Modeling and Forecasting Real GDP of HK using VAR

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Overview

Modeling HK
RGDP

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Data

Transformations
to Data

Model

Forecasts

- Quarterly economic data from 1990-2020
- Data obtained from CEIC
- Endogenous Variables (Y): Real GDP, CPI, Gross Fixed Capital Formation (Investment)
- Exogenous Variables (Z): World GDP, Unit Value Imports, Best lending rate
- Dummy Variables: SARS

Transformations to Data

Modeling HK RGDP

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Transformations to Data

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- All variables apart from base lending rate were not stationary, so a log difference was implemented

Model

$$Y_t = \delta + \Theta_1 Y_{t-1} + \Theta_2 Y_{t-2} + \Theta_3 Y_{t-3}$$

$$+ \Theta_4 Z_{t-1} + \Theta_5 Z_{t-2} + \Theta_6 Z_{t-3}$$

$$+ \theta_7 SARS_{t-1} + \theta_8 SARS_{t-2} + \theta_9 SARS_{t-3} + \epsilon_T$$

Predicted and Actual value for RGDP

RMSE: 0.0196

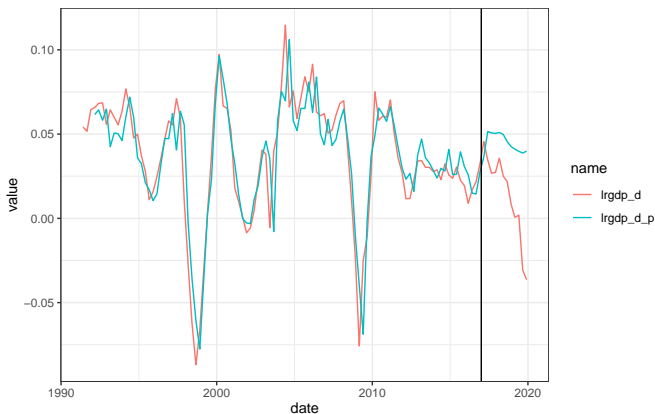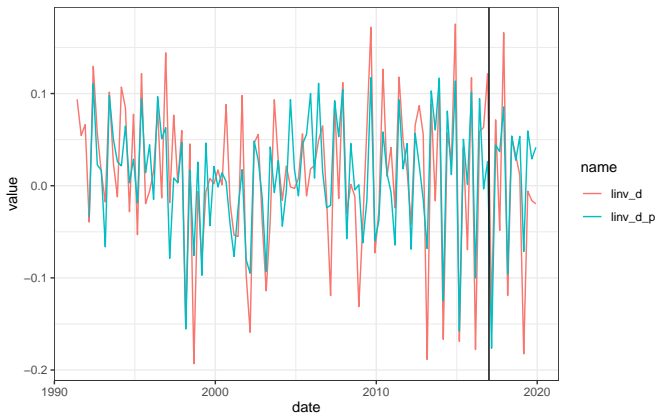# Predicted and Actual value for CPI
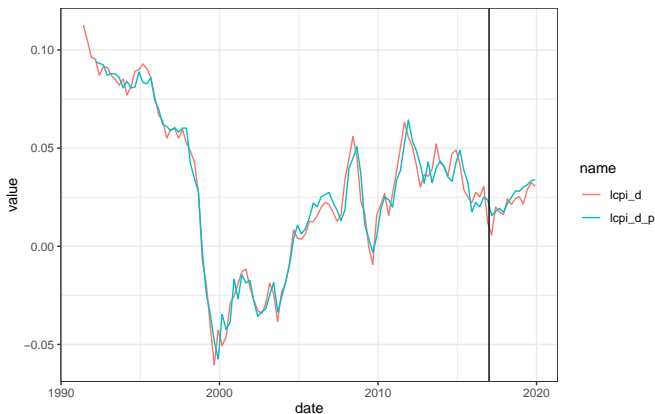
RMSE: 0.0065

Predicted and Actual value for Investment

RMSE: 0.051