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Comparing Different Forecasting Methodologies: An Application to Financial Data of Pakistan

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Abstract

Empirical studies by [15] and [18] have found little difference in forecast accuracy between exponential smoothing and ARIMA models identified by the [5] methodology. This has made the family of exponential smoothing procedures an attractive proposition. To ensure robust performance of the method (model), it is important to select a model from the best range of available models.

The purpose of this paper is to select an appropriate exponential smoothing model (from the modeling framework) to obtain forecasts of various economic and financial time series of Pakistan. The forecasts from the selected exponential smoothing models are then compared with the forecast obtained from classical Box-Jenkins methodology.

The efficiency of forecast performance depends on the choice of smoothing parameter(s) for various exponential smoothing methods (see [8]). To ensure robust performance of the method (model), it is important to select smoothing parameter(s) from the best range of parameter(s). We also discuss various possible parameter spaces for single source of error state space models that underly exponential smoothing. We compare these parameter spaces by applying them to the various economic and financial time series.

Keywords: Forecast, exponential smoothing, forecast accuracy measure, parameter space.

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