EVERSHEDS

0.01 0.025 0.05

$\Delta V \cdot \text{sens} = \Delta SD \cdot \text{sqrt}(252) \times 10000$

500

$12\% \to 13\%$

$\Delta Vix \cdot \text{reg} = \Delta SD_d$

$\Rightarrow$ 0.02

$\Delta SD \quad 5\%/\text{sqrt}(252)$

5y

a_i — stdev = x — $\sqrt{\frac{\sum_{i=1}^{n}(a_i-\bar{a})^2}{n}}$

stdev = z

$\sqrt{\frac{\sum_{i=1}^{n}(a_i-\bar{c})^2}{n} + \frac{\sum_{i=1}^{m}(b_i-\bar{c})^2}{m}} = z$

b_i — stdev = y — $\sqrt{\frac{\sum_{i=1}^{m}(b_i-\bar{b})^2}{m}}$

$\frac{n\bar{a}+m\bar{b}}{n+m} = \bar{c} \sim \phi$

$\bar{a} = \bar{b} = \phi$

$\sqrt{\frac{\sum^{n} a_i^2}{n} + \frac{\sum^{m} b_i^2}{m}} = z$

$$z = \sqrt{\frac{\sum_{i=1}^{n+m}(z_i-\bar{z})^2}{n+m}} = \sqrt{\frac{\sum_{i=1}^{n}(a_i-\bar{z})^2 + \sum_{i=1}^{m}(b_i-\bar{z})^2}{n+m}}$$

$\sqrt{\text{Var} b}$

$z^2 \cdot \frac{\sum a_i^2}{n} = \frac{\sum b_i^2}{m}$

tgt(Var)

Var(a)

$$\bar{z} = \frac{n\cdot\bar{a}+m\bar{b}}{n+m}$$

$$(n+m)z^2 = \sum_{i=1}^{n}(a_i-\bar{z})^2 + \sum_{i=1}^{m}(b_i-\bar{z})^2$$

$-\bar{z} = 0$

$\sqrt{\frac{\sum_{i=1}^{m} b_i^2}{m}} = \text{StDev}(b)$

$$(n+m)z^2 = \sum_{i=1}^{n} a_i^2 + \sum_{i=1}^{m} b_i^2$$

$(n+m)z^2 - \sum a_i^2 =$

$SD(b)^2 \cdot m = \sum_{i=1}^{m} b_i^2$

$$\sqrt{\frac{(n+m)z^2 - n\,\cancel{SA}(a_i)}{m}} = \sqrt{\cancel{SA}(b_i)}$$

$$\sqrt{\frac{(n+m)SD^2(\text{All}) - n\cdot SD^2(a_i)}{m}} = SD(b_i)$$