

Justifiable group choice[☆]

Klaus Nehring^a, Clemens Puppe^{b,*}

^a *Department of Economics, University of California at Davis, Davis, CA 95616, USA*

^b *Department of Economics and Business Engineering, Karlsruhe Institute of Technology (KIT),
D-76131 Karlsruhe, Germany*

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Abstract

We study the judgment aggregation problem from the perspective of justifying a particular collective decision by a corresponding aggregation on the criteria. In particular, we characterize the logical relations between the decision and the criteria that enable justification of a majority decision through a proposition-wise aggregation rule with no veto power on the criteria. While the well-studied “doctrinal paradox” provides a negative example in which no such justification exists, we show that genuine possibility results emerge if there is a gap between the necessary and the sufficient conditions for the decision. This happens, for instance, if there is only a partial consensus about the appropriate criteria for the decision, if only a subset of these criteria can be elicited, or if the judgment on criteria is based on probabilistic acceptance thresholds.

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* Corresponding author.

E-mail addresses: kdnehring@ucdavis.edu (K. Nehring), clemens.puppe@kit.edu (C. Puppe).

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1. Introduction

Consider a group of individuals who have to take a collective decision and want to justify their decision based on reasons which reflect the opinions of the group members. As an example, consider a court of three judges who has to decide on the liability of a defendant (proposition d). Suppose that, by legal doctrine, the defendant is to be held liable if and only if (s)he did a particular action (proposition c_1) and no special exculpatory circumstances apply (proposition c_2). If the court members' judgments are as shown in Table 1, proposition-wise majority voting on both the decision and the "reasons" leads to a set of collective judgments that is inconsistent with the legal doctrine: the affirmation of both c_1 and c_2 but at the same time the rejection of d . This is the well-known "doctrinal paradox" or "discursive dilemma" studied in the judgment aggregation literature, following Kornhauser and Sager [7] and List and Pettit [10]. The literature has demonstrated the robustness of the discursive dilemma, both with respect to the class of admissible aggregation methods and with respect to the structure of the logical relation between the "decision" (d) and the reasons or "criteria" (c_1 and c_2).¹

In Nehring and Puppe [17], we have shown that the discursive dilemma extends to all "truth-functional" contexts. These are contexts in which each judgment set forces *either* the acceptance *or* the rejection of the decision. In such situations the only consistent proposition-wise aggregation methods are oligarchic and often even dictatorial. For instance, in the doctrinal paradox above the only anonymous proposition-wise aggregation method is the unanimity rule according to which the collective affirmation of each proposition requires unanimous consent.²

Assuming truth-functionality is, however, restrictive and arguably unnatural in the present case since the presence of "special circumstances" creates a scope of discretion. Specifically, assume that the logical interrelation between the decision and the criteria is as follows: (i) negating that the action has been done necessarily leads to the verdict "not liable," no matter whether or not special circumstances are granted, (ii) affirming both c_1 and c_2 (i.e. affirming that the action has been done but denying special circumstances) necessarily implies the verdict "liable," and (iii) affirming c_1 but negating c_2 (thus granting special circumstances) is consistent with either a positive or a negative verdict, depending on further details of the case. Clause (iii) creates a gap between the necessary and the sufficient conditions for the decision, thereby introducing a "scope of discretion" that reflects the assessment of the special circumstances for the case at hand.

Relaxing the assumption of truth-functionality in this way allows one to avoid the doctrinal paradox. Specifically, a consistent proposition-wise aggregation method can be obtained in a natural way by requiring unanimous consent in order to affirm c_2 (i.e. in order to deny the presence of special circumstances), deciding all other propositions by majority vote as before. If the individual judgments are as in Table 1, this aggregation method results in the collective judgment according to which c_1 is affirmed, but special circumstances are granted and the verdict is "not

¹ See, e.g., Pauly and van Hees [19], Dietrich [1], Dietrich and List [3], Dokow and Holzman [5,6], Nehring and Puppe [17,18]. List and Puppe [11] provide a survey of the recent literature on judgment aggregation.

² Whether there exist anonymous proposition-wise aggregation methods in truth-functional contexts depends on the precise logical relation between the decision and the criteria. In many cases, there are in fact no anonymous rules at all, see Dokow and Holzman [5] and Nehring and Puppe [17].

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