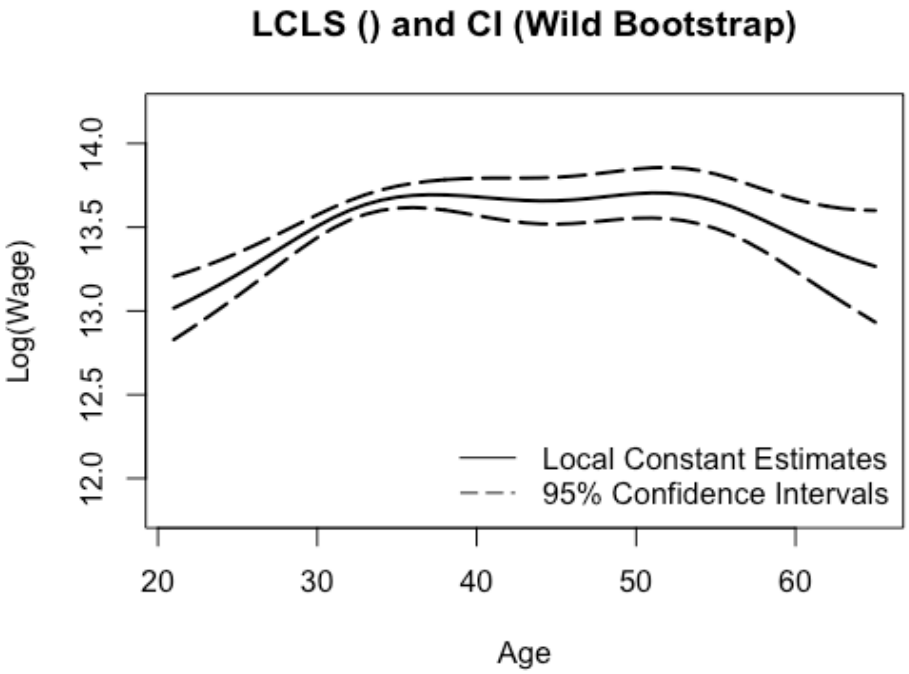
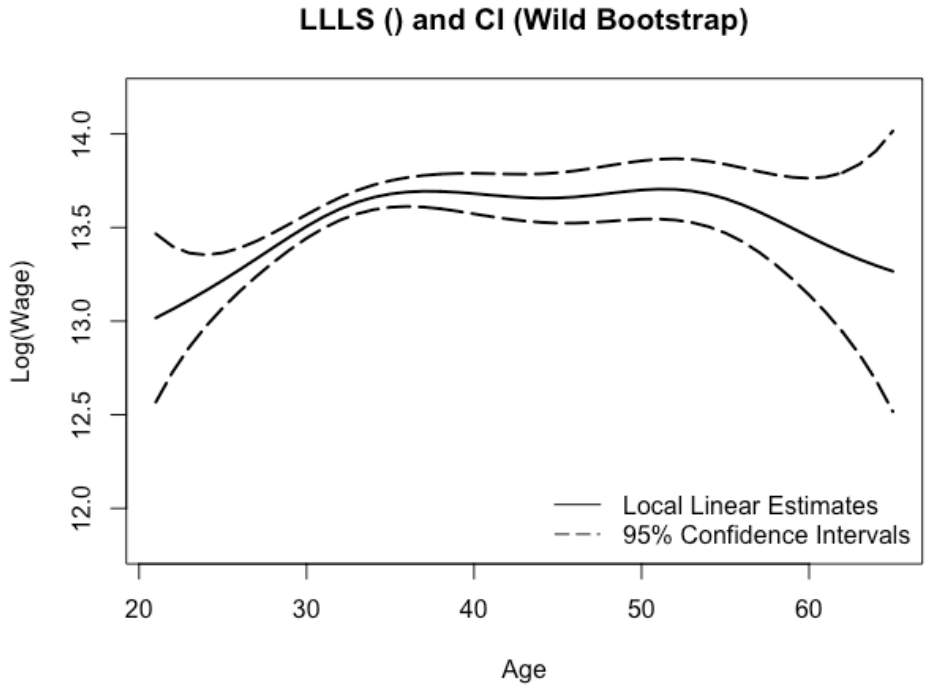
1. Plot local-constant and local-linear estimates along with their error bounds (use a wild bootstrap) using a standard normal kernel with (1) rule of thumb bandwidth and (2) bandwidth calculated using least-squares cross-validation.

ROT:

(1)LCLS

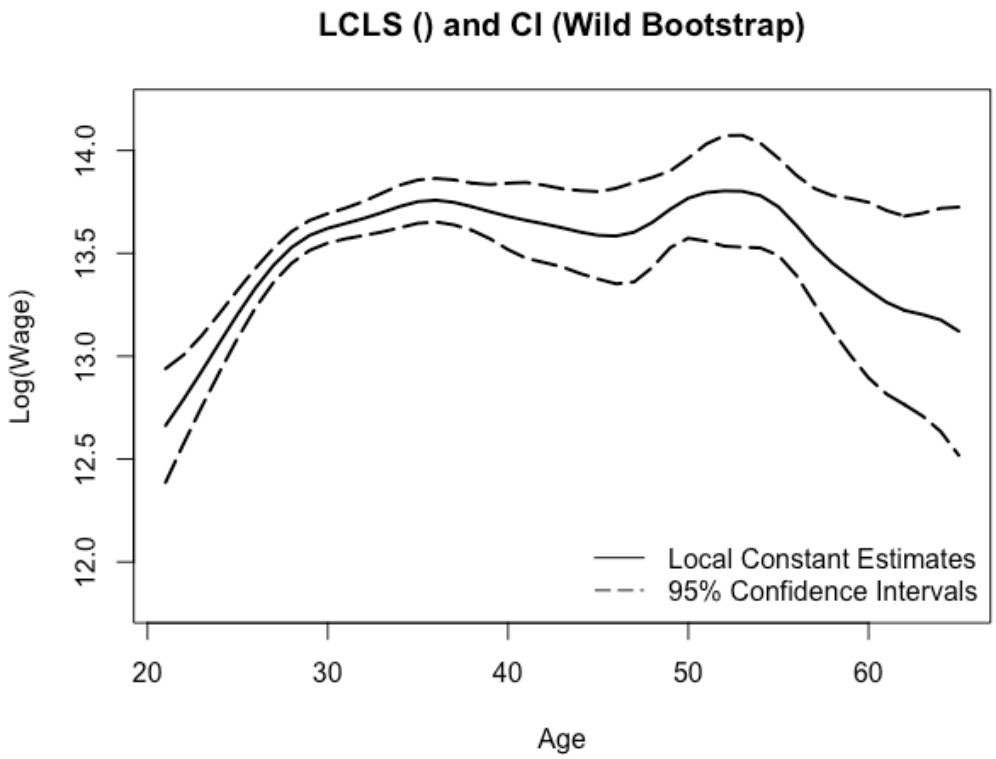


(2)LLLS

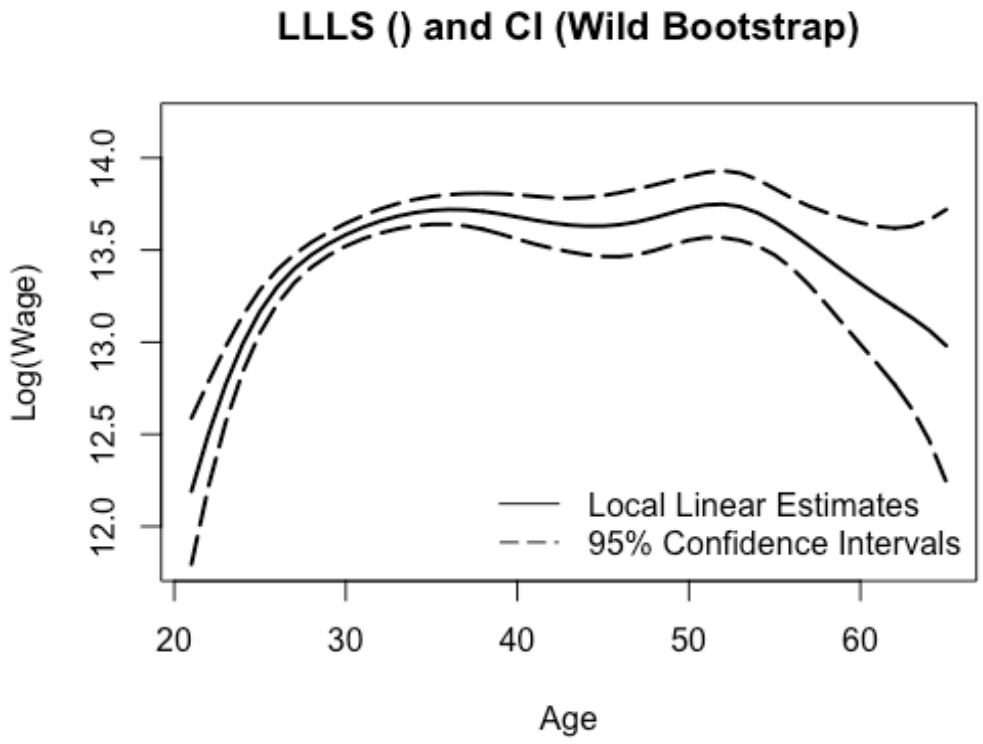


LSCV:

(1)LCLS



(2)LLLS



2. Is the dip present in the resulting nonparametric estimates? How do Pagan and Ullah (1999) explain the dip (see the chapter 3.14.2)?

ANS : The dip is present in all of the resulting nonparametric estimates,Pagan and Ullah (1999) explain the dip possible is to be the generation effect.
In 1971, the people age 40 essentially are different with others generations , they might be attributed to the generation between 1935 and 1945 and they experienced the Second World War.

3. Without conducting a formal test, does the dip appear to be signifcant?

ANS : Based on changes in confidence intervals, the dip appears to be significant.

4. Which nonparametric estimator appears to provide the most appropriate fit to this data?

ANS : The local linear estimator of using the LSCV bandwidth appears to provide the most appropriate fit to this data, because it has no boundary effects and a smoother fitted curve.

5. Based on your answer to the previous question, plot its gradients along with their error bounds (use a wild bootstrap).