Econ 120B: Econometrics B
Department of Economics
University of California San Diego

Winter Quarter 2007   **Prof. Sunil Kanwar**
Classes: M, W 5.00 – 6.20 pm (Centre Hall 119)   **Office:** Econ 223**;** 822 0668
Office Hours: M 1.00 – 3.00 pm   skanwar@ucsd.edu

TAs:
Dong Jin Lee – EC 127; d32lee@ucsd.edu; Th 1.30 – 3.30 pm
Youjin Hahn – EC 118, yohahn@ucsd.edu, M 9.30 – 11.30 am

Text: The recommended text for this course is:
J.H. Stock and M.W. Watson, *Introduction to Econometrics*, Addison Wesley, 2007.

Grading and Exams: The grades will be determined on the basis of three homework assignments (10% each), a mid-term exam (30%) and a final exam (40%). The mid-term will cover the course material taught up till then, and the final will stress the subsequent course material. The mid-term will be held on February 21, 2007 (Wednesday), in class during lecture hours. The final will be held on March 19, 2007 (Monday), 7-10 pm (venue: tba). There will be no make-up exams.

The final grade out of 100 (G) will be converted to a letter grade as follows:
A+ $(95 \leq G \leq 100)$; A $(90 \leq G < 95)$; A– $(85 \leq G < 90)$
B+ $(80 \leq G < 85)$; B $(75 \leq G < 80)$; B– $(65 \leq G < 75)$
C+ $(60 \leq G < 65)$; C $(55 \leq G < 60)$; C– $(45 \leq G < 55)$
D $(40 \leq G < 45)$; F $(G < 40)$

Release of Student Information: To facilitate the return of written assignments by placing them in public locations, students may sign and submit the 'Buckley Waiver' form provided at the end. Note that this is purely discretionary.

Course Outline

This course introduces students to the basic techniques required for empirical research in academics and/or business. It prepares them in the estimation of economic relationships, using regressions to address issues of causality, and using regressions for forecasting. In addition to theory and empirical examples, this training is enhanced by the use of statistical software programmes, particularly STATA, to which students have access in the computer lab (Econ 100). Alternatively, students may purchase 'Small Stata 9' online, at the website 'stata.com/order/schoollist.html', for $45.

1.   Introduction and Review of Statistics (Ch. 1.1, 1.2; Ch. 2.1–2.3)
Rules of probability; Probability distribution; Marginal distribution; Conditional distribution;

Moments; Some important probability distributions; Sampling; Sampling estimators and their properties

2. Simple Linear Model: Estimation (Ch. 1.3; Ch. 3.1; Ch. 4)
Basic concepts – Types of data; Population regression function; Sample regression function; Linearity in variables vs. parameters; Ordinary Least Squares (OLS) estimation; Underlying assumptions; Desirable properties of least squares estimators – the Gauss-Markov theorem; Goodness-of-Fit

3. Simple Linear Model: Statistical Inference (Ch. 2.4–; Ch. 3.2–; Ch. 5)
Sampling distribution of least squares estimators; Interval Estimation for regression estimators; Hypothesis Testing – the confidence interval approach; Hypothesis Testing – the test of significance approach; Analysis of Variance

4. Multiple Regression Model: Estimation (Ch. 6)
Estimation issues re-visited; Multicollinearity

5. Multiple Regression Model: Statistical Inference (Ch. 7)
Testing individual regression coefficients; Testing overall significance of the regression; Testing the equality of coefficients; Testing for linear restrictions

6. Multiple Regression: Some Other Issues (Ch. 9.2-9.4; Ch. 13.1-13.4)
Threats to internal validity – Omitted variable bias, Measurement error, Sample selection bias, Simultaneity bias; Casual inference and Random assignment

STUDENT CONSENT FOR RELEASE OF STUDENT INFORMATION
(Buckley Waiver)

I hereby authorize the UCSD Economics Department to return my graded final examination / research paper by placing it in an location accessible to all students in the course. I understand that the return of my examination / research paper as described above may result in the disclosure of personally identifiable information, that is not public information as defined in UCSD PPM 160-2, and I hereby consent to the disclosure of such information.

Quarter ———————————————— Course ———————————————— Date ————————————————

Instructor ——

Student ID # ——

Student Name ——

Student Signature ——