

**FINANCE 937**  
**Applied Quantitative Methods in Finance**  
**2004/ 2005**

**Professor João F. Gomes**

**DESCRIPTION**

Finance 937 is intended for doctoral students in finance and related fields. The course uses numerical analysis to address a variety of current issues in finance. The course has two main objectives. First, it seeks to provide the students with the necessary quantitative tools to understand and produce frontier research in finance theory. Second, it uses these tools to understand advance topics in both corporate finance and asset pricing. A special emphasis is placed on frontier research.

**TOPICS AND READING LIST**

**Contents**

1. Preliminaries
  - a. Production and Investment in Dynamic General Equilibrium Models
  - b. Dynamic Programming
  - c. Corporate Investment
  - d. Industry Equilibrium
2. Applied Quantitative Research in Finance
  - a. Corporate Restructuring
  - b. Capital Structure
  - c. Asset Returns
3. Advanced Topics
  - a. Dynamic Contracts
  - b. Corporate Governance

## **1 – Preliminaries**

### **1.1 Production and Investment in Dynamic General Equilibrium Models**

#### Required Readings

- Jermann, Urban, Asset Pricing in Production Economies, Journal of Monetary Economics, 257-276, 1998.
- Rouwenhorst, Geert, Asset Pricing Implications of Equilibrium Business Cycle Models, in Frontiers of Business Cycle Research, Thomas Cooley (ed.), Princeton University Press, 1995.

#### Additional Readings

- Cochrane, John, Production-Based Asset Pricing and the Link Between Stock Returns and Economic Fluctuations, Journal of Finance, 209-237, 1991.
- Lettau, Martin, Inspecting the Mechanism: The Determination of Asset Prices in the RBC Model, The Economic Journal, 113, 550--575, 2003.

### **1.2. Dynamic Programming**

#### Additional Readings

- Judd, Kenneth, Numerical Methods in Economics, MIT Press, 1998.
- Ljungqvist, Lars and Sargent, Thomas, Ch. 2 and 3, Recursive Macroeconomic Theory, MIT Press, 2<sup>nd</sup> edition, 2004.
- Stokey, Nancy and Lucas, Robert, Ch. 3, 4, and 9, Recursive Methods in Economic Dynamics, Harvard University Press, 1989.

### **1.3 Corporate Investment**

#### Required Readings

- Abel, Andrew Optimal Investment under Uncertainty, American Economic Review, 73, 228-233, 1983.
- Abel, Andrew and Blanchard, Olivier, The Present Value of Profits and the Cyclical Variability of Investment," Econometrica, 54, 249-273, 1986.
- Abel, Andrew and Eberly, Janice, A Unified Model of Investment Under Uncertainty, American Economic Review, 84, 1369-84, 1994.

- Caballero, Ricardo, and Engel, Eduardo, Explaining Investment Dynamics in U.S. Manufacturing: A Generalized (S, s) Approach, *Econometrica* 67, 783-826, 1999.
- Dixit, Avinash, and Pindyck, Robert, Ch. 5, 6, 10 and 11, *Investment Under Uncertainty*, Princeton University Press, 1994.
- Fazzari, Steven, Hubbard, R. Glenn, and Petersen, Bruce, Financing Constraints and Corporate Investment, *Brookings Papers on Economic Activity*, 1, 141-206, 1988.
- Hayashi, Fumio, Tobin's Marginal Q and Average Q: A Neoclassical Interpretation, *Econometrica*, 50, 213-224, 1982.

### Additional Readings

#### Theory

- Abel, Andrew Dynamic Effects of Permanent and Temporary Tax Policies in a Q Model of Investment, *Journal of Monetary Economics*, 9, 353-373, 1982.
- Abel, Andrew and Eberly, Janice, Optimal Investment with Costly Reversibility, *Review of Economic Studies*, 63, 581-593, 1996.
- Almeida, Heitor and Campello, Murillo, Financial Constraints and Investment-Cash Flow Sensitivities: New Research Directions, working paper, NYU, 2002.
- Bond, Stephen, and Meghir, Costas, Dynamic Investment Models and the Firm's Financial Policy, *Review of Economic Studies*, 61, 197-222, 1994.
- Chirinko, Robert, Business Fixed Investment Spending: Modelling Strategies, Empirical Results, and Policy Implications, *Journal of Economic Literature*, 31, 1875-1911, 1993.
- Gilchrist, Simon, and Himmelberg, Charles, Evidence on the Role of Cash Flow for Investment, *Journal of Monetary Economics*, 36, 541-72, 1995.
- Hennessy, Chris, Tobin's Q, Debt Overhang, and Investment, *Journal of Finance*, 2004.
- Hubbard, R. Glenn, Capital-Market Imperfections and Investment, *Journal of Economic Literature* 36, 193-225, 1998.
- Stein, Jeremy, Agency, Information and Corporate Investment, in *Handbook of Economics and Finance*, George Constantinides, Milton Harris, and Rene Stulz (eds.), North Holland, 2003.

#### Empirical Studies

- Almeida, Heitor, Campello, Murillo, and Weisbach, Michael, The Cash Flow Sensitivity of Cash, *Journal of Finance*, 2004.

- Baker, Malcolm, Jeremy Stein, and Jeffrey Wurgler, When Does the Market Matter? Stock Prices and the Investment of Equity-Dependent Firms, Quarterly Journal of Economics, 118, 969-1006, 2003.
- Caballero, Ricardo, Engel, Eduardo, and Haltiwanger, John, Plant-Level Adjustment and Aggregate Investment Dynamics, Brookings Papers on Economic Activity, 2, 1-39, 1995.
- Chirinko, Robert, and Schaller, Huntley, Bubbles, Fundamentals, and Investment: A Multiple Equation Testing Strategy, Journal of Monetary Economics, 38, 47-76, 1996.
- Cooper, Russell, and Haltiwanger, John, On the Nature of Capital Adjustment Costs, NBER Working Paper 7925, 2002.
- Cummins, Jason, Hassett, Kevin, and Hubbard, R. Glenn, A Reconsideration of Investment Behavior Using Tax Reforms as Natural Experiments, Brookings Papers on Economic Activity, 1-59, 1994.
- Doms, Mark, and Dunne, Timothy, Capital Adjustment Patterns in Manufacturing Plants, Review of Economic Dynamics, 1, 409-29, 1998.
- Erickson, Timothy, and Whited, Toni, Measurement Error and the Relationship Between Investment and Q, Journal of Political Economy 108, 1027-1057, 2000.
- Hubbard, R. Glenn, Anil Kashyap, and Toni M. Whited, Internal Finance and Firm Investment, Journal of Money, Credit and Banking, 27, 681-70, 1995.
- Lettau, Martin, and Ludvigson, Sydney, Time-Varying Risk Premia and the Cost of Capital: An Alternative Implication of the Q Theory of Investment, Journal of Monetary Economics, 49, 31-66, 2002.
- Love, Inessa, Financial Development and Financing Constraints: International Evidence from the Structural Investment Model, Review of Financial Studies, 2003.
- Ramey, Valerie, and Shapiro, Matthew, Displaced Capital: A Study of Aerospace Plant Closings, Journal of Political Economy, 109, 958-992, 2001.
- Panageas, Stavros, Speculation, Overpricing, and Investment - Theory and Empirical Evidence, unpublished manuscript, Wharton School, 2004.
- Whited, Toni, Debt, Liquidity Constraints, and Corporate Investment: Evidence from Panel Data, Journal of Finance 47, 1425-1460, 1992.

## **1.4 Industry Equilibrium**

### Required Readings

- Ericson, Richard and Pakes, Ariel, Markov Perfect Industry Dynamics: A Framework for Empirical Work, Review of Economic Studies, 62, 53-82, 1995.
- Gomes, João, Financing Investment, American Economic Review, 91, 1263-85, 2001.

- Hopenhayn, Hugo, Entry, Exit, and Firm Dynamics in Long Run Equilibrium, *Econometrica*, 60, 1127-50, 1992.

### Additional Readings

#### Theory

- Dixit, Avinash, and Pindyck, Robert, Ch. 7,8 and 9, *Investment Under Uncertainty*, Princeton University Press, 1994.
- Jovanovic, Boyan, Selection and the Evolution of Industry, *Econometrica*, 50, 649-70, 1982.
- Lucas, Robert, and Edward Prescott, Investment under Uncertainty, *Econometrica* 39, 659-681, 1971.
- Lucas, Robert, On the Size Distribution of Business Firms, *Bell Journal of Economics* 9, 508-523, 1978.

#### Empirical Studies

- Ericson, Richard and Pakes, Ariel, Empirical Implications of Alternative Models of Firm Dynamics, *Journal of Economic Theory*, 79, 1-46, 1998.
- Evans, David, Tests of Alternative Theories of Firm Growth, *Journal of Political Economy* 95, 657-674, 1987.
- Hall, Bronwyn, The Relationship Between Firm Size and Firm Growth in the U.S. Manufacturing Sector, *Journal of Industrial Economics* 35, 583-606, 1987.

## **2 - Applied Quantitative Research in Finance**

### **2.1 Corporate Restructuring**

#### Required Readings

- Andrade, Gregor, Mitchell, Mark, and Stafford, Eric, New Evidence and Perspective on Mergers, *Journal of Economic Perspectives*, 15, 103-120, 2001.
- Berger, Philip, and Ofek, Eli, Diversification's Effect on Firm Value, *Journal of Financial Economics* 37, 39-65, 1995.
- Campa, Jose, and Kedia, Simi, Explaining the Diversification Discount, *Journal of Finance*, 57, 135-160, 2002.
- Gomes, João and Livdan, Dmitry, Optimal Diversification: Reconciling Theory and Evidence, *Journal of Finance*, vol. 59, 507-535, 2004.

- Jovanovic, Boyan and Rousseau, Peter, The Q-Theory of Mergers, American Economic Review, Papers and Proceedings, 2002.
- Jovanovic, Boyan and Braguinsky, Sergey, Bidder Discounts and Target Premia In Takeovers, American Economic Review, 2004.
- Lang, Larry, and Stulz, Rene, Tobin's Q, Corporate Diversification, and Firm Performance, Journal of Political Economy 102, 1248-1280, 1994.
- Maksimovic, Vojislav, and Phillips, Gordon, Do Conglomerate Firms Allocate Resources Inefficiently Across Industries? Theory and Evidence, Journal of Finance, 57, 2002.

### Additional Readings

#### Theory

- Bernardo, Antonio, and Chowdhry, Bhagwan, Resources, Real Options and Corporate Strategy, Journal of Financial Economics, 2002.
- Fluck, Zsuzsanna, and Lynch, Anthony, Why do Firms Merge and then Divest? A Theory of Financial Synergy, Journal of Business 72, 319-346, 1999.
- Greenwood, Jeremy, and Jovanovic, Boyan, The IT Revolution and the Stock Market, American Economic Review, Papers and Proceedings, May 1999.
- Hobijn, Bart, and Jovanovic, Boyan, The IT Revolution and the Stock Market: Evidence, American Economic Review, 2001.
- Jovanovic, Boyan and Rousseau, Peter, Mergers as Reallocation, working paper, NYU, 2003.
- Jovanovic, Boyan and Rousseau, Peter, Specific Capital and the Division of Rents, working paper, NYU, 2003.
- Matsusaka, John, Corporate Diversification, Value Maximization, and Organizational Capabilities, Journal of Business 74, 409-431, 2001.
- Santalo, Juan, Diversification Discount, Size Discount and Organizational Capital, working paper, University of Chicago, 2002.
- Stein, Jeremy, Internal Capital Markets and the Competition for Corporate Resources, Journal of Finance 52, 111-133, 1997.

#### Empirical Studies

- Graham, John, Lemmon, Michael, and Wolf, Jack, Does Corporate Diversification Destroy Value?, Journal of Finance 57, 695-720, 2002.

- Maksimovic, Vojislav, and Phillips, Gordon, The Market for Corporate Assets: Who Engages in Mergers and Asset Sales and are there Efficiency Gains?, *Journal of Finance* 56, 2019- 2065, 2001.
- Rajan, Raghuram, Servaes, Henri, and Zingales, Luigi, The Cost of Diversity: The Diversification Discount and Inefficient Investment, *Journal of Finance* 55, 35-80, 2000.
- Schoar, Antoinette, The Effect of Diversification on Firm Productivity, *Journal of Finance*, 33, 2379-2403, 2002.
- Villalonga, Belen, Does Diversification Cause the Diversification Discount?, *Financial Management*, 33, 2004.
- Villalonga, Belen, Diversification Discount or Premium? New evidence from the Business Information Tracking Series, *Journal of Finance*, 59, 479--506, 2004.
- Whited, Toni, Is Inefficient Investment the Cause of the Conglomerate Discount? *Journal of Finance* 56, 1667-1691, 2001.

## **2.2 Capital Structure**

### Required Readings

- Brennan, Michael, and Schwartz, Eduardo, Optimal Financial Policy and Firm Valuation, *Journal of Finance* 39, 593-607, 1984.
- Cooley, Thomas, and Quadrini, Vincenzo, Financial Markets and Firm Dynamics, *American Economic Review*, 2001.
- Fama, Eugene, and French, Kenneth, Testing Trade-Off and Pecking Order Predictions About Dividends and Debt, *Review of Financial Studies* 15, 1-33, 2002.
- Fischer, Edwin, Heinkel, Robert, and Zechner, Josef, Dynamic Capital Structure Choice: Theory and Tests, *Journal of Finance* 44, 19-40, 1989.
- Goldstein, Robert, Ju, Nengjiu, and Leland, Hayne, An EBIT Based Model of Dynamic Capital Structure, *Journal of Business* 74, 483-512, 2001.
- Graham, John, Debt and the Marginal Tax Rate, *Journal of Financial Economics* 41, 41-73, 1996.
- Hennessy, Christopher, and Whited, Toni, Debt Dynamics, forthcoming, *Journal of Finance*.
- Leland, Hayne, Corporate Debt Value, Bond Covenants, and Optimal Capital Structure, *Journal of Finance* 49, 1213-1252, 1994.
- Miller, Merton, Debt and Taxes, *Journal of Finance* 32, 261-275, 1977.
- Myers, Stewart, The Capital Structure Puzzle, *Journal of Finance* 39, 575-592, 1984.

- Strebulaev, Ilya, Do Tests of Capital Structure Theory Mean What They Say? working paper, London Business School, 2004.

### Additional Readings

#### Theory

- Hennessy, Christopher, Hackbarth, Dirk, and Leland, Hayne, Can the Tradeoff Theory Explain Debt Structure?, unpublished paper, UC Berkeley, 2003.
- Leland, Hayne, Agency Costs, Risk Management, and Capital Structure, AFA Presidential Address paper, Journal of Finance, 1998.
- Leland, Hayne, and Toft, Klaus, Optimal Capital Structure, Endogenous Bankruptcy, and the Term Structure of Credit Spreads, Journal of Finance 51, 987-1019, 1996.
- MacKie-Mason, Jeffrey, Do Taxes Affect Corporate Financing Decisions? Journal of Finance 45, 1471-1493, 1990.
- Titman, Sheridan, and Wessels, Roberto, The Determinants of Capital Structure Choice, Journal of Finance 43, 1-21, 1998.
- Titman, Sheridan, and Tsyplakov, Sergey, 2003, A Dynamic Model of Optimal Capital Structure, working paper, University of Texas at Austin.

#### Empirical Studies

- Baker, Malcolm, and Wurgler, Jeffrey, 2002, Market Timing and Capital Structure, Journal of Finance 57, 1-32.
- Graham, John, How Big are the Tax Benefits of Debt? Journal of Finance 55, 1901-1941, 2000.
- Leary, Mark and Roberts, Michael, Do Firms Re-Balance Their Capital Structures? working paper, Duke University, 2004.
- Leary, Mark and Roberts, Michael, Financial Slack and Tests of the Pecking Order Theory of Capital Structure, working paper, Duke University, 2004.
- Rajan, Raghuram, and Zingales, Luigi, What do we Know About Capital Structure? Some Evidence From International Data, Journal of Finance 50, 1421-1460, 1995.
- Schurhoff, Norman, Capital Gains Taxes, Irreversible Investment, and Capital Structure, working paper, Carnegie Mellon University, 2004.
- Shyam-Sunder, Lakshmi, and Myers, Stewart, Testing Static Trade-Off Against Pecking Order Models of Capital Structure, Journal of Financial Economics 51, 219-244, 1999.



## 2.3 Asset Returns

### Required Readings

- Berk, Jonathan, Green, Richard and Naik, Vasant, Optimal Investment, Growth Options and Security Returns, 54, 1153-1608, Journal of Finance, 1999.
- Carlson, Murray, Fisher, Adlai, and Giammarino, Ronald, Corporate Investment and Asset Price Dynamics: Implications for the Cross-Section of Returns, Journal of Finance, 2004.
- Gomes, João, Kogan, Leonid, and Zhang, Lu, Equilibrium Cross Section of Stock Returns, Journal of Political Economy, 111, 693-732, 2003.

### Additional Readings

#### Theory

- Abel, Andrew and Eberly, Janice, Investment, Valuation, and Growth Options, working paper, University of Pennsylvania, 2004.
- Berk, Jonathan, Green, Richard and Naik, Vasant, The Valuation and Return Dynamics of New Ventures, Review of Financial Studies, 2004.
- Brock, William, and LeBaron, Blake, Liquidity Constraints in Production-Based Asset-Pricing Models, in Asymmetric Information, Corporate Finance, and Investment, Hubbard, R. Glenn (ed.) University of Chicago Press, 1990.
- Cooper, Ilan, Asset Pricing Implications of Non-Convex Adjustment Costs of Investment, working paper, Norwegian School of Management BI, 2003.
- Dow, James, Gorton, Gary, and Krishnamurthy, Arvind, Equilibrium Asset Prices under Imperfect Corporate Control, working paper, Northwestern University, 2004.
- Gomes, João, Yaron, Amir, and Zhang, Lu, Asset Pricing Implications of Firms' Financing Constraints working paper, University of Pennsylvania, 2004.
- Kogan, Leonid, An Equilibrium Model of Irreversible Investment, Journal of Financial Economics 62, 201-245, 2001.
- Lettau, Martin, and Wachter, Jessica, Why is Long-Horizon Equity Less Risky? A Duration-Based Explanation of the Value Premium, working paper, University of Pennsylvania, 2004.
- Novy-Marx, Robert, An Equilibrium Model of Investment Under Uncertainty, working paper, University of Chicago, 2003.
- Pastor, Lubos, and Veronesi, Pietro, Stock Valuation and Learning about Profitability, Journal of Finance, 58, 2003.

- Restoy, Fernando, and Rockinger, G. Michael, On Stock Market Returns and Returns on Investment, *Journal of Finance*, 49, 543-556, 1994.
- Zhang, Lu, The Value Premium, *Journal of Finance*, 2004.

## Empirical Studies

- Berk, Jonathan, A Critique of Size Related Anomalies, *Review of Financial Studies*, 8, 275-286, 1995.
- Berk, Jonathan, Sorting out Sorts, *Journal of Finance*, 55, 407-27, 2000.
- Campbell, John, Martin Lettau, Burton Malkiel, and Yexiao Xu. Have Individual Stocks Become More Volatile? An Empirical Exploration of Idiosyncratic Risk, *Journal of Finance* 56, 1-43, 2001.
- Cochrane, John, A Cross-Sectional Test of an Investment-Based Asset Pricing Model, *Journal of Political Economy*, 104, 572-621, 1996.
- Cohen, Randolph, Polk, Christopher, and Vuolteenaho, Tuomo, The Value Spread, *Journal of Finance*, 2003.
- Fama, Eugene, and French, Kenneth, The Cross-Section of Expected Stock Returns, *Journal of Finance* 47, 427-465, 1992.
- Fama, Eugene, and French, Kenneth, Common Risk Factors in the Returns on Stocks and Bonds, *Journal of Finance* 33, 3-56, 1993.
- Fama, Eugene, and French, Kenneth, Size and Book-to-Market Factors in Earnings and Returns, *Journal of Finance* 50, 131-155, 1995.
- Owen Lamont, Christopher Polk, and Jesus Saa-Requejo, Financial Constraints and Stock Returns, *Review of Financial Studies*, 2001.
- Li, Qing, Vassalou, Maria, and Xing, Yuhang, Sectoral Investment Growth Rates and the Cross Section of Asset Returns, working paper, Columbia University, 2003.
- Liew, Jimmy, and Vassalou, Maria, Can Book-to-Market, Size, and Momentum Be Risk Factors That Predict Economic Growth?, *Journal of Financial Economics* 57, 221-245, 2000.
- MacKinlay, A. Craig, Multifactor Models Do Not Explain Deviations from the CAPM, *Journal of Financial Economics* 38, 3-28, 1995.
- Vassalou, Maria, News Related to Future GDP Growth as a Risk Factor in Equity Returns, *Journal of Financial Economics*, 2003.
- Vuolteenaho, Tuomo, What Drives Firm-Level Stock Returns? *Journal of Finance* 57, 233-264, 2002.

### 3 - Advanced Topics

#### 3.1 Dynamic Contracts

- Albuquerque, Rui, and Hopenhayn, Hugo, Optimal Dynamic Lending Contracts with Imperfect Enforceability, Review of Economic Studies, 2004.
- Alvarez, Fernando, and Jermann, Urban, Efficiency, Equilibrium, and Asset Pricing with Risk of Default, Econometrica, 775-797, 2000.
- Atkeson, Andrew, International Lending with Moral Hazard and Risk of Repudiation. Econometrica, 59, 1069--89, 1991.
- Atkeson, Andrew and Robert, Lucas, On Efficient Distribution with Private Information. Review of Economic Studies, 59, 427--53, 1992.
- Bond, Philip, and Krishnamurthy, Arvind, Regulating Exclusion from Financial Markets, Review of Economic Studies, 2004.
- Clementi, Gian Luca, and Hopenhayn, Hugo, A Theory of Financing Constraints and Firm Dynamics, working paper, NYU, 2002.
- Clementi, Gian Luca, IPOs and The Growth of Firms, working paper, NYU, 2003.
- Clementi, Gian Luca, and MacDonald, Glenn, Agency, Capital, and Dividend Smoothing, working paper, NYU, 2003.
- Cooley, Thomas, Marimon, Ramon, and Quadrini, Vincenzo, Aggregate Consequences of Limited Contract Enforceability, working paper, NYU, 2003.
- DeMarzo, Peter, and Fishman, Michael, Optimal Long-Term Financial Contracting with Privately Observed Cash Flows, working paper, Stanford University, 2001.
- Fernandes, Ana, and Phelan, Christopher, A Recursive Formulation for Repeated Agency with History Dependence, Journal of Economic Theory, 91, 223--247, 2000.
- Fluck, Zsuzsanna, Optimal Financial Contracting: Debt Versus Outside Equity, Review of Financial Studies 11, 383-418, 1998.
- Grossman, Sanford, and Hart, Oliver, Corporate Financial Structure and Managerial Incentives, in John McCall (ed.), The Economics of Information and Uncertainty, University of Chicago Press, Chicago, 1982.
- Hart, Oliver, Firms, Contracts and Financial Structure, Clarendon Lectures in Economics. Oxford University Press, 1995.
- Hart, Oliver, and Moore, John, Default and Renegotiation: A Dynamic Model of Debt. Quarterly Journal of Economics 113, 1-41, 1998.
- Hart, Oliver, and Tirole, Jean, Contract Renegotiation and Coasian Dynamics. Review of Economic Studies 55, 509-540, 1988.

- Jensen, Michael, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, *American Economic Review* 76, 323-329, 1986.
- Kocherlakota, Narayana, Implications of Efficient Risk Sharing Without Commitment, *Review of Economic Studies* 63, 595--609, 1996.
- Krishnamurthy, Arvind, Collateral Constraints and the Amplification Mechanism, *Journal of Economic Theory*, 111, 277-292, 2003.
- Lafont, Jean Jacques, and Tirole, Jean, The Dynamics of Incentive Contracts, *Econometrica* 56, 1153-1175, 1988.
- Levine, David, and Timothy Kehoe, Debt Constrained Asset Markets, *Review of Economic Studies*, 60, 865-888, 1993.
- Levine, David, and Kehoe, Timothy, Liquidity Constrained vs. Debt Constrained Markets, *Econometrica*, 69, 575-598, 2001.
- Phelan, Christopher, and Townsend, Robert, Computing Multi-Period, Information-Constrained Optima, *Review of Economic Studies*, 58, 853--882, 1991.
- Phelan, Christopher, Repeated Moral Hazard and One-Sided Commitment, *Journal of Economic Theory*, 66, 488-506, 1995.
- Phelan, Christopher, On the Long-Run Implications of Repeated Moral Hazard, *Journal of Economic Theory*, 79, 174--191, 1998.
- Quadrini, Vincenzo, Investment and Default in Optimal Financial Contracts with Repeated Moral Hazard, working paper, NYU, 2000.
- Radner, Roy, Repeated Principal Agent Games with Discounting. *Econometrica*, 53, 1173--98, 1985.
- Rampini, Adriano, Entrepreneurial Activity, Risk, and the Business Cycle, *Journal of Monetary Economics* 51, 555-573, 2004.
- Rampini, Adriano, Default and Aggregate Income, *Journal of Economic Theory*, 2004.
- Rogerson, William, Repeated Moral Hazard, *Econometrica*, 53:69--76, 1985.
- Spear, Steve, and Sanjay Srivastava. On Repeated Moral Hazard with Discounting, *Review of Economic Studies*, 54, 599--617, 1987.
- Stein, Jeremy, Agency, Information and Corporate Investment, in *Handbook of Economics and Finance*, in George Constantinides, Milton Harris, and Rene Stulz (ed.), North Holland Press, 2003.
- Wang, Cheng, Incentives, CEO Compensation, and Shareholder Wealth in a Dynamic Agency Model. *Journal of Economic Theory* 76, 72--105, 1997.

### 3.2 Corporate Governance

- Atkenson, Andrew and Cole, Harold, A Dynamic Theory of Optimal Capital Structure and Executive Compensation, working paper, UCLA, 2004
- Castro, Rui, Clementi, Gian Luca, and MacDonald, Glenn, Investor Protection, Optimal Incentives, and Economic Growth, Quarterly Journal of Economics, 119, 2004.
- Clementi, Gian Luca, and Cooley, Tom, Sensitivity of CEO Pay to Shareholder Wealth in a Dynamic Agency Model, working paper, NYU, 2003.
- Eisfeldt, Andrea, Endogenous Liquidity in Asset Markets, Journal of Finance, 59, 1-30, 2004.
- Eisfeldt, Andrea, and Rampini, Adriano, Letting Go: Managerial Incentives and the Reallocation of Capital, working paper, Northwestern University, 2004.
- Hermalin, Benjamin, and Weisbach, Michael, Endogenously Chosen Boards of Directors and Their Monitoring of the CEO, American Economic Review, 88, 96-118, 2001.
- Hermalin, Benjamin, Trends in Corporate Governance, working paper, UC Berkeley 2003.
- Himmelberg, Charles, and Quadrini, Vincenzo, Optimal Financial Contracts and The Dynamics of Insider Ownership, working paper, NYU, 2003.
- Himmelberg, Charles, Hubbard, R. Glenn, and Love, Inessa, Investor Protection, Ownership, and the Cost of Capital, working paper, Columbia University, 2003.
- John, Kose, and Kedia, Simi, Design of Corporate Governance: The Role of Ownership Structure, Takeovers and Bank Debt, working paper, NYU, 2003.
- John, Kose, and Kedia, Simi, Institutions Markets, and Growth: A Theory of Comparative Corporate Governance, working paper, NYU, 2003.
- Mello, Antonio, and E. Parsons, John. Going Public and the Ownership Structure of the Firm. Journal of Financial Economics, 49:79--109, 1998.
- Philippon, Thomas, Corporate Governance over the Business Cycle, working paper, NYU, 2004.
- Tirole, Jean, Corporate Governance, Econometrica, 68, 1-35, 2001.
- Zingales, Luigi, Insider Ownership and the Decision to go Public. Review of Economic Studies, 62:425--48, 1995.

## **ADMINISTRATIVE DETAILS**

### **Grades**

Grades will be based on

- Group assignments (teams of 2 or 3) -- 40%
- In class presentations --30%
- Research paper -- 30%

### **Communication**

Email is my preferred form of communication, but you are always welcomed to stop by office. In addition my web page will provide you with access to most relevant course materials including links to the papers on the reading list.