

Kouchakinejad, Fateme; Šipošová, Alexandra

A note on the super-additive and sub-additive transformations of aggregation functions: the multi-dimensional case. (English) [Zbl 1424.26032](#)

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Summary: For an aggregation function A we know that it is bounded by A^* and A_* which are its super-additive and sub-additive transformations, respectively. Also, it is known that if A^* is directionally convex, then $A = A^*$ and A_* is linear; similarly, if A_* is directionally concave, then $A = A_*$ and A^* is linear. We generalize these results replacing the directional convexity and concavity conditions by the weaker assumptions of overrunning a super-additive function and underrunning a sub-additive function, respectively.

MSC:

[26B40](#) Representation and superposition of functions

[26B30](#) Absolutely continuous real functions of several variables, functions of bounded variation

Cited in **3** Documents

Keywords:

aggregation function; overrunning and underrunning property; sub-additive and super-additive transformation

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