

A Very Detailed Paper on the Soybean Complex

Mindy L. Mallory

November 6, 2017

Introduction

The soybean complex consists of soybeans, soybean meal, and soybean oil. The relationships between these three price series are interesting to study because they are bound by a production relationship.

Literature Review

Both (Johnson, Robinson, and Comstock 1955) and (Simon 1999) studied soybeans, but they found different things.

Methods

We will test all three prices for stationarity and then we will fit a Vector Autoregression or a Vector Error Correction Model based on our findings.

$$Y = mX + b$$

Results

We find that all the series are non-stationary. See table 1 for results of Augmented Dickey-Fuller tests for each series. Table 2 shows how the VAR model results came out. We find that the lagged coefficient for Meal in the Bean equation is 0.15.

Conclusions

This concludes our paper. Future research should do much more. The end. Really the end.

Tables and Figures

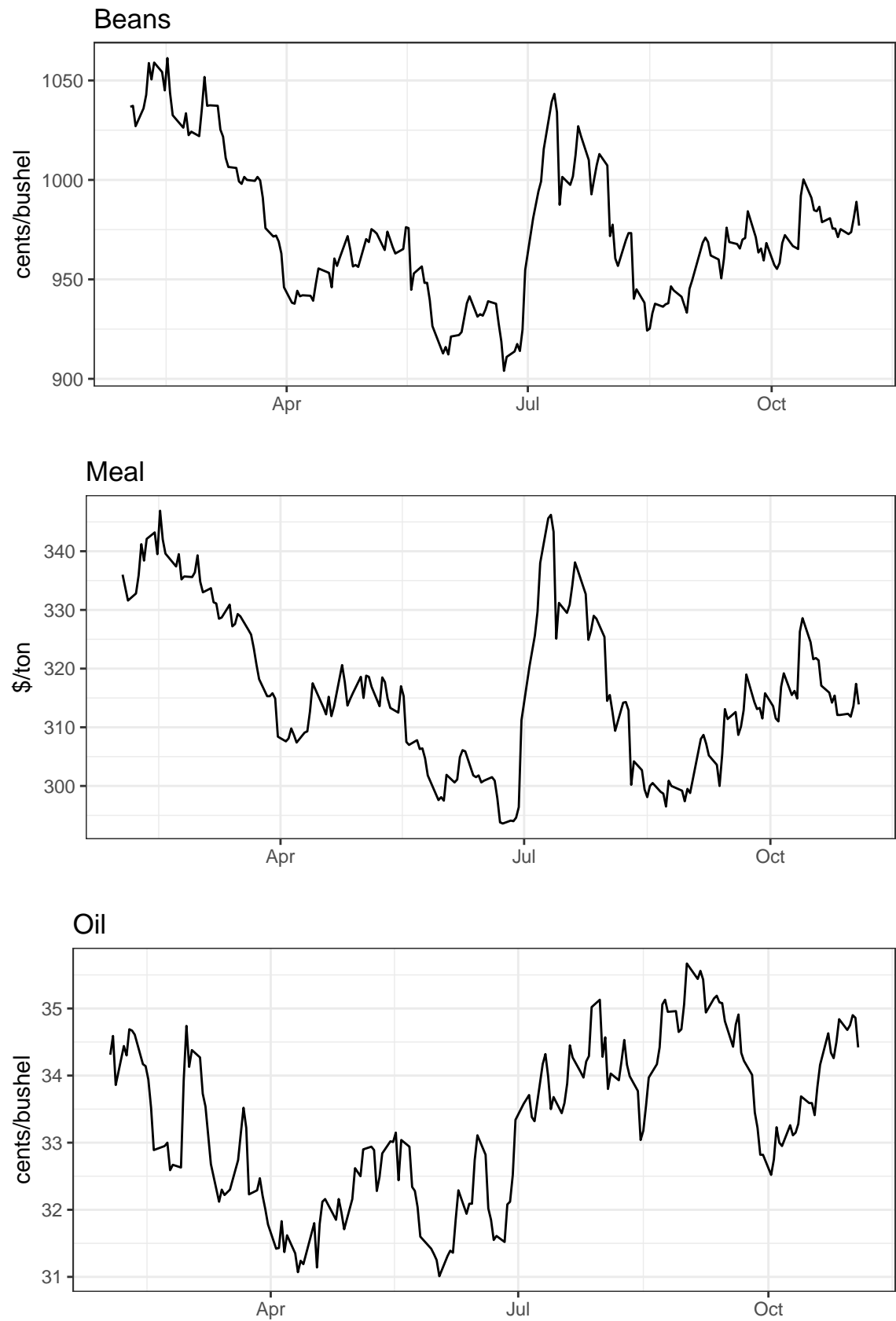
Table 1: Augmented Dickey-Fuller Tests for each series

	statistic	p.value
Beans	-2.79	0.25
Meal	-2.85	0.22
Oil	-3.16	0.10

Table 2: Vector Autogressive Model Results

Equation	Variable	Estimate	Std. Error	t-value	Pr(> t)
Beans	Beans.l1	0.89	0.13	6.78	0.00
	Meal.l1	0.15	0.34	0.46	0.65
	Oil.l1	0.38	1.11	0.34	0.73
	const	41.66	25.39	1.64	0.10
Meal	Beans.l1	0.02	0.05	0.48	0.63
	Meal.l1	0.89	0.13	7.08	0.00
	Oil.l1	-0.15	0.41	-0.37	0.71
	const	15.75	9.49	1.66	0.10
Oil	Beans.l1	-0.01	0.00	-2.11	0.04
	Meal.l1	0.02	0.01	2.00	0.05
	Oil.l1	1.02	0.04	25.81	0.00
	const	1.32	0.91	1.45	0.15

Figure 1: Prices



References

- Johnson, Herbert W, HF Robinson, and RE Comstock. 1955. "Estimates of Genetic and Environmental Variability in Soybeans." *Agronomy Journal* 47 (7). American Society of Agronomy: 314–18.
- Simon, David P. 1999. "The Soybean Crush Spread: Empirical Evidence and Trading Strategies." *Journal of Futures Markets* 19 (3). Wiley Online Library: 271–89.