The problem of constrained judgment aggregation

Franz Dietrich and Christian List

Published in F. Stadler et al. (eds.) *The Present Situation in the Philosophy of Science*, Berlin: Springer, 2009

Group decisions must often obey exogenous constraints. While in a preference aggregation problem constraints are modelled by restricting the set of feasible alternatives, this paper addresses the modelling of constraints when aggregating individual yes/no judgments on interconnected propositions. For example, court judgments in breach-of-contract cases should respect the constraint that action and obligation are necessary and sufficient for liability, and judgments on budget items should respect budgetary constraints. In this paper, we make constraints in judgment aggregation explicit by relativizing the rationality conditions of consistency and deductive closure to a constraint set, whose variation yields more or less strong notions of rationality. This approach of explicit constraints contrasts with that of building constraints as axioms into the logic, which turns compliance with constraints into a matter of logical consistency and thereby conflates requirements of ordinary logical consistency (such as not to affirm a proposition and also its negation) and requirements dictated by the environment (such as budget constraints). We present some general impossibility results on constrained judgment aggregation; they are immediate corollaries of known results on (unconstrained) judgment aggregation.

Preprint: www.FranzDietrich.net/Papers/DietrichList-ConstrainedJA.pdf

Official Publication: https://link.springer.com/chapter/10.1007/978-90-481-9115-4_10