

Alteryx Hackathon TEAM 4

Yixiao (Sookie) Ji

Ajay Chemuri

Min Shi

Pushkar Nagpal



BACKGROUND

The Goldman Sachs Group, Inc - advances sustainable economic growth and financial opportunity across the globe.

4 primary segments **85%** + **15%** + **5%**

- ✓ **Investment banking**
- ✓ **Global markets**
- ✓ **Asset management**
- ✓ **Wealth management**

3 regions

- ✓ **Americas**
- ✓ **EMA**
- ✓ **Asia**



SCOPE & STEPS

Pre-covid vs. Post-Covid

Globally vs. Nationally

CPIs & PPIs & International Imports and Exports

Time Series Forecasting

Projections and Recommendations



ARIMA:

- Univariate model or one with covariates (predictors)
- Autoregressive integrated moving average method

ETS:

- Univariate time series forecasting model
- Exponential smoothing method

TIME SERIES

A statistical model to predict the future values using historical values.

TS Compare:
lowest error values

Combined
Reginal Data.xlsx
Query=`Combine
d Region\$`

ETS

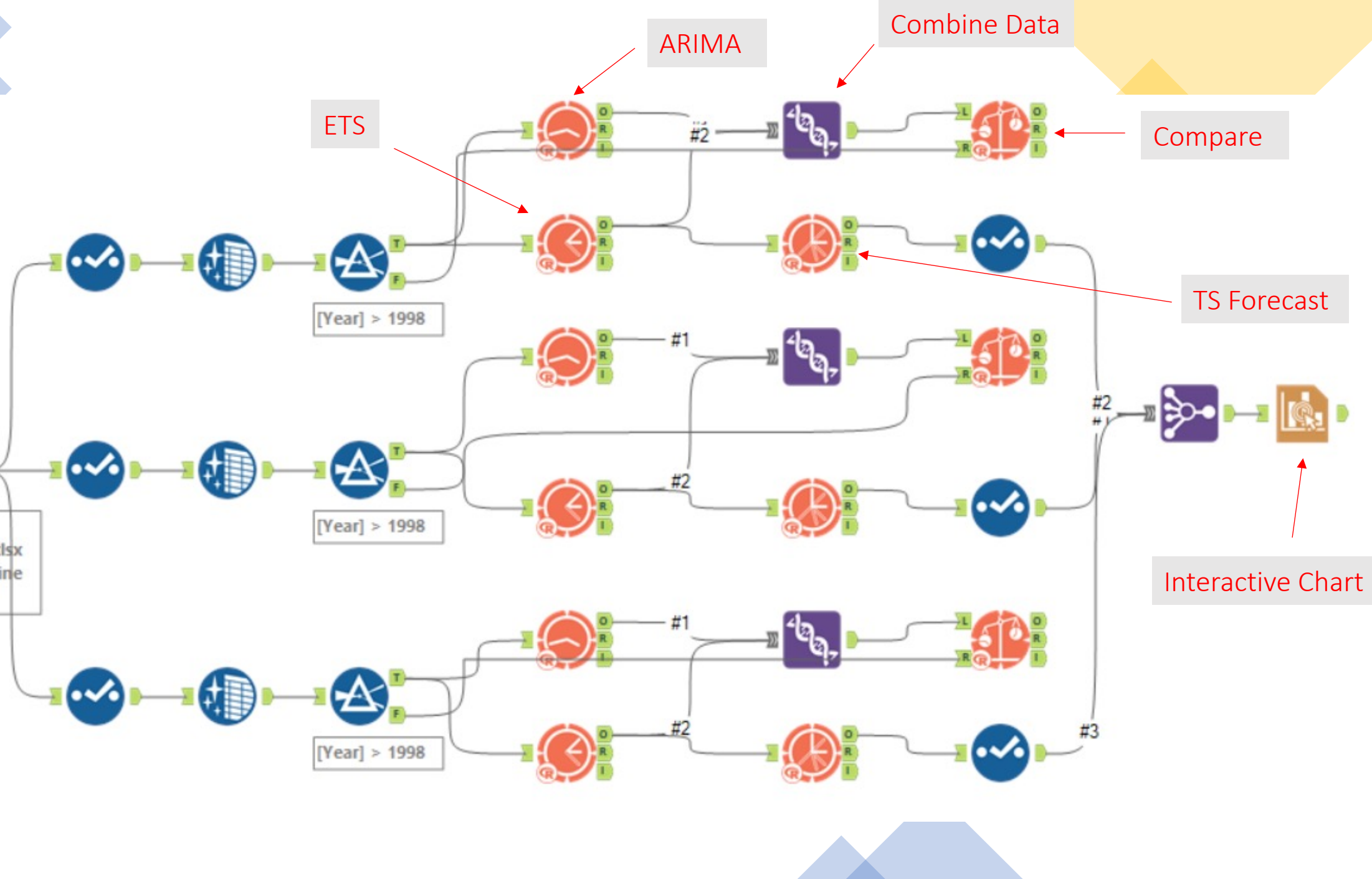
ARIMA

Combine Data

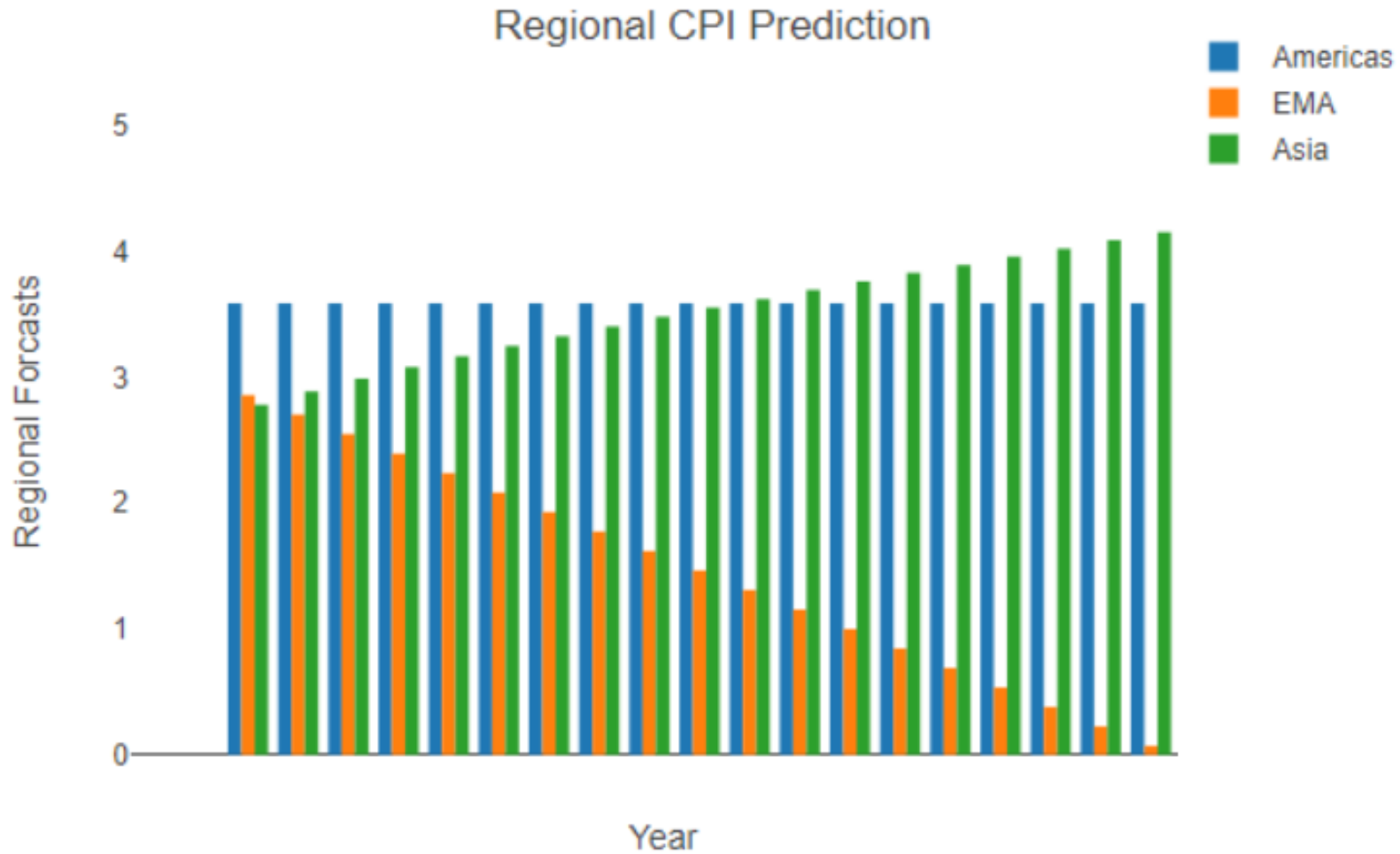
Compare

TS Forecast

Interactive Chart



REGIONAL FORECASTING



THE PATH TO 2075

Exhibit 4: Our Projections Imply that China, the United States, India, Indonesia, and Germany Will be the World's Five Largest Economies in 2050

World's largest economies (measured in USD)

| Ranking | 1980 | 2000 | 2022 | 2050 | 2075 |
|---------|----------------|----------------|----------------|----------------|----------------|
| 1 | United States | United States | United States | China | China |
| 2 | Japan | Japan | China | United States | India |
| 3 | Germany | Germany | Japan | India | United States |
| 4 | France | United Kingdom | Germany | Indonesia | Indonesia |
| 5 | United Kingdom | France | India | Germany | Nigeria |
| 6 | Italy | China | United Kingdom | Japan | Pakistan |
| 7 | China | Italy | France | United Kingdom | Egypt |
| 8 | Canada | Canada | Canada | Brazil | Brazil |
| 9 | Argentina | Mexico | Russia | France | Germany |
| 10 | Spain | Brazil | Italy | Russia | United Kingdom |
| 11 | Mexico | Spain | Brazil | Mexico | Mexico |
| 12 | Netherlands | Korea | Korea | Egypt | Japan |
| 13 | India | India | Australia | Saudi Arabia | Russia |
| 14 | Saudi Arabia | Netherlands | Mexico | Canada | Philippines |
| 15 | Australia | Australia | Spain | Nigeria | France |

Source: Goldman Sachs Global Investment Research

WEALTH MANAGEMENT FACTORS

From Product Price Index

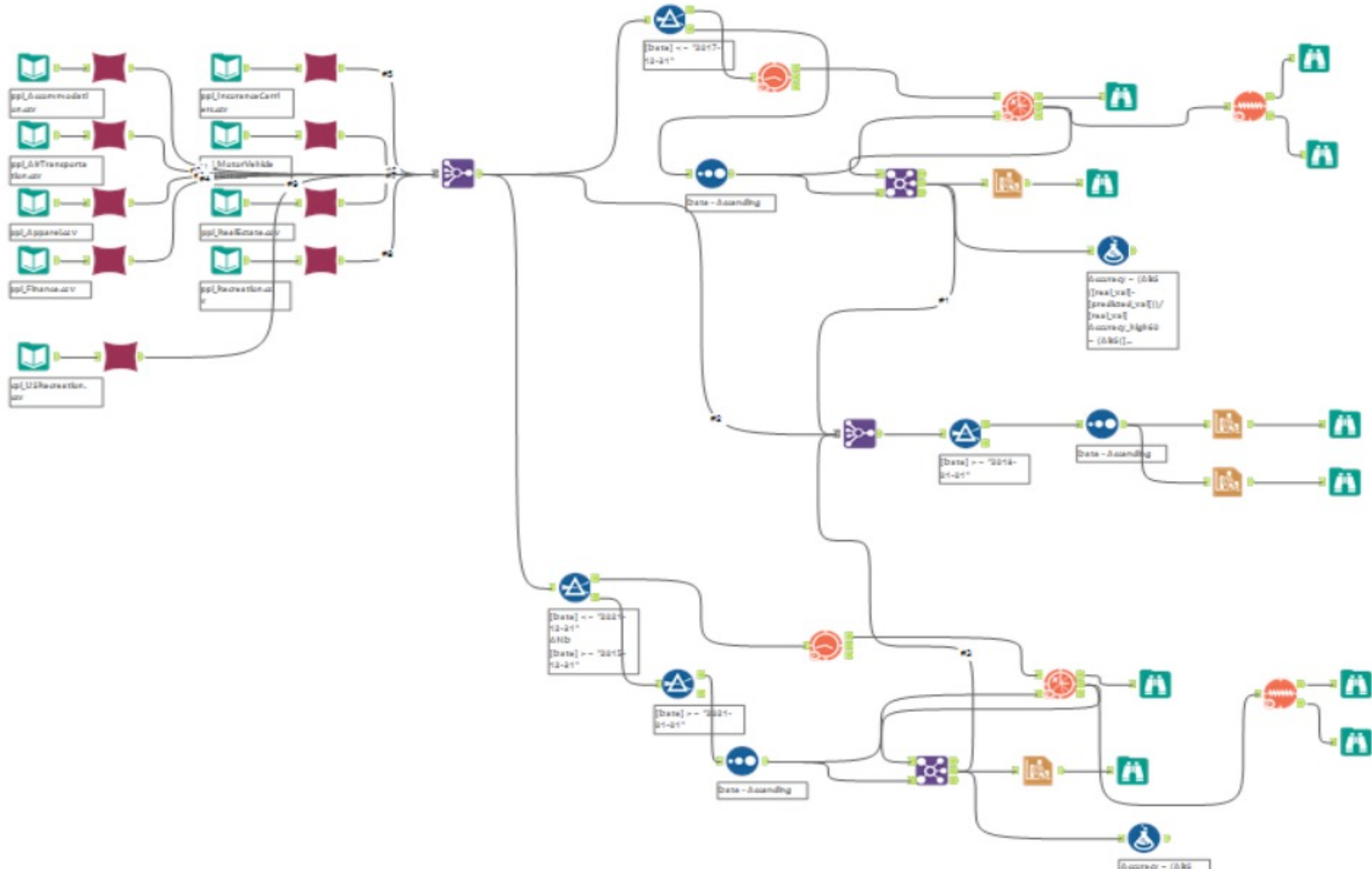
- Finance
- Recreation
- Real Estate
- Insurance
- Motor Vehicles
- Recreation
- Accommodation
- Apparel
- Air Transportation

From Consumer Price Index

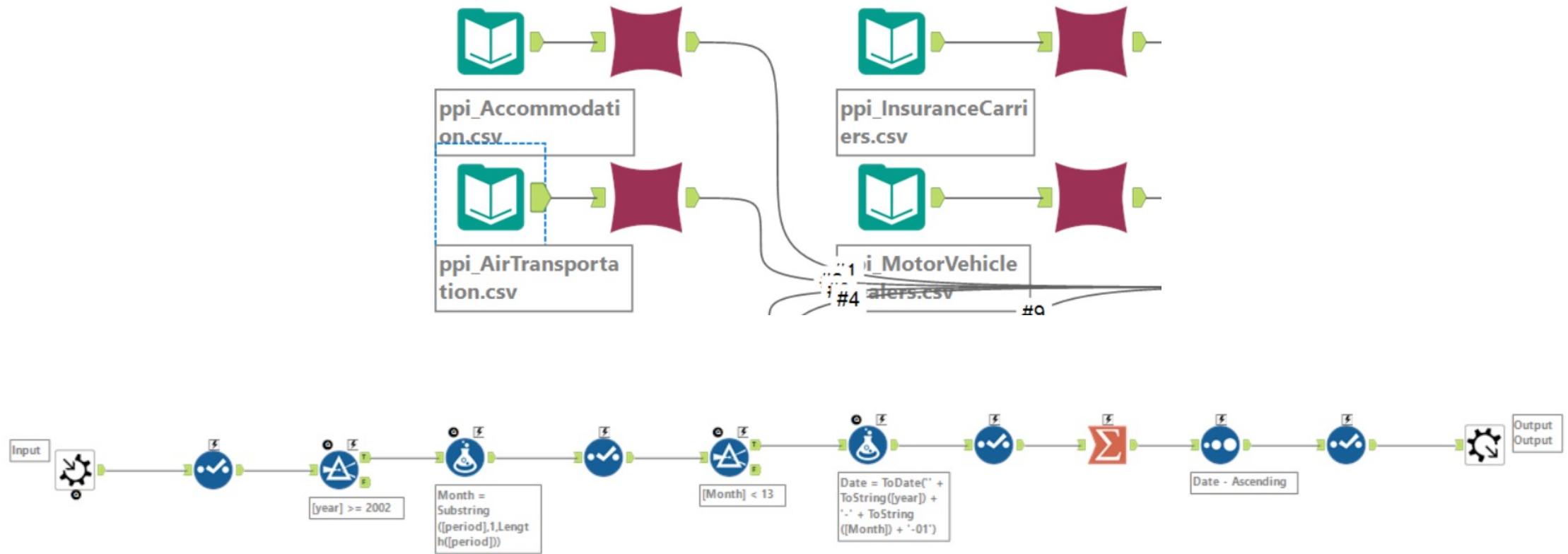
- Recreation

What are we predicting here?

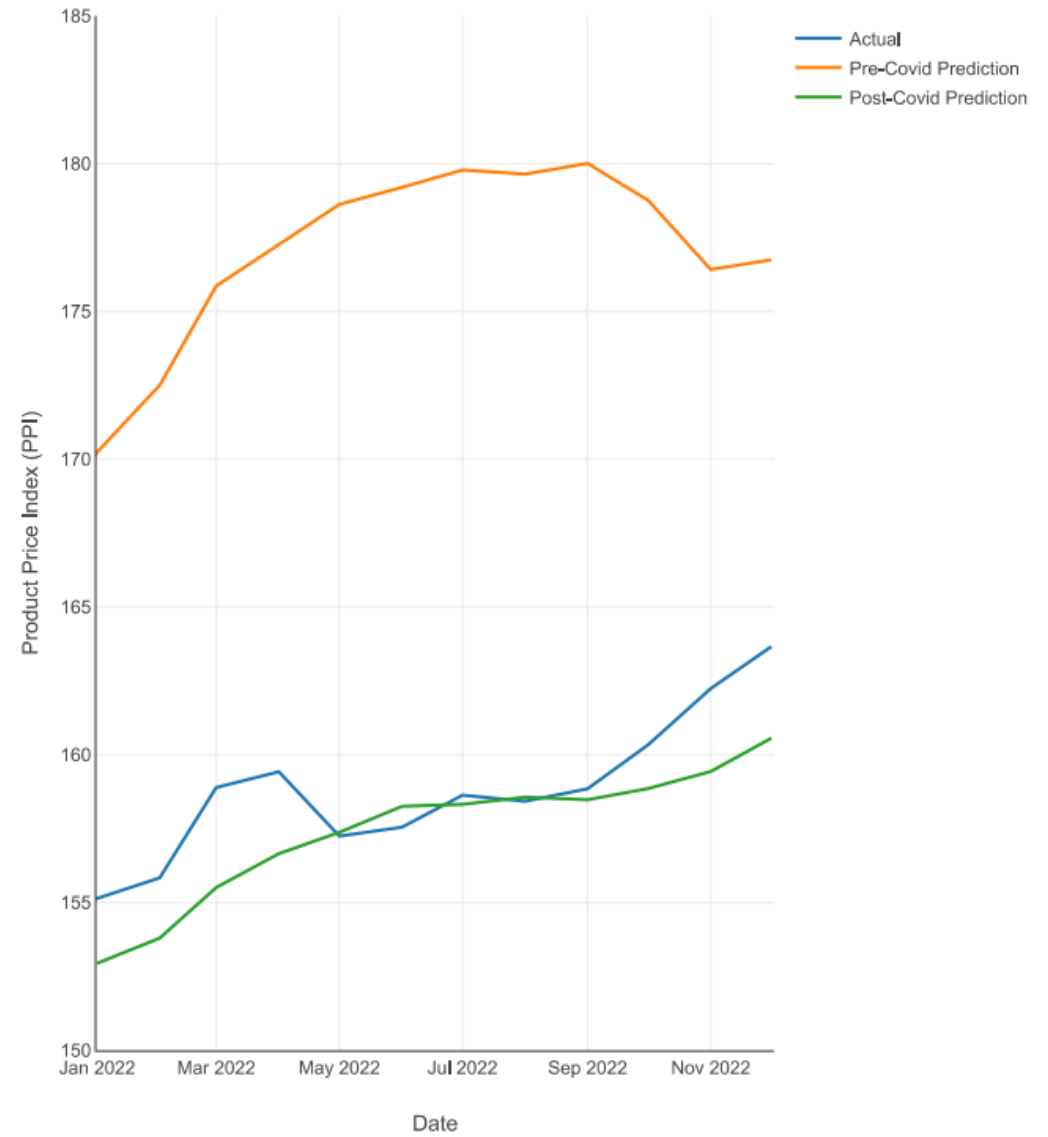
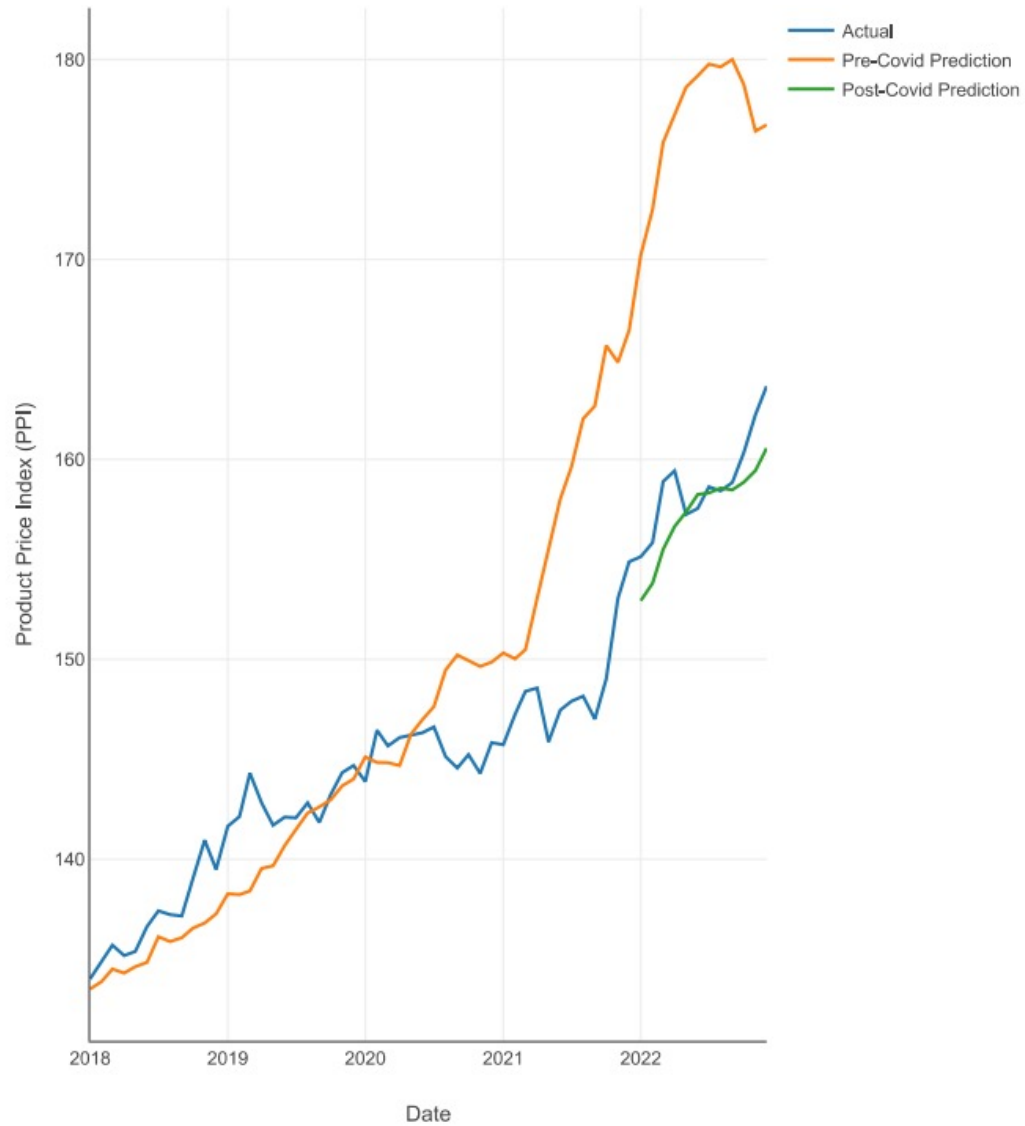
WEALTH MANAGEMENT PPI



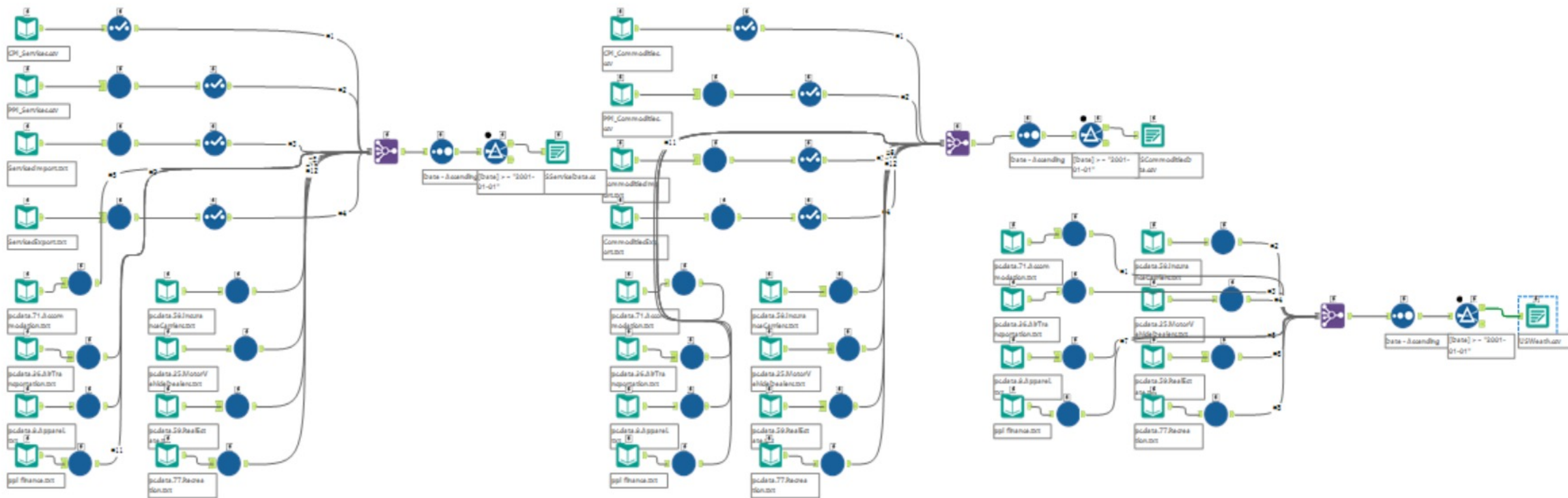
DATA PROCESSING



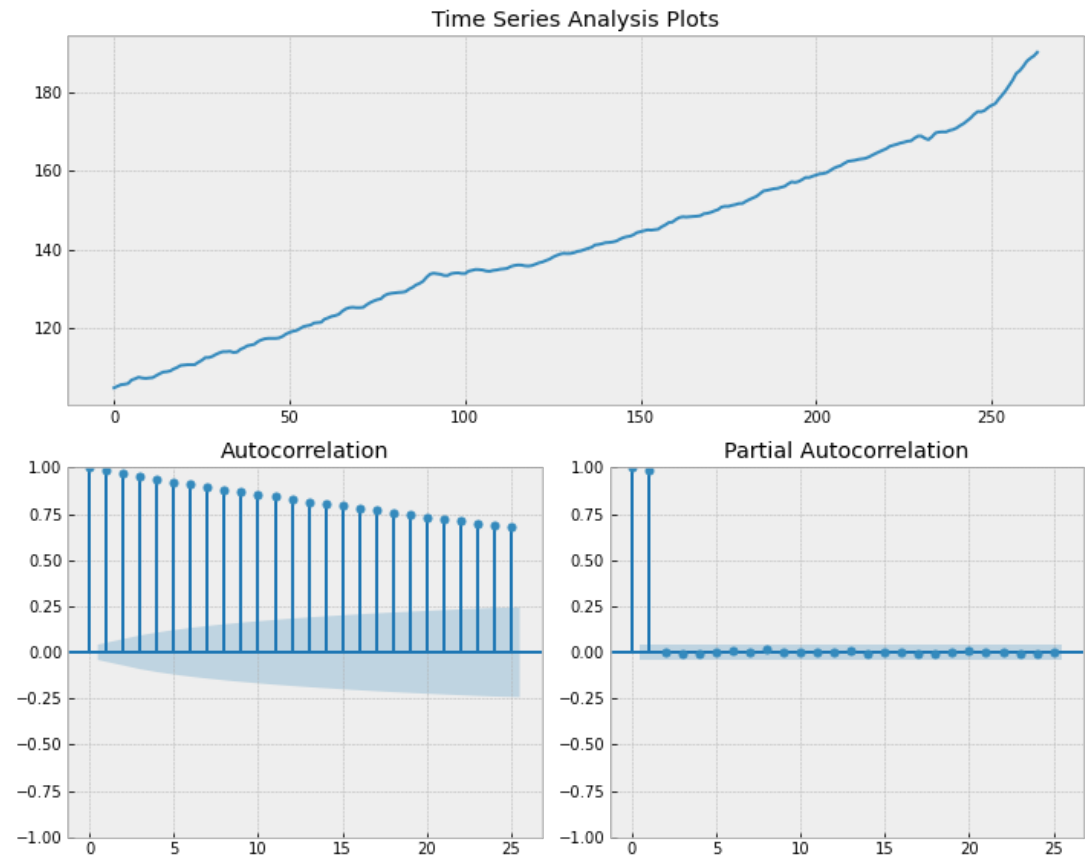
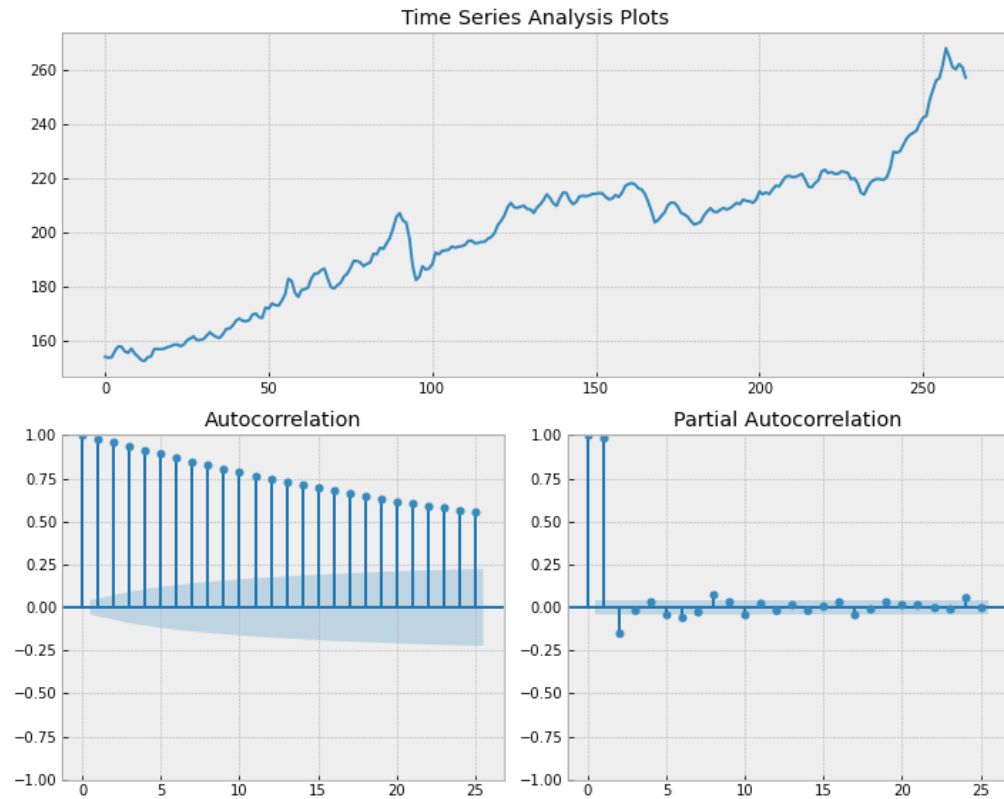
PREDICTION



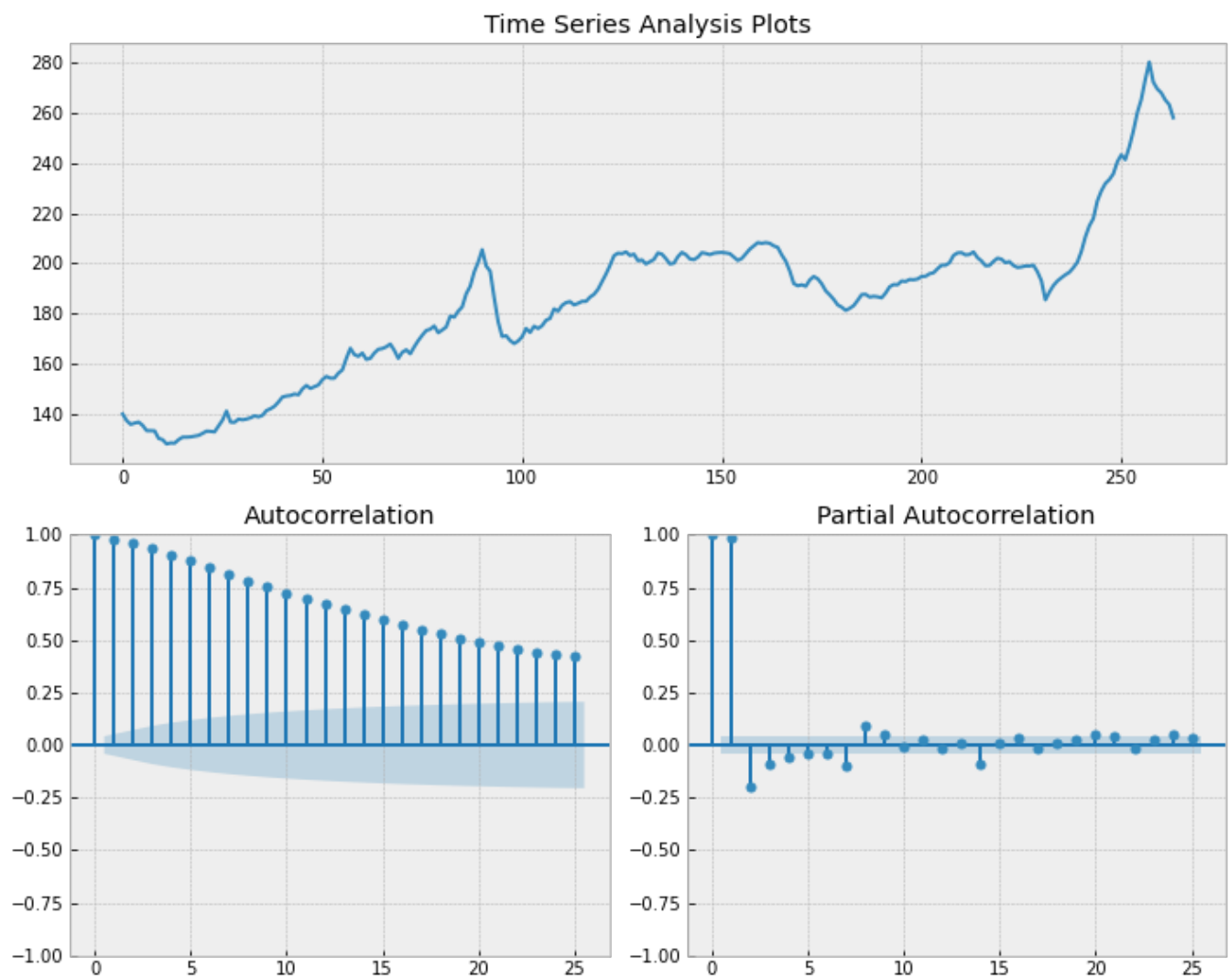
US BUREAU DATA GENERATION



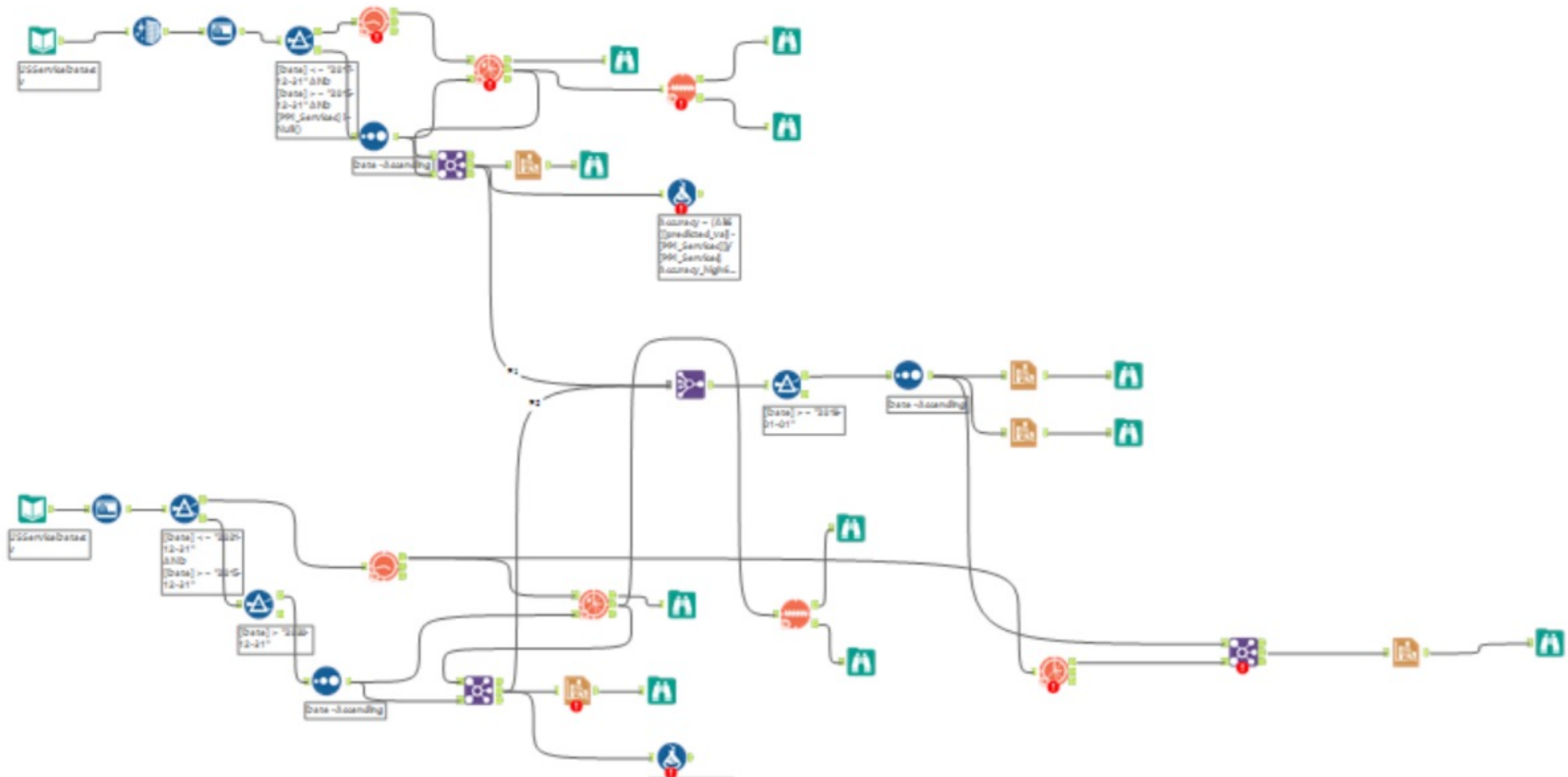
US SERVICES CPI & PPI Overview



US COMMODITIES PPI OVERVIEW



US COMMODITIES ALTERYX WORKFLOW



RECOMMENDATION

- Based on the global analysis, the Americas would be a current market that could give the returns that are expected and for the future, Asia would be a market that Goldman Sachs could explore.
- The forecasted trends of Wealth Management indicate that this would be a segment that would yield a fruitful result.
- The predictions from the Service sector show that the returns from this segment seem positive on the whole.
- The trends forecasted for the Commodities sector also show that it is a segment that could give positive output on a long run

REFERENCES

<https://www.goldmansachs.com/insights/pages/gs-research/the-path-to-2075-slower-global-growth-but-convergence-remains-intact/report.pdf>