

Editorial

The basis of a democracy lies in its electoral system, i.e. a set of rules and norms that starting from the preferences of the voting body produces a Parliament. The way preferences are collected and composed has far-reaching consequences on the functioning of a democracy. This is why the comparative assessment of electoral systems is highly relevant, and why it has always been a basic topic for the scholars of political matters. Recently, the interest has grown, due to the attempts of several large democracies to modify their electoral systems, but also to the availability of new evaluation techniques. Probably, one of the most powerful is the possibility of simulating complex electoral systems over large electoral bodies.

In June 2007, a workshop devoted to *Simulation and other quantitative approaches to the assessment of electoral systems* was held at the University of Eastern Piedmont in Alessandria, Italy. The aim of the workshop, and consequently of this special issue that collects a selection of the papers presented there, was threefold: to update the state-of-the-art, to make some normative suggestions, and to indicate new research topics.

The relevance of simulation to address some basic problems related to the choice of the electoral system, especially for a comparison, has three reasons. The first is that all what is needed to simulate is a set of preferences. The second is more compelling, and possibly less obvious, at least for non-social scientists. The virtual set of preferences is nearly as informative as a real one, because each *single* virtual subject is *identical* to a real one. So, given a set of virtual electors, with their preferences, it is possible to produce the Parliaments resulting from different electoral systems, with minimal differences between virtual and real ones. Finally, simulation allows to analyze the performance of the electoral systems including random elements, e.g. the absence of some members of the Parliament in a voting session, or to study possible manipulations of the elections, e.g. via merging or splitting of the parties in order to profit of suitable features of the system.

An “optimal” electoral system should generate a Parliament where the power of the parties according to the number of seats is as close as possible to the power of the parties according to the number of votes. Consequently, it is of great interest to compare the distribution of power with that of preferences. Game theory is a natural habitat for the problem of evaluating the power of the parties in a voting situation, and again simulation is highly useful to accumulate experimental evidence, thus providing relevant suggestions for real world analysis and policing.

We can shortly outline the contents of the papers as follows. Schofield and Ozdemir study the role of activist groups in a two-dimensional spatial model of politics; the groups contribute resources to their favoured parties, but their motivations are different under proportional representation and plurality rule. Fragnelli analyses the performance of a voting system in a game theoretical environment; in particular, he defines

two new indices, inspired by the propensity to disruption and referred to the power assigned to the parties instead of the number of seats. Cioni proposes a ranking rule for electoral systems that allows to get rid of the limitations imposed by Arrow's Impossibility Theorem; his method is based on a hierarchical ranking of some properties and performs pairwise comparisons, resting on the Analytic Hierarchy Process. Shikano analyzes the possibility of using national-level proportional results to form expectations and to vote strategically in the plurality tier; a simulation is performed on the data of the West German mixed electoral system, where plurality and proportionality coexist. Ottone, Ponzano and Ricciuti simulate several voting rules to find out empirically the "best" electoral system; their main aim is the analysis of the negative effects of political fragmentation on government stability. Curini and Martelli study the effects of electoral systems on party systems and parliamentary majorities, in particular on the stability of the government. Starting from a simulation of Italian policy in 2006, they analyze the influence of the spatial features of the party system and their impact on the functioning of the democratic process.

The meeting was an opportunity for presenting to a selected audience two simulation programs, ALEX 4.1, developed at the University of Eastern Piedmont by Marie-Edith Bissey and Guido Ortona, and BAZI, developed at University of Augsburg by Sebastian Maier and Friedrich Pukelsheim. ALEX 4.1 allows to simulate the most important electoral systems on fictitious electoral bodies, and to assess them through the evaluation of several indices of *governability* and of *representativeness*. The experimenter may include some relevant real world features, like geographical concentration of the preferences and strategic voting. More details may be found in the working paper 91 (2007) of the Department of Public Choice of the University of Eastern Piedmont, downloadable at <http://polis.unipmn.it/pubbl/index.php?paper=1957>. Presently, an updated version, ALEX 4.2, is available. This version allows to compute some power indices on Parliaments (Shapley-Shubik, Owen, Myerson, Deegan-Packel, Holler, and Banzhaf) and is downloadable at http://alex.unipmn.it/Eng/Alex_Software.php. BAZI (Berechnung von Anzahlen mit Zuteilungsmethoden im Internet, i.e. Calculation of allocations by apportionment methods in the Internet) is a Java program made available at the website <http://www.uni-augsburg.de/bazi>. Its aim is the implementation of various apportionment methods for proportional representation systems. It considers both divisor methods and quota methods, but allows also biproportional apportionment methods and offers the possibility of handling multiple electoral districts.

Finally, we have some people to thank. First, the contributors to the issue; then the referees and the participants to the workshop, for the improvements to the papers through remarks, suggestions and questions; last but not least, the other members of the scientific committee, Alberto Cassone, Gianfranco Gambarelli, Manfred Holler, Carla Marchese and Fioravante Patrone, who provided a very useful help. A particular thank goes to Marie-Edith Bissey and Veronica Canalella for their top quality technical and organizational support, and to the editors of the journal AUCO Czech Economic Review, who prepared this special issue for publication.

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