

UNIVERSITI TEKNOLOGI MARA



**FORECASTING UNEMPLOYMENT RATE DURING COVID-19 BY
USING ARIMA MODEL**

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ABSTRACT

Many people have lost their job amid the COVID-19 pandemic including Malaysia. The government has taken a big step in announcing the Movement Control Order (MCO). However, such decisions have impacted the unemployment rate as businesses at high risk of COVID-19 infections have closed down temporarily and some are required to lessen their employees subject to the standard operating procedures (SOPs). It is with this interest in mind, this study aims to investigate the effect of COVID-19 on the unemployment rate. In order to achieve the objective for this study, data of unemployment rate in Malaysia (from January 2010 - February 2021) were used to forecast the unemployment rate for one year ahead using Auto Regressive Integrated Moving Average (ARIMA) model. R software was used to create ARIMA models and the best ARIMA model was selected and used to forecast. As a result, ARIMA (4,2,1) was the best model among others as the model has the minimum value of Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). This study found that the actual situation value of unemployment rate differs than the forecast value. It might be due to the forecast situation and real situation are different where it is suggested to forecast the irregular data and compare results using other models. In conclusion, the COVID-19 really impacted the economy as the unemployment rate is still high for the actual and forecast value.

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