UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

FORECASTING OF UNEMPLOYMENT RATE IN MALAYSIA USING UNIVARIATE AND BOX-JENKIN'S METHOD

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ABSTRACT

Unemployment is serious matters for all countries in the world, particularly developing countries with higher populations, have to take seriously, regardless of whether its effect is critical or controlling. In this study, forecasting time series data is being used to determine the utility of this approach in forecasting and estimating the unemployment rate in Malaysia. There are three objectives in this study. Firstly, to develop model of unemployment rate in Malaysia by using Univariate Modelling techniques and Box-Jenkins method. Besides that, it is to identify the best model between Univariate Modelling techniques by using Double Exponential Smoothing technique and Holt's method, and also Box-Jenkins method. Lastly, the unemployment rate is to be forecast for the coming year on the basis of the selected best model. The aim of this study is to identify the best model for forecasting unemployment rate in Malaysia, since there is no appropriate model that has declared to be the right model for estimating the unemployment rate in future. The scope of this study is the unemployment rate population in Malaysia. The error measures that used in this study are Mean Square Error (MSE), Root Mean Square Error (RMSE), Mean Absolute Percentage Error (MAPE) and Geometric Root Mean Squared Error (GRMSE) by selecting the lowest value of error measure. The lowest error measure will be used to identify which forecasting method that suitable to predict the unemployment rate in Malaysia. The findings showed that the best model is ARIMA(2,1,3) from the Box-Jenkins method since it indicated the smallest value of all error measures value.