2 Linear regression assumptions

TSLR1: estimated from random sample ($T>2$) of statistically independent pair of observations

TSLR2: each random error has zero conditional expected value
↳ $E(\varepsilon_t)=0$

TSLR3: The conditional variance is homoskedastic
↳ $V(\varepsilon_t)=\sigma^2$

TSLR4: ε_t is serially uncorrelated ⇒ random errors are uncorrelated ($t \neq t'$)
↳ $E(\varepsilon_t, \varepsilon_{t'})=0$

TSLR5: In the sample (& pop.) the independent variable is not constant

TSLR6: The random errors are uncorrelated w/ independent variable
↳ $Cov(\varepsilon_t, x_t)=E(\varepsilon_t, x_t)=0$

TSLR7: The random errors are normally distributed.
↳ $\varepsilon_t \sim N(0, \sigma^2)$

TSLR8: The random errors are stationary & weakly dependent.

Notes on Skewness & kurtosis

Skewness
↳ If normally distributed = 0
↳ If positive = right skewed
↳ If negative = left skewed

Kurtosis:
↳ If normally distributed = 3 (mesokurtic)
↳ If leptokurtic > 3 (fat-tailed)
↳ If platykurtic < 3 (thin-tailed)