Nowcasting Macroeconomic Indicators using Google Trends

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BACKGROUND:

- Main aim is to nowcast macroeconomic factors (GDP, Retail Trade Sales and E- Commerce) using Google Trends Data
- Using Pytrends package of python for fetching Google trends data
- Need to present dashboard, report and presentation at the end.

OVERALL PROGRESS

- Data Cleaning and Wrangling 
- Time series for all the three factors made stationary 
- Econometric Model fitting (DFM, ARMA Model) 

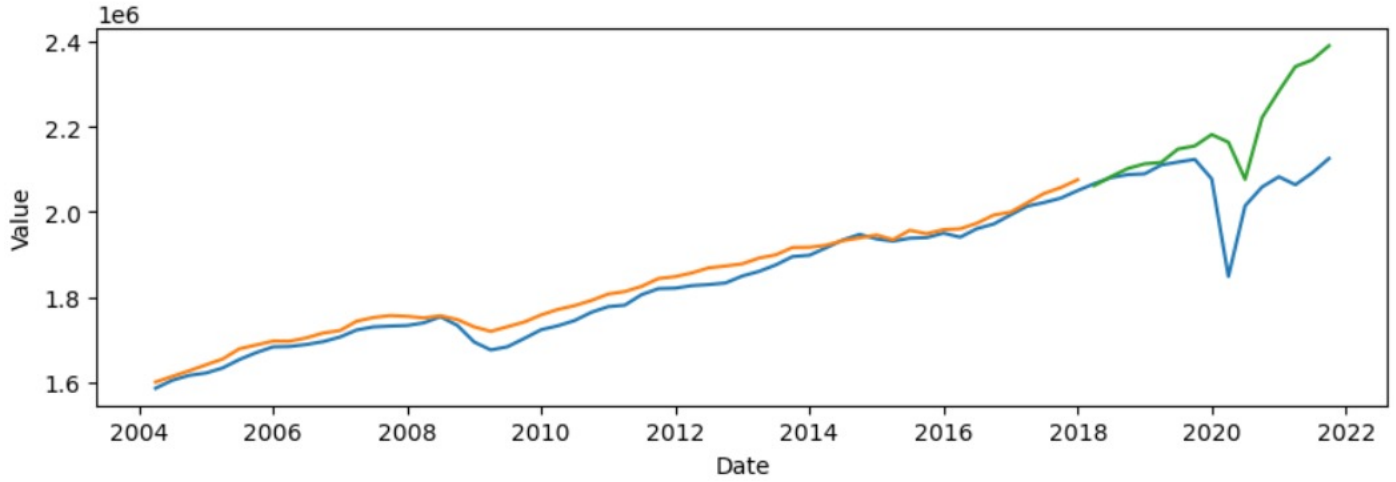
PREVIOUS WEEK PROGRESS

- **Scheduled Task for Last week** : Making Data stationary and fitting econometric models

- **Work Progress:**
  - Time Series for all three factors are made stationary
  - Did rolling predictions to the time series data
  - Splitted data into training and testing sets
  - Fitted DFM models and ARMA model
  - Added Diagnostic plots to check accuracy

RESULTS

- Did predictions using testing and training data sets
- Predictions are overfitted and will have to improve it further



ROADBLOCKS:

- Calling Google Trends API multiple times blocks

- **Solution as discussed with Partners :** To use only single sample rather than working with multiple

NEXT WEEK PLAN

- Implement machine Learning Models
- Comparative study/ analysis for all the applied models
- Finalize accurate predictions with appropriate chosen model

ARE WE ON TRACK?
MEETING WITH THE PARTNERS:

- On Track as mentioned in the proposal document
- Scheduled weekly meetings on Thursday
- Partners are satisfied with what we have done so far
- Clear all the doubts as soon as we ask them over MS teams/ mails

INDIVIDUAL AND TEAM EFFORTS

- Work assigned equally
- Three macroeconomic factors divided among three contributors
  - Aishwarya Sharma → Retail Trade Sales
  - Harpreet Kaur → E- Commerce
  - Jagdeep Brar → GDP

All three factors have different data sets, keywords (Queries and Topics), categories and need different efforts but with similar goal.

Timings for work: Monday to Friday, 9:30 AM – 5: 30 AM

BRIEF EXPLANATION VIA CODE

- Brief Overview about the code we are doing is explained using jupyter notebook

Link for image: https://technology.amis.nl/data-analytics/quickest-way-to-try-out-jupyter-notebook-zero-install-3-cli-commands-and-5-minutes-to-action/