

Exercício C7.6

i) equação estimada apenas com os dados dos homens

Dependent Variable: SLEEP
 Method: Least Squares
 Sample: 1 706 IF MALE=1
 Included observations: 400

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3648.208	310.0393	11.76692	0.0000
TOTWRK	-0.182123	0.024486	-7.437990	0.0000
EDUC	-13.05238	7.414218	-1.760453	0.0791
AGE	7.156591	14.32037	0.499749	0.6175
AGESQ	-0.044767	0.168405	-0.265831	0.7905
YNGKID	60.38021	59.02278	1.022998	0.3069
R-squared	0.156228	Mean dependent var	3252.408	
Adjusted R-squared	0.145520	S.D. dependent var	435.1998	
S.E. of regression	402.2903	Akaike info criterion	14.84711	
Sum squared resid	63763979	Schwarz criterion	14.90698	
Log likelihood	-2963.422	Hannan-Quinn criter.	14.87082	
F-statistic	14.59014	Durbin-Watson stat	1.877356	
Prob(F-statistic)	0.000000			

Equação estimada apenas com os dados das mulheres

Dependent Variable: SLEEP
 Method: Least Squares
 Sample: 1 706 IF MALE=0
 Included observations: 306

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4238.729	384.8923	11.01277	0.0000
TOTWRK	-0.139950	0.027659	-5.059738	0.0000
EDUC	-10.20514	9.588848	-1.064271	0.2881
AGE	-30.35657	18.53091	-1.638159	0.1024
AGESQ	0.367941	0.223340	1.647447	0.1005
YNGKID	-118.2826	93.18757	-1.269295	0.2053
R-squared	0.097678	Mean dependent var	3284.588	
Adjusted R-squared	0.082639	S.D. dependent var	456.2504	
S.E. of regression	436.9919	Akaike info criterion	15.01712	
Sum squared resid	57288576	Schwarz criterion	15.09013	
Log likelihood	-2291.619	Hannan-Quinn criter.	15.04632	
F-statistic	6.495092	Durbin-Watson stat	1.768141	
Prob(F-statistic)	0.000009			

ii) Teste de igualdade de coeficientes com “dummies”

Dependent Variable: SLEEP

Method: Least Squares

Sample: 1 706

Included observations: 706

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4238.729	367.8519	11.52292	0.0000
MALE	-590.5211	488.7916	-1.208124	0.2274
TOTWRK	-0.139950	0.026435	-5.294125	0.0000
EDUC	-10.20514	9.164321	-1.113573	0.2658
AGE	-30.35657	17.71049	-1.714044	0.0870
AGESQ	0.367941	0.213452	1.723764	0.0852
YNGKID	-118.2826	89.06187	-1.328094	0.1846
MTOTWRK	-0.042174	0.036674	-1.149960	0.2506
MEDUC	-2.847243	11.96795	-0.237906	0.8120
MAGE	37.51316	23.12332	1.622309	0.1052
MAGESQ	-0.412708	0.275914	-1.495787	0.1352
MYNGKID	178.6628	108.1051	1.652677	0.0988
R-squared	0.130618	Mean dependent var	3266.356	
Adjusted R-squared	0.116839	S.D. dependent var	444.4134	
S.E. of regression	417.6450	Akaike info criterion	14.92399	
Sum squared resid	1.21E+08	Schwarz criterion	15.00149	
Log likelihood	-5256.169	Hannan-Quinn criter.	14.95394	
F-statistic	9.478958	Durbin-Watson stat	1.930086	
Prob(F-statistic)	0.000000			

Wald Test:

Test Statistic	Value	df	Probability
F-statistic	2.116351	(6, 694)	0.0495
Chi-square	12.69810	6	0.0481

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(2)	-590.5211	488.7916
C(8)	-0.042174	0.036674
C(9)	-2.847243	11.96795
C(10)	37.51316	23.12332
C(11)	-0.412708	0.275914
C(12)	178.6628	108.1051

Restrictions are linear in coefficients.

ii*) Teste de igualdade de coeficientes com estatística de Chow

Equação estimada com todas as observações

Dependent Variable: SLEEP

Method: Least Squares

Sample: 1 706

Included observations: 706

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3825.375	240.2585	15.92191	0.0000
TOTWRK	-0.146046	0.016881	-8.651575	0.0000
EDUC	-11.13772	5.890168	-1.890900	0.0591
AGE	-8.123949	11.37049	-0.714477	0.4752
AGESQ	0.126287	0.135186	0.934172	0.3505
YNGKID	17.15441	50.00839	0.343031	0.7317
R-squared	0.114711	Mean dependent var	3266.356	
Adjusted R-squared	0.108388	S.D. dependent var	444.4134	
S.E. of regression	419.6384	Akaike info criterion	14.92513	
Sum squared resid	1.23E+08	Schwarz criterion	14.96388	
Log likelihood	-5262.569	Hannan-Quinn criter.	14.94010	
F-statistic	18.14051	Durbin-Watson stat	1.938666	
Prob(F-statistic)	0.000000			

iii) Teste de igualdade de coeficientes de declive (com “dummies”; com base na 3ª equação)

Wald Test:

Test Statistic	Value	df	Probability
F-statistic	1.255792	(5, 694)	0.2814
Chi-square	6.278961	5	0.2800

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(8)	-0.042174	0.036674
C(9)	-2.847243	11.96795
C(10)	37.51316	23.12332
C(11)	-0.412708	0.275914
C(12)	178.6628	108.1051

Restrictions are linear in coefficients.

Equação estimada para obter o valor da estatística anterior

Dependent Variable: SLEEP

Method: Least Squares

Sample: 1 706

Included observations: 706

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3840.852	239.4139	16.04273	0.0000
MALE	87.75455	34.66794	2.531288	0.0116
TOTWRK	-0.163424	0.018163	-8.997425	0.0000
EDUC	-11.71327	5.871952	-1.994783	0.0465
AGE	-8.697402	11.32909	-0.767705	0.4429
AGESQ	0.128442	0.134670	0.953753	0.3405
YNGKID	-0.022801	50.27641	-0.000454	0.9996
R-squared	0.122753	Mean dependent var	3266.356	
Adjusted R-squared	0.115223	S.D. dependent var	444.4134	
S.E. of regression	418.0269	Akaike info criterion	14.91883	
Sum squared resid	1.22E+08	Schwarz criterion	14.96404	
Log likelihood	-5259.348	Hannan-Quinn criter.	14.93630	
F-statistic	16.30177	Durbin-Watson stat	1.938465	
Prob(F-statistic)	0.000000			