

Editorial

The authors of the first paper in this issue of ORiON are Venter and Maré, and the title of their article is “GARCH option pricing models in a South African equity context”. In this paper, the authors compare the performance of three different GARCH processes that are used to model the implied South African Volatility Index (SAVI). Three different log-likelihood functions are applied to estimate the GARCH model parameters, and historical SAVI data is used to evaluate the accuracy of the estimated GARCH option pricing models. Their results show that although an asymmetric GARCH model outperforms the symmetric counterpart when modelling the GARCH implied SAVI, the improvement provided by the asymmetric GARCH option pricing models is marginal.

The second paper, by Du Pisanie and Visagie, is entitled “On testing the hypothesis of population stability for credit scorecards”. This paper is concerned with testing the assumption that the risk characteristics of a population have remained unchanged over a period of time, which is a factor often considered when determining whether or not a currently used model is still suitable for the population in question. Traditionally, a measure known as the population stability index is used to make this determination. The paper highlights some weaknesses of this measure and proposes a new methodology which can be used to test the assumption of population stability.

The third paper in this issue of ORiON is by Kazmaier and van Vuuren with the title “Sentiment analysis of unstructured customer feedback for a retail bank”. In their paper, sentiment analysis methods are applied to customer reviews related to products and services of a retail bank, to extract valuable insight that may inform decision making. A three-stage approach was followed as part of a case study involving a preprocessing step, a structured model building and evaluation step, and finally, an analysis to identify patterns in the data that may indicate trends in and possible causes of sentiment. The resulting machine learning models achieved median AUC scores of up to 0.9 and outperformed commercial tools and existing lexicon-based models from the literature.

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