

C6. Use the data in WAGE2 for this exercise.

i. Consider the standard wage equation

$$\log(\text{wage}) = \beta_0 + \beta_1 \text{educ} + \beta_2 \text{exper} + \beta_3 \text{tenure} + u.$$

State the null hypothesis that another year of general workforce experience has the same effect on $\log(\text{wage})$ as another year of tenure with the current employer.

. regress lwage educ exper tenure

Source	SS	df	MS	Number of obs	=	935
Model	25.6953242	3	8.56510806	F(3, 931)	=	56.97
Residual	139.960959	931	.150334005	Prob > F	=	0.0000
				R-squared	=	0.1551
				Adj R-squared	=	0.1524
Total	165.656283	934	.177362188	Root MSE	=	.38773

lwage	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
educ	.0748638	.0065124	11.50	0.000	.062083	.0876446
exper	.0153285	.0033696	4.55	0.000	.0087156	.0219413
tenure	.0133748	.0025872	5.17	0.000	.0082974	.0184522
_cons	5.496696	.1105282	49.73	0.000	5.279782	5.713609

$$H_0 : \beta_2 = \beta_3$$

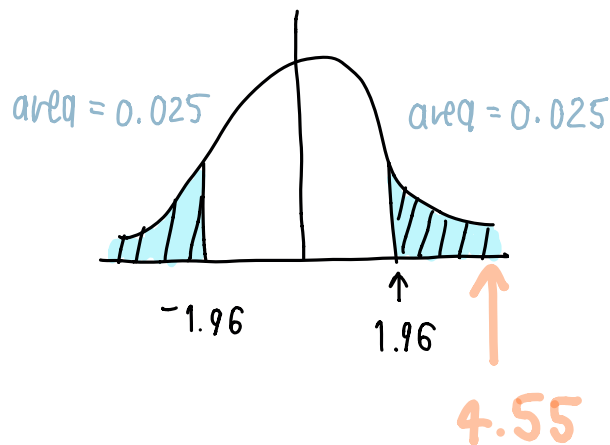
$$H_a : \beta_2 \neq \beta_3$$

ii. Test the null hypothesis in part (i) against a two-sided alternative, at the 5% significance level, by constructing a 95% confidence interval. What do you conclude?

. regress lwage educ exper tenure

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since, $4.55 > 1.96$ (critical value) and it is in rejection region.
 So, we reject the null hypothesis.