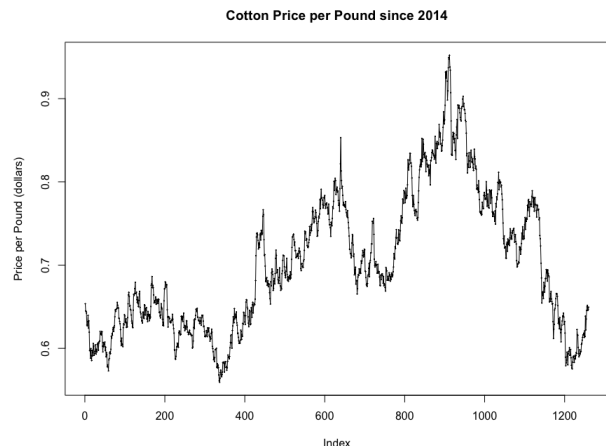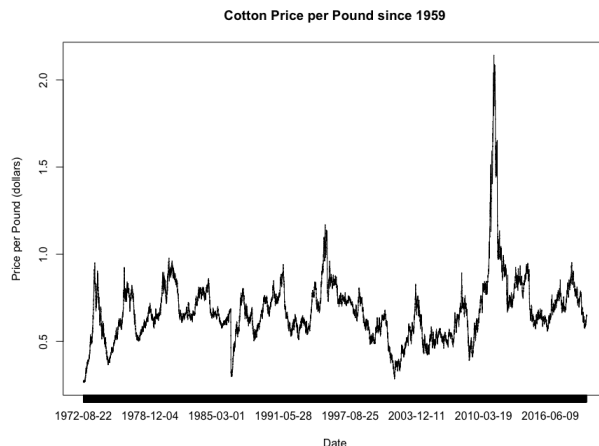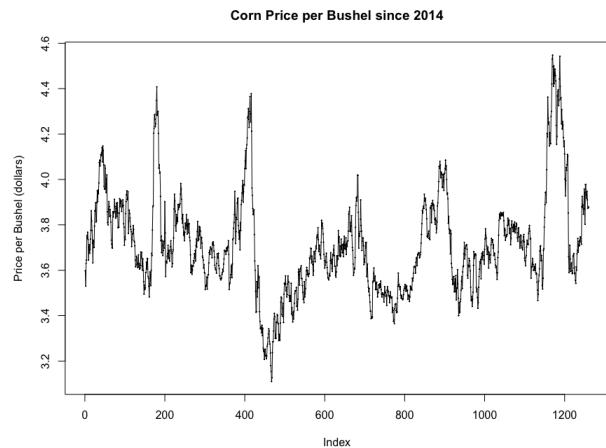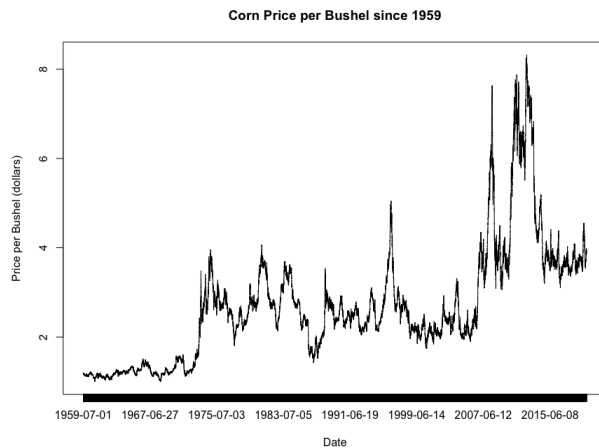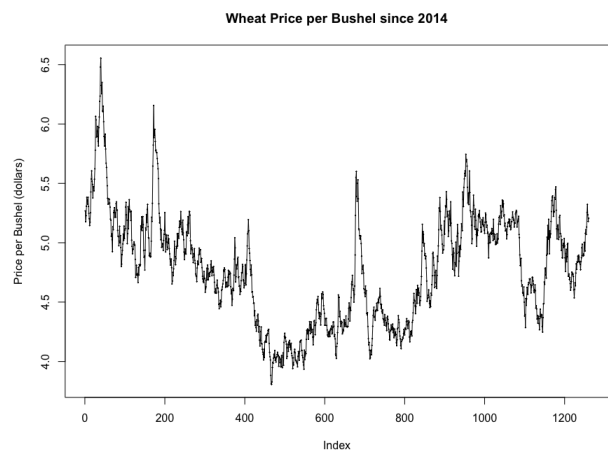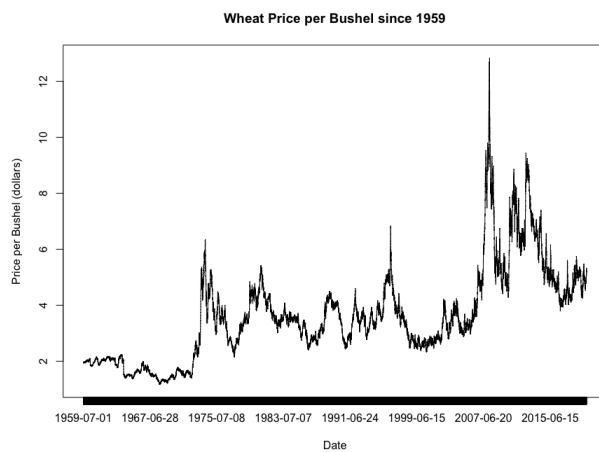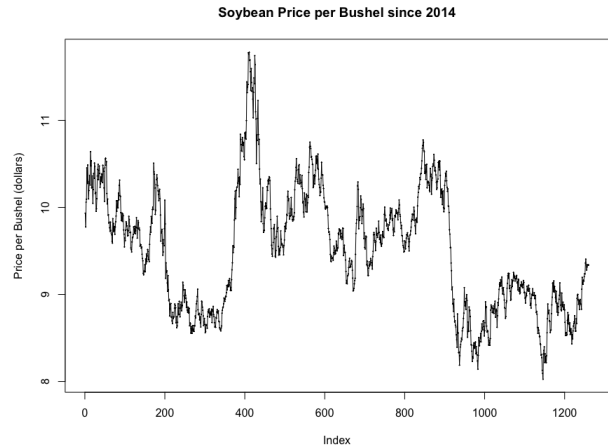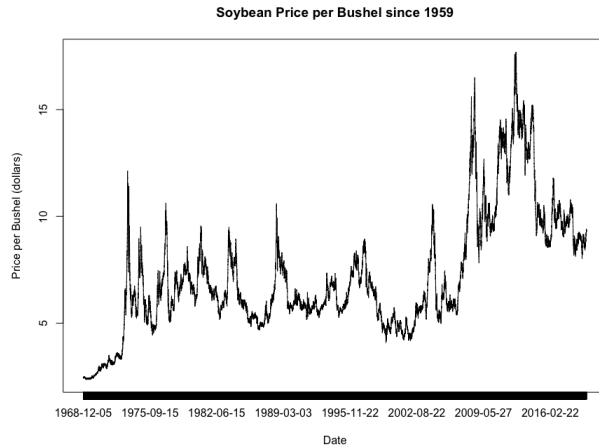# STAT 131 Final Project Proposal

Jordan Turley

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In my final project for STAT 131, I have decided to analyze crop prices over time and look at how certain prices interact with others. I have decided to look at prices of corn, cotton, soybeans, and wheat, but I might reduce this to only three or only two datasets if looking at all four is too much. The problem I will be analyzing is how the prices of crops have historically performed and how the price of one impacts the price of another. For example, I would like to see if the price of corn going up causes the prices of others to go down, or if they all generally follow the same trend.

On macrotrends.net I was impressed to find datasets that give the daily price that go all the way back to the 50s, so limited data will not be a problem. I intend to limit the scope to only the last five or ten years. I may also use a weekly average rather than daily price. This would be something to explore later and see how well both perform.

Soybean Price per Bushel since 1959

Soybean Price per Bushel since 2014

Wheat Price per Bushel since 1959

Wheat Price per Bushel since 2014

Just from looking at these plots, these do not seem to be stationary, so I would look at differences to get a stationary time series.

I would also like to look at how the crop prices performed during recessions, especially the 2008 recession. Macrotrends highlights the prices during recessions and it looks like prices generally go down, which is expected, but it might be interesting to see how different recessions affected prices differently and if the relationships between the crop prices are the same during a recession. In general analysis I would probably exclude the recession by not using any data older than ten years old since recessions are pretty rare and have an unusual effect on the prices. I also simply don't think that prices ten years ago are affecting prices today more than a negligible amount.