Forecasting the inflation in the Republic of North Macedonia by using ARIMA model

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Inflation modeling and forecasting are crucial for the economies of all countries, particularly developing ones. This paper aims to forecast inflation in the Republic of North Macedonia. The chosen methodology for econometric modeling of inflation in the country is the Box-Jenkins approach, utilizing an ARIMA model. The analyzed time series focuses on the consumer price index (CPI) with a base year of 2010. Data for this analysis has been obtained from the State Statistical Office. As of the time of modeling, the latest available observation for inflation was from September 2022. The time series consists of 249 observations, with a monthly frequency, covering the period from January 2002 to September 2022. The analysis reveals that the model accurately predicts inflation for the first two months outside the sample period, with a difference of only 0.1 and 0.5 percentage points between actual and predicted inflation, respectively. Consequently, it can be concluded that the Box-Jenkins methodology yields highly accurate inflation forecasts for the Republic of North Macedonia, specifically within the first two months outside the sample period of the time series.