

NATIONAL UNIVERSITY OF SINGAPORE
Faculty of Business Administration
Department of Strategy & Policy

BSP4513 Econometrics: Theory & Practical Business Applications

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Session: Semester 2 2017/2018

Course Objective & Description:

When a university graduate presents himself/herself to the business world, it carries a pertinent and distinct advantage that he/she had done a course in **econometrics**, and that is explicitly stated in his/her *resume*. This course to be introduced is not about tortuous algebra and mathematical proofs but will slowly but surely immerse students into a state of appreciation and mastery of basic skill in data analysis, econometric evaluation and forecasting. These are essential skills that are well appreciated and valued by 21st century knowledge based enterprises in the digital business world. They need executives that are able to back their **research, analysis**, suggestions and advice with adequate quantitative and empirical support.

Econometric tools covered in this module can be used to analyse a wide range of issues from economics, finance, business studies and the other social sciences. The techniques and methodological approaches introduced in the course will enable students to think of and design appropriate strategies and solutions to achieve the desired objectives. Spreadsheet program like EXCEL is used extensively; a useful & effective precursor to more advanced and sophisticated econometric software.

This course has no pre-requisites. In this revised version of the module, the approach is to apply the practical aspects of regression analysis to some interesting issues and without adopting an excessively esoteric and/or mathematical approach. Examples from economics, finance, marketing and other disciplines will be used for exposition of methodologies, case studies and tutorial exercises.

Basic Text:

Baddeley M.C. and D.V. Barrowclough (2009) **Running Regressions: A Practical Guide**; Cambridge University Press. (Referenced as B&B)

Supplementary Texts

Gujarati D. & Porter D. (2010) **Essentials of Econometrics**, 4th edition, N.Y.: McGraw-Hill. (Referenced as GP)

Woolridge J.M.(2009) **Introductory Econometrics: A Modern Approach**, 4th edition, South-Western. (Referenced as WR)

RC Hill, WE Griffiths, GC Lim (2011) **Principles of Econometrics** (4th ed): John Wiley & Son.

Hilmer C.E. and Hilmer M.J. (2014) **Practical Econometrics**. McGraw-Hill International Edition

Course Assessment:

Assignments & Participation	20%
Mid Term Test	25%
Project Report and Presentation*	25%
End of Term Test (Open Book)	30%
Total	100%

*A report of the project will be submitted for assessment and also the findings will be presented to the class during the last two weeks of the semester.

Topics covered in the Course:

	Topics	Chapter in B&B	Chapter in GP (4th ed)	Chapter in WR (4th ed)
1	What is meant by the Econometric Approach? Introduction to Ordinary Least Squares & EXCEL. Example: Consumption & GDP	1 & 2	1	1
2	Running SRM: Functional form: Elasticity measures; growth rates; rates of return; forecasting. Examples: Air Travel Demand; Global Poverty & Economic Growth.	3	2, 3	2
3	Running MRM: Multicollinearity; Dummy variables; Hypothesis Testing. Examples: Housing demand & hedonic pricing; Health Expenditure & Quality of Life	4 & 5	4,5 & 6	3, 4, 6, 7
4	Running MRM: Heteroscedasticity: Examples: Abortion; R&D, invention and innovation;	6	9	8
5	Running MRM: Autocorrelation: Examples: Tourism & Environment	7	10	12
6	Model Misspecification: Omitted variables; Consequences & Ramsey Test Example: Investment behavior; Tobin Q; Air Travel Demand	8	7	9, 10
7	Structural Breaks; non-stationarity & spurious regression: Examples: Real Wage & Productivity; Venture capital & computing investment in USA	9	12.2, 12.3 and 12.5	11
8	Error Correction Model: Cointegration Example: Consumption and the multiplier in USA and UK.	10	12.4	18.1 to 18.4
9	Panel Estimation: Example: Crime & Unemployment	11		13, 14
10	Logit and Probit Model: Example: War and poverty; Who Buys Car?	12	12.6	17
11	Miscellaneous Topics: Simultaneous Equation Model; Experimental Data Modelling	Notes	11	16