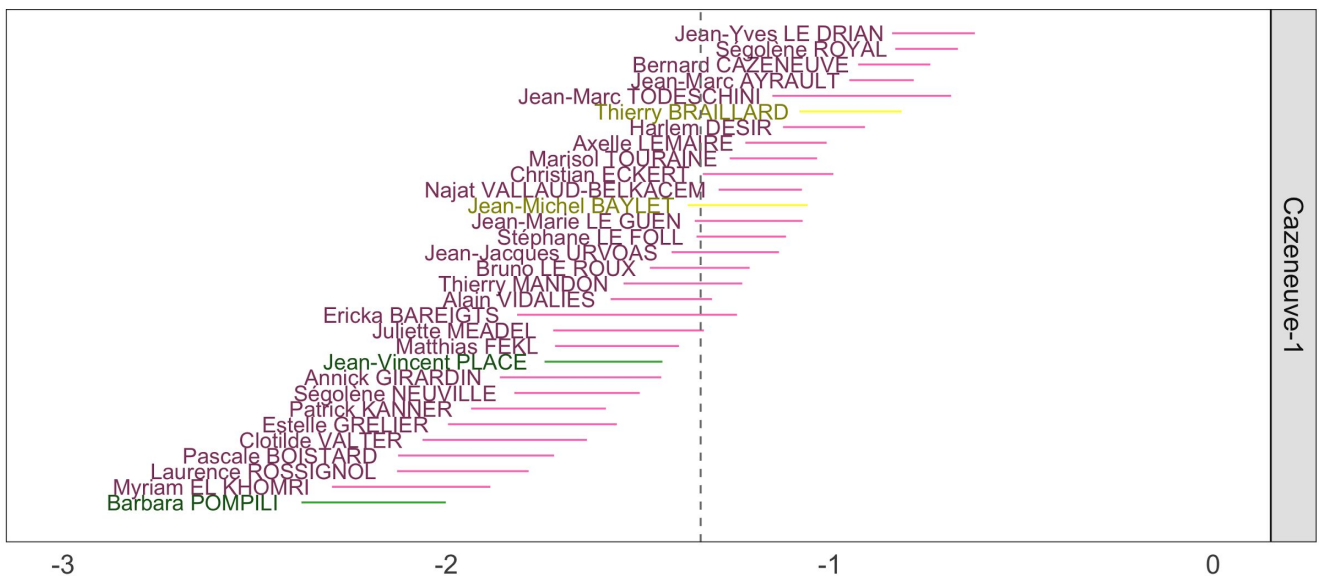
Twitter-based ideal point (dashed line at median)

Government members

Government member



Valls-2



Cazeneuve-1

-3 -2 -1 0

Twitter-based ideal point (dashed line at median)

Findings

- **Ideological polarization among Twitter users** fits the ‘unimodal mass v. multimodal elites’ picture found in survey data
- **Ideologically extreme Twitter users** more actively engage with similarly extreme politicians, and are more active overall (results detailed in draft paper)

Limitations

- The patterns of political polarization that we measured are **not generalizable** beyond Twitter users who follow politicians
- Reproducing the same ideological space through **correspondence analysis**, as Barberá *et al.* do in a [recent paper](#), requires some adjustments (detrending) for France

Diagnostics

- **Markov chains:** Heidelberger-Welch tests convergence false for only four of the politicians included in the intermediary model
- **Regressions:** robust to excluding gender and/or age; similar results when modeling all dependent variables as negative binomials