Title : Some properties of state prices

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ABSTRACT

In this independent study, we have a motivation from the study of Petcharat Rattanawong and Kritsana Neammanee Journal on the topic ” Matrix on Investment Analysis ”. In the work, they showed a return matrix **R** for two or more scenarios to find a portfolio **Y** that is risk-free or always yields higher returns than the loan (referred to as an arbitrage portfolio). In addition, the article shows the relationship between the return matrix **R** and the investment portfolio **Y** through the status prices **P** as follows.

1. If the state prices of **R** can be determined, then there will be no arbitrage portfolio.
2. If the state prices of **R** cannot be determined, then there will be an arbitrage portfolio.

From the study, we found a counterexample of the statement 2. The author is interested in studying the return matrix **R** when the status price cannot be found. The results of the study are the conditions of the return matrix **R** for 2 scenarios that cause an arbitrage portfolio and the search for an arbitrage portfolio.

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