Fractional Group Identification*

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March 6, 2018

Abstract

We study group identification problems, the objective of which is to classify agents into groups based on individual opinions. Our point of departure from the literature is to allow membership to be fractional, to qualify the extent of belonging. Examining implications of independence of irrelevant opinions, we identify and characterize four nested families of rules. The four families include the weighted-average rules, which are obtained by taking a weighted average of all entries of a problem, and the fractional consent rules, which adapt the consent rules from the binary model to our multinary setup, balancing two principles in group identification, namely liberalism and social consent. Existing characterizations of the one-vote rules, the consent rules, and the liberal rule follow from ours.

JEL Classification Numbers: C0; D70; D71; D72

Key Words: Fractional membership; independence of irrelevant opinions; weighted-average rules; fractional consent rules; liberal rule

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*We thank Biung-Ghi Ju, Sam-Ho Lee, Alan D. Miller, and William Thomson for helpful comments. This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2017S1A5A8022100).  
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