Econometrics Forecasting Model for Blueberry

OBJECTIVE

To better estimate future price and production of BC agriculture commodities

To assist BC blueberry farmers make more accurate financial budget

Blueberry is selected as the representative commodity for model construction

DATA AND METHODOLOGY

Methodology: interview; literature review and statistical analysis

Data (for blueberry model): 1982-2018

- Trading Information
  - Exchange rate index
  - U.S. production
- Consumption Trend
  - Household spending
  - Population (BC and Canada)
  - GDP per capita
- Production Condition
  - Temperature (April, July, previous November)

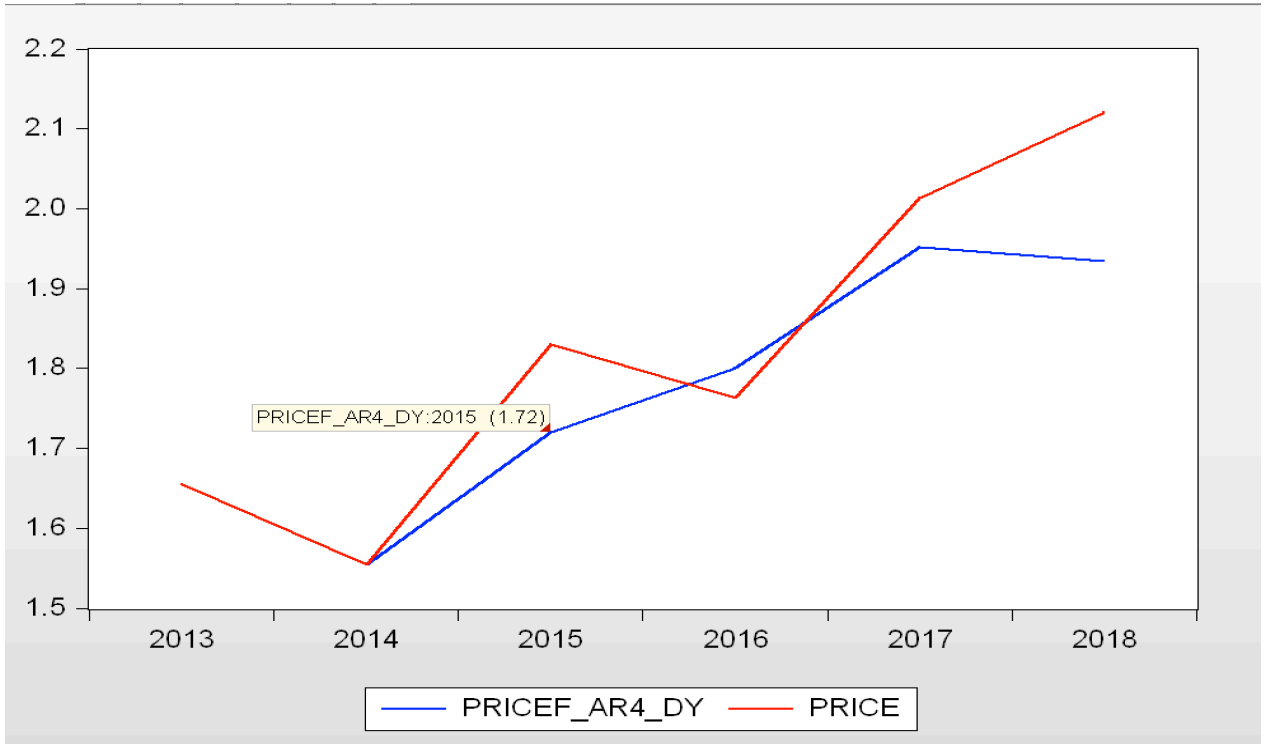
RESULTS – PRICE FORECAST

Forecast	F-stat	F-prob
PRICEF_IN_DY_IND...	2174.991	0.0152
PRICEF_ARMA21_DY	18.50396	0.1622
PRICEF_AR4_DY	19.79572	0.1570

Evaluation statistics

Forecast	RMSE	MAE	MAPE	SMAPE	Theil U1	Theil U2
PRICEF_IN_DY_IND...	0.688083	0.585475	30.29194	38.80955	0.200010	2.727274
PRICEF_ARMA21_DY	0.199114	0.171877	8.579519	9.054778	0.053393	1.337825
PRICEF_AR4_DY	0.113877	0.098686	4.987862	5.141235	0.030040	0.648452
Simple mean	0.299256	0.261248	13.27433	14.52987	0.082323	1.520335
Simple median	0.200818	0.172458	8.588207	9.090171	0.054055	1.312687
Least-squares	NA	NA	NA	NA	NA	NA
Mean square error	NA	NA	NA	NA	NA	NA
MSE ranks	0.299256	0.261248	13.27433	14.52987	0.082323	1.520335

*Trimmed mean could not be calculated due to insufficient data



CHALLENGES

Time Constraint

Low data availability

Some influencers are hard to quantify (relative harvest time, pollination, etc.)

Thank You!