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# Kappa ratios and (higher-order) stochastic dominance

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**Risk Management**

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## Abstract

This paper first shows the sufficient relationship between the \((n+1)\)-order SD and the *n*-order Kappa ratio. In fact, we clarify the restrictions on necessary beating of the target for the higher-order SD consistency of the Kappa ratios. Thereafter, we show that, in general, the necessary relationship between SD/RSD and the Kappa ratio cannot be established. We find that when the variables being compared belong to the same location-scale family or the same linear combination of location-scale families, we can get the necessary relationship between the \((n+1)\)-order SD with the *n*-order Kappa ratio after imposing some conditions on the means. Our findings enable academics and practitioners to draw better decision in their analysis.

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## Notes

1. We note that there are other approaches to measure risk, see, for example, Bea (2009) and Kutan and Yaya (2016).

2. We denote risk-seeking SD for risk seekers as RSD while Levy (2015) denotes it as RSSD. Readers may refer to Li and Wong (1999), Wong and Li (1999), Wong (2007), Levy (2015), and Guo and Wong (2016) for more information.

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