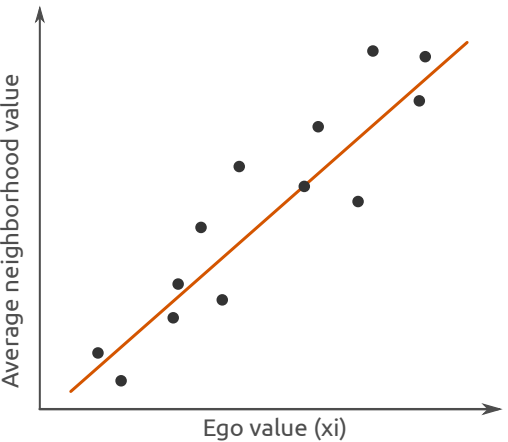

Ordinary Least Square (OLS)

$$y = \beta_o + \beta_1 x + \epsilon \quad \text{with} \quad \beta_1 = \frac{COV(xy)}{VAR(x)}$$

In case of a simple contiguity matrix with constant weights:

$$I = \frac{n}{\sum_i \sum_j w_{ij}} \times \frac{\sum_i \sum_j w_{ij}(x_i - \bar{x})(x_j - \bar{x})}{\sum_i (x_i - \bar{x})^2}$$

$$I = \beta_1$$