

# 10주차 2차시 : R 실습(가변수모형 2)

## 1.가변수모형 2

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$$Y_i = \alpha + \beta X_i + \gamma Gender_i + \delta High_i + \pi College_i + u_i$$

-중졸이하 : High=0, College=0

-고졸 : High=1, College=0

-대졸이상 : High=0, College=1

(해석)위 회귀식에서 다음과 같이 임금구조를 도출할 수 있음

중졸이하 여자의 경우 :  $Y_i = \alpha + \beta X_i + u_i$

중졸이하 남자의 경우 :  $Y_i = (\alpha + \gamma) + \beta X_i + u_i$

고졸 여자의 경우 :  $Y_i = (\alpha + \delta) + \beta X_i + u_i$

고졸 남자의 경우 :  $Y_i = (\alpha + \gamma + \delta) + \beta X_i + u_i$

대졸이상 여자의 경우 :  $Y_i = (\alpha + \pi) + \beta X_i + u_i$

대졸이상 남자의 경우 :  $Y_i = (\alpha + \gamma + \pi) + \beta X_i + u_i$

[1,]	0.5500002	23	0	3	1	0
[2,]	0.6500002	38	1	0	0	0
[3,]	2.6872395	31	1	5	0	1
[4,]	0.7749998	23	1	3	1	0
[5,]	0.8000000	35	1	2	0	0
[6,]	1.6576906	43	1	2	0	0
[7,]	2.3999993	39	1	3	1	0
[8,]	1.4000003	36	1	3	1	0
[9,]	0.5700002	44	1	3	1	0
[10,]	2.3950005	39	1	6	0	1
[11,]	1.1737602	34	1	3	1	0
[12,]	1.1999999	38	1	2	0	0
[13,]	1.1245044	31	1	3	1	0
[14,]	1.2599996	36	1	3	1	0
[15,]	1.2249995	34	1	3	1	0
[16,]	1.5000005	41	0	3	1	0
[17,]	1.3499998	36	1	4	0	1
[18,]	1.7355553	33	1	3	1	0
[19,]	1.8799994	36	1	3	1	0
[20,]	2.4620010	28	1	5	0	1
[21,]	2.1399992	44	1	1	0	0
[22,]	1.2400001	34	1	2	0	0
[23,]	1.9141898	32	1	5	0	1
[24,]	2.0139993	36	1	3	1	0
[25,]	0.6599999	44	0	3	1	0
[26,]	1.1616698	36	1	5	0	1
[27,]	0.8000000	36	1	3	1	0
[28,]	0.2200000	39	0	4	0	1
[29,]	3.0319999	38	1	5	0	1
[30,]	1.4289993	32	1	3	1	0

# 1.가변수모형 2(b2-ch4-2.R) (download from <http://kanggc.iptime.org/em/em.html>)

```
library(stargazer)
data<-read.table("http://kanggc.iptime.org/book/data/income.txt", header=T)

age<-data$age
ed<- data$ed
gender<-data$gender
income<-data$income

age:ed:gender:income

high<-ifelse(data$ed==3, 1, 0)
college<-ifelse(data$ed>3, 1, 0)

(cbind(ed,high,college))

m1.lm<-lm(income~age+gender+high+college)
summary(m1.lm)

stargazer(m1.lm, type="text", title="Regression Results of using Dummy Variable")
```

Regression Results of using Dummy Variable

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Dependent variable:

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income

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age	0.052*** (0.014)
gender	0.658*** (0.209)
high	0.389 (0.239)
college	0.982*** (0.241)
Constant	-1.363** (0.596)

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Observations	85
R2	0.409
Adjusted R2	0.379
Residual Std. Error	0.646 (df = 80)
F Statistic	13.820*** (df = 4; 80)

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Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

구분	여자	남자
중졸 이하	-1.363(reference)	$(-1.363+0.658)=-0.705$
고졸	$(-1,363+0.389)$	$(-0.705+0.389)$
대졸 이상	$(-1,363+0.982)$	$(-0.705+0.982)$