

The linear regression

$$y = b_0 + b_1 x + \epsilon$$

has estimations

$$\hat{b}_0 = \bar{y} - \hat{b}_1 \bar{x}$$

$$\hat{b}_1 = \frac{\tilde{y} \cdot \tilde{x}}{\|\tilde{x}\|_2^2}$$

\bar{y} is the mean of y vector

\tilde{y} & \tilde{x} are centred vectors

$$\tilde{y} = y - \bar{y}$$

If the vectors x & y are replaced with $x' = Sx + t$ &

$y' = uy + v$, how does this

change the estimators \hat{b}_1' & \hat{b}_0'

\bar{x} = mean

\hat{x} = estimation

\tilde{x} = Centred