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Econometrics –II Assignment for ext. (30%)

1. a. What mean by stationary in time series?
2. What is the need for data to be stationary in time series?
3. What mean by the estimation result with non-stationary series?
4. Given the first difference of random walk as: Δyt = δyt-1 + ut then what should be the value of δ for the time series to be stationary?
5. What mean if variables are co-integrated?
6. Justify the appropriate model for the time series data with co-integrated variables?
7. Consider the inverse demand-and-supply model as:

Demand function: Qt = α0 + α1Pt + α2Xt + u1t

Supply function: Pt = α0 + α1Qt + u2t where Q = quantity

P = price

X = income or expenditure

The result of reduced form of the equasion is

Qˆt = 84.0702 + 0.0020Xt

Se = (4.8960) (0.0005)

t = (17.1711) (3.7839) R2 = 0.4172

1. Find the value of α0 and α1?
2. Consider the following demand-and-supply model for money:

Demand for money: Mdt = β0 + β1Y1 + β2Rt + β3 Pt + u1t

Supply of money: Mst = α0 + α1Yt + u2t where M = money

Y = income

R = rate of interest

P = price Assume that R and P are predetermined.

**a.** Is the demand function identified?

**b.** Is the supply function identified?

**c.** Which method would you use to estimate the parameters of the identified equation(s)? Why?

**d.** Suppose we modify the supply function by adding the explanatory variables Yt−1 and Mt−1. What happens to the identification problem? Would you still use the method you used in **c**? Why or why not?

4. What is the basic difference between fixed effect and random effect in panel regression? Explain briefly

5. Discuss about time invariant individual specific parameter in panel model?