

Paradoxes and Favoring in Apportionments

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In this book, the apportionment (APP) problem, that is the distribution of entities of the same kind (goods, mandates, etc.) among beneficiaries, is explored. The obtained solution may vary considerably from one APP method to another. The knowledge of characteristics of methods would facilitate the successful selection of a particular APP method for a specific mission. In addition to the known ones, some new aspects of APP methods regarding the immunity to paradoxes and to the favoring of beneficiaries are examined. Thus, a new approach for the defining of the Population paradox is argued. By computer simulation, the percentage of occurrence of the Alabama, of Population and of New state paradoxes and of the degree of favoring of beneficiaries by APP methods are estimated. Initially, the apportionment optimization problem is formalized, then the examined APP methods are described, next the characteristics in question are defined and further obtained, outlined and systemized and, finally, the comparative multi-aspectual analysis of 11 APP methods is made. The monograph is intended for developers, researchers and decision makers, but can also be useful to students in the field.

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