

CMAAF democratises global food price analysis and forecasting

- Applies advanced & complex research techniques
- Accurately forecasts prices of agricultural commodities
- Adaptable to markets and additional data
- Self-explained: ensures full interpretation of the results

Explain Global Food Trade for Everybody

Analyse the results

Study the problem: using econometric & ML algorithms

Many factors might impact food prices

Problem: Global Food Trade Knowledge Gap

Introduction

- Innovative approach: merge explainable machine learning & econometrics.
- Bridging Academia & Application: CMAAF offers both academic analysis and practical applicability → a versatile tool for researchers and policymakers.
- CMAAF: accurately predicts AC prices with publicly available indicators.
- The first tool to provide medium-term price analysis and forecasting of agricultural commodities in a way that would be useful for all humans.
- A powerful and applicable tool. It will **promote understanding** in the global food trade to **enhance food security** and social equity.

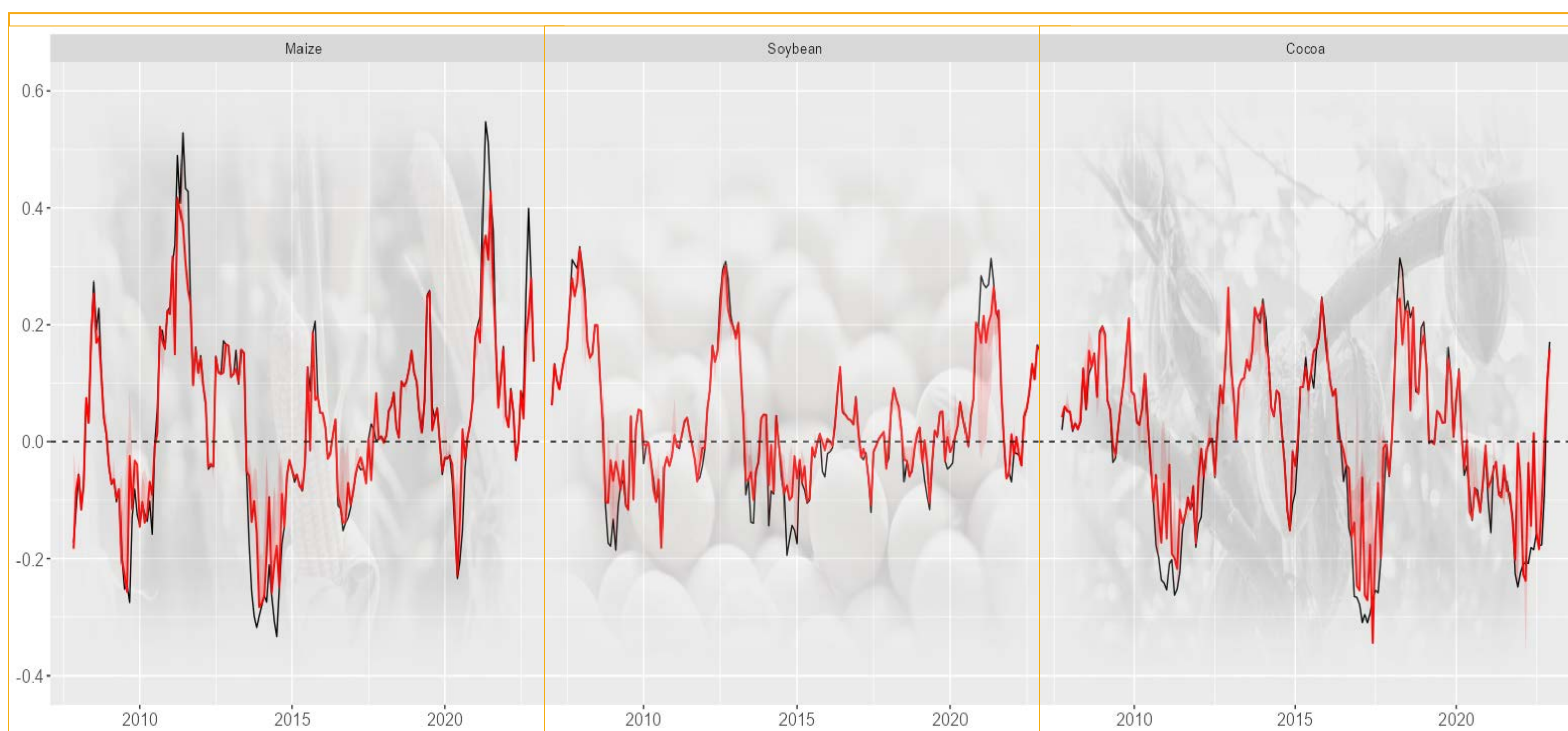


Fig. 1. Observed price change (black) Vs Predicted price change (red)

Research process

- I. Create a dataset with potential explanatory variables for global AC prices: Data collection, examination, modification, organisation, and filterisation
- II. Identify the main factors which drive price shifts in the global AC prices
- III. Forecast the commodity prices using the main explanatory variables, as chosen in stage II
- IV. Make price forecasting fully accessible: Interpret the insights for a wide audience, avoiding any barriers of budget, education, and language

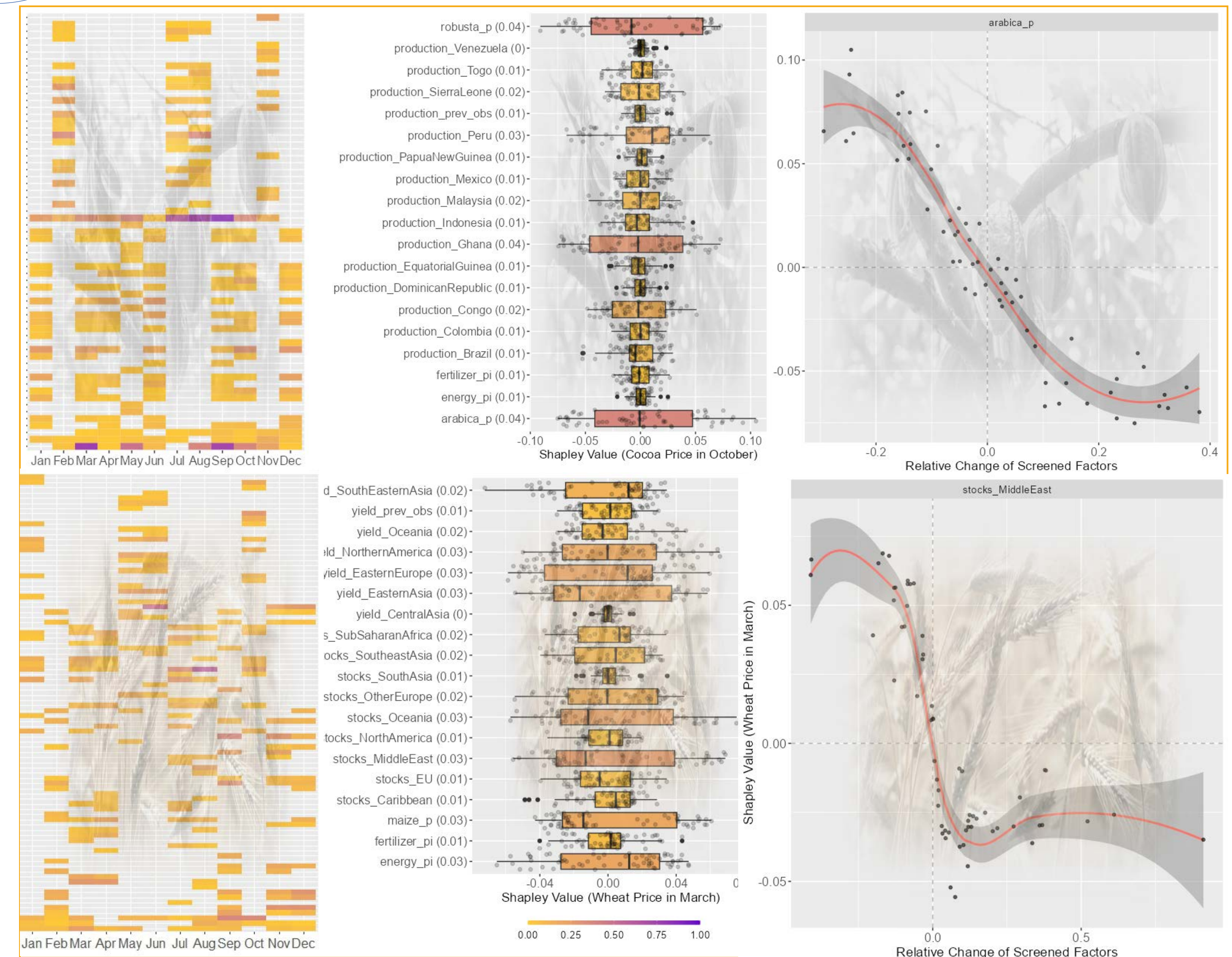


Figure 2. Relative influence of the model's features (a) Global Analysis; (b) Monthly Analysis (c) Dependence plot of highest influence factor. Top: Cocoa (October), Bottom: Wheat (March)

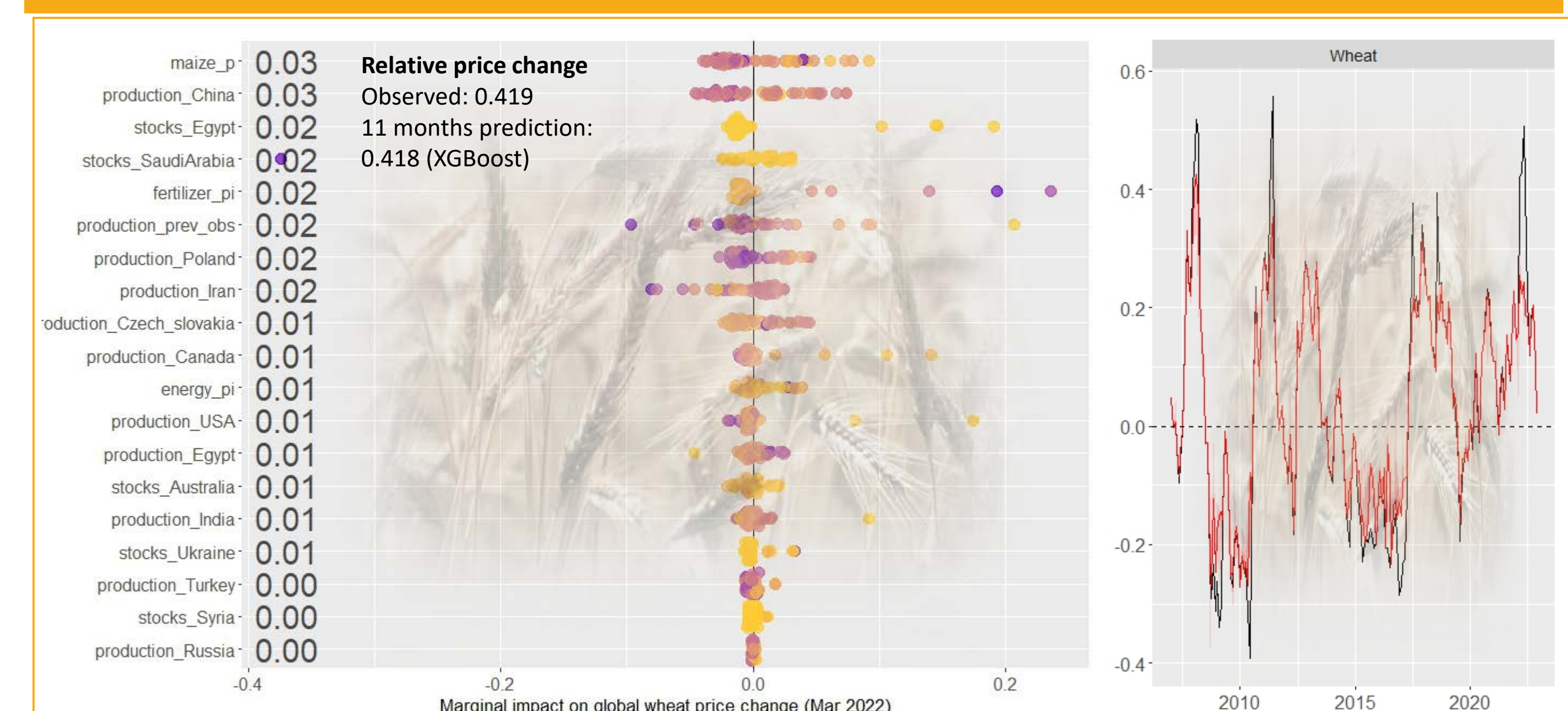


Figure 3. Case Study: Predicting Wheat Price 11 months ahead (March 2022)