FUEL DEMAND MODELING IN EAST JAVA USING UNIVARIATE AND MULTIVARIATE TIME SERIES APPROACH

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ABSTRACT

Fuel is important commodity that takes reins in economic activity. One of subsidized fuel with the highest amount of demand in Indonesia is Premium. In compliance with the development of the industry and transportation, the need for premium immediately increases. Special for the East Java Region, PT. Pertamina accommodates and distributes premium from 5 TBBM (including Surabaya installation, TBBM Malang, TBBM Madiun, TBBM Camplong, and TBBM Tanjungwangi) to SPBUs in each TBBM. There is a guess that beside having correlation with occurrence at time before, the demand between TBBM are influence each other too. So, in this analysis, modelling is done with 2 methods approach that is ARIMA and VAR. Based on RMSE and MAPE criteria which is resulted by 2 models, gained a conclusion that model VAR([1,12]) is appropriate model to predict premium selling in Surabaya installation and TBBM Malang. Meanwhile, model ARIMA is more appropriate for TBBM Camplong, Madiun and Tanjungwangi.

Keywords: ARIMA, Premium, VAR