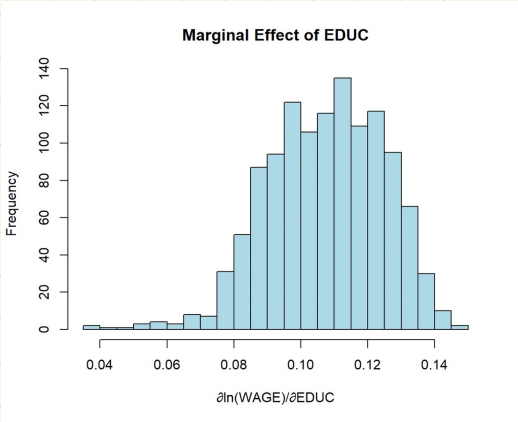
marginal effect 會隨 EDUC 增加而增加，隨 EXPER 增加而下降

c.



5%	50%	95%
0.08008187	0.10843125	0.13361880

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d. Obtain an expression for the marginal effect $\partial E[\ln(WAGE)|EDUC, EXPER]/\partial EXPER$. Comment on how the estimate of this marginal effect changes as *EDUC* and *EXPER* increase.

e. Evaluate the marginal effect in part (d) for all observations in the sample and construct a histogram of these effects. What have you discovered? Find the median, 5th percentile, and 95th percentile of the marginal effects.

f. David has 17 years of education and 8 years of experience, while Svetlana has 16 years of education and 18 years of experience. Using a 5% significance level, test the null hypothesis that Svetlana's expected log-wage is equal to or greater than David's expected log-wage, against the alternative that David's expected log-wage is greater. State the null and alternative hypotheses in terms of the model parameters.

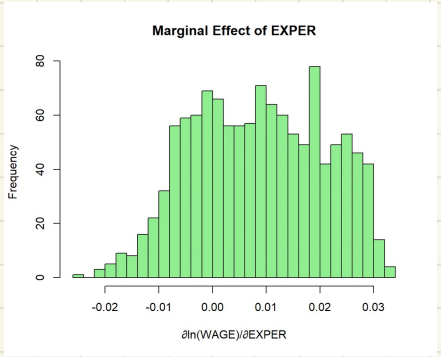
d.

$$\frac{\partial E[\ln(WAGE)|EDUC, EXPER]}{\partial EXPER} = \beta_4 + 2\beta_5 EXPER + \beta_6 EDUC$$

$$= 0.04488 + 2\times(-0.00468)\times EXPER + (-0.00101)\times EDUC$$

marginal effect decreases as EDUC or EXPER increases

e.



5%	50%	95%
-0.010376212	0.008418878	0.027931151

most marginal effects are possitive, only a small portion may experience negative.

f. $H_0: \beta_1 + 17\beta_2 + 17^2\beta_3 + 8\beta_4 + 8^2\beta_5 + 8\times 17\beta_6 \le \beta_1 + 16\beta_2 + 16^2\beta_3 + 18\beta_4 + 18^2\beta_5 + 18\times 16\beta_6$

$H_1: \beta_1 + 17\beta_2 + 17^2\beta_3 + 8\beta_4 + 8^2\beta_5 + 8\times 17\beta_6 > \beta_1 + 16\beta_2 + 16^2\beta_3 + 18\beta_4 + 18^2\beta_5 + 18\times 16\beta_6$

$H_0: \beta_2 + 33\beta_3 - 10\beta_4 - 260\beta_5 - 15\beta_6 \le 0$

$H_1: \beta_2 + 33\beta_3 - 10\beta_4 - 260\beta_5 - 15\beta_6 > 0$

$t_{0.95,1194} = 1.646131$

$$t = \frac{-0.03388 - 0}{0.021489} = -1.6697 < 1.646$$

fail to reject H_0