

# Stochastic order related to multivariate normal distributions

Jeongsim KIM<sup>1</sup> and Bara KIM<sup>2</sup>

1) *Department of Mathematics Education, Chungbuk National University, Chungbuk, 28644, KOREA*

2) *Department of Mathematics, Korea University, Seoul, 02841, KOREA*

Corresponding Author : Bara KIM, [bara@korea.ac.kr](mailto:bara@korea.ac.kr)

## ABSTRACT

We consider the stochastic order of Gini indexes for multivariate normal risks. Gini index has been extensively studied in fields such as economics and insurance. Brazauskas et al. [Insurance: Mathematics and Economics 2017] studied a model for Gini indexes for multivariate normal risks and provided a conjecture about the stochastic order of the indexes. In this presentation, a counterexample is provided to show that the conjecture can not be true. Then it is shown that the conjecture holds under a stronger assumption.