CONSISTENT INTERPOLATIVE FUZZY LOGIC AND INVESTMENT DECISION MAKING

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• MCDM: in the last few decades has an ever increasing role in finance decision making
• Classical approach to ranking uses weighted sum of scores
• In many cases, the classical method is not appropriate for realistic situations
• There are many approaches that amend these shortcomings
• In this paper two approaches using fuzzy logic are presented and compared in the context of investment decision making
• The original method proposed by authors, based on consistent interpolative fuzzy logic, has many advantages over classical fuzzy logic approach
• Investor risk aversion is included in a very interesting and flexible way (varying weights for the composite rating)
• A novel approach for setting rules is presented
• Rules are established in the flexible framework of Generalized Boolean polynomials
• Rules are based on empirical data
Suggestions for improvement

• The main results could be more emphasized
• More clarity is needed in the comparison of the two methods (possibly use a concrete example for calculating rating in detail for a specific company)
• A more detailed discussion of comparison of ratings obtained in the models and ratings given by S&P, Moody’s and Bloomberg would be interesting
Suggestions for improvement

• Proofs and some mathematical details of IFL could be in the Appendix
• The formulas would be more readable if indices were shorter
• The proposed method of deffuzification in IFL could be explained in much more detail
• The way rules are applied (Appendix C and Appendix D) could be explained in more detail, possibly on a concrete example
Suggestions for improvement

• It is not clear if definition of parameter of dependency $p$ is a new contribution of the authors
• It should be explained what probability space is used for computing parameter $p$
• Is the product $T_p(a, b)$ associative when $p$ depends on $a(x)$ and $b(x)$?
• Explanation of how the Monte Carlo simulation is used for determining $p$ in terms of Spearman correlation would be interesting
Conclusion

- Although there is room for improvement in the exposition of the results, the article certainly can find its place in one of the established journals from the Science Citation Index list.