Forecasting CPI for Veterinary & Pet Services: 2025 - 2026 Outlook

Projected Impact on Pet Insurance Claims and Retail Prices in UK Based on Historical 2016–2024 Data

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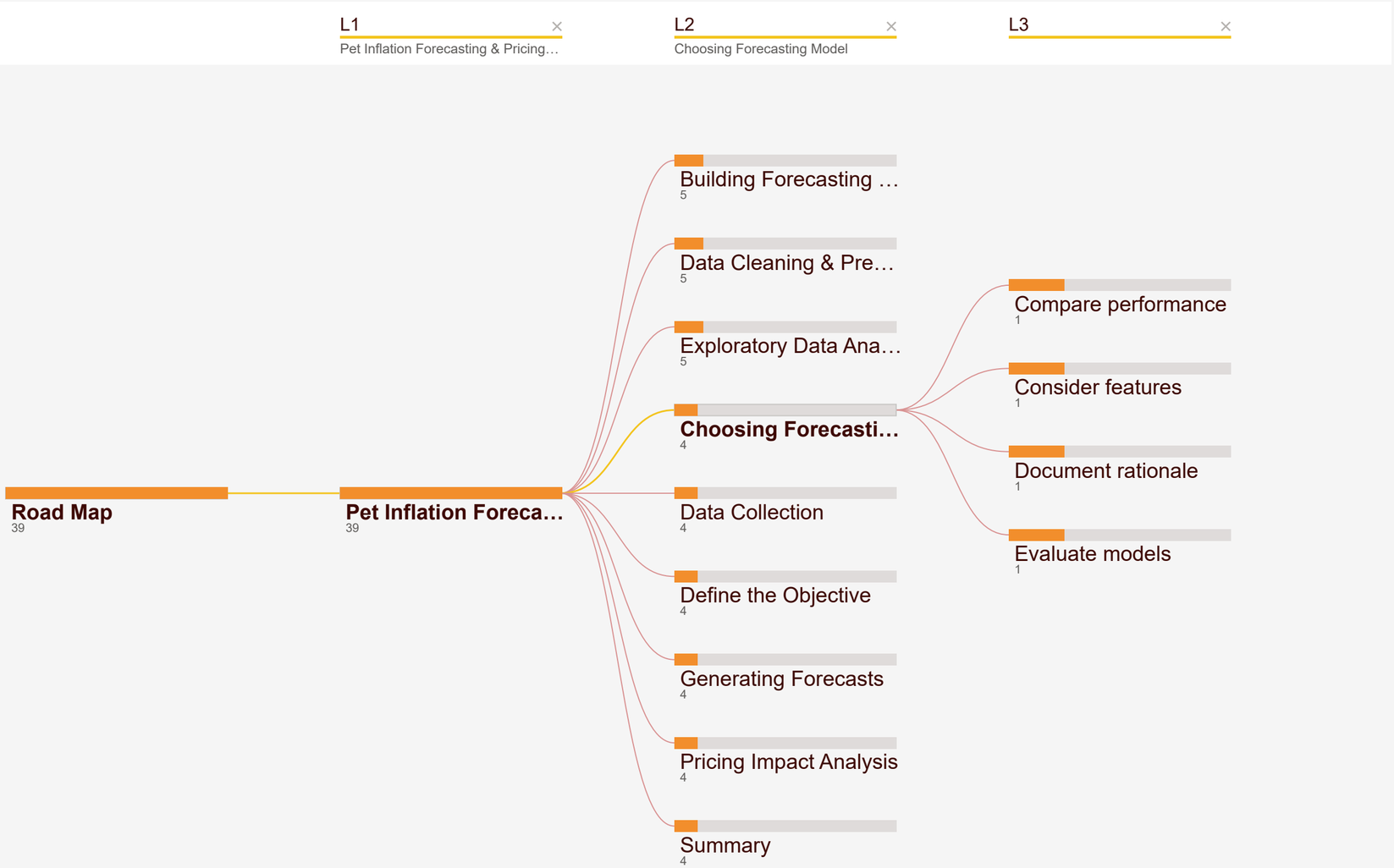
Submitted for the Technical Assessment – Pricing Analyst, Intervest

ROAD MAP



Introduction

This report presents the forecast of the *CPI Annual Rate, Veterinary and Other Services for Pets* for the years **2025 and 2026**, aiming to understand its impact on **claims cost** and **premium pricing** in the pet insurance market.

To achieve this, data was gathered from multiple credible sources including the **UK Met Office**, **Office for National Statistics (ONS)**, **PDSA Reports**, and **Wikipedia**. Since the key drivers of the CPI rate were not initially known, an extensive exploratory analysis was conducted to identify and evaluate the most influential factors.

The forecasting process was carried out on a **monthly frequency**, requiring significant data preparation, such as cleaning, aggregation, transformation, and interpolation, to ensure consistency across diverse datasets. Advanced time series models, including **ARIMAX** and **SARIMAX**, were employed to capture both temporal patterns and the effects of external regressors such as **GDP**, **Pet Population**, and **Weather Indicators**.

The resulting forecasts provide a forward-looking view of inflation trends within the pet sector, forming the analytical foundation for assessing their potential influence on insurance **claim costs** and **premium adjustments** over the forecast horizon.

DATA

Air_Frost | CPI_Pet | GDP | Mean_Temp | Pet_Population | Rainfall | Wages

CPI ANNUAL RATE
Veterinary and other services for pets (2016 - 2024)

PET POPULATIONS
PDsA Animal Wellbeing Report: UK Pet Populations 2011–2024

GDP
Monthly index 2022=100, January 1997 to July 2025

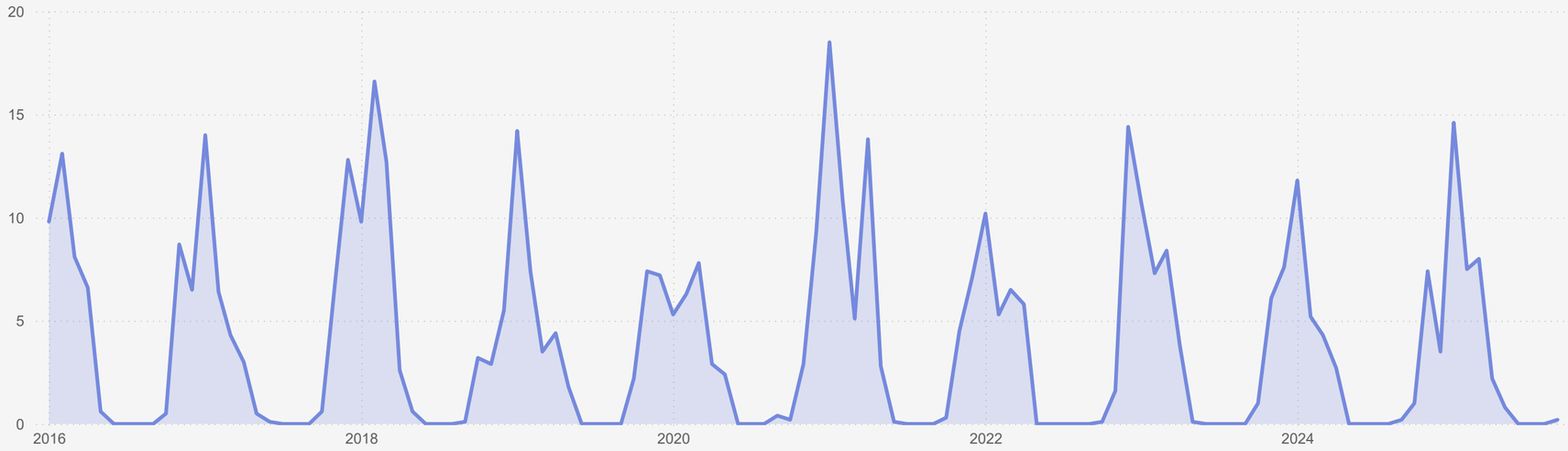
WAGES
Central government: D.11: Wages and salaries, paid, £m CP NSA

RAINFALL
UK and regional series, MET Office

MEAN TEMP
UK and regional series, MET Office

AIR FROST
UK and regional series, MET Office

AIR FROST UK and regional series, MET Office



Key Events Occured in UK (2016 - 2025)

Year	Event
2015	Alton Towers Roller Coaster Incident (The Smiler Crash)
	Labour Party Leadership Election
	Nepal Earthquake: UK Humanitarian Aid Response
	Paris Terrorist Attacks (UK Response)
	Princess Charlotte's Birth
	Queen Elizabeth II Becomes Longest-Reigning British Monarch
	Supermoon (Closest Full Moon of the Year)
	UK General Election

EXPLORATION

CPI Current Index
7.40

CPI Latest YoY
-0.70%

CPI Latest MoM
-0.20%

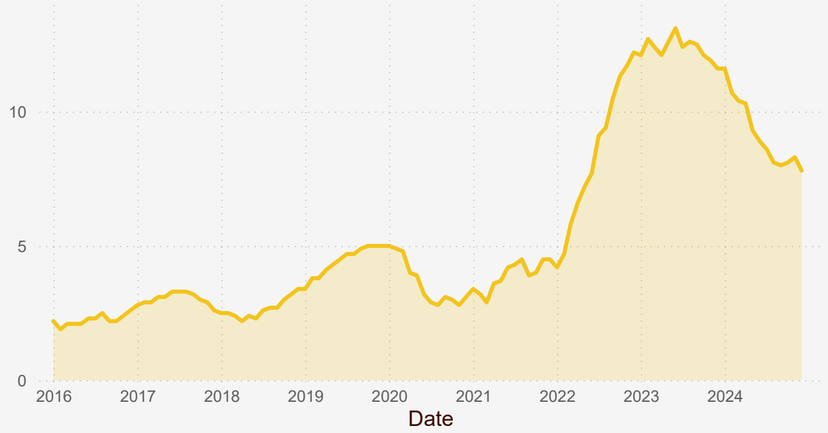
CPI 2025 Mean
8

CPI 2025 Min
7.30

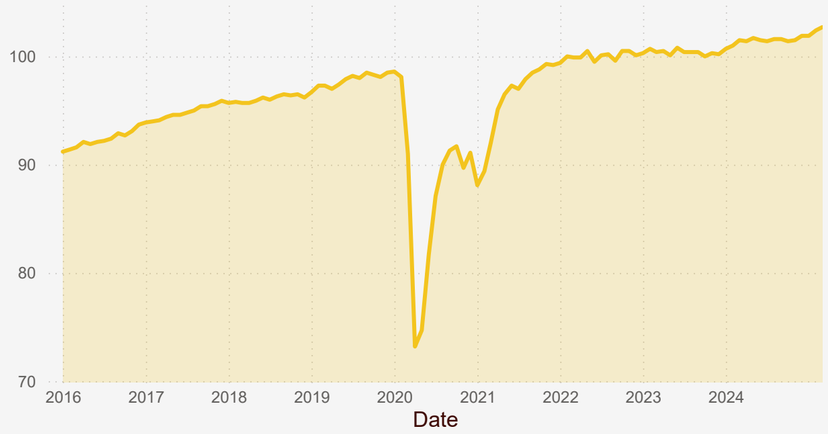
CPI 2025 Max
7.90

CPI 2025 Volatility
0.20

CPI ANNUAL RATE 09.3.5.0 Veterinary and other services for pets 2015=100

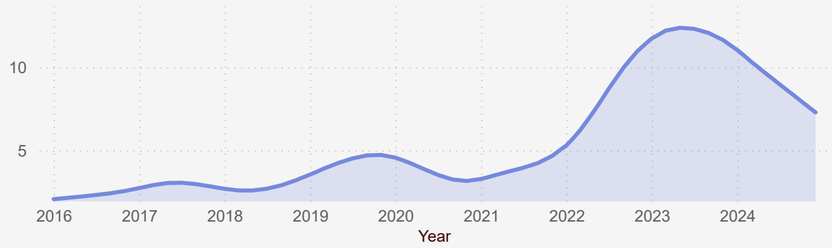


GDP Monthly index 2022=100, January 1997 to July 2025

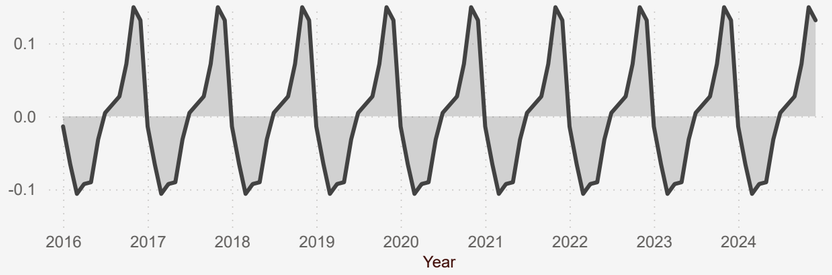


Decomposition of CPI ANNUAL RATE 09.3.5.0 Veterinary and other services for pets 2015=100

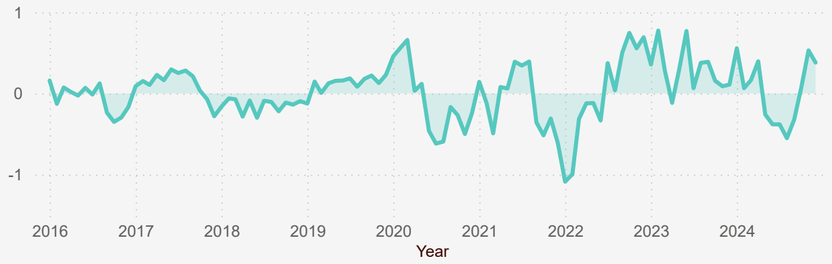
Trend



Seasonal



Remainder



FORECAST RESULTS

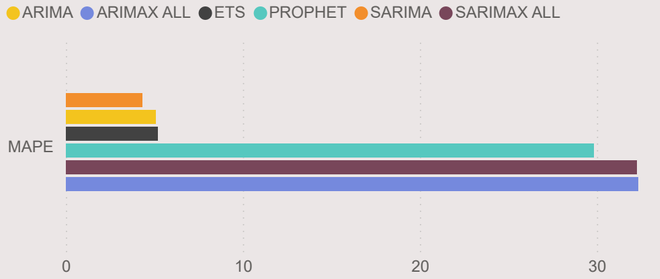
ARIMA | ARIMAX ALL | ETS | PROPHET | SARIMA | SARIMAX ALL

Best Overall Model

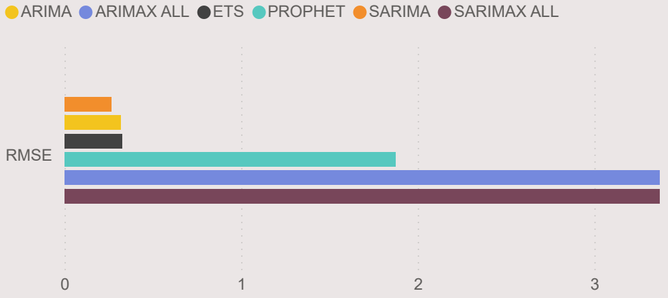
SARIMA

RMSE	MAPE
0.26	4.30

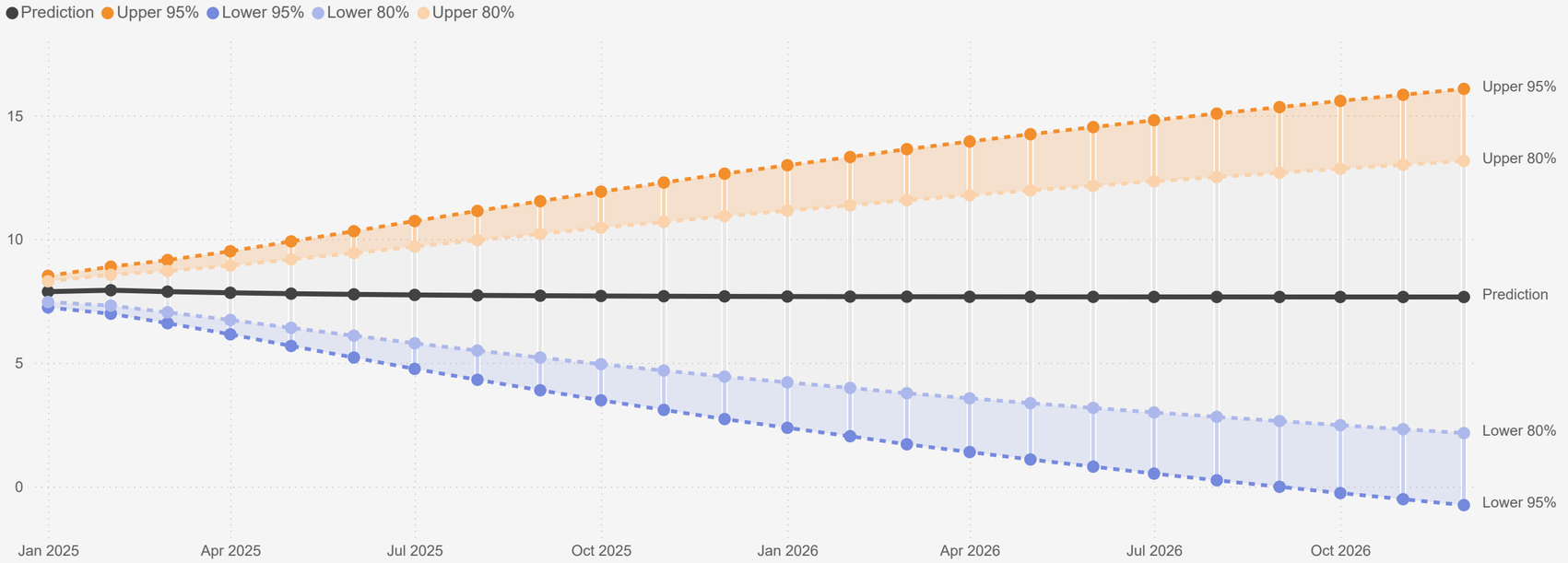
Performance Comparison for Forecasting CPI ANNUAL RATE for Year 2025 (MAPE)

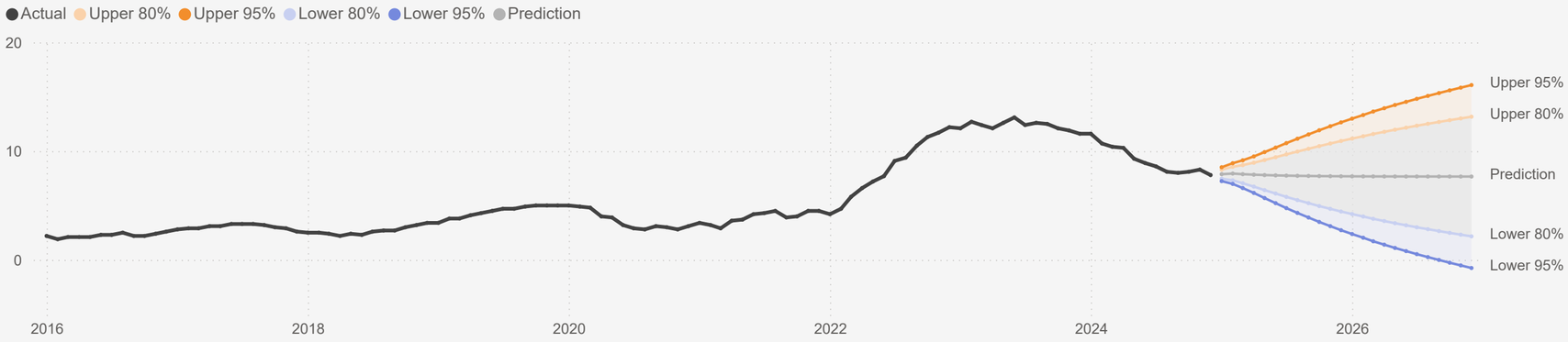


Performance Comparison for Forecasting CPI ANNUAL RATE for Year 2025 (RMSE)



Forecast of CPI ANNUAL RATE 09.3.5.0 Veterinary and other services for pets 2025=100





PRICING IMPACT

CPI Current
7.40

Forecasted CPI (12M)
11.08

Current Claim Cost
$150.47

Forecasted Claim Cost
$155.63

Current Premium
$156.49

Forecasted Premium
$227.65

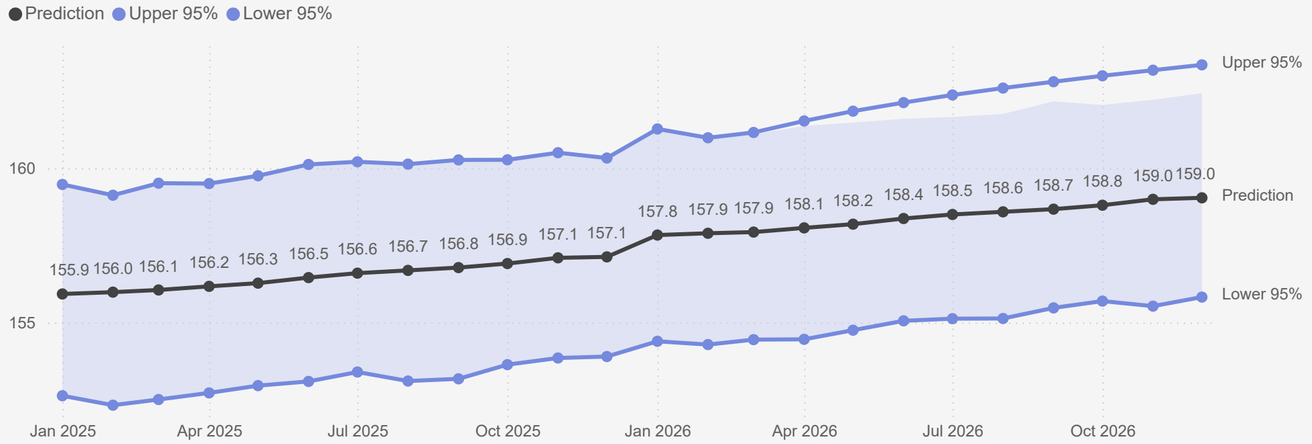
Base Claims Cost
140.10

Expense Inflation
0.06

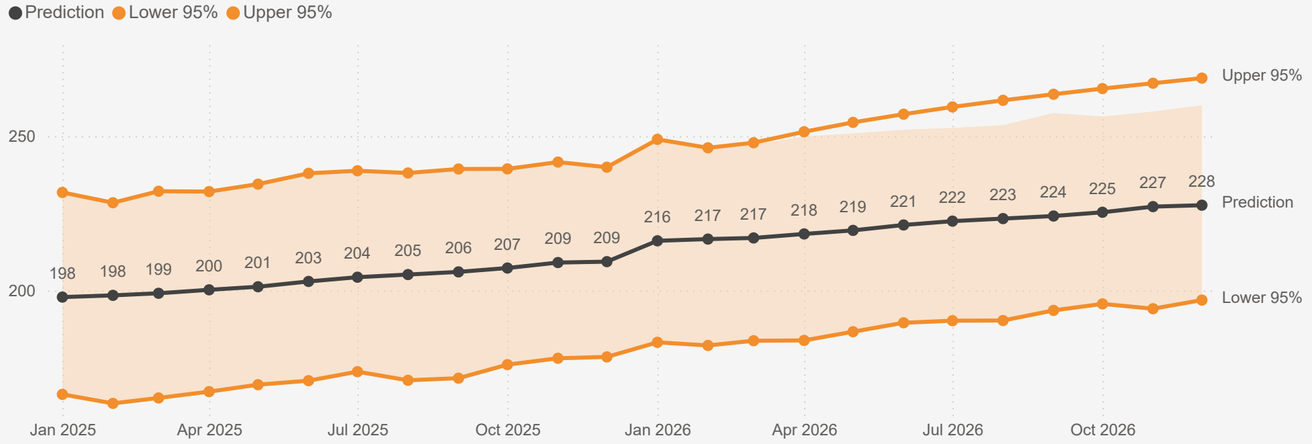
Margin Adjustm…
-0.02

Claims Share
0.68

Forecasted Claim Cost for 2025, 2026



Forecasted Premium for 2025, 2026



SUMMARY

Key Assumptions

- External variables (wages, CPI, energy) used as regressors; correlations checked.
- Formulas for "Claims Cost" and "Premium" were assumed along with few variables.
- No sudden policy or regulatory shocks assumed.
- SARIMA was assumed to be the best model fore forecasting due to seasonality and upward trend.

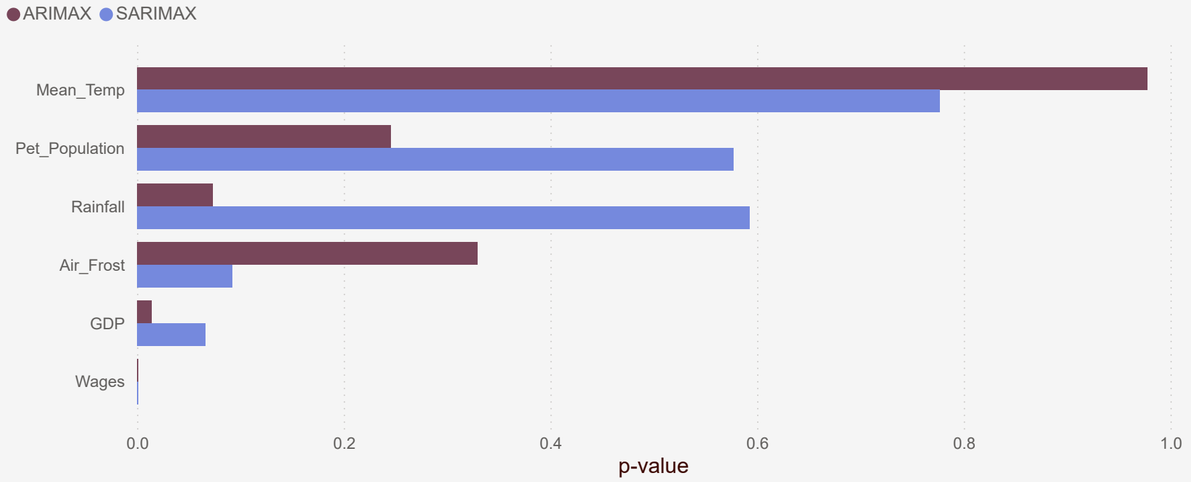
Observations

- Data before 2018 considered but may be less representative; trend checked with rolling windows.
- Forecasts based on historical trends; extreme events may not be captured.
- Incoporating regressors did not improve model performance.
- Pet population has little to no impact.
- Prophet model deviated from other forecasts, highlighting uncertainty in trend capture.
- Wages has the highest impact; impact is positive; high significance.

Methods used during the Analysis and Forecasting

Method	Notes	Purpose
AIC/BIC, ME, MAPE, RMSE	Compared across all models	Model selection
ARIMAX, SARIMAX	Not selected due to performance	Forecast with regressors
ETS, ARIMA, SARIMA, Prophet	SARIMA chosen as best	Forecasting
Power BI	Dashboard & reporting	Visualization
R	Results exported	Forecasting engine
VIF / Multicollinearity check	No significant collinearity	Regressor diagnostics

Significance of Regressor on Forecasting



Impact of Regressor on Forecasting as Peracentage