

# Homework 4

Eco 4306 Economic and Business Forecasting

Spring 2019

Due: Wednesday, February 27, before the class

## Problem 1

Obtain the annual data for percentage change in Per Capita Personal Income in Texas for the period 1947-2017 either from FRED, code **TXPCPI**. Note that so you either need to switch the units to percentage change directly on FRED or construct the percentage change in EViews yourself.

- (a) Change your sample to 1947-2010. Use this data to recreate the two panels in Figure 7.7, but for Texas 1947-2010 instead of California 1969-2002.
- (b) Compare your results in (a) with those in Figure 7.7. Based on the shape of AC and PAC, does the growth in per capita personal income in Texas follow a similar process as the growth in per capita personal income in California?
- (c) Use AC and PAC functions from (a) to determine the order  $p$  of the suitable  $AR(p)$  model and estimate this  $AR(p)$  model for the period 1947-2010.
- (d) Use the model form (c) to create a forecast for period 2011-2017. Also generate the standard errors for this forecast and use it to construct the lower and upper bounds of the 95% confidence interval for the forecast. Plot the actual data together with the forecast and its 95% confidence interval.
- (e) Comment on the accuracy of the forecast.