

מבוא לאקונומטריקה

10

שאלה 1

(United Nations Educational, Scientific and Cultural Organization - UNESCO) "

, 1945- . " , , " , , (") , 1997 " 38- (\$) – EDUC (\$) " – GDP () – POP :

$$EDUC POP = EDUC / POP$$

$$GDP POP = GDP / POP - "$$

Model 1: OLS, using observations 1-38

Dependent variable: EDUC

	coefficient	std. error	t-ratio	p-value
const	-160.4669428	311.6990485	-0.51481371	0.60983
GDP	0.048065618	0.002128797	22.57877403	7.61E-23

Model 2: OLS, using observations 1-38

Dependent variable: EDUCPOP

	coefficient	std. error	t-ratio	p-value
const	-67.15653009	46.25479216	-1.45188265	0.155194
GDPPOP	0.058393109	0.003645154	16.0193787	5.86E-18

:(, ,) 4- " ,

POP	GDP	EDUC	Country
26.025	30351	1452	Morocco
4.314	122926	9268	Norway
8.82	15626	854	Tunisia
59.903	135961	4173	Turkey

20.05 " ? " . Model 1 -

? . Model 1 -

? . Model 2 -

? . Model 2-

/ ?Model 2 Model 1

/ ?Model 2 Model 1

- \$ 74,121 " , 5.362 1997

Model 2 / Model 1 ? . \$ 4,200

DATA3-15: Annual data on U.S. Population and GDP 1959-1994

gdp = Gross Domestic Product in billions of 1992 dollars

pop = Population in millions

Dependent variable: gdp

VARIABLE	COEFFICIENT	STD.ERROR	T- STAT	P-VALUE
const	-7827.19	199.4214	-39.2495	6.62E-30
pop	55.09168	0.902972	61.01149	2.51E-36

? .1

? in billions of 1992 dollars .2

? .3

. .4

?0.05 " , ? .5

$(\text{ , } AGEF) \text{ , } (\$- \text{ , } INC) \text{ , } (\$- \text{ , } ALCOH) \text{ , } (\text{ , } AGEM)$

Dependent variable: *ALCOH*

<u>Variable</u>	<u>Coefficient</u>	<u>Std. Error</u>
<i>C</i>	24.05	3.440
<i>INC</i>	0.013	0.003
<i>AGEF</i>	1.04	1.063
<i>AGEM</i>	1.37	1.135

R-SQUARED = 0.0575

Sum of Squared Residuals = 308,750

?

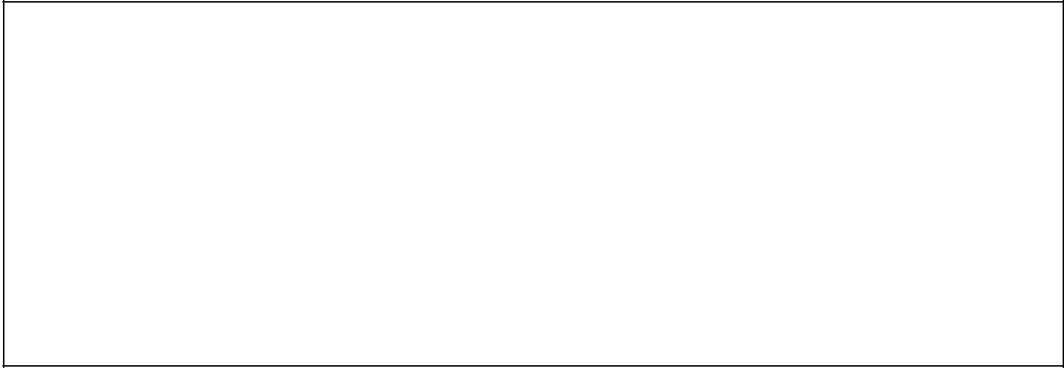
?

?

/ . 0.01 "

/ . 0.01 "

(0.05 ") ?



: ,

$$\widehat{ALCOH} = 94.89 + 0.024INC$$

$$R - SQUARED = 0.0233$$

$$\text{Sum of Squared Residuals} = 319,953$$

(0.05 ") .

- .F



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$$P_i = \beta_0 + \beta_1 HS_i + \beta_2 YS_i + \beta_3 DC_i + \epsilon_i$$
 OLS

	Model 1	Model 2
Const.	9.321 (2.500)	10.767 (2.593)
HS	6.029 (2.398)	7.750 (2.081)
YS	4.250 (1.583)	
DC	20.094 (5.043)	15.068 (3.043)
Σe^2	12,300	15,700
Σy^2	35,200	35,200
N	88	88

?1

?2

$$Y_t = S_0 + S_1 X_{1t} + S_2 X_{2t} + u_t$$

:

:

t – X_{1t}

t – X_{2t}

t – Y_t

– u_t

:

2010 1992

$$\hat{S}_1 = 1.3 \quad \hat{S}_2 = 1.5 \quad \hat{S}_0 = 29$$

$$D.W. = 1.333$$

.250

2011-

1992-2010

/ ?

1992-2010

/ ?

?

$$Q = r + s_1 L + s_2 K + u$$

$$-K \qquad \qquad \qquad -L \qquad \qquad \qquad -Q :$$

:

(.

:

$$/ \qquad \qquad K = 10 \qquad \qquad \qquad :$$

$$L \qquad \qquad , K = 10 \qquad \qquad \qquad :$$

/

$$/ \qquad \qquad K = 10 \qquad \qquad \qquad :$$

$$/ \qquad \qquad L < 30 \qquad \qquad \qquad :$$

$$/ \qquad \qquad \qquad K = 0 \qquad \qquad \qquad :$$

$$/ \qquad \qquad L < K \qquad \qquad \qquad :$$

$$/ \qquad \qquad K = L \qquad \qquad \qquad :$$

$$/ \qquad \qquad K = L = 25 \qquad \qquad \qquad :$$

$$K = 10 \quad L = 25 \qquad \qquad \qquad :$$

/

$$/ \qquad \qquad L = 10K \qquad \qquad \qquad :$$

שאלה 7

המודל: $\frac{Q}{L} = r + s \frac{K}{L} + u$

- Q
- L
- K
- a, s
- u

- .1 / .
- .2 / .
- .3 / .
- .4 / .

שאלה 8

10

- $.i$, - , - Y_i
- $.i$, , - Q_i
- $.i$ - L_i

(1) $\hat{Y}_i = 207.5 - 0.013Q_i$
(25.2) (0.008)

$\sum e_i^2 = 2978.4 \quad R^2 = 0.2482$

(2) $\hat{Y}_i = 408.8 - 0.018Q_i - 0.652L_i$
(21.9) (0.003) (0.42)

$\sum e_i^2 = 2215.8 \quad R^2 = 0.4407$

		"		?	
				:	
. -1.415	$t = -6$	.	0.10	"	.1
. -1.895	$t = -6$	.	0.05	"	.2
.	$t = -1.625$	.	0.05	"	.3
					.4

		(2)		(1)	
				:	
		(2)		(1)	:
				:	
					.1
					.2
					.3
					.4

		.F		?	
				:	
0.05	1.2		F	.1	
0.05	2.4		F	.2	
0.01	2.4		F	.3	
0.01	1.2		F	.4	

		"		?	
				:	
		?	0.03	-	
				:	
		0.05	$t = 2.125$	.1	
		0.05	$t = -2.125$	.2	
		0.05	$t = 2.125$	.3	
		0.05	$t = -2.125$	.4	

		(2)		(1)	
				:	
		(1)		(2)	:
				:	
					.1
					.2
					.3
					.4

9

	t	$- CLOSE_t$
	t	$- VOLUME_t$
	t	$- RS_t$
	t	$- RM_t$
	t	$- RFR_t$

:

.1

"

.2

"

.3

,

.4

$CLOSE_t = r + s_1 CLOSE_{t-1} + s_2 RS_t + u_t :$.5

.6

.7

$CLOSE_t = r + s_1 VOLUME_t + s_2 VOLUME_{t-1} + u_t :$.8

.9

.1 - ,

.10

.11

,

.12

(. , p-value)