Antal blad / *Number of* sheets: 4

TENTAMEN / EXAMINATION

Anvisningar: *Skriv din anonymitetskod på varje blad.*
Endast en uppgift får lösas på varje blad.
Var vänlig skriv tydligt!

Instructions: *Write your anonymous code on each sheet.*
Answer only one question on each sheet.
Please write clearly!

Vänligen texta anonymitetskoden i textboxen enligt exempel nedan!
Please write the Anonymous Code clearly in the textbox like example below!

Bokstäver/Letters:
A-B-C-D-E-F-G-H-I-J-K-L-M-N-O
P-Q-R-S-T-U-V-W-X-Y-Z-Å-Ä-Ö

Siffror/Numbers:
Ø-1-2-3-4-5-6-7-8-9

Exempel: | A | B | C | 1 | 7 | Ø | - | Ø | 1 | 7 |

NEGC16 Applied Econometrics
Kurskod + Kurs / *Course Code + Course:*

Delkurs / *Part course:*

Anonymitetskod / *Anonymous code* = *Kurskod + kodnr / course code + code number*
NEGC16-Ø11

Tentamensdatum / *Examination date:*
31/10-17

Behandlade uppgifter / *Solved problems*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
X	X	X	X											
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Ifylles av lärare / *To be completed by the examiner*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4,58	4,16	4,16	2,5											
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Poäng / Marks gained: 15,4

Betyg / Grade: VG

Max poäng / Total marks gained: _____

För Gk poäng / Marks gainedto be passed: _____

Examin. lärare / Kursansvarig signatur / Signature of the examiner

Namnförtydligande / Clarification of the signature

3500000682

Skriv ej i detta område
Leave this area blank

Ange anonymitetskod / *Write your anonymity code*
(Vid icke anonym tentamen ange kurskod + namn + personnummer)
(For non-anonymous exams write the course code + name + civic registration number)

NEGC16-011

Löpande sidnr
Consecutive no: 2

Uppgift nr / *Question no:* 2

Poäng / *Points awarded:*

Lärarens anteckning
Examiner's remarks:

a) Serial correlation and stochastic explanatory variables

b) $Y_t = \alpha + \beta_0 X_t + \beta_1 X_{t-1} + \beta_2 X_{t-2} + \dots + v_t$

d) $\frac{1}{1-(1/2)} = 2$ $\quad 4/2 = 2$

$6 \cdot 2 = 12$

$Y_t = 2 + 12 X_t$

c) First we regress Y_t on X_t. Then we add X_{t-1} and regress Y_t on X_t and X_{t-1}. We then continue to add variables and regress Y_t on these, until one of the variables changes sign or becomes statistically insignificant. Then take the model before that one.

e) It is purely algebraic and has no anchoring to economic theory.

f) v. 18 vi. 23 vii. 28 viii. 31

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Skriv ej i detta område
Leave this area blank

a) $Y_{1t} = \beta_{10} + \beta_{11} Y_{2t} + \gamma_{11} X_{1t} + u_{1t}$

$Y_{2t} = \beta_{20} + \beta_{21} Y_{1t} + \gamma_{22} X_{2t} + u_{2t}$

$Y_{1t} = \Pi_{10} + \Pi_{11} X_{1t} + \Pi_{12} X_{2t} + v_{1t}$

$Y_{2t} = \Pi_{20} + \Pi_{21} X_{1t} + \Pi_{22} X_{2t} + v_{2t}$ 1

b) yes because they both exclude a variable that is included in the other. 1

c) $Y_{1t} = \beta_{10} + \beta_{11} Y_{2t} + u_{1t}$

$Y_{2t} = \beta_{20} + \beta_{21} Y_{1t} + \gamma_{22} X_{2t} + u_{1t}$ 0

d) $Y_{1t} = \beta_{10} + \gamma_{11} X_{1t} + u_{1t}$

$Y_{2t} = \beta_{20} + \beta_{21} Y_{1t} + \gamma_{22} X_{2t} + u_{2t}$ 0

e) since 0,673 is larger than 0,05 we reject H_0 and say that there is no endogeneity 0

f) xiii. 51 1 xiv. 55 1 xv. 59 1 xvi 63 1

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Antal blad / *Number of* sheets: 4 ✓

TENTAMEN / EXAMINATION

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Exempel: | A | B | C | 1 | 7 | Ø | - | Ø | 1 | 7 |

NEGC16 Applied Econometrics
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NEGC16-Ø11 ✓

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Ifylles av lärare / *To be completed by the examiner*

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Poäng / Marks gained: _____

Betyg / Grade: _____

Max poäng / Total marks gained: _____

För Gk poäng / Marks gainedto be passed: _____

_____
Examin. lärare / Kursansvarig signatur / Signature of the examiner

_____
Namnförtydligande / Clarification of the signature

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Häftområde

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NEGC16-011

Löpande sidnr
Consecutive no: 1

Uppgift nr / *Question no:* 1

Poäng / *Points awarded:*

Lärarens anteckning
Examiner's remarks:

a) $wage = \sqrt{(\beta_0 + \beta_1 \cdot education + u_i}$

$wage^2 = \beta_0 + \beta_1 \cdot education + u_i$

b) the marginal effect of education on wage is decreasing. For every additional year of education the wage increases, but by a decreasing amount.

c) the sign is positive, meaning that education has a positive effect on wage. Since zero is not included in the 95% confidence interval, the parameter is statistically significant different from zero.

d) $\ln\left(\frac{p_i}{1-p_i}\right) = \beta_1 + \beta_2 kidlt6 + u_i$

e) Since the sig value is 0,000 the parameter is statistically significant different from zero. The sign is negative, meaning that having an additional kid under the age of 6 decreases the possibility of a woman being in the labor force.

f) i. 3 ii. 6 iii. 11 iv. 14

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Häftområde

Skriv ej i detta område
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a) serial correlation and stochastic explanatory variables

b) $Y_t = \alpha + \beta_0 X_t + \beta_1 X_{t-1} + \beta_2 X_{t-2} + \dots + u_t$

d) $\frac{1}{1-(1/2)} = 2$ $\quad 4/2 = 2$

$6 \cdot 2 = 12$

$\hat{Y}_t = 2 + 12 X_t$

c) First we regress Y_t on X_t. Then we add X_{t-1} and regress Y_t on X_t and X_{t-1}. We then continue to add variables and regress Y_t on these, until one of the variables changes sign or becomes statistically insignificant. Then take the model before that one.

e) It is purely algebraic and has no anchoring to economic theory.

f) v. 18 vi. 23 vii. 28 viii. 31

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Häftområde

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NEGC16-011

Löpande sidnr
Consecutive no:
3

Uppgift nr / *Question no:* 3

Poäng / *Points awarded:*

Lärarens anteckning
Examiner's remarks:

a) Denmark has a population that is 3888373 smaller than the country pt compared with, which is Sweden.

b) 3a does not take into account the heterogeneity between the countries, 3c excludes the variance between the variables.

c) 3a: pooled OLS model
3b: fixed effects least square dummy variable model
3c: fixed-effects within group model

d) the test statistic: -2
critical value: (from table D.7, sample size 100, 1nc, 5%): -1,95
since the absolute value of 2 is larger than the absolute value of 1,95, we reject H_0 and compute that there is no unit root.

e) since the mean varies over time, it is not stationary

f) $y_{x.34}$ $x.38$ $x_{i.44.45}$

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Behandla endast en uppgift per sida / *Answer only one question per page*

Häftområde

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$Y_{2t} = \Pi_{20} + \Pi_{21} X_{1t} + \Pi_{22} X_{2t} + u_{2t}$

b) yes because they both exclude a variable that is included in the other.

c) $Y_{1t} = \beta_{10} + \beta_{11} Y_{2t} + u_{1t}$

$Y_{2t} = \beta_{20} + \beta_{21} Y_{1t} + \gamma_{22} X_{2t} + u_{1t}$

d) $Y_{1t} = \beta_{10} + \gamma_{11} X_{1t} + u_{1t}$

$Y_{2t} = \beta_{20} + \beta_{21} Y_{1t} + \gamma_{22} X_{2t} + u_{2t}$

e) since 0,673 is larger than 0,05 we reject H_0 and say that there is no endogeneity

f) xiii. 51 xiv. 55 xv. 59 xvi 63

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