

# Experiments on voting rules


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# Why Experiments ?

- ▶ Most knowledge in Pol. Sc. historical and descriptive.
  - ▶ Economics brings theorizing, spec: rationality theory.
  - ▶ Problem / voting : often poor theoretical predictions.
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# Why experiments ?

Theory problematic



# Why experiments ?

Theory problematic because:

- ▶ Motives debatable
- ▶ Consequences of individual decision is tiny for the individual voter herself
- ▶ Social situation (not individual one) « Game ». Equilibrium problems.

# Kind of experiments (1 / 4)

- ▶ *In Vivo*:

Gerber and Green (*APSR* 2000) on turnout;  
Wantchekon (*World Politics* 2003) on  
clientelism and electoral competition.

# Kind of experiments (2/4)

- ▶ *In Situ*:

Guth and Weck–Hannemann (*P.C.*) on the value of voting right;

Laslier and Van der Straeten (*Exp. Econ.*) on changing the voting rule; and many things done here ! (Baujard, Gavrel, Igersheim, Laslier, Lebon)

# Kind of experiments (3/4)

- ▶ *In Fluctus (On-line):*

Blais, Laslier, Van der Straeten and others:

*Ontario 2011, France 2012, Iceland 2012,  
Pope 2013, Euro 2014.*

On line experiments, with open participation,  
on changing the voting rule.

# Kind of experiments (4/4)

- ▶ *In Vitro*

In the laboratory: tradition in *Political Psychology*, more recently, *Experimental Economics*.

Control for voters' information and preferences through monetary incentives.

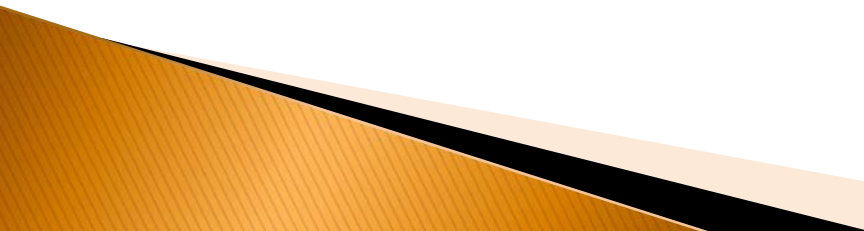


# Kind of experiments (5 / 4)

- ▶ *In Sillico*

With a computer: tradition in *Physics*, (simulation) more recently, *Agent-Based Modelling*. Out of our scope here

# This talk

- ▶ Restrict attention to experiment on voting rules for electing one candidate out of several.
  - ▶ Other classic themes include
    - Participation
    - two-candidate elections under incomplete information.
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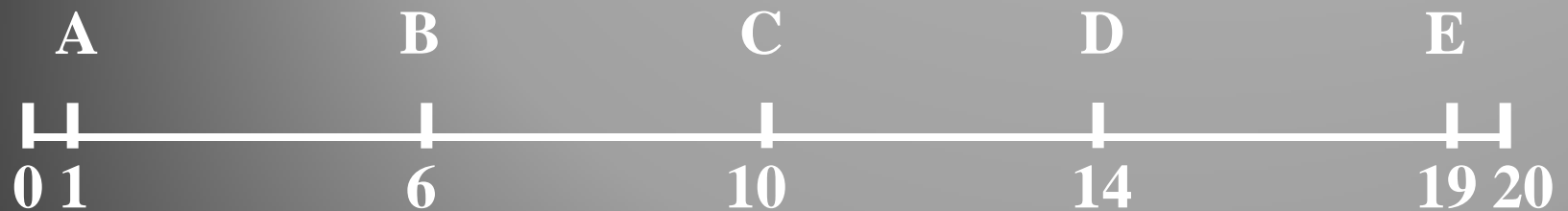
# Laboratory Experiments

# The single-peaked case (1 / 6)

- ▶ Experiments by Blais, Laslier, Laurent, Sauger and Van der Straeten (2008).
- ▶ Preference profile given by the one-dimensional euclidean model.
- ▶ 21 voters, 5 candidates.

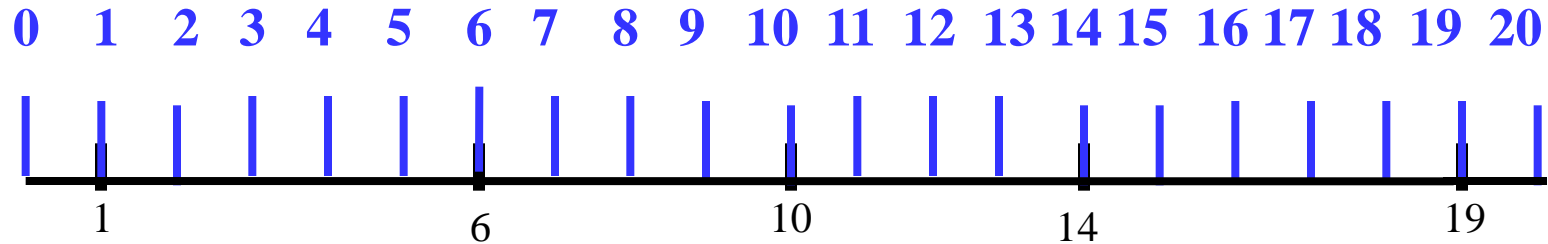
# Single-peaked case (2/6)

## positions of the 5 candidates



These positions remain the same through the whole session.

# Single-peaked case (3/6) subjects' positions



21 subjects in 21 positions:

1 voter in position 0, 1 voter in position 1, ...,

1 voter in position 20.

The distribution of positions is known to all voters.

Positions are randomly assigned

# Single-peaked case (4/6)

## Payoffs

- ▶ Depend on the **distance between the subject's position and the elected candidate's position** on the axis.
- ▶ The smaller this distance, the higher the payoff.
- ▶ Subjects receive **20 Euros minus the distance** between the subject's position and the elected candidate's position. (At the end of the session, one election was randomly drawn to determine payoffs.)

# Single-peaked case (5/6) winners (last two elections)

	One round	Two round	Appr.	Altern. (STV)
C	52 %	50 %	100 %	0
B or D	48 %	50 %	0	100 %
A or E	0	0	0	0
<i>total</i>	<i>46</i>	<i>46</i>	<i>14</i>	<i>8</i>

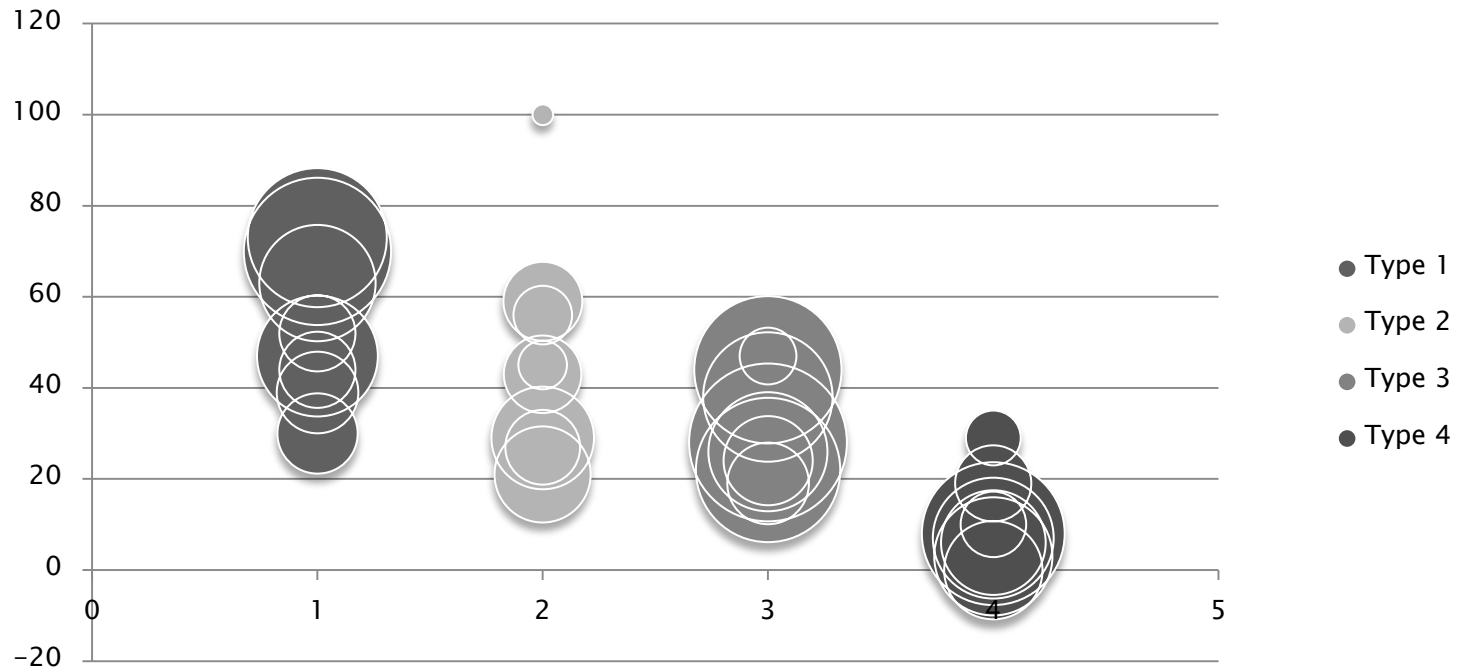


# Single-peaked case (6/6) approval voting

- ▶ Strategic model: approve candidates who are preferred to the leader, compare leader to main challenger.
- ▶ **Correct predictions:**  
 $1931 / 2205 = 88\%$ .

	Vote = 1	Vote = 0	
Pred = 1	772	183	955 (.43)
Pred = 0	91	1159	1250 (.67)
	863 (.39)	1342 (.61)	2205 (1.)

# Complex strategies ?



- ▶ Majority run-off, four types of reasonings
- ▶ For each type, each point corresponds to a session. The size (surface) of the point is proportional to the number of observations in the sessions. Total number of observations in the four sessions: 1567.
- ▶
- ▶ Figure 2: Percentage of strategic resolution of dilemmas (perfect anticipations assumption) by type (15-election sessions)

# Conclusions from lab. experiments

- At the aggregate level:
  - Vote concentrate on **two candidates** under FPTP
  - and **three candidates** under two-round majority.
  - AV tends to elect **consensual outcomes** and **Condorcet winners**
- At the individual level:
  - The **strategic theory** (best response to anticipations) works well when the reasoning is simple.
  - Does not work when the strategic reasoning is complicated.

# REFERENCES

See work of Alos-Ferrer, Baujard, Blais, Igersheim, Laslier, Sauger, Van der Straeten, and others...

- ▶ Forsythe, Myerson, Rietz, Weber (1993) “An experiment on coordination in multi-candidate elections” *SCW*.
- ▶ Laslier, Van der Straeten (2008) “A live experiment on approval voting” *Exp. Econ.*
- ▶ Van der Straeten, Laslier, Blais, Sauger (2011) “Sorting out mechanical and psychological effects in candidate elections: an appraisal with experimental data” *British Jnl. Pol. Sc.*
- ▶ Van der Straeten, Blais, Sauger, Laslier (2010) “Sincere, Strategic, and Heuristic Voting under Four Election Rules” *SCW*.
- ▶ Laslier (2012) “And the loser is... Plurality Voting” in: *Electoral Systems* (Felsenthal and Machover, eds.)
- ▶ Laslier, Sanver (eds.) (2010) *Handbook on Approval Voting*
- ▶ Dolez, Grofman, Laurent (eds.) (2011) *In Situ and Laboratory Experiments on Electoral Law Reform*.
- ▶ *Vote au pluriel*. An interactive website for the French presidential election of April 2012. <http://votepaupluriel.org>.

# *In Situ* experiments

# *In Situ* experiments

Presidential election, France, 2002, 2007, 2012

State election in Hesse, Germany , 2008.

Presidential election, Bénin, 2011.

(Allos–Ferrer, Balinski, Baujard, Igersheim, Gavrel,  
Kabre, Laraki, Laslier, Lebon, Van der Straeten,  
Wantchekon,...)

# In situ obs. during political elections

- ▶ Participating has no direct consequence. Somehow similar to an opinion survey but:
- ▶ Uses the decorum and etiquette of true election: Open participation, anonymity and confidentiality. Different from pool surveys and laboratory. Presented as a scientific test of a voting rule, not an exit pool.

## Expérience de vote : *Quel scrutin pour quelle démocratie ?*

### *Bulletin de vote*

Bruno Mégret	
Corinne Lepage	
Daniel Gluckstein	
François Bayrou	
Jacques Chirac	
Jean-Marie Le Pen	
Christiane Taubira	
Jean Saint-Josse	
Noël Mamère	
Lionel Jospin	
Christine Boutin	
Robert Hue	
Jean-Pierre Chevènement	
Alain Madelin	
Arlette Laguiller	
Olivier Besancenot	

**Règlement du vote par assentiment :** L'électeur vote en mettant des croix dans la deuxième colonne du bulletin. Il peut mettre des croix pour autant de candidats qu'il le souhaite, mais pas plus d'une croix par candidat. Est élu le candidat qui obtient le plus de croix.



### Vote par note

#### Bulletin de vote expérimental n° 1

**Instructions :**

Vous donnez une note à chacun des 12 candidats: soit 0, soit 1, soit 2 (2 étant la meilleure note et 0 la plus mauvaise).

Pour cela, mettez une croix dans la case correspondante. Si vous ne souhaitez pas noter un candidat, ne cochez aucune case de la ligne.

Attention : si plus d'une seule case par ligne est cochée, le bulletin est nul dans sa totalité.

**Le candidat élu avec le mode de scrutin expérimental n° 1 est celui qui comptabilise le plus de points.**

	2	1	0
Olivier Besancenot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marie-George Buffet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gérard Schivardi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
François Bayrou	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
José Bové	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dominique Voynet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Philippe de Villiers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ségolène Royal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frédéric Nihous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jean-Marie Le Pen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arlette Laguiller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nicolas Sarkozy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Vote par approbation

#### Bulletin de vote expérimental n° 2

**Instructions :**

Vous indiquez, parmi les 12 candidats, quels sont ceux que vous soutenez.

Pour cela, entourez le nom du ou des candidats que vous soutenez. Vous pouvez entourer un seul nom, plusieurs noms ou aucun nom.





Attention : entourez les noms un à un. Si plusieurs candidats sont entourés ensemble, le bulletin est nul dans sa totalité.

**Le candidat élu avec le mode de scrutin expérimental n° 2 est celui qui reçoit le plus grand nombre de soutiens.**

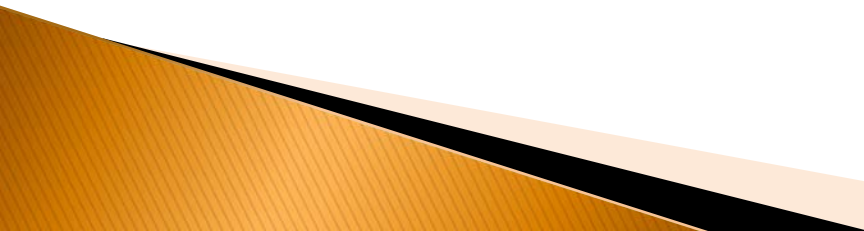
Olivier Besancenot  
Marie-George Buffet  
Gérard Schivardi  
François Bayrou  
José Bové  
Dominique Voynet  
Philippe de Villiers  
Ségolène Royal  
Frédéric Nihous  
Jean-Marie Le Pen  
Arlette Laguiller  
Nicolas Sarkozy

## DONNEZ VOS APPROBATIONS

Imaginez que les citoyens soient autorisés à voter – on dit aussi approuver - autant de candidats qu'ils le souhaitent, et que le candidat recevant le plus d'approbations soit élu. Dans un tel système, comment voteriez-vous ? Mettez une croix à côté des candidats que vous approuveriez.

 Jean-François YAHOUÉDOU <input type="checkbox"/>	 Victor PINKERT TCFANOU <input type="checkbox"/>	 René-Louis TCHALLA SARR <input type="checkbox"/>
 Christian Enock L'HERMIE <input type="checkbox"/>	 Adrien BISSA <input type="checkbox"/>	 Sébastien Joseph Olibeau DIOROU <input type="checkbox"/>
 Ouhélys KOUYIKOU <input type="checkbox"/>	 Adrien HOU BOUCOU <input type="checkbox"/>	 Yovi KOU <input type="checkbox"/>
 Aissa YAO <input type="checkbox"/>	 Aïssatou Moutoungou <input type="checkbox"/>	 Guy-Michel PO <input type="checkbox"/>
 Laurence BOUMBEKOU <input type="checkbox"/>		

# Problems with the *in situ* method

- ▶ No control of the political supply. Similar to comparative analysis but no variation and thus no comparison !
  - ▶ No control of the sample. Protocol imposes that the only selection is self-selection.
  - ▶ Each observation is relatively poor: one anonymous ballot from a pooling station. No, or not many, other individual characteristic known.
  - ▶ Voter's understanding. If the voting rule is complex, some voters may not know how the ballots will be counted.
  - ▶ Potential ethical problems if a voter understands incompletely or even wrongly the voting rule, or the goal of the experiment.
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# Voters completing the task

- ▶ All voters understand they are asked to make marks, give points, or chose adjectives. In many cases, sufficient to say “Do you understand ?” “YES ! ”
- ▶ Participants naturally understand the logic of addition: “give points, the candidate with the largest number of points wins.”
- ▶ A reasonable solution: to explain to the voters that they are not asked to evaluate the candidates but to give points to the candidates. No problem with Approval or Range Voting.

# Voters using the voting rule

- ▶ Voters may well understand how to complete the task, but fail to understand how ballots will be counted.
- ▶ For instance ballots in the form of preferences can be counted in many different ways. (See the whole Arrowian social choice !)
- ▶ But again: no problem with Approval or Range Voting. Complex rules may be tested in the lab.

# Participation rates

- ▶ Participation rates are very high compared to exit pools.
- ▶ Up to 92.4% in the small village of Gy-les-Nonains (France, 2002).
- ▶ A positive social event.
- ▶ Know from Gerber, Green, Larimer *APSR* 2008 that social pressure is a very important determinant of turnout. Positive social pressure seems high during these experiments, in particular in some places.

# Participation bias

- ▶ We know that bias may be very important.
- ▶ Correcting these bias is possible (Laslier and Van der Straeten *Revue Francaise de Science Politique* 2004) by comparing different voting posts, but difficult.
- ▶ On-line experiments: many participants, more detailed information makes it possible to correct the bias.

# Lessons from *in situ* experiments (1/5)

## *A. Public reaction to experimentation in political science.*

- ▶ It is interesting to know how the public reacts to experimentation about politics and elections.
- ▶ In that respect, experiments are **very successful**. People are curious about it and ready to take part. Show very little hostility towards the idea of experimenting in politics.



# Lessons from *in situ* experiments (2/5)

## *B. Understanding voting rules.*

- ▶ People who accept to take part in such an experiment understand the instructions, with one possible difficulty, in some cases, with incomplete ballots.
- ▶ But we do not learn from these experiments whether they understand the way ballots are counted.
- ▶ This is a problem for complex evaluative or ranking ballots; **no problem for AV or Range.**

# Lessons from *in situ* experiments (3/5)

## *C. Learning about voter behavior.*

- ▶ The theory of how people vote under different voting rules is far from complete. One goal of the experiments should be to observe voters' behavior at the individual level.
- ▶ The experimental elections may **not be well suited** for this goal if we cannot relate to the voter's vote any personal characteristics: her/his true vote, her/his true ranking (or evaluation) of candidates, her/his social and economic characteristics... On line experiments are better.

# Lessons from *in situ* experiments (4/5)

## *D. Learning about aggregate results.*

- ▶ Many authors insist on the fact that different voting rules may yield different outcomes. Yet, little empirical evidence is provided to support this idea on large scale elections.
- ▶ After eliminating (important) sample bias Laslier and Van der Straeten, and Baujard and Igersheim have shown that:
- ▶ Approval voting and Range voting tends to favor **consensus candidates**.

# Lessons from *in situ* experiments (5/5)

## *E. Learning about actual politics.*

- ▶ The **low scores** show that even elected candidates (Chirac, Sarkozy, Hollande) do not have huge support in the population. Under AV, no candidate is approved by half of the electorate.
- ▶ More detailed information can be obtained on the **structure of the political space**. With AV we know how many voters approved each group of candidates. We can infer information on “correlations” between candidates.
- ▶ Many voters support the two main candidates in Bénin: A solution to endogenous polarization ?

# Bénin 2011 *in situ* experiment (2/4)

Participation rates :

- ▶ Fifadji:  $624 / 789 = 79 \%$
- ▶ Hounhanmédé:  $494 / 729 = 68\%$
- ▶ Vodjé-Kpota:  $352 / 1710 = 21\%$  (interruption by the police)

# Bénin 2011 *in situ* experiment (3/4)

## Learning about Bénin politics

*Scores (%)*                      *true*   *reported*   *approbation*

▶ Boni:	46	52	59
▶ Hougbegji	42	38	51
▶ Bio Tchane	8	8	36
▶ Gbedo	1	1	16
▶ Lagnide	0	0	11
▶ Issa	0	0	10
▶ Yahouedeou	1	0	9

# Bénin 2011 *in situ* experiment (4/4)

## *Cross-approbations:*

- ▶ Among YB voters: AH=16%, ABT=21%
- ▶ Among AH voters: YB=18%, ABT=32%
- ▶ Among ABT voters: YB=31%, AH=32%
- ▶ Among Gbedo voter: YB=19%, AH=12%, ABT=7%

Results go against polarization (ethnic, religious, social) theory of voting in Africa.

# *In Fluctus* experiments



# On-line experiments during the 2012 French presidential election (1/2)

Two experiments , each gathered more than 10 000 participants. Studied majoritarian and evaluative voting.

- ▶ One-round voting: Hollande wins against Sarkozy. Same for Two-round and Alternative vote.
- ▶ Pairwise comparisons: Bayrou wins all cases.
- ▶ Evaluative Voting: Bayrou wins.

# On-line experiments during the last French presidential election (2/2)

## *Approval [0, 1]*

Hollande= 46%,  
Bayrou=41%,  
Mélenchon=36%,  
Sarkozy=36%,  
Joly= 34%,  
LePen=23%,  
NDA=16%  
Poutou=11%,  
Arthaud=7%,  
Cheminade=4%,

## *Range [-2, -1, 0, 1, 2]*

Bayrou= +.25,  
Hollande=+.05,  
Mélenchon=-.31,  
Sarkozy=-.35,  
Joly= -.37,  
NDA=-.68,  
Poutou=-.91,  
LePen=-1.01,  
Arthaud =-1.11,  
Cheminade=-1.11.

# EU elections and the European citizenship

avant le 25 mai

Choisissez  
autrement votre

Parlement  
européen

EURO  
VOTE +

Participez à  
une expérience scientifique !

[eurovoteplus.eu](http://eurovoteplus.eu)

Ne pas jeter sur la voie publique



# The *EuroVotePlus* Proje



- ▶ Part of the research program *Making Electoral Democracy Work*, led by André Blais (Univ. of Montreal) and funded by the Research Council of Canada
- ▶ During the May 2014 European elections: an open web survey to give EU citizens the opportunity to learn more about European electoral institutions, and experiment some of these by themselves (that is, vote under different electoral institutions)
- ▶ Two objectives: Education and Research

# The European Parliament

- ▶ Founded in 1952 as the Common Assembly of the European Coal and Steel Community (ECSC) and renamed the European Parliamentary Assembly in 1958, it became the European Parliament in 1962.
- ▶ The first **direct elections** took place in 1979. The MEPs serve for five years.



# The 2014 European Elections

- ▶ 22–25 May, 751 members of the European Parliament elected, in 28 countries representing more than 500 millions citizens
- ▶ **Each country** has seats (from 6 for Malta and Luxembourg, to 96 for Germany) and **elects its own Members of Parliament** through direct universal suffrage in a proportional system
- ▶ The voting rules vary from one country to the other:
  - Number of districts: from one (Spain...) to 13 (Poland);
  - Party lists (usually) or not (Ireland, Malta);
  - Blocked lists or not (More open-lists in the North and the East of Europe);
  - Panachage or not;
  - Cumulative vote or not;
  - Threshold of representation (none or up to 5%)

# Research question #1

- ▶ **Each country has a certain number of seats and elects its own Members of Parliament**
- ▶ Proposal by MEP A. Duff: 25 additional members, elected through party lists in a single pan-European constituency.
- ▶ Pros: Help foster a European identity/citizenship and avoid that candidates stick to domestic interests
- ▶ Cons: Difficult to gather information on foreign candidates and let candidates loses touch with local interests
- ▶ **Our objective: test the reactions of European citizens to this idea, and study how they would vote if given such an opportunity**

# Research question #2


- ▶ **The voting rules vary from one country to the other**
- ▶ Focus on blocked lists vs open lists systems
- ▶ Focus on the voting rule used used in three countries:
  - France: Blocked lists
  - Latvia: Open lists with cumulative voting and no panachage
  - Luxemburg: Open lists with cumulative voting and panachage
- **Open list vs. Closed lists**
- ▶ Pros: Give citizens more control and more power over politicians
- ▶ Cons: Difficult to gather information on all candidates
- **Our objective: Compare voters' behavior and electoral outcomes (e.g. ranking of candidates within lists) under different systems. And ask how they feel about the different systems**



# An open web survey

- ▶ *In all EU countries*: A website where people can
  - Get information on the voting rule used in our three example countries: France, Latvia, Luxemburg
  - Get information on the pan-European constituency proposal
  - Vote for pan-European delegates with the three voting rules
  - Answer a short questionnaire
- ▶ *In a subset of countries* (Belgium, Germany, France, Hungary, Netherlands, Romania, Spain, Sweeden, UK ): add a first step where participants vote on their “real” (national) candidates with the three voting rules
- ▶ Open the site and advertise it in the media three weeks before election

# Pan-European delegates

- ▶ Proposal: 25 additional members, elected through party lists in a single constituency.
  - ▶ We do the survey with 10 delegates to be elected from lists of 10 names presented by the 7 political groups of the EP.
  - ▶ Names are randomly chosen in the actual Parliament (excluding independents).
  - ▶ Participant sees name, party affiliation, picture, nationality and can click on the candidate to go to his/her official web-page.
- 

# Questionnaire

- ▶ Opinions about the voting rules and the Pan-European constituency
- ▶ Socio-demographic questions + questions about political opinions and attitudes
- ▶ Problems with self-selected samples
- ▶ Previously observed bias against conservatives (similar experiment in Canada, France and Iceland)
- ▶ Here probably also a bias in favor of pro-European participants
- ▶ Through comparisons with representative studies, the questionnaire should provide benchmarks in order to weight the observations

# Participation

The site opened on May 4, 2014 and had received around 22 000 visits before May 26.

3673 visitors agreed to participate:

Germany	France	United Kingdom	Spain	Netherlands	Belgium	Hungary	Sweden
523	801	115	152	19	63	223	629

*Table 1: Participation, countries with local candidates.*

Italy	Poland	Romania	Greece	Austria	Bulgaria	Finland	Ireland	Luxembourg	Malta	Cyprus
668	42	116	29	12	8	55	23	18	1	19

*Table 2: Participation, countries without local candidates, with local language*


Portugal	Czech Republic	Denmark	Slovakia	Croatia	Lithuania	Latvia	Slovenia	Estonia
78	5	9	4	7	7	7	5	3

*Table 3: Participation, countries without local languages*

# A biased sample

- ▶ Because participation in such study is free and open, the group of participants is not representative of the whole population of Europe.
- ▶ People participate more or less depending on their country and political orientations.
- ▶ For instance, under the closed list system, 22% of the participants voted for the Social Democrat EU-list and 10% voted for the Christian Democrat EU-list.
- ▶ But in the real election, the Christian Democrat lists gathered more votes, through Europe, than Social Democrats.
- ▶ It seems that Christian Democrat supporters were less attracted to the survey than Social Democrat supporters.
- ▶ Same thing when using self-positioning on a left-right scale

# First results: Vote in the Pan-European district under closed lists and panachage

- ▶ Votes tend to be less concentrated under panachage
  - ▶ Social-democrats and Christian-democrats lose
  - ▶ Greens and Centrist parties benefit from panachage
- 

# First results: Vote in the Pan-European district under closed lists and panachage

Left-right	Uni. Left	Greens	Soc. Dem	Liberals	Chris.Dem	Freedom	Cons. Ref	Nb. Obs
0-1	70.5	16.2	8.7	2.3	0.6	1.7	0.0	100%=173
2-3	24.8	31.3	36.1	3.4	1.5	2.5	0.4	100%=792
4-5-6	5.2	23.0	20.8	28.3	14.4	5.4	2.8	100%=686
7-8	1.3	5.3	2.2	31.6	28.9	16.89	13.8	100%=225
9-10	2.9	2.1	6.2	25.0	20.9	20.9	22.9	100%=48

Left-right	Uni. Left	Greens	Soc. Dem	Liberals	Chris.Dem	Freedom	Cons. Ref	Nb. Obs
0-1	63.9	21.6	9.0	3.1	1.2	0.8	0.3	100%=166
2-3	24.6	33.8	31.6	5.4	1.6	2.2	0.8	100%=775
4-5-6	6.7	23.9	20.3	26.0	13.8	5.9	3.4	100%=667
7-8	2.1	6.2	4.4	28.0	26.8	19.6	12.9	100%=220
9-10	3.1	6.8	6.9	26.0	17.2	20.6	20.0	100%=48

# Transfers

For a x-voter: Average nb of y-votes, re-scaled by the nb of y-candidates. (Countries with at least 40 observations)

	<i>Germ</i>	<i>France</i>	<i>UK</i>	<i>Ital</i>	<i>Spain</i>	<i>Pol</i>	<i>Roma</i>	<i>Belg</i>	<i>Port</i>	<i>Hun</i>	<i>Swe</i>	<i>Fin</i>
<i>de</i>	<b>2.66</b>	1.28	0.486	0.357	1.05	0.232	0.693	0.829	0.989	0.502	1.86	0.948
<i>fr</i>	1.37	<b>2.48</b>	0.466	0.389	1.06	0.257	0.734	1.12	1.58	0.344	1.56	0.919
<i>uk</i>	1.24	0.992	<b>1.33</b>	0.832	0.971	0.343	1.18	1.61	0.567	0.278	0.817	1.24
<i>it</i>	1.08	0.859	0.598	<b>2.59</b>	1.19	0.331	0.815	1.02	1.65	0.522	1.32	1.27
<i>es</i>	1.64	1.43	0.523	0.404	<b>2.38</b>	0.226	0.394	0.943	1.99		01.86	1.17
<i>pl</i>	0.780	0.689	0.715	0.938	0.542	<b>3.44</b>	1.35	0.878	1.08	1.02	1.50	1.41
<i>ro</i>	1.24	0.831	0.608	0.768	1.21	0.879	<b>4.82</b>	1.09	1.07	0.633	1.01	2.17
<i>be</i>	1.34	1.69	0.389	0.315	0.973	0.344	0.471	<b>2.87</b>	1.26	1.11	2.05	0.574
<i>pt</i>	0.782	0.725	0.604	0.705	1.14	0.475	0.578	0.330	<b>8.59</b>	0.770	1.26	0.704
<i>hu</i>	1.45	1.00	0.504	0.451	0.786	0.679	1.28	1.02	0.794	<b>3.82</b>	2.57	1.84
<i>se</i>	1.39	1.08	1.07	0.411	0.691	0.297	0.413	0.891	1.26	0.416	<b>4.07</b>	1.80
<i>fi</i>	1.27	1.04	0.895	0.507	0.724	0.527	0.321	0.367	0.903		03.63	<b>4.50</b>



# First results: Opinions about the reforms

Evaluation (on a 0 to 5 scale where 0 means very unfavourable and 5 very favourable) of the proposed voting rules and Opinions about the creation of a Pan-European constituency

Left-right	Closed list (0 to 5)	Open list (0 to 5)	Panachage & Cumulation (0 to 5)	EU lists (% favorable)
0-1	2.3	3.1	3.0	71
2-3	2.3	3.3	3.0	71
4-5-6	2.2	3.2	3.3	76
7-8	1.9	3.4	3.1	68
9-10	1.9	2.8	2.8	69

# Next steps

- ▶ **About the creation of a pan-european district:**
  - Large proportion of positive opinions.
  - But how do they use it in practice?
  - How do they solve trade-offs between ideological and national leanings/allegiances?
- ▶ **About open vs. closed lists:**
  - Overall, mildly negative (2 or below) opinions about the closed-list system, and mildly positive (3 or above) views about the more flexible rules (Open lists or panachage).
  - How do they use these rule in practice?
  - Which candidates benefit/lose from open lists (women, minorities, candidates from small countries, Eastern countries? ...)

Merci de votre attention

Aligato Gozaymas

Thank you for your attention

Tak tak

Danke Schoen

Awanou ka ka



A 2007 cartoon (Sarkozy and the CNRS)

# Theory of individual voting

- ▶ Main controversies about “sincere”, “honest”, and “strategic” voting.
- ▶ Controversy useless since strategic voting is sincere under AV except in some (strange!) circumstances.

# Sincere voting

- ▶ *Sincerity* defined following Brams–Fishburn and others: If I approve  $a$  and I strictly prefer  $b$  to  $a$  then I also approve  $b$ .
- ▶ Leaves as many possibilities as candidates
- ▶ Sincere and undominated voting still leaves too many possibilities for predictions (Brams, Sanver 2008).

# Strategic voting

- ▶ *Strategic* voting defined as rational response to belief.
- ▶ Problem if belief exact: often, everything is a best response, and moreover:
- ▶ DeSinopoli, Dutta and Laslier (IJGT 2006) found examples of stable equilibria with **insincere** voting and examples with **Condorcet-inconsistency**.

# Myerson–Poisson model

- ▶ One needs refinements and careful study of pivotal events (Myerson Weber APSR 1993).
- ▶ Myerson (JET 2002) introduced specific uncertainty on the number of voters called *Poisson voting games* and studies large electorates.
- ▶ Nunez (2009) provides examples of **Condorcet–inconsistency** in AV Myerson–Poisson equilibrium.



# Strategic voting: the Leader rule (1 / 5)

- ▶ Laslier (*J. Th. Pol.* 2009) considers **large electorates** with:
- ▶ Small probability of **material mistake** when recording each vote.
- ▶ Voters **neglect 3-way ties** in front of 2-way ties.

# Strategic voting: the Leader rule (2/5)

Result:

- ▶ Individual behavior = response to the anticipated relative scores.
- ▶ Approve the candidates you prefer to the leading candidate  $c_1$ .
- ▶ Approve  $c_1$  herself by comparison with the main challenger  $c_2$ .

# Strategic voting: the Leader rule (3/5)

- ▶ This behavior produces a sincere ballot.
- ▶ It is obtained by lexicographic maximization (hierarchical reasoning). Plausible / cognitive psychology.
- ▶ It well explains individual behavior in lab experiments.

# Strategic voting: the Leader rule (4/5)

Equilibrium results **if there is a Condorcet winner** :

- ▶ There exist one and only one equilibrium.
- ▶ The equilibrium is pure (and strict).
- ▶ The Condorcet winner is elected.
- ▶ The score of any other candidate is its majoritarian score against the winner.
- ▶ The winner is the only candidate approved by half of the voters.

# Strategic voting: the Leader rule (5/5)

Equilibrium result **if there is no Condorcet winner** :

- ▶ There is no pure equilibrium.

# 3. Theory of electoral competition

3.1. Classical model: exogeneous candidates.

3.2. Citizen-candidate model.

# 3.1. Classical electoral competition (1/3)

Framework :

- ▶ Set  $X$  of policies, or political positions.
- ▶ Set  $C$  of candidates.
- ▶ Voters have preferences over policies.
- ▶ Candidates choose positions  $x(c)$
- ▶ Voters vote, one candidate elected.
- ▶ Candidates only want to be elected.

# 3.1. Classical electoral competition (2/3)

Result 1 (Laslier and Maniquet 2010) :

- ▶ If  $x^*$  is a Condorcet winner policy, then the situation in which all candidates choose  $x^*$  is an equilibrium of the electoral competition game. If  $x^*$  is a strict Condorcet winner then the equilibrium is strict.



# 3.1. Classical electoral competition (3/3)

Result 2 (Laslier and Maniquet 2010) :

- ▶ In the **single-peaked model**: (i) The situation in which all parties choose the **median policy** is a strict equilibrium of the electoral competition game. (ii) It is the only equilibrium.

## 3.2. Citizen–candidate model of electoral competition (1 / 2)

Framework :

- ▶ Electoral competition similar to the classical one but:
- ▶ At the first stage, each citizen chooses whether or not to enter the electoral race as a candidate at a  $> 0$  cost.
- ▶ Candidates are thus policy–motivated.

## 3.2. Citizen–candidate model of electoral competition (2/2)

Results (Dellis and Oak GEB 2005, Dellis 2009):

- ▶ In a single–peaked preference model, equilibria in relatively sincere strategies and without spoiler candidates always generate outcomes close to the **median** voter.
- ▶ Approval voting satisfies **Duverger's Law** in the sense that there are at most two winning positions.