

Utilitarian and Approval Voting

Jean-Francois Laslier,
CNRS and Ecole Polytechnique, Paris
with

A. Baujard, A. Blais, F. Gavrel, H. Igersheim, M. Nunez
I. Lebon, N. Sauger, K. Van der Straeten

Oxford, April 2013

Public and scientific debates on voting methods.

- A public discussion on voting rules :
 - The 2002 French presidential election surprise : “tactical vs. true voting” becomes an issue.
 - Canadian (BC) Citizen Assembly on Electoral Reform 2004
 - UK referendum 2011
- Some theoretical results :
 - Background : classical SCW results about utilitarianism (Arrow and followers, D’Aspremont, Gevers)
 - Limits of one-round and two-round systems : Condorcet criterion, manipulability, non-participation...
 - Properties of pluri-nominal voting rules (especially Approval) : other kind of strategic voting, higher probability of electing the Condorcet’s winner...

Research agenda : Comparing voting rules regarding voter's behavior and who is elected

Restrict attention to elections of the “presidential” type : one candidate to be elected. Leave aside proportional rule.

Consider as fixed the set of candidates, and their platforms : do not compare rules with respect to the induced electoral competition.

Consider specific rules : simple plurality (1R), two-round majority voting (2R), alternative vote (Single Transferable Vote : STV), approval voting (AV), evaluative voting (EV), Borda rule...

Research questions

Received ideas :

- 1 1R plurality kills third candidates (electoral competition ?)
- 2 2R majority favors divisive candidates and kills centrists
- 3 AV and EV would favor consensual candidates

Why ?

- 1 mechanical effects (counting ballots)
- 2 psychological effects (filling ballots)

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments
 - Design
 - Results
- 4 In Situ experiments
 - Design
 - Results
- 5 Internet-based experiments
 - Design
 - Results

Theory background : The axiomatics of utilitarianism

Interpersonal comparisons of utility, utilitarianism

Start from a framework where individuals utilities are represented by real numbers $U_i = U = \mathbb{R}$. Let $n = |I|$ denote the number of individuals in the society. A utility-profile is a vector

$$u \in \mathbb{R}^I$$

We look for a *social-evaluation ordering*, that is a complete pre-order of \mathbb{R}^I . All Arrow's properties will be satisfied (neutrality, anonymity, rationality, independence of irrelevant alternatives, no domain restriction) but we allow ourselves more information as input for collective judgement, which opens possibilities for performing such a judgment. For instance we now can discuss the possibility of adding utilities.

Let \succsim denote the collective preference, \succsim is a **generalized utilitarianism** iff there exists a continuous increasing real-valued function g such that :

$$u \succsim v \iff \sum_{i \in I} g(u_i) \geq \sum_{i \in I} g(v_i)$$

The collective preference then satisfies four properties :

The **anonymity** requirement.

Strong Pareto : If $u_i \geq v_i$ for all i , with at least one strict inequality then $u \succ v$.

Continuity For all $u \in \mathbb{R}^I$ the sets $\{v \in \mathbb{R}^I : v \succsim u\}$ and $\{v \in \mathbb{R}^I : u \succsim v\}$ are closed in \mathbb{R}^I .

Independence of the Vote of Unconcerned Individuals. For any subset $J \subseteq I$ of individuals and vectors u, v, u', v' such that $u_j = v_j$ and $u'_j = v'_j$ for all $j \in J$ and $u_i = u'_i$ and $v_i = v'_i$ for all $i \in I \setminus J$, one has : $u \succcurlyeq v \iff u' \succcurlyeq v'$.

In fact these properties together characterize generalized utilitarianism.

Generalized Utilitarianism Theorem : For three or more individuals, a social-evaluation function satisfies Anonymity, Strong Pareto, Continuity, and Independence of Unconcerned Individuals if and only if it is a generalized utilitarianism.

Independence of the Vote of Unconcerned Individuals. For any subset $J \subseteq I$ of individuals and vectors u, v, u', v' such that $u_j = v_j$ and $u'_j = v'_j$ for all $j \in J$ and $u_i = u'_i$ and $v_i = v'_i$ for all $i \in I \setminus J$, one has : $u \succcurlyeq v \iff u' \succcurlyeq v'$.

In fact these properties together characterize generalized utilitarianism.

Generalized Utilitarianism Theorem : For three or more individuals, a social-evaluation function satisfies Anonymity, Strong Pareto, Continuity, and Independence of Unconcerned Individuals if and only if it is a generalized utilitarianism.

Bentham Utilitarianism

The most important example of generalized utilitarianism is the simple sum :

$$u \succcurlyeq v \iff \sum_{i \in I} u_i \geq \sum_{i \in I} v_i$$

which corresponds to the identity function for g or to any increasing affine g . This is just called “utilitarianism,” or sometimes “classical,” “pure,” or “Bentham” utilitarianism

A characteristic feature of (classical) utilitarianism is Cardinal Full Comparability. This is the requirement that social evaluation is invariant with respect to any increasing affine transformation of individual utility (affine equivalence at the individual level) if the same affine transformation is applied to all individuals (inter-personal comparability).

Cardinal Full Comparability. For any numbers $a > 0$ and b ,

$$u \succcurlyeq v \iff (a \cdot u + b) \succcurlyeq (a \cdot v + b)$$

Classical Utilitarianism Theorem. For three or more individuals, a Social-evaluation function satisfies Anonymity, Strong Pareto, Continuity, Independence of Unconcerned Individuals and Cardinal Full Comparability if and only if it is classical utilitarianism.

Utilitarian comparisons remain unchanged if the constant b is not independent of individuals. Utilitarianism needs not to compare absolute utility levels for different individuals but only utility differences.

Social substitutes.

The question on debate : Two individuals are substitutes with respect to the production of social welfare. Let $W = \sum_{i \in I} g(u_i)$, $dW = \sum_{i \in I} g'(u_i) du_i$. The marginal rate of substitution between i and j 's utility is : $\frac{g'(u_i)}{g'(u_j)} = 1$ for Bentham.

Notice these mathematics can receive two interpretations :

1. We know the true level u_i of i 's utility, and social rates of substitutions depend on utility levels.
2. u_i is not utility but a proxy (ex : money) and all individuals have the same utility function g (ex : \log), and social rates of substitutions do not depend on utility levels.

For Voting theory : Sincere statements, comparable among individuals, with rates of substitutions independent or not of utility levels.

Utilitarianism, references

Arrow, Sen, Suzumura, (Eds.) (2002). *Handbook of Social Choice and Welfare, Vol 1*.

Gorman (RES 1968) "The structure of utility functions".

Aczel (1966) *Lectures on functional equations and their applications*.

D'Aspremont, Gevers (RES 1977) "Equity and the informational basis of social choice"

Wakker (1989) *Additive Representations of Preferences, A New Foundation of Decision Analysis*

Macé (2013) "Generalized Utilitarianism : finite case".
"An axiomatization of range voting".

Smith (Econometrica 1973) "Aggregation of preferences with variable electorate".

Young (SIAM J. Appl. Math. 1975) "Social choice scoring functions"

Myerson (SCW 1995) "Axiomatic derivation of scoring rules without the ordering assumption".

Gaertner, Xu (MSS 2012) "A general scoring rule".

Alcantud & Laruelle (2013) "To approve or not to approve : This is not the only question"

Pivato (2012) "Variable-population voting rules"

Dhillon, Mertens, (Econometrica 1999) "Relative utilitarianism".

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments
 - Design
 - Results
- 4 In Situ experiments
 - Design
 - Results
- 5 Internet-based experiments
 - Design
 - Results

Theory background : strategy

If ballots and isomorphic to preferences, Gibbard and Satterthwaite : impossible to guarantee that truth-telling is a dominant strategy. A very robust statement but a too strong concept ?

Two questions : What are good strategies ? What are the equilibria ?

For Evaluative Voting, a folk conjecture : "overstating" preferences.

Nunez and Laslier (SCW forthcoming) a counter-example with 7 voters and 3 candidates, compatible with single-peaked preferences. A perfect equilibrium, the unique best-response of a voter is not overstating.

Theory background : strategy

If ballots are isomorphic to preferences, Gibbard and Satterthwaite : impossible to guarantee that truth-telling is a dominant strategy. A very robust statement but a too strong concept ?

Two questions : What are good strategies ? What are the equilibria ?

For Evaluative Voting, a folk conjecture : "overstating" preferences.

Nunez and Laslier (SCW forthcoming) a counter-example with 7 voters and 3 candidates, compatible with single-peaked preferences. A perfect equilibrium, the unique best-response of a voter is not overstating.

Theory background : strategies

Politics : with many voters, different models to tackle the problem of the multiplicity of Nash equilibria since Myerson and Weber (APSR 1993). These are ad hoc refinements for voting games.

Approval : Laslier (J Th Pol 2009) Strategy = rational response to almost perfect pools. Best response correspondence easy to describe. Pure equilibrium if and only if there exists a Condorcet candidate, in which case she is elected.

Evaluative : Nunez and Laslier (SCW forthcoming) : as suggested by intuition, rational voters overstate their evaluations, various evaluative rules are strategically equivalent.

Two-round majority : Van der Straeten and Laslier (in progress) the best response correspondence is difficult to describe.

Theory background : strategies

Politics : with many voters, different models to tackle the problem of the multiplicity of Nash equilibria since Myerson and Weber (APSR 1993). These are ad hoc refinements for voting games.

Approval : Laslier (J Th Pol 2009) Strategy = rational response to almost perfect pools. Best response correspondence easy to describe. Pure equilibrium if and only if there exists a Condorcet candidate, in which case she is elected.

Evaluative : Nunez and Laslier (SCW forthcoming) : as suggested by intuition, rational voters overstate their evaluations, various evaluative rules are strategically equivalent.

Two-round majority : Van der Straeten and Laslier (in progress) the best response correspondence is difficult to describe.

Research method

Theory problematic because

- 1 Motives are debatable
- 2 Action has tiny consequences
- 3 Game situation

Need observations/experiments.

Three types of experiments :

- 1 Experimental Economics (Laboratory)
- 2 *In Situ* experiments
- 3 Internet web-sites

Research method

Theory problematic because

- 1 Motives are debatable
- 2 Action has tiny consequences
- 3 Game situation

Need observations/experiments.

Three types of experiments :

- 1 Experimental Economics (Laboratory)
- 2 *In Situ* experiments
- 3 Internet web-sites

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments
 - Design
 - Results
- 4 In Situ experiments
 - Design
 - Results
- 5 Internet-based experiments
 - Design
 - Results

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments**
 - Design**
 - Results
- 4 In Situ experiments
 - Design
 - Results
- 5 Internet-based experiments
 - Design
 - Results

Voting rules in the lab.

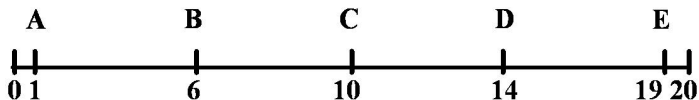
Participants are voters, candidates are letters, or colors.
Participants are paid depending on which candidate is elected.

Seminal paper : Forsythe, Rietz, Myerson, Weber “An Experiment on Coordination in Multicandidate Elections : the Importance of Polls and Election Histories” *Soc. Ch. Welf.* 1993.

Study 1R, Approval, and Borda, with 3 candidates. Illustrates strategic voting as desertion of non-viable candidates in a split-majority situation. Points an inefficiency of 1R voting.

What follows based on Blais, Laslier, Sauger, Van der Straeten “Sincere, Strategic, and Heuristic Voting under four Election Rules : An Experimental Study” *Soc. Ch. Welf.* 2010.

A unidimensional case



Protocol

- Groups of 21 participants, uniform distribution
- Payments proportional to the distance between voter and elected candidate
- rules : 1R, 2R, AV, STV, EV(0,1,2)
- Series of 4 identical elections
- Done in France and Canada

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments**
 - Design
 - Results**
- 4 In Situ experiments
 - Design
 - Results
- 5 Internet-based experiments
 - Design
 - Results

Aggregate elections outcomes

Wins, last two elections for each voting rule

	Centrist	Left of right	Extreme
1R	52%	48%	0
2R	50%	50%	0
AV	100%	0	0
STV	0	100%	0
EV-3	66.66%	33.33%	0

1R : One round plurality vote

2R : First past the post

AV : Approval voting

STV : Single transferable vote with Hare transfers

EV-3 : (2,1,0) Evaluation voting

(data : Blais et al. 2010, Baujard and Igersheim 2008)

1R : Path dependence

Under 1R plurality, votes concentrate on 2 candidates, which can be any two of the three main candidates. (cf. Duverger, Cox)

2R : Path dependence

Under 2R majority, votes concentrate on the 3 main candidates, those who go to the runoff can be any two of them.

Approval : Electing the centrist

Under AV, the centrist candidate is always elected. Behavior well described by strategic model under AV.

STV : Sincere voting

Sincere voting under STV always eliminates the centrist candidate. (Doubts about the external validity of the protocol.)

1R : Path dependence

Under 1R plurality, votes concentrate on 2 candidates, which can be any two of the three main candidates. (cf. Duverger, Cox)

2R : Path dependence

Under 2R majority, votes concentrate on the 3 main candidates, those who go to the runoff can be any two of them.

Approval : Electing the centrist

Under AV, the centrist candidate is always elected. Behavior well described by strategic model under AV.

STV : Sincere voting

Sincere voting under STV always eliminates the centrist candidate. (Doubts about the external validity of the protocol.)

1R : Path dependence

Under 1R plurality, votes concentrate on 2 candidates, which can be any two of the three main candidates. (cf. Duverger, Cox)

2R : Path dependence

Under 2R majority, votes concentrate on the 3 main candidates, those who go to the runoff can be any two of them.

Approval : Electing the centrist

Under AV, the centrist candidate is always elected. Behavior well described by strategic model under AV.

STV : Sincere voting

Sincere voting under STV always eliminates the centrist candidate. (Doubts about the external validity of the protocol.)

1R : Path dependence

Under 1R plurality, votes concentrate on 2 candidates, which can be any two of the three main candidates. (cf. Duverger, Cox)

2R : Path dependence

Under 2R majority, votes concentrate on the 3 main candidates, those who go to the runoff can be any two of them.

Approval : Electing the centrist

Under AV, the centrist candidate is always elected. Behavior well described by strategic model under AV.

STV : Sincere voting

Sincere voting under STV always eliminates the centrist candidate. (Doubts about the external validity of the protocol.)

Individual results

Do voters vote sincerely or strategically?

	1R	2R
Extremists (0-3, 17-20)	392/439 = 80%	32/43 = 74%
Moderates (4-7, 13-16)	79/147 = 54%	17/91 = 19%
Centrists (8-12)	28/56 = 50%	7/13 = 54%

Strategic choice in front of a dilemma, by position.

Extremist voters in 1R elections vote strategically (desertion of the extremes for one of the two main candidates)

Moderate voters in 2R elections do not vote strategically

Individual results

Do voters vote sincerely or strategically?

	1R	2R
Extremists (0-3, 17-20)	392/439 = 80%	32/43 = 74%
Moderates (4-7, 13-16)	79/147 = 54%	17/91 = 19%
Centrists (8-12)	28/56 = 50%	7/13 = 54%

Strategic choice in front of a dilemma, by position.

Extremist voters in 1R elections vote strategically (desertion of the extremes for one of the two main candidates)

Moderate voters in 2R elections do not vote strategically

Lessons from lab. expe.

- Voters vote strategically when the strategic reasoning is not too complex.
- Otherwise they vote according to some heuristics, including sincere voting.
- This may imply important effects of pools and history.
- Voting rules matter and induce important differences in result/behavior

All this is subject to the **external validity critique**. Here : you did all what you could to induce the participants to behave strategically, in particular by paying them.

Lessons from lab. expe.

- Voters vote strategically when the strategic reasoning is not too complex.
- Otherwise they vote according to some heuristics, including sincere voting.
- This may imply important effects of pools and history.
- Voting rules matter and induce important differences in result/behavior

All this is subject to the **external validity critique**. Here : you did all what you could to induce the participants to behave strategically, in particular by paying them.

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments
 - Design
 - Results
- 4 In Situ experiments**
 - Design
 - Results
- 5 Internet-based experiments
 - Design
 - Results

Field work



Voting experiments In Situ

- French Presidential elections
 - 2002 : Approval voting (AV)(Balinski, Laraki, Laslier, Van der Straeten)
 - 2007 : AV and (2,1,0)-evaluation voting (EV) (Baujard, Igersheim);
 - 2007 : Majority judgement (Balinski, Laraki);
 - 2007 : Single transferable vote (Farvaque, Jayet, Ragot)
 - 2012 : **AV and 3 variants of EV** (Baujard, Gavrel, Igersheim, Laslier, Lebon)
- Other political elections
 - 2010 : AV in Germany (Alos-Ferrer, Granic)
 - 2011 : AV in Bénin (Laslier, Van der Straeten)

Public information before election day

- 1 Information letters to each registered voters : explaining the principle of AV and EVs, asking for their participation.
- 2 Information meeting before the first round of the French presidential elections (in Louvigny)
- 3 Traditional media : newspapers, local and national radios, TV, internet...

Proceeding of the experimental vote



Official and experimental voting stations, Saint-Etienne La terrasse, April 22nd, 2012

Teachings of preceding experiments

- Such experiments are feasible.
- The principle of AV is understood and accepted ; EV is very much appreciated.
- A better understanding of the political landscape.
- Different voting rules may yield different outcomes.

In 2011 we decided to ask the participants who they voted for, for real. Answer rate 50% to this particular question.

EV ballot of the 2012 experiment - Strasbourg

VOTE PAR NOTE

Bulletin de vote expérimental n° 2

	Note sur 20
Mme Eva Joly	__/20
Mme Marine Le Pen	__/20
M. Nicolas Sarkozy	__/20
M. Jean-Luc Mélenchon	__/20
M. Philippe Poutou	__/20
Mme Nathalie Arthaud	__/20
M. Jacques Cheminade	__/20
M. François Bayrou	__/20
M. Nicolas Dupont-Aignan	__/20
M. François Hollande	__/20

Instructions

Notez chacun des 10 candidats de 0 à 20. 0 est la plus mauvaise note, 20 est la meilleure. Une ligne non remplie revient à donner un 0 au candidat. Le candidat élu est celui qui comptabilise la somme des notes la plus élevée.

Questionnaire

Vous pouvez nous aider à évaluer notre expérience en consacrant quelques minutes de plus à cette étude. Nous vous en remercions par avance.

Les modes de scrutin expérimentés					
Avez-vous préféré? <input type="checkbox"/> le vote par approbation <input type="checkbox"/> le vote par note <input type="checkbox"/> J'ai aimé les deux <input type="checkbox"/> Je n'ai aimé ni l'un ni l'autre					
Pensez-vous que ces systèmes de vote pourraient être utilisés pour*? *si oui, cochez la case					
	Les élections présidentielles	Les élections législatives	Les élections municipales	Dans les associations	Autres (préciser)
Par approbation					
Par note					
L'élection officielle					
Avez-vous pris en compte les chances de gagner des différents candidats pour décider pour qui voter lors de l'élection officielle?				<input type="checkbox"/> Oui	<input type="checkbox"/> Non
Avez-vous voté au premier tour en tenant compte de ce qui pourrait arriver au second tour?				<input type="checkbox"/> Oui	<input type="checkbox"/> Non
Votre vote officiel: <input type="checkbox"/> J'ai voté pour <input type="checkbox"/> J'ai voté blanc <input type="checkbox"/> Je préfère ne pas dire pour qui j'ai voté					
Qui êtes-vous ?					
Sexe: M <input type="checkbox"/> F <input type="checkbox"/>			Année de naissance: 19__		
Situation actuelle: <input type="checkbox"/> en activité <input type="checkbox"/> en recherche d'emploi <input type="checkbox"/> étudiant <input type="checkbox"/> à la retraite <input type="checkbox"/> au foyer/sans profession <input type="checkbox"/> autre					
Dernière activité exercée:					
Avez-vous des commentaires ?					

2012 – Participation rates and votes cast

		Louvigny (2 stations)	Saint-Etienne (1 station)	Strasbourg (2 stations)	Total
Official vote	Registered electors	2,036	1,112	2,223	5,371
	Votes cast	1,722	863	1,734	4,319
	Official participation rate (%)	84.58	77.61	78.00	80.41
Experimental vote	Participants	930	387	1023	2,340
	Experimental participation rate (%)	54.01	44.84	59.00	54.18

2012 – Answer rates to questionnaire

	Nb of exp. ballots	Questionnaire		Qs on official vote	
		Nb	%	Nb	% exp. ballots
On the five voting stations	2340	2009	85,85%	1345	57%
Strasbourg Salle de La Bourse	1023	818	79,96%	548	54%
Louvigny	930	875	94,09%	607	65%
Saint-Etienne La Terrasse	363	316	81,65%	191	51%

After excluding official and experimental blank, 1 294 answers remain for comparisons.

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments
 - Design
 - Results
- 4 In Situ experiments**
 - Design
 - Results**
- 5 Internet-based experiments
 - Design
 - Results

Adjusted data

To compare statistics on 2R, AV and the 3 EV's, we have corrected participation and representation bias.

Comparison of official results and weights per candidate

	F. Hollande	N. Sarkozy	M. Le Pen	J.-L. Mélenchon	F. Bayrou	E. Joly	N. Dupont-Aignan	P. Poutou	N. Arthaud	J. Cheminade
Nat. Off. (%)	28.63	27.06	17.90	11.14	9.10	2.31	1.79	1.15	0.56	0.25
Exp. All (%)	33.16	22.31	12.57	13.54	11.60	3.61	1.56	0.97	0.57	0.12
Exp. Part. (%)	41.11	14.37	5.87	16.62	13.37	5.95	1.16	1.00	0.15	0.39
Weights	0.70	1.89	3.05	0.67	0.68	0.39	1.55	1.14	3.65	0.65

Which candidate is favored by each voting rule?

Two kinds of candidates

Divisive candidate Candidate inducing strong views, whichever positive or negative, is not necessarily extreme, whose support relies on one specific part of a fragmented society

Consensual candidate Unifying candidate, eventually positively considered by a large fraction of the voters, whose support comes from different part of the society

Which candidate is favored by each voting rule?

Arguments to explain WHO (i.e., which type of candidates) is favored by which voting rules and WHY. Here, we show that :

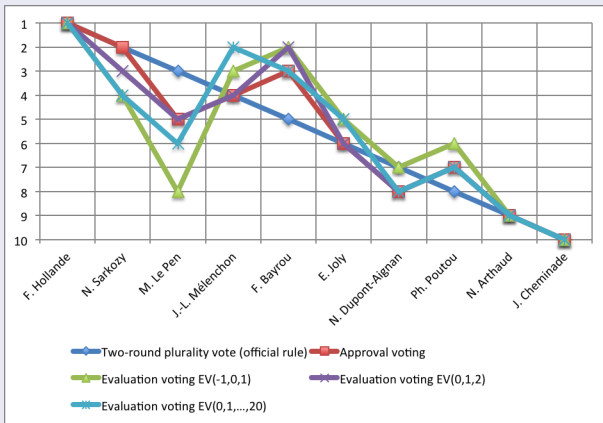
- 1 2R favors divisive candidates
- 2 AV and EV favor consensual candidates

Results

	Official	AV(0,1)		EV(-1,0,1)		EV(0,1,2)		EV(0,...,20)	
		Ave.		Ave.		Ave.		Ave.	
Hollande	1	.49	1	+.14	1	.94	1	9.70	1
Sarkozy	2	.40	2	-.11	4	.85	3	7.74	4
Le Pen	3	.27	5	-.35	8	.68	5	4.98	6
Mélenchon	4	.39	4	+.06	3	.78	4	8.22	2
Bayrou	5	.39	3	+.11	2	.92	2	8.22	3
Joly	6	.27	6	-.17	5	.46	6	6.84	5
Dupont	7	.11	8	-.34	7	.32	8	3.69	8
Poutou	8	.13	7	-.29	6	.33	7	4.28	7
Arthaud	9	.08	9	-.40	9	.26	9	3.67	9
Cheminade	10	.03	10	-.50	10	.12	10	2.35	10

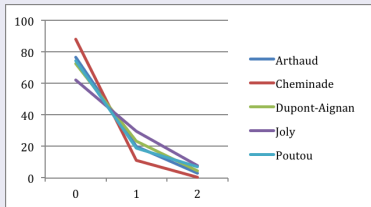
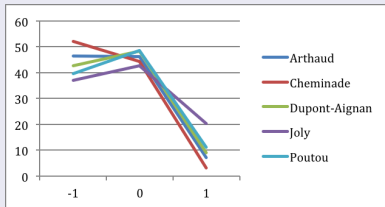
From 2R to AV and EV

Comparisons of rankings according to different rules

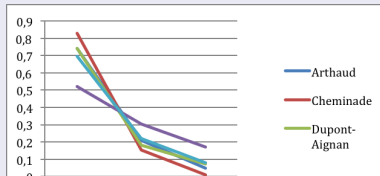


Frequency of scores for minor candidates

EV3 : EV(1,0,-1) and EV(2,1,0)

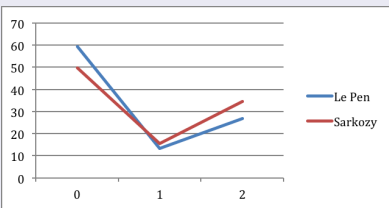
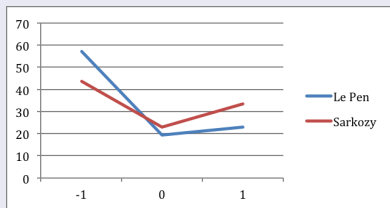


EV21

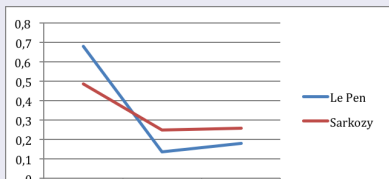


Frequency of scores for divisive candidates

EV3 : EV(1,0,-1) and EV(2,1,0)

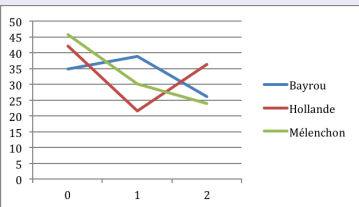
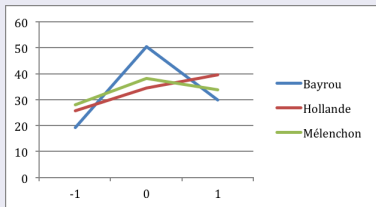


EV21

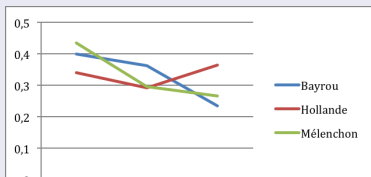


Frequency of scores for consensual candidates

EV3 : EV(1,0,-1) and EV(2,1,0)

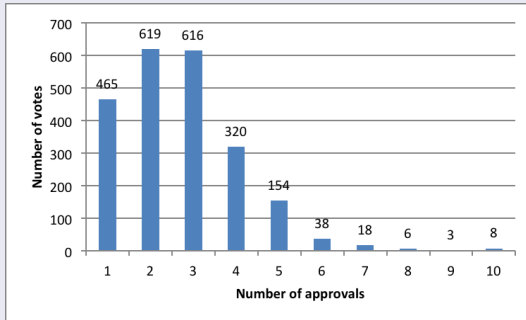


EV21



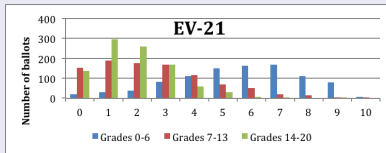
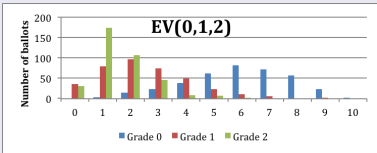
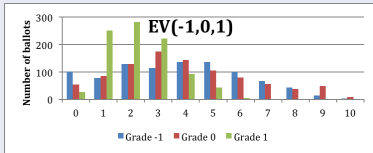
Expression under AV

Number of approved candidates



Expression under EV

Distribution of grades, for three variants of EV



Conclusion on In Situ experiments

Observed features :

- 2R favors divisive candidates
- AV and EV favor consensual candidates

Reasons :

- Under 1R and 2R, strategic voting favors strong candidates.
- Plurinominality favors consensual candidates in AV-EV because of expressive voting

On the method :

- Participants do their job very seriously
- But half of them do not want to state explicitly their true vote
- We cannot ask for more than a few minutes

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments
 - Design
 - Results
- 4 In Situ experiments
 - Design
 - Results
- 5 Internet-based experiments
 - Design
 - Results

The *Vote Au Pluriel* web site

The "Popular Science" part of a large Canadian-funded research project. Realized in Ontario, France, Iceland, Quebec.
Offers information about how people vote in different countries.
Visitors invited to try themselves for the current election.
An optional questionnaire at the end.

France 2012

- presents four rules : 1R (Mexico), 2R (Fr.), Alternative Vote (Ireland), Approval (nowhere)
- Open 3 weeks prior to election day
- More than 20 000 visitors, 11 000 cast all votes, 8 044 with questionnaires

- 1 Introduction
- 2 Theory background
 - Utilitarianism
 - Strategy
- 3 Laboratory experiments
 - Design
 - Results
- 4 In Situ experiments
 - Design
 - Results
- 5 Internet-based experiments
 - Design
 - Results

Who wins and loses

Internet confirms the observations in the lab and In Situ

- 1R and 2R kills small candidates,
- Approval and Evaluative Voting favors the extremes as to the apparent relative strength,
- and favors the center as to the probability of winning.

This three-fold confirmation is also a confirmation that those un-orthodox methods are consistent hence meaningful.

Preferences and votes under four voting rules

"Do you always vote for the candidate you wish to see elected?"
 30% say "No"

Candidate	Prefer.	2R (*)	1R	AV 1st	Appr.
F. Hollande	23	29	31	25	46
N. Sarkozy	25	27	28	27	36
M. Le Pen	15	18	16	15	23
J.-L. Melenchon	15	11	10	12	36
F. Bayrou	11	9	9	11	41
E. Joly	6	2	2	6	33

Preferences for candidates and rules

The internet method is less intrusive and allows more detailed questionnaires. Participants seem to be looking for expressive modes of elections. We asked the voters which rule they prefer/dislike.

- Are preferences over rules related to political opinions? Yes.
- Do we observe self-serving preferences? Not exactly.

	Alternative Vote	Approval	1R	2R	missing	total	percentage of weighted observations	Number of observations
FH	30	22	5	22	21	100	21	1921
NS	21	18	10	33	18	100	24	532
MLP	28	18	13	14	26	100	14	191
JLM	41	26	3	10	21	100	14	2289
FB	43	27	3	8	19	100	10	1118
EJ	50	29	5	4	12	100	5	1232
NDA	41	30	10	9	11	100	3	112
PP	40	22	1	13	24	100	1	142
NA	59	9	7	6	19	100	0	26
JC	48	23	6	3	19	100	0	27
<i>none</i>	34	25	7	14	20	100	6	455
average	32	22	7	18	21	100	100	8044

Most liked rule, by preferred candidate (weighted observations)

Preferences for candidates and rules

The internet method is less intrusive and allows more detailed questionnaires. Participants seem to be looking for expressive modes of elections. We asked the voters which rule they prefer/dislike.

- Are preferences over rules related to political opinions? Yes.
- Do we observe self-serving preferences? Not exactly.

	Alternative Vote	Approval	1R	2R	missing	total	percentage of weighted observations	Number of observations
FH	30	22	5	22	21	100	21	1921
NS	21	18	10	33	18	100	24	532
MLP	28	18	13	14	26	100	14	191
JLM	41	26	3	10	21	100	14	2289
FB	43	27	3	8	19	100	10	1118
EJ	50	29	5	4	12	100	5	1232
NDA	41	30	10	9	11	100	3	112
PP	40	22	1	13	24	100	1	142
NA	59	9	7	6	19	100	0	26
JC	48	23	6	3	19	100	0	27
<i>none</i>	34	25	7	14	20	100	6	455
average	32	22	7	18	21	100	100	8044

Most liked rule, by preferred candidate (weighted observations)

Preferences for candidates and for rules

55

There seem to be two combined effects :

- 1 Supporters of small candidates prefer evaluations.
Can be interpreted as self-serving preferences, especially given the recurring debate about the voting system and proportional representation.
- 2 Conservative voters prefer single-name ballots, left-wing voters prefer evaluations. An ideological effect independent of the previous one.

This last observations may inform us on the political psychology and the nature of political preferences.

Conclusion. Political work



Merci de votre attention !