Forecasting Amman Stock Market Data Using a Hybrid Method

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Abstract : In this study, a hybrid method based on Empirical Mode Decomposition and Holt-Winter (EMD-HW) is used to forecast Amman stock market data. First, the data are decomposed by EMD method into Intrinsic Mode Functions (IMFs) and residual components. Then, all components are forecasted by HW technique. Finally, forecasting values are aggregated together to get the forecasting value of stock market data. Empirical results showed that the EMD- HW outperform individual forecasting models. The strength of this EMD-HW lies in its ability to forecast non-stationary and non- linear time series without a need to use any transformation method. Moreover, EMD-HW has a relatively high accuracy comparing with eight existing forecasting methods based on the five forecast error measures.

Keywords : Holt-Winter method, empirical mode decomposition, forecasting, time series
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