

453 case 2.

FR Pricing

NYOP

Null -  $H_0: \mu_1 - \mu_0 = 0$

$H_a: \mu_1 - \mu_0 \neq 0$

$$FR: \frac{77+03}{(12003+15201)} = 0.00496 \rightarrow \bar{P}_1$$

$$n_1 = 28,224$$

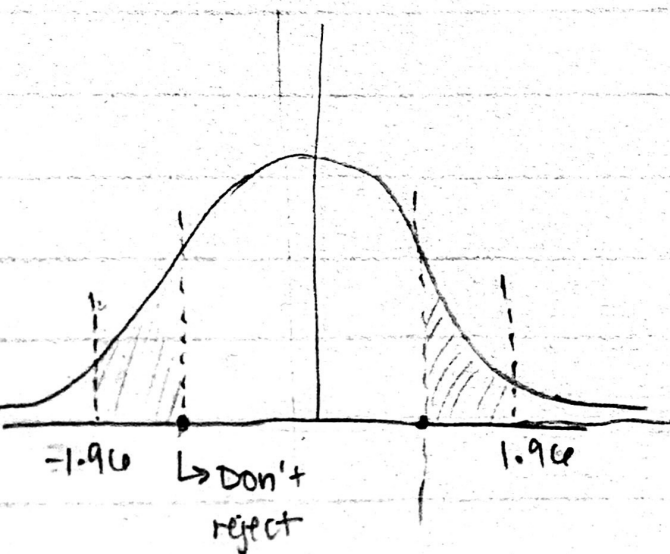
$$FR_C: \frac{79+101}{(14796+15796)} = 0.00588 \rightarrow \bar{P}_2$$

$$n_2 = 30,592$$

$$\frac{0.00496 - 0.00588}{\sqrt{\frac{0.00496(1-0.00496)}{28,224} + \frac{0.00588(1-0.00588)}{30,592}}} = -1.520548832 = Z$$

$$P\text{-value} = 2 \cdot \text{pnorm}(1.52055, \text{lower.tail} = \text{FALSE})$$

$$= 0.1283731$$



NYOP

$$H_0: \mu_1 - \mu_0 = 0$$

$$H_a: \mu_1 - \mu_0 \neq 0$$

$$\text{NYOP: } \frac{1137+1233}{14077+14186} = 0.08386 \rightarrow \bar{p}_1$$

$$n_1 = 28,263$$

$$\text{NYOP}_C: \frac{(539+628+626)}{(12,227+13,741+18,117)} = 0.04067 \rightarrow \bar{p}_2$$

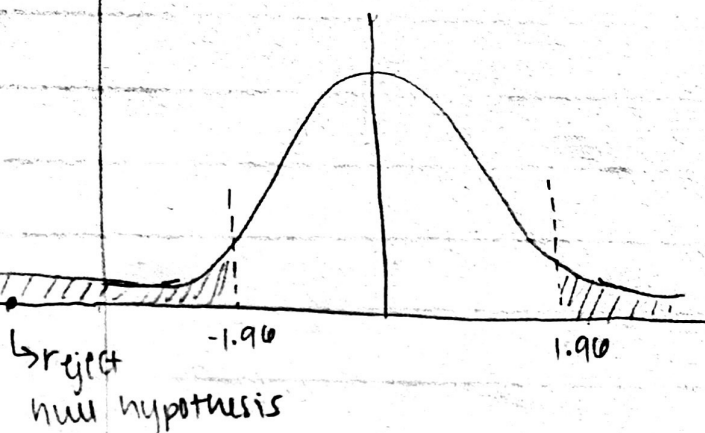
$$n_2 = 44,085$$

$$z = \frac{0.08386 - 0.04067}{\sqrt{\frac{0.08386(1-0.08386)}{28,263} + \frac{0.04067(1-0.04067)}{44,085}}}$$

$$= 22.75262992$$

$$p\text{-value} = 2 \cdot \text{pnorm}(z, \text{lower.tail} = \text{FALSE})$$

$$= 1.351509 \text{e-}114$$



# MGTA 453 Case 2

4.9 p18C

a)  $H_0 = 0$   
 $H_a \neq 0$

b) 
$$\frac{\bar{p}_1 - \bar{p}_2}{\sqrt{\frac{p_1(1-p_1)}{n_1} + \frac{p_2(1-p_2)}{n_2}}}$$

$1.040 - 5.680$

$-4.64$

$.113496$

$$\sqrt{\frac{1.305^2}{2370} + \frac{4.670^2}{1793}}$$

$$\sqrt{\frac{1.708}{.000718 + .0}}$$

$$\frac{1.040 - 5.680}{\sqrt{\frac{1.305^2}{2370} + \frac{4.670^2}{1793}}}$$

$= \boxed{-36.676} = \text{value}$

6 pictures

$0.495 - 1.970$

$$\sqrt{\frac{.615^2}{86} + \frac{1.795^2}{83}}$$

$-1.475$

$= -2.2247$

z. value

$\boxed{-1.383}$

$\frac{.663}{.126 + .537}$

$\sqrt{\frac{.063}{.063 + 1.074}}$

$1.0663$

$.063 + 1.074$