library(readxl)

read\_xls(file.choose())

reg1 = lm(data = dat, r11 ~ educ)

summary(reg1)

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.2091 3.9264 0.563 0.5738

educGrade 12/Std 10 3.4109 5.5528 0.614 0.5392

educHigher 6.2680 5.5528 1.129 0.2592

educNo schooling 12.1850 5.5528 2.194 0.0284 \*

educSome primary 0.5188 5.5528 0.093 0.9256

educSome secondary -0.1429 5.5528 -0.026 0.9795

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 57.71 on 1290 degrees of freedom

Multiple R-squared: 0.005861, Adjusted R-squared: 0.002008

F-statistic: 1.521 on 5 and 1290 DF, p-value: 0.1802

kötü R, anlamsız değerler

reg2 = lm(data = dat, r11 ~ educ + sex + state + year + color)

summary(reg2)

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.5492 7.1523 0.356 0.7216

educGrade 12/Std 10 3.4109 5.5401 0.616 0.5382

educHigher 6.2680 5.5401 1.131 0.2581

educNo schooling 12.1850 5.5401 2.199 0.0280 \*

educSome primary 0.5188 5.5401 0.094 0.9254

educSome secondary -0.1429 5.5401 -0.026 0.9794

sexMale 4.6288 3.1986 1.447 0.1481

stateFree State -10.5090 6.7853 -1.549 0.1217

stateGauteng -10.7027 6.7853 -1.577 0.1150

stateKwaZulu-Natal -11.3000 6.7853 -1.665 0.0961 .

stateLimpopo -10.5290 6.7853 -1.552 0.1210

stateMpumalanga -11.8257 6.7853 -1.743 0.0816 .

stateNorth West -10.3585 6.7853 -1.527 0.1271

stateNorthern Cape -7.8831 6.7853 -1.162 0.2455

stateWestern Cape -12.5024 6.7853 -1.843 0.0656 .

year2001 1.1622 3.9175 0.297 0.7668

year2011 7.7708 3.9175 1.984 0.0475 \*

colorColoured 0.4014 4.5235 0.089 0.9293

colorIndian or Asian 11.4450 4.5235 2.530 0.0115 \*

colorWhite 3.6739 4.5235 0.812 0.4168

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 57.57 on 1276 degrees of freedom

Multiple R-squared: 0.02114, Adjusted R-squared: 0.00656

F-statistic: 1.45 on 19 and 1276 DF, p-value: 0.09482

educ anlamsız

no schooling en zengin grupta yine

2011 yılında bu grubun oranı artmış (en zengin r11)

reg3 = lm(data = dat, I(r11+r10+r9+r8) ~ year + color)

summary(reg4)

Call:

lm(formula = I(r11 + r10 + r9 + r8) ~ year + color, data = dat)

Residuals:

Min 1Q Median 3Q Max

-213.0 -103.0 -51.4 -5.8 17725.2

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) -28.05 43.84 -0.640 0.52248

year2001 13.75 43.84 0.314 0.75392

year2011 108.66 43.84 2.478 0.01332 \*

colorColoured 42.55 50.63 0.840 0.40083

colorIndian or Asian 132.42 50.63 2.616 0.00901 \*\*

colorWhite 76.61 50.63 1.513 0.13044

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 644.4 on 1290 degrees of freedom

Multiple R-squared: 0.0112, Adjusted R-squared: 0.007369

F-statistic: 2.923 on 5 and 1290 DF, p-value: 0.01248

Residual standard error: 645.4 on 1281 degrees of freedom

Multiple R-squared: 0.01481, Adjusted R-squared: 0.00404

F-statistic: 1.375 on 14 and 1281 DF, p-value: 0.1575

2011 yılında üst gelir grubuna girmiş nüfus payında artış görüyoruz

yine hşntli ve aysyalılar üst gelir grubunda.

reg4 = lm(data = dat, I(r11+r10) ~ educ + year + color)

summary(reg5)

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) -8.305 5.895 -1.409 0.159083

educGrade 12/Std 10 4.725 6.157 0.767 0.442973

educHigher 10.567 6.157 1.716 0.086338 .

educNo schooling 14.707 6.157 2.389 0.017050 \*

educSome primary 4.546 6.157 0.738 0.460439

educSome secondary -1.490 6.157 -0.242 0.808842

year2001 2.975 4.353 0.683 0.494462

year2011 13.176 4.353 3.027 0.002523 \*\*

colorColoured 2.885 5.027 0.574 0.566184

colorIndian or Asian 18.278 5.027 3.636 0.000288 \*\*\*

colorWhite 11.311 5.027 2.250 0.024615 \*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 63.98 on 1285 degrees of freedom

Multiple R-squared: 0.02763, Adjusted R-squared: 0.02007

F-statistic: 3.652 on 10 and 1285 DF, p-value: 8.02e-05

no\_schooling ısrarla anlamlı ve pozitif çıkıyor. Demekki ülke'nin en zengin iki gelir

kategorisinde eğitimsiz bir nüfusun ağırlığı mevcut

reg5 = lm(data = dat, I(r0+r1+r2+r3+r4) ~ educ + year + color)

summary(reg5)

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) -1.535e+06 2.548e+06 -0.602 0.5470

educGrade 12/Std 10 2.802e+02 2.662e+06 0.000 0.9999

educHigher 5.248e+03 2.662e+06 0.002 0.9984

educNo schooling 4.610e+06 2.662e+06 1.732 0.0835 .

educSome primary -8.475e+01 2.662e+06 0.000 1.0000

educSome secondary -4.942e+01 2.662e+06 0.000 1.0000

year2001 2.302e+06 1.882e+06 1.223 0.2214

year2011 -2.756e+03 1.882e+06 -0.001 0.9988

colorColoured -3.680e+02 2.173e+06 0.000 0.9999

colorIndian or Asian 3.073e+06 2.173e+06 1.414 0.1575

colorWhite 3.439e+03 2.173e+06 0.002 0.9987

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 27660000 on 1285 degrees of freedom

Multiple R-squared: 0.007717, Adjusted R-squared: -4.868e-06

F-statistic: 0.9994 on 10 and 1285 DF, p-value: 0.4417

en alt 5 gelir grubunda da yine eğitimsiz kesim çoğunlukta

demekki eğitimsizlik yoksulluğu derinleştirse de, yüksek bir gelir

elde edebilmek için üniversite eğitimi bile yetersiz

reg6 = lm(data = dat, I(r11+r10+r9+r8) ~ educ + sex + state + year + color)

summary(reg6)

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) -99.81 79.78 -1.251 0.211135

educGrade 12/Std 10 42.58 61.80 0.689 0.490916

educHigher 211.61 61.80 3.424 0.000636 \*\*\*

educNo schooling 33.86 61.80 0.548 0.583889

educSome primary 21.24 61.80 0.344 0.731131

educSome secondary -14.90 61.80 -0.241 0.809505

sexMale 15.80 35.68 0.443 0.657897

stateFree State -15.92 75.69 -0.210 0.833446

stateGauteng 41.44 75.69 0.548 0.584107

stateKwaZulu-Natal 96.80 75.69 1.279 0.201172

stateLimpopo 38.30 75.69 0.506 0.612966

stateMpumalanga -26.27 75.69 -0.347 0.728635

stateNorth West 14.68 75.69 0.194 0.846254

stateNorthern Cape 15.94 75.69 0.211 0.833204

stateWestern Cape -31.76 75.69 -0.420 0.674870

year2001 13.75 43.70 0.315 0.753131

year2011 108.66 43.70 2.487 0.013025 \*

colorColoured 42.55 50.46 0.843 0.399285

colorIndian or Asian 132.42 50.46 2.624 0.008789 \*\*

colorWhite 76.61 50.46 1.518 0.129178

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 642.2 on 1276 degrees of freedom

Multiple R-squared: 0.02835, Adjusted R-squared: 0.01388

F-statistic: 1.96 on 19 and 1276 DF, p-value: 0.008065

R malesef hala çok düşük. güney afrikada gelirleri eğitim seviyesiyle, ırk ve

artık üni anlamlı çıktı. demekki evet gelirlerde bir artış yaratıyormuş

2011de üst 4 gelir grubu mevcudu yine artmış

Indian Asian yine bu gruplarda yoğun

reg7 = lm(data = dat, I(r11+r10+r9+r8) ~ educ\*color + year)

summary(reg7)

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) -39.8611 90.5752 -0.440 0.6599

educGrade 12/Std 10 5.1537 123.0675 0.042 0.9666

educHigher 64.2566 123.0675 0.522 0.6017

educNo schooling 0.4435 123.0675 0.004 0.9971

educSome primary -0.2267 123.0675 -0.002 0.9985

educSome secondary 1.2598 123.0675 0.010 0.9918

colorColoured 6.4616 123.0675 0.053 0.9581

colorIndian or Asian 44.4506 123.0675 0.361 0.7180

colorWhite 51.6625 123.0675 0.420 0.6747

year2001 13.7469 43.5109 0.316 0.7521

year2011 108.6604 43.5109 2.497 0.0126 \*

educGrade 12/Std 10:colorColoured 2.5023 174.0438 0.014 0.9885

educHigher:colorColoured 202.9854 174.0438 1.166 0.2437

educNo schooling:colorColoured 7.5628 174.0438 0.043 0.9653

educSome primary:colorColoured -2.0112 174.0438 -0.012 0.9908

educSome secondary:colorColoured 5.4685 174.0438 0.031 0.9749

educGrade 12/Std 10:colorIndian or Asian 5.0955 174.0438 0.029 0.9766

educHigher:colorIndian or Asian 444.7728 174.0438 2.556 0.0107 \*

educNo schooling:colorIndian or Asian 115.6315 174.0438 0.664 0.5066

educSome primary:colorIndian or Asian -14.8630 174.0438 -0.085 0.9320

educSome secondary:colorIndian or Asian -22.8482 174.0438 -0.131 0.8956

educGrade 12/Std 10:colorWhite 142.1199 174.0438 0.817 0.4143

educHigher:colorWhite -58.3521 174.0438 -0.335 0.7375

educNo schooling:colorWhite 10.4598 174.0438 0.060 0.9521

educSome primary:colorWhite 102.7425 174.0438 0.590 0.5551

educSome secondary:colorWhite -47.2624 174.0438 -0.272 0.7860

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 639.5 on 1270 degrees of freedom

Multiple R-squared: 0.04122, Adjusted R-squared: 0.02235

F-statistic: 2.184 on 25 and 1270 DF, p-value: 0.0006755