



14. März 2011 FP/gw

A probabilistic ‘re-view’ on F&M’s *Measurement of Voting Power*

This paper will be presented
to The Leverhulme Trust sponsored
Voting Power in Practice Symposium
at the London School of economics, 20–22 March 2011

Felsenthal and Machover’s monograph *The measurement of Voting Power – Theory and Practice, Problems and Paradoxes* from 1998 was a breakthrough achievement. The book sets out the philosophical views of the two major models for measuring voting power, due to Penrose/Banzhaf, and Shapley/Shubik. It includes the essential historical aspects of power indices, develops the pertinent mathematical theory, and reaches out to prominent court cases. The exposition emphasizes the game-theoretic approach to the subject. Probabilistic arguments are also used, but appear more as a technical supplement rather than, a viable alternative to game-theoretic modelling. The talk will endorse the usefulness of the probabilistic view for the measurement of voting power, from three points of view. First, we find the probabilistic language quite conducive to convey the essential ideas. Second, block voting scenarios may be analyzed rather comprehensively. Third, abstentions may be taken seriously both in the probabilistic Penrose/Banzhaf model, as well as in the probabilistic Shapley/Shubik model.

O. Ruff/F. Pukelsheim, A probabilistic synopsis of binary decision rules. *Social Choice and Welfare* **35** (2010) 501–516.

O. Birkmeier/A. Käußl/F. Pukelsheim, Abstentions in the German Bundesrat and ternary decision rules in weighted voting systems. *Statistics & Decisions* **28** (2011) 1–16.