

Political Economy of Votes' Exchange and Delegation: Adjusted Quadratic Voting Mechanism

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DOI: 10.22096/esp.2023.538971.1569

Received Date: 14/09/2021 - Accepted Date: 27/02/2023

Abstract

It is a fact that “1 Person 1 Vote” is the most common voting system in democracies worldwide. But, when we ask “How about its efficiency in preference revelation?” the answer is “There are lots of other voting systems with more efficiency”. Two of the most recent studies in this field are “Liquid Democracy” and “Quadratic Voting (QV) Mechanism”. By using “Liquid Democracy” voters can delegate their votes to other voters, and by using “Quadratic Voting Mechanism” voters can buy more votes via spending money. This paper’s contribution is combining the two recent studies and designing “Adjusted Quadratic Voting Mechanism”. In fact, this contribution makes it possible to formulize Liquid Democracy and votes’ delegation in the context of Quadratic Voting (QV) Mechanism.

Keywords: Quadratic Voting; QV; Liquid Democracy; Election; Mechanism Design; Vote Buying; Reputation.

JEL Classification: E61, E65, P16, D71, D72, D82.

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Bibliography

- Blum, Christian, and Christina Isabel Zuber. "Liquid democracy: Potentials, problems, and perspectives." *Journal of Political Philosophy* 24(2) (2016): 162-182.
- Borda, Jean-Charles de. *Mémoire sur les élections au scrutin par M. de Borda; in Mémoires de l'Académie Royale des Sciences année 1781*. Paris: l'Imprimerie Royale (Translated in McLean and Urken), (1995 (Originally 1784)).
- Chandar, Bharat, and E. Glen Weyl. "Quadratic Voting in Finite Populations." *SSRN Electronic Journals*. id=2571026. (2019).
- Clarke, Edward Hedrick. "Multi-part pricing of public goods." *Public Choice* 11(1971): 17-23.
- Condorcet, M.J.A.N. de C., Marquis de. *Essai sur l'application de l'analyse à la probabilité des décisions rendues à la pluralité des voix*. Paris: l'Imprimerie Royale; Translated in Mclean and Urken (1995 (Originally 1785)): 91-113.
- Gibbard, Allan. "Manipulation of voting schemes." *Econometrica* 41 (1973): 587-601.
- Groves, Theodore. "Incentives in teams." *Econometrica* 41 (1973): 617-631.
- Harsanyi, John Charles. "Games with incomplete information played by Bayesian players. Part I: The Basic Model." *Management Science* 14 (1967): 159-182.
- Harsanyi, John Charles. "Games with incomplete information played by Bayesian players. Part II: Bayesian equilibrium points." *Management Science* 14 (1968): 320-334.
- Harsanyi, John Charles. "Games with incomplete information played by Bayesian players. Part III: The basic probability distribution of the game." *Management Science* 14 (1968): 486-502.
- Hurwicz, Leonid. *On informationally decentralized systems*. In *Decision and Organization*. North-Holland, Amsterdam: Radner and McGuire. (1972)
- Hurwicz, Leonid. "Optimality and informational efficiency in resource allocation processes." Edited by Kenneth Joseph Arrow, Samuel Karlin and Patrick Suppes. *Mathematical Methods in the Social Sciences* (Stanford University Press). (1960): 27-46.
- Lalley, Steven, and Glen E. Weyl. "Quadratic Voting: How Mechanism Design Can Radicalize Democracy." *SSRN 2003531*. (2017).
- Maskin, Eric. "Nash equilibrium and welfare optimality." *Review of Economic Studies* 66 (1999): 23-38.
- Miller, James. "A program for direct and proxy voting in the legislative process." *Public Choice* 7(1) (1969): 107-113.
- Narahari, Y., Dinesh Garg, Ramasuri Narayanam, and Hastagiri Prakash. *Game Theoretic Problems in Network Economics and Mechanism Design Solutions*. London: Springer. (2009).
- Pacuit, Eric. "Voting Methods." *The Stanford Encyclopedia of Philosophy*. (2019).
- Ramos, José. "Liquid Democracy and the Futures of Governance." *The Future Internet*, by Jenifer Winter and Ryota Ono, Springer. (2015): 173-191.
- Vickrey, William. "Counterspeculation, auctions, and competitive sealed tenders." *Journal of Finance* 16(1) (1961): 8-37.
- Weyl, E. Glen. "Quadratic Vote Buying." *SSRN Electronic Journal*. 10.2139/ssrn.2003531. (2012)