Calendar Variation and Autoregressive Distributed Lag (ARDL) Models for Forecasting Currency Netflow

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ABSTRACT

Currency plays important role in the monetary system of a country. The main problem that is faced by Bank Indonesia as monetary authority is inaccuracy the projected value of currency netflow. This research is done using two methods: Univariate Time Series that implemented into Calendar Variation model, and causality approach implemented into Autoregressive Distributed Lag (ARDL) model. Calendar Variation Model focused on the effects of Eid Fitr to the currency netflow. Meanwhile the ARDL Model focused on the macro economy variable effect which are the interest rate of Bank Indonesia Certificates (SBI), exchange rate of Rupiah to US Dollar, and Consumer Price Index (CPI). The result shows that the best model to forecast the currency netflow, based on the lowest MAPE value, is the combination of ARIMAX based calendar variation and time series based ARDL model (transfer function model). The model interpret that Eid Fitr and CPI value have significant effects to the currency netflow.

Keywords: ARDL Model, ARIMAX, Calendar Variation Model, CPI, Eid Fitr, Exchange Rate, Netflow Currency, SBI Interest Rate, Transfer function Model.
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