

EconS 450
Assignment #3 (50 points)
Forecasting –Price Data and Basic Forecasts
Due: Friday February 24

An important aspect of making decisions regarding what to produce is having an accurate notion of the market price you will receive for your crops or livestock. In order to understand prices, you must first collect prices and begin to investigate patterns that exist in the data over time.

For this assignment, you will need to collect price data for your commodity. If you produce a commodity that is contracted, or for which no market data is publicly available (e.g. table beet seed) then choose another commodity you can use to learn the techniques for this section of the class. You may use the Idaho fresh potato price data you received along with this assignment.

A lot of agricultural price data can be found online. A good source is the USDA Federal State Market News: <http://www.marketnews.usda.gov/portal/lg>

Your task:

- 1) Obtain at least 100 observations of weekly prices for your commodity. Ideally I would like to see you obtain four years of weekly data or 10 years of monthly data.
- 2) Separate the last 20 observations from the data and save them in a separate place on your worksheet – you will use those observations as our “forecasting sample” or accuracy check for the forecasts you develop.
- 3) Using Excel, create a chart of the prices over time and comment on their movements – are there any extreme high or low prices for which you have an explanation?
- 4) Create a “Naïve” model by using the price in the first period as a forecast of the price in the second period; the price in the second period as a forecast of the price in the third period and so on.
- 5) Compute the Mean Squared Error (MSE) and Mean Absolute Percentage Error (MAPE) for the Naïve model
- 6) Set up a moving average forecast for your data. Try several models (e.g. 2 week, 3 week, 4 week) and choose the “best” from among the models on the basis of the forecasts MAPE and/or MSE.
- 7) Create a chart showing your forecast and the original data in the same quadrant. Provide an assessment of whether your forecast has any value.

Turn in a document showing 1-7 above including the data itself, the forecasts and accuracy measures and the charts along with your discussion. Be sure to save your data – we will be using it again!