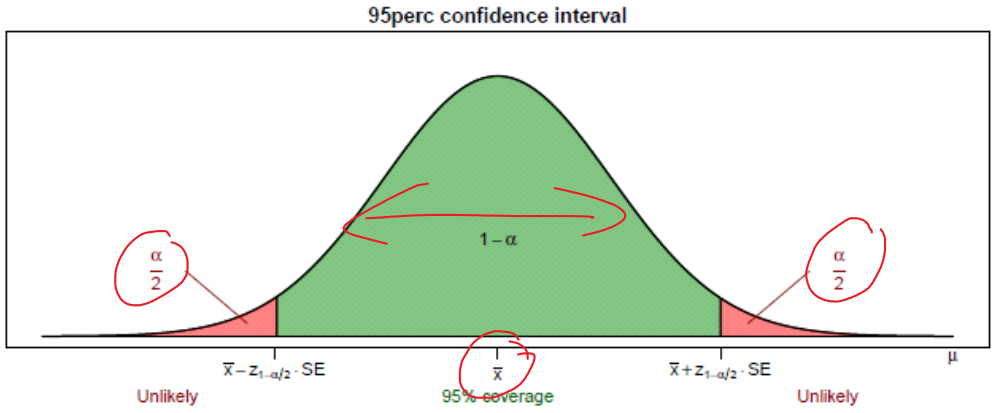
Hypothesis Testing

Dienstag, 27. Oktober 2020 10:40

$$P(\mu - z_{1-\alpha/2} \cdot SE < \bar{x} \leq \mu + z_{1-\alpha/2} \cdot SE) = 1 - \alpha$$

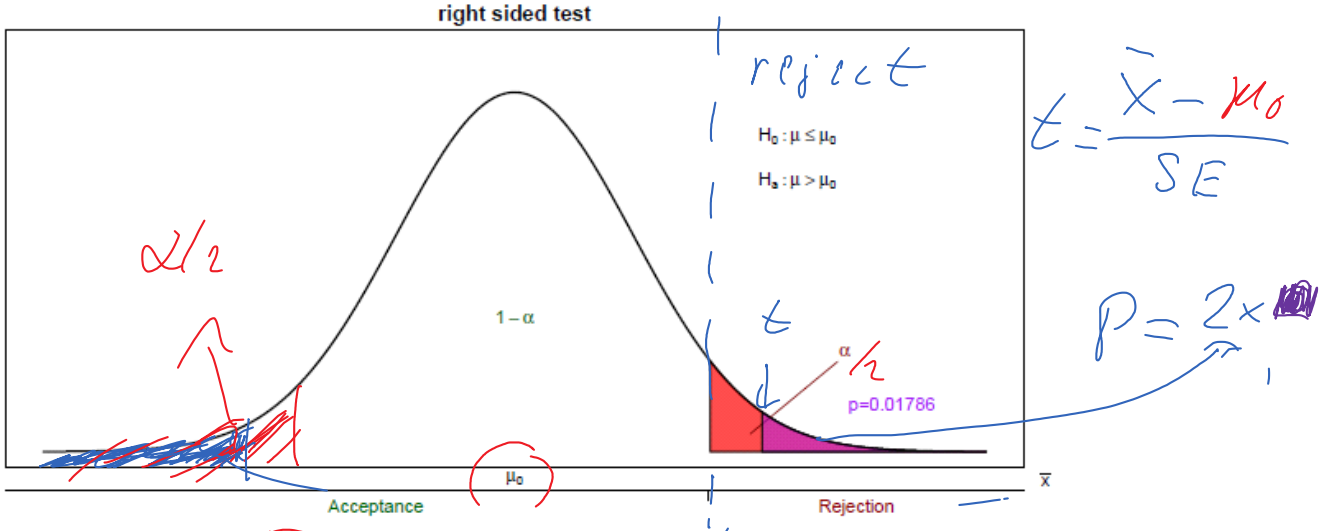
$$\Leftrightarrow$$

$$P(\bar{x} - z_{1-\alpha/2} \cdot SE \leq \mu < \bar{x} + z_{1-\alpha/2} \cdot SE) = 1 - \alpha$$



For $t = 2.1$ and $\alpha = 0.05$

$SE = \sigma/\sqrt{n}$



$t = \frac{\bar{X} - \mu_0}{SE}$

$p = 2 \times$

reject H_0 if $p < \alpha$

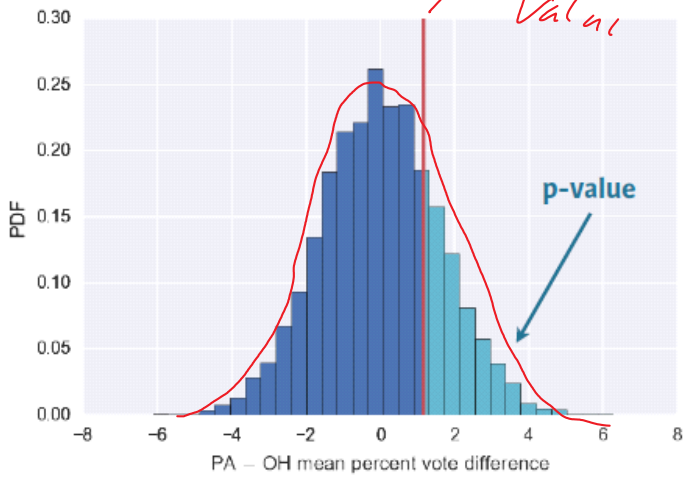
$\hat{p} < \alpha/2$

critical value

Mean vote difference under null hypothesis

observed

Mean vote difference under null hypothesis



$H_0: \mu \leq 50 \Rightarrow pval = (rep. < \bar{x})$

$H_0 \quad \mu \geq 50 \quad = (rep. > \bar{x})$ ✓

$H_0 \quad \mu = 50 \quad = (|rep.| > \bar{x})$

$rep. < -\bar{x} \;|\; rep. > \bar{x}$