#### Modeling HK RGDP

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Transformation

Model

orecasts

# Modeling and Forecasting Real GDP of HK using VAR

Murphy Li

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# Overview

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Data

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Model

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## Data

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#### Data

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Forecast

- 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

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

# Model

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$$\begin{aligned} Y_{t} &= \delta + \Theta_{1}Y_{t-1} + \Theta_{2}Y_{t-2} + \Theta_{3}Y_{t-3} \\ &+ \Theta_{4}Z_{t-1} + \Theta_{5}Z_{t-2} + \Theta_{6}Z_{t-3} \\ &+ \theta_{7}SARS_{t-1} + \theta_{8}SARS_{t-2} + \theta_{9}SARS_{t-3} + \epsilon_{T} \end{aligned}$$

## Predicted and Actual value for RGDP

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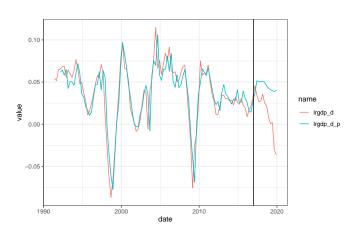
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RMSE: 0.0196

# Predicted and Actual value for CPI

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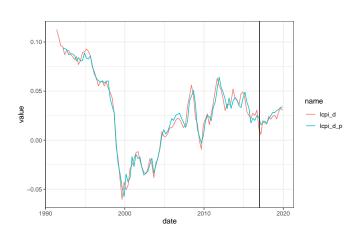
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RMSE: 0.0065

# Predicted and Actual value for Investment

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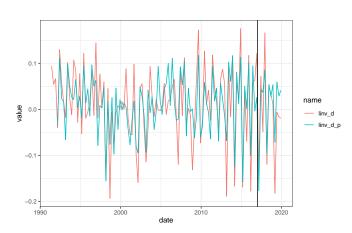
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RMSE: 0.051