

**Tulane University**  
**A.B. Freeman School of Business**  
**Econometrics II**  
**Latin American Ph.D. Program**

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### **1. Course Description**

This course covers various econometrics methods as applied to finance. The main focus is on the consequences of departing from the standard assumptions of the linear model and dealing with heteroskedasticity, endogeneity, sample selection, and serial correlation. Topics include instrumental variables, limited dependent variable, panel data, and time series analysis. Financial applications are discussed throughout the course. Students will read and present applied papers.

### **2. Course Objectives**

This class provides both theoretical and practical tools for applying econometric models to financial data. By the end of this class students will be able to (i) understand the theory behind some advance econometric models, (ii) program econometric routines in STATA, and (iii) analyze financial data and implement econometric tools in their applied research.

### **3. Textbook**

William H. Greene. 2012. *Econometric Analysis*, Seventh Edition.

Cameron, A. Colin and Pravin Trivedi. 2009. *Microeconometrics Using STATA*. Published by STATA Press

### **4. Grading**

Final course grades will be determined as follows:

- Homework assignments (25%)
- Paper presentations (25%)
- Final project (50%)

## **5. Schedule and Topics**

The following is a list of topics which will be covered in this class. I may add or subtract topics as the course develops.

### **1. Tuesday, July 2, 2013 (Introduction)**

- Classical linear regression model
- Hypothesis tests
- Multiple linear regression
- Probit, logit, and multinomial logit models.

### **2. Wednesday, July 3, 2013 (Endogeneity and Instrumental Variable Estimation)**

- Omitted variable bias
- Reverse causation
- Measurement errors.

### **3. Tuesday, July 9, 2013 (Endogeneity and Instrumental Variable Estimation)**

- Instrumental variable
- Two-stage least square
- Overidentification tests.

### **4. Wednesday, July 10, 2013 (Models for Panel Data)**

- Panel data
- Pooled regression
- Fixed effects models

### **5. Thursday, July 11, 2013 (Models for Panel Data)**

- Dynamic panel data

### **6. Tuesday, July 16, 2013 (Limited Dependent Variables)**

- Limited dependent variables
- Truncation
- Censoring and Sample Selection

### **7. Wednesday, July 17, 2013 (Limited Dependent Variables)**

- The censored regression (Tobit) model
- Heckman two-step estimation

### **8. Thursday, July 18, 2013 (Time Series Analysis)**

- Time series data
- Serial correlation
- Nonstationary data

## 6. Reading List

Aggarwal, R., I. Erel, M. Ferreira, P. Matos. (2010). Does Governance Travel Around the World? Evidence from Institutional Investors, *Journal of Financial Economics* 100, 154-181. (Focus: Instrumental variables)

Bennedsen, M., K. Nielsen, F. Perez-Gonzalez and D. Wolfenzon. (2007). Inside the family firm: The role of families in succession decisions and performance, *Quarterly Journal of Economics* 122, 647-691. (Focus: Instrumental variables)

DeAngelo, H., R. Roll. (2011). How stable are corporate capital structures? Working Paper. (Focus: Fixed effects)

Denis, D., and V. Mihov. (2003). The Choice among Bank Debt, Nonbank Private Debt, and Public Debt: Evidence from New Corporate Borrowings. *Journal of Financial Economics* 70, 2–23. (Focus: Multinomial Logit)

Lemmon, M.L., Roberts, M.R., Zender, J.F., (2008). Back to the beginning: persistence and the cross section of corporate capital structure. *Journal of Finance* 63, 1575–08. (Focus: Fixed effects)

Mroz, T.A. (1987). The sensitivity of an empirical of an empirical model of married women's hours of work to economic and statistical assumptions. *Econometrica* 55, 765-799. (Focus: Limited dependent variable. We will replicate the main results in this paper)

Öztekin, Ö., and M. Flannery. (2012). Institutional Determinants of Capital Structure Adjustment Speeds, *Journal of Financial Economics*, forthcoming. (Focus: Dynamic panel data)

Roberts, M. R., A. Sufi. (2009). Renegotiation of Financial Contracts: Evidence from Private Credit Agreements. *Journal of Financial Economics* 93, 159-184. (Focus: Probit and multinomial logit)

Wintoki, M.B., J. S. Linck, J. M. Netter. (2012). Endogeneity and the Dynamics of Internal Corporate Governance. *Journal of Financial Economics* 105, 581-606. (Focus: Dynamic panel data)