
CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SUPPLEMENTARY EXAM

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF
SCIENCE

ECON 337: ECONOMETRICS II

STREAM: BSC

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 18/11/2020

5.00 P.M. – 7.00 P.M.

INSTRUCTIONS:

QUESTION ONE

Multicollinearity will always be a problem when investigating a model with many variables

- i. Outline and explain all the possible features found in the output of SPSS that will enable you identify the problem of multicollinearity. [10 Marks]
- ii. Outline various approaches you would use to handle the problem [5 Marks]
- iii. In your opinion do these approaches provide any better estimate of your parameters? Explain your answer with the help of examples of your own choice. [10 Marks]
- iv. Outline consequences of multicollinearity [5 Marks]

QUESTION TWO

To assess the impact of capacity utilization on inflation, an econometrician obtained the following results (t-ratios in parentheses) using annual time series data for 20 years.

$$Y_t = -40.153 + 0.1532 x_t + 0.2540 x_{t-1}$$

(-9.354) (3.751) (5.778)

Where Y_t is the inflation rate in year t , x is the capacity utilization in manufacturing in year t , x_{t-1} is the capacity utilization in manufacturing in year $t-1$.

- i. Establish whether the estimated model is a distributed lag model or an autoregressive model. [3Marks]
- ii. Compute the short-run and long-run multipliers. [5 Marks]
- iii. Discuss three main complications brought by lags in a model [6 Marks]

QUESTION THREE

Briefly describe the strategies for estimating the following models:

- i. Finite distributed lagged model/Almon Lag Scheme [4Marks]
- ii. Infinite distributed lagged model/Koyck's transformation [4 Marks]
- iii. Adaptive expectations model [4 Marks]
- iv. Partial adjustment model [4 Marks]

QUESTION FOUR

Briefly discuss the following concepts as used in simultaneous equation models

- i. Simultaneous-equations system or model [5 Marks]
- ii. Endogenous variables and exogenous variables [5 Marks]
- iii. Structural equations [5 Marks]
- iv. Simultaneous-equations bias [5 Marks]
- v. Reduced-form equations [5 Marks]