Assignment II - Macroeconometrics

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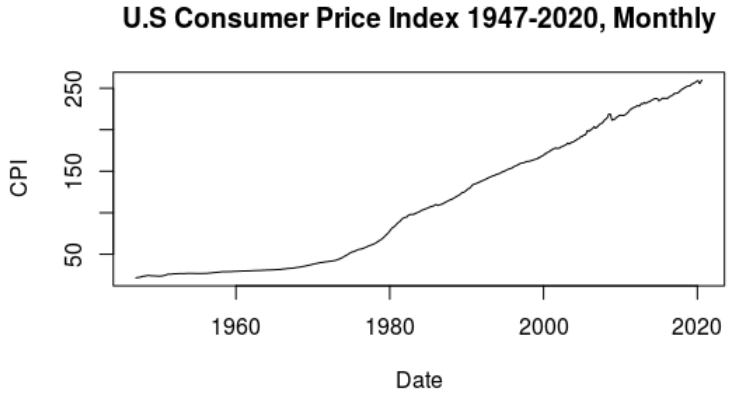
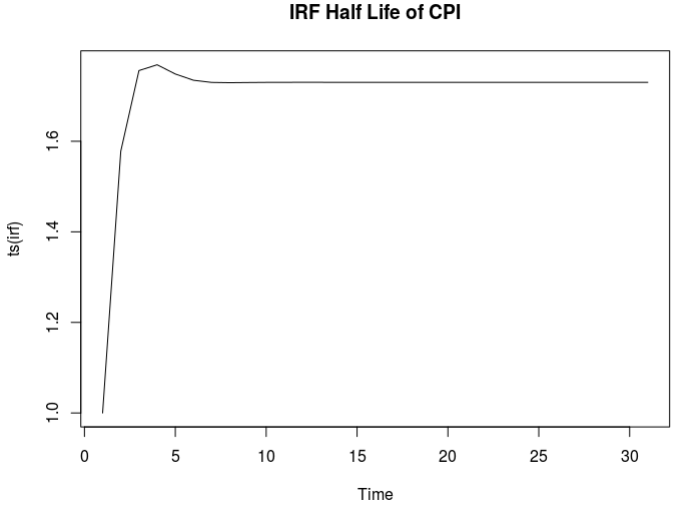
Using the same series from homework 1, estimate an AR(3) model, compute the half-life of shocks, and use bootstrapping to compute a 95% confidence interval for the half-life. You do not need to go out beyond 30 time periods if you do not have a half-life by then.

The estimation of the AR(3) model gives :

$$p_t = 0.074 + 1.578p_{t-1} - 0.734p_{t-2} + 0.156p_{t-3} \tag{1}$$





The shock to the CPI does not die out even after 30 periods after.

Continuing on with that series and your AR(3) model, test for a structural break in the coefficients of the model at an unknown break date. You can use the "strucchange" package to do the test, but you need to explain what you're doing and give everything a good interpretation.

I find that my potential break date is August 1990.

Estimate the break dates that you'd use if you had two structural breaks at unknown dates. You do not actually need to do the test, only estimate the dates. Use the Bai and Perron sequential approach to do the estimation.

I present the sequential approach that would use in my R code.