

**Research Project at the University of Cergy-Pontoise**

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**Collective decision-making**

The main objective of a stay at the University of Cergy-pontoise would be to interact as much as possible with colleagues on questions related to collective decision-making.

My main research interest to date has been the analysis and design of collective decision-making procedures. I have mainly worked on binary voting rules, i.e. rules where voters are allowed only to cast a positive vote or a negative vote. The practical questions that can be addressed are: How should votes be distributed in the EU Council of Ministers? When should simple majority be preferred to 2/3-majority or unanimity? Application of the egalitarian principle of "One person one vote" or the utilitarian principle may help to answer these questions. The answer is however more complex when the members of the committee represent groups of very different sizes (as it is the case in the European Union). I have also worked on quaternary voting rules, i.e. rules where voters may cast a positive vote, cast a negative vote, abstain or be absent. These added options introduce strategic considerations. A typical example appears in rules with a quorum where some voters may prefer to be absent rather than to come and cast a negative vote. The objective for the coming years is to continue investigating this topic. An initial question was inspired by the recent founding of the Spanish "Blank Seats" party ("Escaños en blanco"), whose main proposal is to reform electoral legislation so that blank votes give rise to empty seats in Parliament. More generally the question of negative voting is worth studying, in particular rules that explicitly allow voters to express a negative opinion on candidates. No legitimate, explicitly negative option is usually offered to electors, so the opinion of dissatisfied citizens does not affect the result of elections. So far I have studied what we refer to as "disapproval voting". For every candidate the voter can cast a positive vote (if the vote supports the candidate), a negative vote (if the voter is against the candidate) or a null vote (if

the voter wishes to abstain on the candidate). The candidate who obtains the biggest difference between the number of positive votes and the number of negative votes is elected. So far we have proposed an axiomatisation of the rule. Other properties of the disapproval rule would be worth analyzing, in particular its behaviour with respect to manipulation.