Joseph Blubaugh

Sean Roberson

Akarshan Puri

Alison Shelton

Travis Lilley

Bo Pang

Unemployment Trends in the United States

In recent years, there has been much talk about unemployment in the United States. College students, both undergraduate and graduate, are concerned if their degree will earn them a job after their graduation. Our project examines unemployment in the United States from 1992 to 2015, with a goal of forecasting into late 2016 and beyond. We plan on using manufacturing data, house prices, retail sales, and construction data to make our predictions.

Initially, our group examined the unemployment trend as an individual entity. The measurements were taken monthly over the time span. The time span that we are considering covers the presidencies of Bill Clinton, George W. Bush, and Barack Obama, each serving eight years in office. The general trends during each presidency showed that unemployment fell gradually during each president’s terms, with a rise occurring at the start of the next president’s term. There are two noticeable spikes the represent that recessions of 2001 and 2008, respectively, with the latter being the most significant as Obama took office in January 2009. With a plot of unemployment with the rest of the data we have, it is evident that house prices have risen sharply through the years, and while retail sales, construction spending, and manufacturing spending have increased, there appears to be seasonal trends, perhaps representing the holiday months.

To begin building our model, we plan to account for recessions and political shifts. Diagnostic plots show that current unemployment appears to be most influenced by the previous month’s measurement, and a scatterplot matrix shows that unemployment has little to no discernable relationship with the predictors. Transformations may be used to account for this to fit an optimal model.