SHORT TERM SCIENTIFIC MISSION (STSM) – SCIENTIFIC REPORT

The STSM applicant submits this report for approval to the STSM coordinator

Action number: CA16228
STSM title: Game-theoretic analysis of the Apostolic voting rule
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PURPOSE OF THE STSM/

The Serbian church elects its patriarch using a very special electoral rule, called "Apostolic Vote." According to this system the electorate expresses its preferences regarding the identity of the new patriarch and the three most voted candidates qualify to a lottery stage and the patriarch is selected by lot. This electoral rule possesses unique characteristics which differentiate from standard electoral rules (like plurality, runoff, approval etc.) used in the majority of democratic decision making contexts and deserves a thorough game-theoretic analysis of its equilibrium properties and its welfare implications. Indeed, a complete understanding of its properties cannot be attained solely by the means of a dry mathematical analysis, and one needs to engage into discussions and investigation of the reasons why it was adopted in the first place and which are its perceived advantages and disadvantages. Only then one will be able to gain the proper perspective to evaluate the game-theoretic properties of this exceptional electoral rule. During this visit I intended to investigate the strategic properties of Apostolic vote both by the means of standard game theoretic analysis and by conducting a historical investigation regarding its origins and its outcome-related properties. The analysis of decision rules that are not frequently used in decision making is imperative as the properties and, in particular, the evident limitations of popular decision rules (such as plurality rule) make thorough game-theoretic analyses of alternative decision making procedures more valuable than ever before.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSMS

During my stay in Belgrade I have laid the groundwork of the game-theoretic analysis of the Apostolic voting rule. I have taken advantage of my stay there to get acquainted with the Serbian political and institutional context. Indeed, meetings with the host, Prof. Dusan Pavlovic who, beyond his academic position and competent knowledge of the Serbian context, also serves as an MP in Serbian Parliament, and also other faculty members of both the political science faculty and the economics faculty of the University of Belgrade, provided valuable insights regarding social circumstances and dynamics that generated the need for adoption of the Apostolic voting rule on behalf of the Serbian church. Having a comprehensive understanding of the reasons why a particular decision rule is used in a certain context proved, non-surprisingly, very helpful in choosing the most appropriate modelling strategy. Apart from making the first confident steps in the Apostolic voting analysis, during my stay there I have also provided a relevant lecture to students of the faculty of economics of the University of Belgrade. Hence, my stay there was not only useful for my research

but, moreover, beneficial to the host institution. It allowed students of the host university get exposed to contemporary findings in the fields in which I specialize (i.e., the game-theoretic analysis of group decision-making institutions).

DESCRIPTION OF THE MAIN RESULTS OBTAINED

During my stay in Belgrade I have been able to pin-down the important elements of the decision making environment in which Apostolic vote is applied. This allowed me form the basic assumptions and, hence, build the most appropriate formal model for the analysis of the strategic behaviour of participating individuals. Preliminary results are very promising. As far as candidate behaviour is concerned, there are indications that a unique equilibrium exists, and it is such that only a small number of players announces candidacy and they all propose diverging platforms. Indeed, in most models of endogenous entry and endogenous platform location equilibrium existence is wanting, mainly due to the incentives provided by standard voting rules like the plurality rule. Apostolic vote on the other hand, provides incentives for candidate differentiation and for a moderate number of entrants, which stabilizes the players' behaviour and generates the conditions required for the existence of a pure strategy equilibrium.

FUTURE COLLABORATIONS (if applicable)

Apart from the game-theoretic analysis of the Apostolic voting rule, during my stay I got to discuss with several colleagues regarding a number of interesting questions that might lead to future collaborations. In particular, Prof. Dusan Pavlovic has a deep academic knowledge and a rich experience of parliamentary procedures and incentives in PR systems. Such expertize is invaluable when setting up game-theoretic models and we have agreed to continue discussing on research topics of mutual interest.