

**Project 2**  
**ECO 402**  
**Forecasting with Regression**

**Introduction**

The purpose of this project is to construct a multiple linear regression model and use it to forecast the future value of a macroeconomic variable.

We will use data from FRED to build a forecasting model of purchases of consumer durables. A reasonable theory is that these purchases depend on income, interest rates and labor market conditions.

For the dependent variable, use Personal Consumption Expenditures: Durable Goods (PCEDG). This series can be downloaded with the default options.

For the interest rate, we will use the 30-Year Fixed Rate Mortgage Average in the United States (MORTGAGE30US) from Fred. Before you download the series select “monthly” as the frequency and “end of period” as the aggregation option.

For labor market conditions, use the Civilian Unemployment Rate (UNRATE). It can be downloaded with the default options.

For income use Personal Income (PI). This series can be downloaded with the default options.

**Deliverables**

**Part 1:** Construct a multiple linear regression model using PCEDG as the dependent variable and the remaining variables listed above as independent variables. Make sure that you use a time period for which all of the variables in the model are available.

**Part 2:** Use the model to construct a forecast of PCEDG for the next month following the available data. You will need to supply your own forecasts of the values of the three independent variables. Any reasonable values would be acceptable.

Submit your results for both Part 1 and Part 2 in an excel spreadsheet.

