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| --- | --- | --- | --- |
| **Diagnostic Tools** | **Statistical Tests**  **and/or Cut-Off-Values** | **Plots** | **Literatur** |
| Outliers | Outlier if:  ri\* > t1-α/2, n-p-1  ri\* < tα/2, n-p-1 | Studentized Residuals vs. Index | Fahrmeir: Regressions (p. 174) |
| High-Leverage | Cook’s Distance  → Di > 0.5 conspicious  → Di > 1 have to be examined |  | Fahrmeir: Regression (p. 178) |
|  | hii > | Leverage vs. Index | Fahrmeir: Regression (p. 178) |
| Non-Linearity | Rainbow-Test  → H0: Linearity |  | Baltagi: Econometrics (p. 197) |
|  |  | Studentized Residuals vs. ŷi | Faraway: Practical Regression and Anova (p. 85) |
| Heteroskedascity | Breusch-Pangan-Test  → H0: No Heteroskedacity |  | Fahrmeir: Regression (p. 131) |
|  |  | Studentized Residuals vs. ŷi or Covariates xij | Fahmeir: Regression (p. 129) |
| Correlation of Error Terms | Durbin-Watson-Test  → H0: No Autocorrelation |  | Fahrmeir: Regression (p. 141) |
|  |  | Residuals vs. Index | Fahrmeir: Regression (p. 140) |
| Normality of Residuals | Shapiro-Wilk-Test  → H0: Normal Distributed |  | Shapiro: An Analysis of Variance Test for Normality ( |
|  |  | - QQ-Plot  - Histogramm of Residuals | Faraway: Practical Regression and Anova (p. 89) |
| Collinearity of Predictors | VIFj > 10 |  | Fahrmeir: Regression (p. 171) |
|  |  | Correlation Matrix | Neter: Applied Linear Statistical Models (p. 232) |