Report on Master Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague

Student:	Ján Palguta
Advisor:	Prof. RNDr. Ing. František Turnovec, CSc.
Title of the thesis:	Information complexity of strategic voting

OVERALL ASSESSMENT *(provided in English, Czech, or Slovak):*

In the thesis one of the most challenging problems of modern social choice theory is addressed: strategic voting sometimes associated with manipulation of results of voting by some of the voters. Strategic voting (tactical voting or manipulation) occurs when voter anticipates behavior of other voters and misrepresents his or her sincere preferences in order to enforce the more favorable outcome. Research question of the thesis was formulated in the following way: "Strategic voting depends on information the voters have about other voters' behavior, used voting procedure and sophistication of their analytic skills. Models of strategic voting usually assume that manipulating agent has complete information about preferences of other agents. In my thesis I want to study relation between information different voters have about preferences of other voters and their chance to manipulate successfully in different voting procedures". Usually analyses of voting behavior are based on individual voter's choice expressing her true preferences. New approach used in the thesis analyses voting as a more person game in normal form introducing information as a strategic variable.

In the first part of the thesis the author proposes a normal form game representation of voting and introduces a function, which evaluates a distance between any social preference order and strategic voter's sincere preference order. Minimization of the distance between the two orders will in this set-up prompt the strategic agent towards strategic manipulation. In the second part of the thesis 10 different well defined voting procedures are simulated with randomly generated preferences profiles. Via a series of voting simulations the susceptibility to manipulation of the particular voting procedures are investigated. In the last part of the thesis the vulnerability of strategic voting to the variation in the amount of information that the individual strategic agent holds about other voters' voting preferences is studied. One of the practically useful findings is the following: given the same information structure of the voting game, different voting procedures have different vulnerability to successful strategic voting (manipulation) and from that point of view "better" and "worse" voting procedure can be identified.

The author demonstrates deep knowledge of the relevant literature and ability to use sophisticated methods of quantitative analyses. He brings new interesting findings that have not been published before. Some of the results were implemented into my GACR research project "Political economy of voting behavior, rational voters' theory and models of strategic voting" (the author participated at the research development and presented his results on project research seminar) .

The thesis opens many interesting questions that are promising for further research (e.g. in the authors' PhD studies). As the most interesting one I consider extensive form game model with broader variety of information modeling, study of more strategically rational voters in the model and combination of different types of voters' rationality. Also distance function

Report on Master Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague

Student:	Ján Palguta
Advisor:	Prof. RNDr. Ing. František Turnovec, CSc.
Title of the thesis:	Information complexity of strategic voting

(measuring distance between individual rankings and social rankings) should be more deeply studied and defined via intuitively plausible axioms.
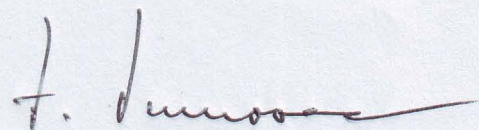
Based on the arguments provided above my evaluation of the thesis is very high and I propose grade 1(A) and appropriate form of a special honor for the author.

SUMMARY OF POINTS AWARDED *(for details, see below):*

CATEGORY		POINTS
Literature	*(max. 20 points)*	20
Methods	*(max. 30 points)*	30
Contribution	*(max. 30 points)*	30
Manuscript Form	*(max. 20 points)*	20
TOTAL POINTS	*(max. 100 points)*	**100**
GRADE	**(1 – 2 – 3 – 4)**	**1**

NAME OF THE REFEREE: **František Turnovec**

DATE OF EVALUATION: **10. 6. 2010**

_____
Referee Signature