

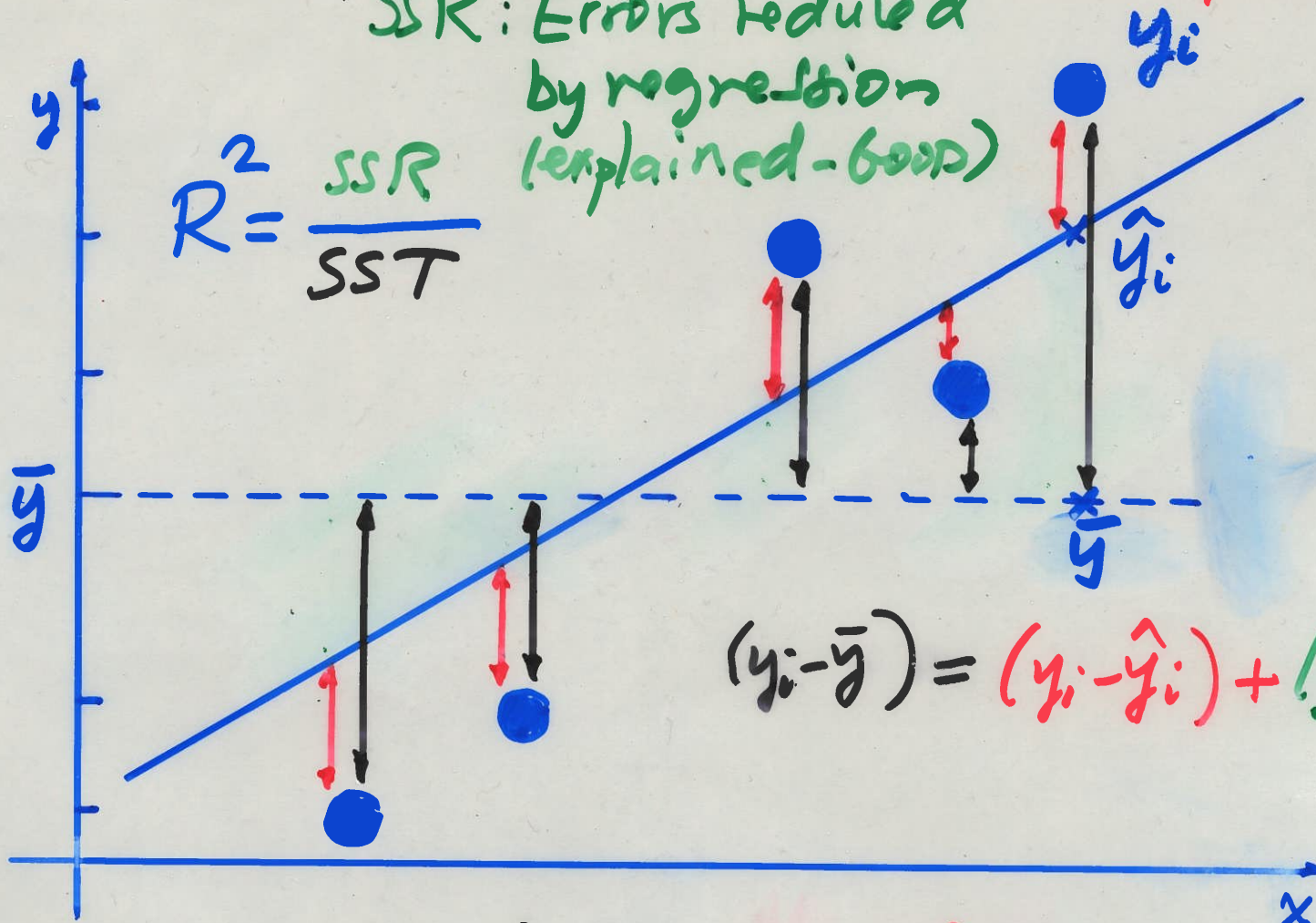
SST is
Total errors
if no
regression →

$$\underbrace{\sum (y_i - \bar{y})^2}_{\text{SST (Total)}}$$

SST: Total errors if no regression

SSE: Regression's errors (unexplained - BAD)

SSR: Errors reduced by regression (explained - GOOD)



$$(y_i - \bar{y}) = (y_i - \hat{y}_i) + (\hat{y}_i - \bar{y})$$

$$R^2 = \frac{SSR}{SST}$$

SST is
Total errors
if no
regression →

$$\underbrace{\sum (y_i - \bar{y})^2}_{SST \text{ (Total)}} = \underbrace{\sum (y_i - \hat{y}_i)^2}_{SSE \text{ (unexplained)}} + \underbrace{\sum (\hat{y}_i - \bar{y})^2}_{SSR \text{ (explained)}}$$