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| --- | --- | --- | --- | --- |
| **Assumption** | **How assumption is tested/determined** | **If test statistic - Value** | **Significance**  **(p-value)** | **Assumption met?**  **Yes or No** |
| Pre-Regression | Normality of Data and random sampling. |  |  | Yes or No |
| IID (Error terms (Resids) are independent, and identically distributed) | Durbin-Watson’s d test. Null = no autocorrelation. SPEC test in SAS. |  |  | Yes or No |
| Linear Relationship | Scatterplot |  |  | Yes |
| Outliers’ assessment | Exploratory statistics (PP and QQ plot). Standardized values > 3.29 = outliers |  |  | Yes |
| Independence of residuals (no autocorrelation) | Durbin-Watson’s d test. Null = no autocorrelation. Not valid for small sample sizes. | 1.765 | Critical value range 1.76-1.78 (n=200)  OR  1.5 < d < 2.5 | Yes (accept null) |
| Homoscedasticity | Goldfeld-Quandt test (Excel); Visual inspection of Resids scatterplot. SPEC test in SAS. |  |  | Yes |
| Residuals are normally distributed | Histogram, P-P or Q-Q plot |  |  | Yes |

**Assumptions Checklist**