

Evaluation and analysis of investment alternatives with different economic lives using fuzzy logic

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Abstract

In evaluating and selecting potential investments, the decision makers are often facing the situations of uncertain cash flows and discount rates associated with different economic life in alternatives. This paper proposed a fuzzy equivalent uniform annual worth (EUAW) method, in which the uncertain cash flows and discount rates are specified as triangular fuzzy numbers, to assist practitioners in evaluating investment alternatives utilizing the theory of fuzzy set. Further, fuzzy capital recovery factor and fuzzy sinking fund factor are derived. Using these two factors, the fuzzy equivalent annual worth of each investment alternative can be found. By ranking these fuzzy equivalent annual worth, the optimal investment alternative is selected.

Keywords : *Economic lives, fuzzy capital recovery factor, fuzzy sinking fund factor, fuzzy equivalent uniform annual worth (Fuzzy EUAW).*

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