

Registra 2010 Exam Paper

$$b_1 = \frac{\sum x_i y_i - \frac{\sum x_i \sum y_i}{n}}{\sum x_i^2 - \frac{(\sum x_i)^2}{n}}$$

$$\frac{27674 - \frac{(232)(102)}{21}}{5442 - \frac{(232)^2}{21}} = \frac{14615.71429}{2878.952381} = 5.0767$$

$$b_0 = \bar{y} - b_1 \bar{x}$$

$$= 5.0854 - 0.1997$$

$$= 0.2$$

- When there is zero employees at the branch, cost is equal to 0.2

- for each increment employees there is a 5.08 increase in the mean value for the distribution of cost

$$b = \sqrt{MSE} = \sqrt{\frac{SSE}{n-2}} = \sqrt{\frac{1014}{19}} = 7.30536932$$

$$(CI: b_1 \pm t(0.95, 19) S.e$$

$$5.08 \pm 2.093 (7.30536932)$$

$$5.08 \pm 15.2899$$

(-10.209, 20.3696) 45W of interval but may be had to change

$$y = 143715 \div 21 = 6843.57 \text{ \$/man per employee}$$

$$\frac{143715}{21} = 6843.57$$

$$500 - 0.5 = 499.5$$

When for 1/2 500 employees of the branch, cost is equal to 0.5

for each 1000 employees, cost is 0.5 times of the previous value for the distribution of (1000)

$$\frac{143715}{1000} = 143.715$$

$$143.715 + 143.715 = 287.43$$

$$143.715 \times 2 = 287.43$$