Earning Model Analysis

After estimating the model 1 using OLS method and defining a worker as a positive salary, I got the following results:

Table 1 Estimated results of model 1

Variables	Parameters	Estimate	Std. Error	t value	Pr(> |t|)
Intercept	β_0	14375.32	864.12	16.64	<2e-16 ***
HS	β_1	10038.87	818.64	12.26	<2e-16 ***
ASC	β_2	17995.29	795.16	22.63	<2e-16 ***
OB	β_3	40077.31	843.92	47.49	<2e-16 ***
MB	β_4	65565.20	969.06	67.66	<2e-16 ***
AGE	β_5	420.36	12.48	33.68	<2e-16 ***
FEM	β_6	-20565.97	388.35	-52.96	<2e-16 ***
YEAR	β_7	852.00	385.47	2.21	0.0271 *

N.B: 1. Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
2. The values of parameter are in dollars.

Residuals:

Min	1Q	Median	3Q	Max
-115282	-21608	-4981	12817	418956

Residual standard error: 47610 on 61031 degrees of freedom
Multiple R-squared: 0.1699, Adjusted R-squared: 0.1698
F-statistic: 1784 on 7 and 61031 DF, p-value: < 2.2e-16

The average annual salary of a worker has only bachelor degree is higher than that of a worker who has an educational attainment from no schooling completed to 12^{th} grade by about $40077.31, keeping other things remaining constant. In terms of age, ceteris paribus: as working experience (age) goes up by a year, on average, a worker's annual salary goes up by about $420.36. On the other hand, the average annual salary of a female worker is lower than that of a male worker by approximately $20565.97, holding other things constant.

After estimating the model 2 using OLS method and defining a worker as a positive salary, I got the following results:

Table 2: Estimated results of model 2

Variables	Parameters		Estimate	Std. Error	t value	Pr(> |t|)
Intercept	α_0		8.7280109	0.0208205	419.202	<2e-16 ***
HS	α_1		0.8736878	0.0197247	44.294	<2e-16 ***
ASC	α_2		1.0684410	0.0191591	55.767	<2e-16 ***
OB	α_3		1.5660305	0.0203337	77.016	<2e-16 ***
MB	α_4		1.7994683	0.0233490	77.068	<2e-16 ***

AGE	α_5		0.0133721	0.0003007	44.464	<2e-16 ***
FEM	α_6		-0.4473180	0.0093570	-47.806	<2e-16 ***
YEAR	α_7		-0.0055417	0.0092876	-0.597	0.551

N.B: 1. Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residuals:

Min	1Q	Median	3Q	Max
-8.5308	-0.4330	0.2879	0.7130	4.1426

Residual standard error: 1.147 on 61031 degrees of freedom
Multiple R-squared: 0.1833, Adjusted R-squared: 0.1832
F-statistic: 1957 on 7 and 61031 DF, p-value: < 2.2e-16

From the estimated results presented in table 2 of model 2, we see that the average annual salary of a worker who has only bachelor degree is approximately 157% higher than that of the worker without this degree (ceteris paribus). As working experience of a labour goes up by a year, on average, the yearly salary increases by about 1.3% (ceteris paribus). On the other hand, the average salary of female worker is approximately 45% lower than that of a male (ceteris paribus).