

# Inframodular Majorization And Multidimensional Inequalities

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Müller and Scarsini JET(2012) in “Fear of loss, inframodularity and transfers” proposed in the framework of risk to substitute in the multidimensional case the inframodular order to the concave order. Our aim here is to emphasize that the inframodular order is particularly pertinent when dealing with multidimensional inequalities. In a first part we study the specific meaningful properties of inframodularity in relationship with a Strong Multidimensional Pigou Dalton Principle. Then building upon a previous paper of Basili, Casaca, Chateauneuf and Franzini, we recall how to axiomatize an additive social evaluation function which can accommodate both the previous Pigou Dalton Principle and Correlation increasing majorization. Finally we apply our model to data in order to compare our formula with other existing ones, in particular with the HDI ( Human Development Index ).