Kvantilisek, Módusz:

$$s_{i/k} = \frac{i}{k}(N+1), \qquad Y_{\frac{i}{k}} = Y^*_{\lfloor s_{i/k}\rfloor} + \{s_{i/k}\}\left(Y^*_{\lfloor s_{i/k}\rfloor+1} - Y^*_{\lfloor s_{i/k}\rfloor}\right)$$

$$Y_{\frac{i}{k}} = Y_{j,0} + \frac{\frac{i}{k}N - f'_{j-1}}{f_j}h_j, \qquad f'_{j-1} < \frac{i}{k}N \le f'_j$$

$$\mathrm{Mo} = Y_{mo,0} + \frac{d_a}{d_a + d_f}h_{mo}, \qquad d_a = f_{mo} - f_{mo-1}, \qquad d_f = f_{mo} - f_{mo+1}$$

Momentumok, Ferdeség, Lapultság:

$$M_r(A) = \frac{\sum_{i=1}^N (Y_i - A)^r}{N}, \qquad \text{illetve} \qquad M_r(A) = \frac{\sum_{i=1}^N f_i(Y_i - A)^r}{N}$$

$$\mathrm{P} = 3\frac{\overline{Y} - \mathrm{Me}}{\sigma}, \qquad \alpha_3 = \frac{M_3(\overline{Y})}{\sigma^3},$$

$$\mathrm{F}_p = \frac{(Y_{1-p} - \mathrm{Me}) - (\mathrm{Me} - Y_p)}{(Y_{1-p} - \mathrm{Me}) + (\mathrm{Me} - Y_p)}, \qquad \alpha_4 = \frac{M_4(\overline{Y})}{\sigma^4} - 3$$

Asszociáció, Vegyes kapcsolat:

$$f^*_{i,j} = \frac{f_{i,\cdot}f_{\cdot,j}}{N}, \qquad \chi^2 = \sum_{i=1}^{r}\sum_{j=1}^{c}\frac{\left(f_{i,j} - f^*_{i,j}\right)^2}{f^*_{i,j}}, \qquad C^2 = \frac{\chi^2}{N\min(r-1, c-1)}$$

$$\sigma_K^2 = \frac{SSK}{N} = \frac{\sum_{j=1}^M N_j\left(\overline{X}_j - \overline{X}\right)^2}{N},$$

$$\sigma_B^2 = \frac{SSB}{N} = \frac{\sum_{j=1}^M \sum_{i=1}^{N_j}\left(X_{i,j} - \overline{X}_j\right)^2}{N} = \frac{\sum_{j=1}^M N_j\sigma_j^2}{N},$$

$$\sigma^2 = \frac{SST}{N} = \frac{\sum_{j=1}^M \sum_{i=1}^{N_j}\left(X_{i,j} - \overline{X}\right)^2}{N}, \qquad H^2 = \frac{\sigma_K^2}{\sigma^2} = \frac{SSK}{SST} = 1 - \frac{SSB}{SST}.$$

Korreláció, Rangkorreláció:

$$r_{X,Y} = \frac{\sum_{i=1}^N \left(X_i - \overline{X}\right)\left(Y_i - \overline{Y}\right)}{\sqrt{\sum_{i=1}^N \left(X_i - \overline{X}\right)^2 \sum_{i=1}^N \left(Y_i - \overline{Y}\right)^2}} = \frac{\sum_{i=1}^N d_{X_i}d_{Y_i}}{\sqrt{\sum_{i=1}^N d_{X_i}^2 \sum_{i=1}^N d_{Y_i}^2}} = \frac{\overline{XY} - \overline{X}\,\overline{Y}}{\sigma_X\sigma_Y}$$

$$\rho = 1 - \frac{6}{N(N^2-1)}\sum_{i=1}^N \left(R_{X_i} - R_{Y_i}\right)^2$$

Standardizálás:

$$K = \overline{V_1} - \overline{V_0} = \frac{\sum A_1}{\sum B_1} - \frac{\sum A_0}{\sum B_0} = \frac{\sum B_1V_1}{\sum B_1} - \frac{\sum B_0V_0}{\sum B_0}$$

$$K'_s = \frac{\sum B_sV_1}{\sum B_s} - \frac{\sum B_sV_0}{\sum B_s}, \qquad K''_s = \frac{\sum B_1V_s}{\sum B_1} - \frac{\sum B_0V_s}{\sum B_0}$$

Indexszámítás:

$$I_v = \frac{\sum p_1q_1}{\sum p_0q_0}, \qquad I_p^s = \frac{\sum p_1q_s}{\sum p_0q_s}, \qquad I_q^s = \frac{\sum p_sq_1}{\sum p_sq_0},$$

Intervallumbecslések:

várható értékre

$$\overline{y} \pm z_{1-\frac{\alpha}{2}}\frac{\sigma}{\sqrt{n}}, \qquad \overline{y} \pm t_{1-\frac{\alpha}{2}}\frac{s_y}{\sqrt{n}} \quad (df = n-1), \qquad \overline{y} \pm \frac{\sigma}{\sqrt{\alpha n}}$$

szórásnégyzetre

$$c_a = \frac{(n-1)s_y^2}{\chi^2_{1-\frac{\alpha}{2}}}, \qquad c_f = \frac{(n-1)s_y^2}{\chi^2_{\frac{\alpha}{2}}} \quad (df = n-1)$$

sokasági arányra

$$p \pm z_{1-\frac{\alpha}{2}}\frac{\sqrt{p(1-p)}}{\sqrt{n}},$$

várható értékek különbségére

$$\overline{d} \pm z_{1-\frac{\alpha}{2}}\sqrt{\frac{\sigma_x^2}{n_x} + \frac{\sigma_y^2}{n_y}}$$

$$\overline{d} \pm s_c\sqrt{\frac{1}{n_x} + \frac{1}{n_y}}, \qquad s_c^2 = \frac{(n_x-1)s_x^2 + (n_y-1)s_y^2}{n_x + n_y - 2}, \qquad (df = n_x + n_y - 2)$$