UNIVERSIDADE DE ÉVORA
ESCOLA DE CIÊNCIAS E TECNOLOGIA
Departamento de Matemática

PROBABILIDADE E ESTATÍSTICA

LICENCIATURAS EM ECONOMIA E EM MATEMÁTICA APLICADA À ECONOMIA E À GESTÃO

FORMULÁRIO DE INFERÊNCIA ESTATÍSTICA

DISTRIBUIÇÕES AMOSTRAIS	INTERVALOS DE CONFIANÇA	ESTATÍSTICA DE TESTE
$\bar{X} \cap N\left(\mu, \frac{\sigma}{\sqrt{n}}\right)$	$\left(\bar{x} - z_{1-\frac{\alpha}{2}} \times \frac{\sigma}{\sqrt{n}}, \bar{x} + z_{1-\frac{\alpha}{2}} \times \frac{\sigma}{\sqrt{n}}\right)$	$Z = \frac{\bar{X} - \mu_0}{\sigma / \sqrt{n}}$
$\frac{\bar{X} - \mu}{S / \sqrt{n}} \cap t_{n-1}$	$\left(\bar{x} - t_{n-1,\, 1-\frac{\alpha}{2}} \times \frac{s}{\sqrt{n}}, \bar{x} + t_{n-1,\, 1-\frac{\alpha}{2}} \times \frac{s}{\sqrt{n}}\right)$	$T = \frac{\bar{X} - \mu_0}{S / \sqrt{n}}$
$\frac{(n-1)S^2}{\sigma^2} \cap \chi^2_{n-1}$	$\left(s^2 \frac{n-1}{\chi^2_{1-\frac{\alpha}{2},n-1}}, s^2 \frac{n-1}{\chi^2_{\frac{\alpha}{2},n-1}}\right)$	$X^2 = \frac{(n-1)S^2}{\sigma_0^2}$
$\hat{p} \dot{\cap} N\left(p, \sqrt{\frac{p(1-p)}{n}}\right)$	$\left(\hat{p} - z_{1-\frac{\alpha}{2}} \times \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}, \hat{p} + z_{1-\frac{\alpha}{2}} \times \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}\right)$	$Z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}}$
$\frac{S_1^2}{S_2^2} \times \frac{\sigma_2^2}{\sigma_1^2} \cap F_{n_1-1,n_2-1}$	$\left(\frac{s_2^2}{s_1^2} F_{n_1-1,n_2-1,\, \frac{\alpha}{2}}, \frac{s_2^2}{s_1^2} F_{n_1-1,n_2-1,\, 1-\frac{\alpha}{2}}\right)$	$F = \frac{S_1^2}{S_2^2}$
$\bar{X}_1 - \bar{X}_2 \cap N\left(\mu_1 - \mu_2, \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}\right)$	$\left(\bar{x}_1 - \bar{x}_2 - z_{1-\frac{\alpha}{2}} \times \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}, \bar{x}_1 - \bar{x}_2 + z_{1-\frac{\alpha}{2}} \times \sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}\right)$	$\frac{(\bar{X}_1 - \bar{X}_2) - \mu_0}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$

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$\frac{\bar{X}_1-\bar{X}_2}{S^*} \cap t_{(n_1+\ \ _2-2)}$ com $S^* = \sqrt{\frac{(n_1-1)S_1^2+(n_2-1)S_2^2}{n_1+n_2-2}\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}$	$\left(\bar{x}_1-\bar{x}_2-t_{\left(n_1+n_2-2,1-\frac{\alpha}{2}\right)}s^*, \bar{x}_1-\bar{x}_2+t_{\left(n_1+n_2-2,1-\frac{\alpha}{2}\right)}s^*\right)$ com $s^* = \sqrt{\frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}$	$T = \frac{\bar{X}_1-\bar{X}_2-\mu_0}{S^*}$
$\frac{(\bar{D})-(\mu_1-\mu_2)}{S_d\sqrt{n}} \cap t_{n-1}$ com $S_d = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}\left(D_i-\bar{D}\right)^2}$	$\left(\bar{d}-t_{n-1,\ 1-\frac{\alpha}{2}} \times \frac{s_d}{\sqrt{n}}, \bar{d}+t_{n-1,\ 1-\frac{\alpha}{2}} \times \frac{s_d}{\sqrt{n}}\right)$ com $s_d = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}\left(d_i-\bar{d}\right)^2}$	$T = \frac{\bar{D}-\mu_0}{S_d / \sqrt{n}}$
$\hat{p}_1-\hat{p}_2 \dot{\cap} N\left(p_1-p_2, \sqrt{\frac{p_1(1-p_1)}{n_1}+\frac{p_2(1-p_2)}{n_2}}\right)$	$\left(\hat{p}_1-\hat{p}_2-z_{1-\frac{\alpha}{2}} \times \sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1}+\frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}, \hat{p}_1-\hat{p}_2+z_{1-\frac{\alpha}{2}} \times \sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1}+\frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}\right)$	$Z = \frac{(\hat{p}_1-\hat{p}_2)-p_0}{\sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1}+\frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}}$ $Z = \frac{\hat{p}_1-\hat{p}_2}{\sqrt{\hat{p}(1-\hat{p})\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$ $\hat{p} = \frac{n_1\hat{p}_1+n_2\hat{p}_2}{n_1+n_2}$