

例 7.12

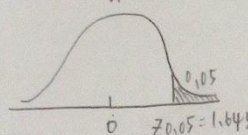
$$\hat{p} = \frac{145}{350} = 0.414$$

設 $H_0: p \leq 0.4$, $H_1: p > 0.4$

$$\alpha = 0.05$$

$$\text{棄卻域 } C = Z > Z_{0.05} = Z > 1.645$$

$$Z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}} = \frac{0.414 - 0.4}{\sqrt{\frac{0.4(1-0.4)}{350}}} = \frac{0.014}{\sqrt{\frac{0.4 \times 0.6}{350}}} = 0.532$$



根據樣本資料檢定結果，我們不棄卻虛無假設，即無法顯示該候選人實際得票率超過四成，

$$P\text{-Value} = P(Z > 0.532)$$

$$= P(Z > 0.53) \rightarrow \text{查表}$$

$$= 1 - 0.7019 = 0.2981 > \alpha, \text{不棄卻虛無假設}$$

例 7.11

$$H_0: \frac{\sigma_1^2}{\sigma_2^2} = 1, H_1: \frac{\sigma_1^2}{\sigma_2^2} \neq 1$$

$$\alpha = 0.1 \quad A \text{ 品牌: } 10 \text{ 罐}, B \text{ 品牌: } 8 \text{ 罐}$$

$$\text{棄卻域 } C = F < F_{1-\frac{\alpha}{2}}(n_1-1, n_2-1) \text{ 或 } F > F_{\frac{\alpha}{2}}(n_1-1, n_2-1)$$

$$= F < F_{0.95}(9, 7) \text{ 或 } F > F_{0.05}(9, 7) \rightarrow \text{查表}$$

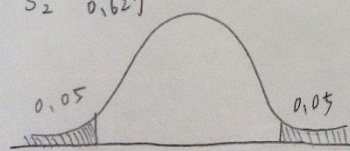
$$= F < 0.304 \text{ 或 } F > 3.68$$

$$F_{0.95}(9, 7)$$

$$= F_{0.05}(7, 9)$$

$$= \frac{1}{3.29}$$

$$F = \frac{S_1^2}{S_2^2} = \frac{0.655^2}{0.627^2} = 1.085$$



根據樣本資料檢定結果，

我們不棄卻虛無假設，兩種

品牌嬰兒奶粉使用對嬰兒體重成長的變異數沒有太大差異