

Forecasting Inflation Rate in India

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Abstract

We examine the unit root and stationarity properties of the series using ACF, PACF, Augmented Dickey Fuller (ADF) unit root tests. The results show that the WPI data in India is non-stationary in level but stationary in first difference and thus integrated of order one, $I(1)$. We then applied Box-Jenkins modeling methodology to search for an optimal model and found that ARIMA (1, 1, 0) was the best fitting model to describe WPI data series in India. The model was validated and found to be adequate and good. Based on this model, we forecast the future annual WPI in India for a period of 9 years from 2016-17 to 2024-25. The forecasts show a steady increase in the annual values of WPI in India. The study predicts that inflation will increase in India from 2016-17 since the confidence intervals of the forecast suggest a consistent increase in annual WPI during the forecasted period of 2016-17 to 2024-25.

JEL Code : E10 ; E17 ; C2 ; C8

Keywords : Inflation, Unit root, ARIMA, Forecast, India.

I. Introduction

THE INTERIOR AIM of any macroeconomic policy is unrelenting economic growth along with low inflation. For a steady macroeconomic environment, the inflation rate is considered to be serious as an indicator. The one of most important economic tasks for the Government of any country is to achieve price stability by observing the price level, as one of the key pointer of overall economic performance in economy. For achieving such goal, the future

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the most suitable and adequate model to explain WPI data series in India. The model was validated through the Tests viz., Inverse Roots of AR/MA Polynomial(s) and Ramsey Regression Equation Specification Error Test. Based on the model found suitable, the future annual WPI in India was forecasted for the period of 8 years from 2017-18 to 2024-25. The forecasted value for the year 2017-18 is 182.70. When compared it with the actual value of previous year 2016-17 that is 179.76, It is seen that there is an increase in value and this increase in inflation rate will be consistent in India from 2017-18 to 2024-25. The study reveals that the Inflation will be increasing in India during forecasting period from 2017-18 to 2024-25. Therefore, It is recommended that RBI and Central Government of India should take necessary step to control the inflation in India.

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