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An axiomatic approach to capital allocation. (English) Zbl 1102.91049
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Summary: Capital allocation techniques are of central importance in portfolio management and risk-based performance measurement. In this paper we propose an axiom system for capital allocation and analyze its satisfiability and completeness: it is shown that for a given risk measure ρ there exists a capital allocation Λ_ρ that satisfies the main axioms if and only if ρ is subadditive and positively homogeneous. Furthermore, it is proved that the axiom system uniquely specifies Λ_ρ . We apply the axiomatization to the most popular risk measures in the finance industry in order to derive explicit capital allocation formulae for these measures.

MSC:

- 91B28 Finance etc. (MSC2000)
- 91B30 Risk theory, insurance (MSC2010)
- 91B32 Resource and cost allocation (including fair division, apportionment, etc.)

Cited in **1** Review
Cited in **74** Documents

Keywords:

risk measure; expected shortfall; value-at-risk; Hahn-Banach theorem

Full Text: [DOI](#)

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