$$\bar{x}=\frac{\sum_{1}^{N} x_i}{N} \qquad s^2=\frac{\sum_{1}^{N}(x_i-\bar{x})^2}{N-1} \qquad s=\sqrt{\frac{\sum_{1}^{N}(x_i-\bar{x})^2}{N-1}}$$

$$\%CV=\frac{100\% s}{\bar{x}} \qquad s_{\hat{x}}=\frac{s}{\sqrt{N}} \qquad Z=\frac{\bar{Y}-\mu}{\sigma/\sqrt{n}}$$

$$P\left[\bar{X}_n - Z_{\alpha/2}\left(\frac{\sigma}{\sqrt{n}}\right) \le \mu \le \bar{X}_n + Z_{\alpha/2}\left(\frac{\sigma}{\sqrt{n}}\right)\right]=1-\alpha \qquad \mu = \bar{x} \pm t \cdot s_{\hat{x}}$$

$$Z=\frac{(\bar{X}-\bar{Y})-(\mu_1-\mu_2)}{\sqrt{\frac{s_1^2}{n_1}+\frac{s_2^2}{n_2}}} \qquad \mu_1-\mu_2=\bar{\mathbf{X}}-\bar{Y}\pm \mathrm{Z}_{a/2}\sqrt{\frac{s_1^2}{n_1}+\frac{s_2^2}{n_2}}$$

$$t=\frac{(\bar{X}-\bar{Y})-(\mu_1-\mu_2)}{s\cdot\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}} \qquad \mu_1-\mu_2=\bar{x}-\bar{y}\pm t\cdot s\cdot\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}$$

$$t=\frac{\bar{y}-\mu_0}{s/\sqrt{n}} \qquad z=\frac{(\bar{y}_1-\bar{y}_2)-\delta}{\sqrt{\frac{s_1^2}{n_1}+\frac{s_2^2}{n_2}}} \qquad \bar{X}_n - t_{n-1}\left(\frac{s}{\sqrt{n}}\right)\le \mu \le \bar{X}_n + t_{n-1}\left(\frac{s}{\sqrt{n}}\right)$$

$$s=\sqrt{\frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}} \qquad t=\frac{(\bar{y}_1-\bar{y}_2)-\delta_0}{s_d/\sqrt{n}} \qquad t=\frac{(\bar{y}_1-\bar{y}_2)-\delta}{s\cdot\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}}$$

$$Z=\frac{\frac{x}{n}-p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}} \qquad X^2=\frac{(n-1)\cdot s^2}{\sigma^2} \qquad F=\frac{s_1^2}{s_2^2} \qquad \mathrm{P}=1-\beta$$

$$s_\alpha^2=\sum_{1}^{\kappa} n_i(\bar{x}_i-\bar{x})^2 \qquad s_\upsilon^2=\sum_{1}^{\kappa}(n_i-1)s_i^2$$

$$F=\frac{\overline{\text{τετράγωνα μεταξύ δειγμάτων}}}{\overline{\text{τετράγωνα εντός δειγμάτων}}}=\frac{s_\alpha^2/(\kappa-1)}{s_\upsilon^2/(n-\kappa)}$$

$$z=\frac{p-p_0}{\sqrt{p_0(1-p_0)/n}} \qquad z=\frac{p_1-p_2}{\sqrt{\frac{p_1(1-p_1)}{n_1}+\frac{p_2(1-p_2)}{n_2}}}$$

Αναμενόμενες τιμές κατ. 1 ομάδας 1, 2
$\theta_{11} = (\pi_{11}+\pi_{12})\cdot(\pi_{11}+\pi_{21})/N$, $\theta_{21} = (\pi_{21}+\pi_{22})\cdot(\pi_{11}+\pi_{21})/N$
Αναμενόμενες τιμές κατ. 2 ομάδας 1, 2
$\theta_{12} = (\pi_{11}+\pi_{12})\cdot(\pi_{12}+\pi_{22})/N$, $\theta_{22} = (\pi_{21}+\pi_{22})\cdot(\pi_{12}+\pi_{22})/N$

$$X^2 = \frac{(\pi_{11}-\theta_{11})^2}{\theta_{11}} + \frac{(\pi_{12}-\theta_{12})^2}{\theta_{12}} + \frac{(\pi_{21}-\theta_{21})^2}{\theta_{21}} + \frac{(\pi_{22}-\theta_{22})^2}{\theta_{22}}$$

$$\theta_{ij} = \frac{(\sum_{i=1}^{s} n_{ij})\cdot(\sum_{j=1}^{k} n_{ij})}{N} \qquad X^2 = \sum_{i=1}^{s}\sum_{j=1}^{k}\frac{(\pi_{ij}-\theta_{ij})^2}{\theta_{ij}}$$

β.ε. = (s-1)·(k-1)

D = max |F1(x) – F2(x)|

Για μεγάλα m,n (>15): α=0.05, $D_{a,m,n} = 1.36\sqrt{\frac{m+n}{m\cdot n}}$

Για n1, n2 ≥ 10 $\mu_u = \frac{2n_1n_2}{n_1+n_2}+1 \quad \sigma_u^2 = \frac{2n_1n_2(2n_1n_2-n_1-n_2)}{(n_1+n_2)^2(n_1+n_2-1)} \quad Z = \frac{U-\mu_u}{\sigma_u}$

Deming $b = U + \sqrt{U^2 + \frac{1}{\lambda}}$

$$r = \frac{\sum_{i=1}^{n}(x_i-\bar{x})(y_i-\bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i-\bar{x})^2\sum_{i=1}^{n}(y_i-\bar{y})^2}}$$

$$b = \frac{\sum_{i=1}^{n} x_i y_i - n\overline{xy}}{\sum_{i=1}^{n} x_i^2 - n\bar{x}^2} \qquad a = \bar{y} - b\bar{x} \qquad \lambda = \frac{S_x^2}{S_y^2}$$

$$r_T = 1 - \frac{6\cdot(d_1^2 + d_2^2 + \cdots + d_n^2)}{n^3 - n} \qquad U = \frac{\sum_{i=1}^{N}(y_i-\bar{y})^2 - \lambda^{-1}\cdot\sum_{i=1}^{N}(x_i-\bar{x})^2}{2\sum_{i=1}^{N}(y_i-\bar{y})(x_i-\bar{x})}$$

$$P \pm 1.96\sqrt{\frac{P(1-P)}{N}} \qquad CI \pm 1.96\sqrt{\frac{CI(1-CI)}{N}} \qquad I \pm 1.96\sqrt{\frac{I}{R}}$$