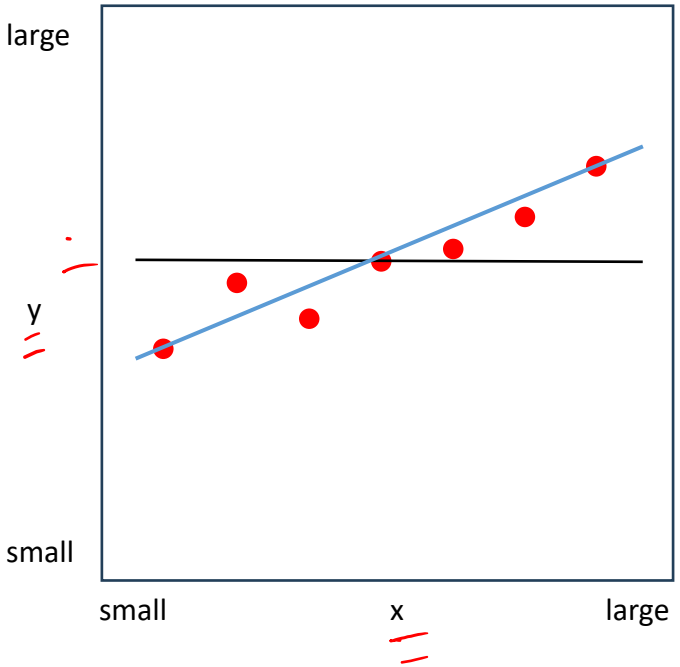
Regression Model Assessment

Dr. Muhammad Wasim

Evaluation Measures for Regression

- R Squared (R^2)
- Mean Absolute Error (MAE)
- Mean Squared Error (MSE)

R^2 – Interpretation of Score



$$R^2 = \frac{var(mean) - var(line)}{var(mean)}$$

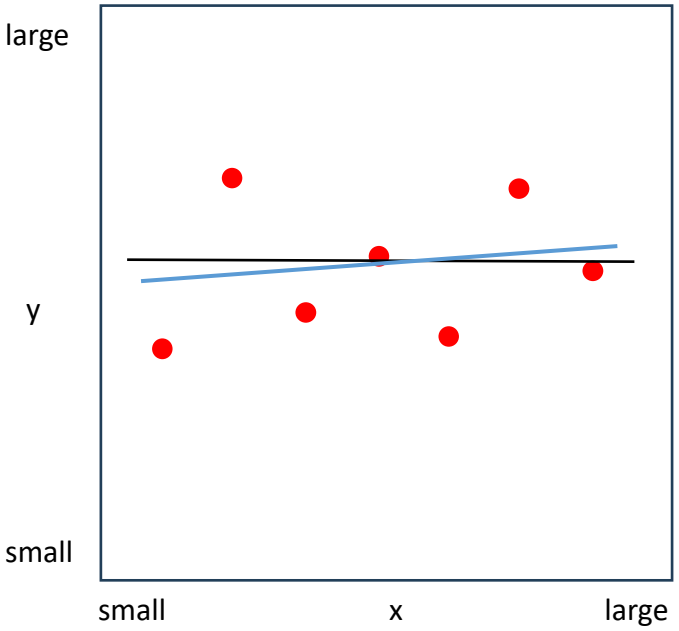
$$var(mean) = 32$$

$$var(line) = 6$$

$$R^2 = \frac{32 - 6}{32} = 0.81 = 81\%$$

There is 81% less variation around the line than the mean

R^2 – Interpretation of Score (Cont.)



$$var(mean) = 32$$

$$var(line) = 30$$

$$R^2 = \frac{32 - 30}{32} = 0.06 = 6\%$$

There is 6% less variation around the line than the mean.

Mean Absolute Error (MAE) and Mean Squared Error (MSE)

$$MSE(y, \hat{y}) = \frac{1}{m}\sum_{i=1}^{m}(y_i - \hat{y}_i)^2$$

$$MAE(y, \hat{y}) = \frac{1}{m}\sum_{i=1}^{m}|y_i - \hat{y}_i|$$