



MASTERCLASS TITLE

Dynamic Corporate Finance Theory – Methods and Topics

COURSE COORDINATOR

Professor Nathalie Moyen, University of Colorado Boulder; moyen@colorado.edu

COURSE VENUE

University of New South Wales, room QUAD 2063
30 June-6 July, 2019

COURSE DESCRIPTION

The first half of the course covers seminal models of dynamic corporate finance. These models serve as the foundation upon which to examine more realistic settings. The second half of the course introduces real-world features and discusses how they affect corporate decisions. Throughout the course, we pay special attention to firm dynamics with an emphasis on capital structure decisions. Topics include default, investment, financial constraints, cash savings, agency costs, and learning, among others.

COURSE OBJECTIVES

The objectives of the course are two-fold:

- to gain an appreciation for the methods and topics at the frontier of the dynamic corporate finance field
- to formulate your own idea for a research project

TENTATIVE COURSE SCHEDULE

Sunday 30 June 1-5pm Structural Models, Debt versus Equity, and the Irrelevance Theorem

Monday 1 July 9am-12pm and 1-5pm Stochastic Calculus, Endogenous Default, the Tradeoff Model, Valuation of Corporate Claims, and Optimal Capital Structure

Tuesday 2 July 9am-12pm and 1-5pm Dynamic Programming, Real Options, Neoclassical Investment, and Tobin's q

Wednesday 3 July Homework day, and consultation available in room QUAD 3105

Thursday 4 July 9am-12pm and 1-5pm Financial Constraints and Precautionary Cash Savings

Friday 5 July 9am-12pm and 1-5pm Agency Costs and Learning

Saturday 6 July 9am-12pm Presentations of Research Project Proposals

COURSE PRE-REQUISITE KNOWLEDGE

Students should have a good understanding of the materials covered in the first semester of PhD-level courses in Microeconomics, Macroeconomics, and Econometrics.

ASSESSMENT

The assessment has two components. The first is a series of homework questions which serve to review and solidify the materials taught. The homework is due by Thursday morning before the beginning of class. In case of deductions, there will be an opportunity to earn partial points back. The homework counts for 75% of your grade.

The second component is based on your research proposal. The one-page summary of your proposal is due by the beginning of class on Saturday. Both your summary and your presentation are evaluated as part of this remaining 25% of your grade.

For the homework and the research proposal, you may work individually or in groups. Even when working in a group, you must submit your homework solutions or one-page summary written in your own words.

FIRN COURSES GRADING POLICY

A standardized grading system has been implemented across all FIRN-endorsed PhD courses and applies to all PhD students undertaking the course. Course coordinators are asked to calculate final assessment grades using a percentage basis which can then be converted to a grading of 1 through 7 as follows:

7	85-100%	Pass with High Distinction / H1 Honours
6	75-84%	Pass with Distinction / H2 Honours
5	65-74%	Pass with Credit / H3 Honours
4	50-64%	Weak Pass
3	less than 50%	Did not pass / Fail
2		Did not complete all assessments
1		Did not complete the course

FIRN STATEMENT ON PLAGIARISM

Plagiarism is a broad term referring to the practice of appropriating someone else's ideas or work and presenting them as your own without acknowledgment. Plagiarism is literary or intellectual theft. It can take a number of forms, including:

- copying the work of another student, whether that student is in the same class, from an earlier year of the same course, or from another tertiary institution altogether;
- copying any section, no matter how brief, from a book, journal, article or other written source, without duly acknowledging it as a quotation;
- copying any map, diagram or table of figures without duly acknowledging the source;
- paraphrasing or otherwise using the ideas of another author without duly acknowledging the source.

Whatever the form, plagiarism is unacceptable both academically and professionally. By plagiarising you are both stealing the work of another person and cheating by representing it as your own. Any instances of plagiarism can therefore be expected to draw severe penalties.

Cheating means to defraud or swindle. Students who seek to gain an advantage by unfair means such as copying another student's work, or in any other way misleading a lecturer about their knowledge or ability or the amount of work they have done, are guilty of cheating. Students who condone plagiarism by allowing their work to be copied will also be subject to severe disciplinary action.

LIST OF TEXTS AND READINGS

The readings most relevant to the course are denoted with a ★. I have suggested other texts in case you are interested to read more on this topic after the conclusion of the course.

Sunday June 30: No Finance in a Frictionless World

Boileau, M., 2011, A Child's Guide to Dynamic Programming.

Kahn, R.J., and T.M. Whited, 2018, Identification Is Not Causality, and Vice Versa, *The Review of Corporate Finance Studies* 7, 1-21.

★ McCloskey, D., 1999, *Economical Writing*, Waveland Press.

★ Modigliani, F., and Miller, M., 1958, The Cost of Capital, Corporation Finance, and the Theory of Investment, *American Economic Review* 48, 261-297.

Thomson, W., 2011, *A Guide for the Young Economist*, MIT Press.

Monday 1 July: The Horse and Rabbit Stew

Andrade, G., and Kaplan, S., 1998, How Costly is Financial (Not Economic) Distress? Evidence from Highly Levered Transactions that Became Distressed, *Journal of Finance* 53, 1443-1493.

Fischer, E.O., Heinkel, R., and Zechner, J., 1989, Dynamic Capital Structure Choice: Theory and Tests, *Journal of Finance* 44, 19-40.

Glover, B., 2016, The Expected Cost of Default, *Journal of Financial Economics* 119, 284-299.

Graham, J.R., 2000, How Big Are the Tax Benefits of Debt? *Journal of Finance* 55, 1901-1941.

Goldstein, R., Ju, N., and Leland, H., 2001, An EBIT Based Model of Capital Structure, *Journal of Business* 74, 483-512.

Kane, A. Marcus, A.J., McDonald, R.L., 1984, How Big Is the Tax Advantage to Debt? *Journal of Finance* 841-853.

Kraus, A. and Litzenberger, R.H., 1973, A State-Preference Model of Optimal Financial Leverage, *Journal of Finance* 28, 911-922.

Leary, M.T., and Roberts, M.R., 2005, Do Firms Rebalance their Capital Structures? *Journal of Finance* 60, 2575-2619.

★ Leland, H., 1994, Corporate Debt Value, Bond Covenants, and Optimal Capital Structure, *Journal of Finance* 49, 1213-1251.

Lemmon, M.L., Roberts, M.R., and Zender, J.F., 2008, Back to the Beginning: Persistence and the Cross-Section of Corporate Capital Structure, *Journal of Finance* 63, 1575-1608.

★ Merton, R., 1974, On the Pricing of Corporate Debt: The Risk Structure of Interest Rates, *Journal of Finance* 29, 449-470.

Miller, M., 1977, Debt and Taxes, *Journal of Finance* 32, 261-275.

Strebulaev, I.A., 2007, Do Tests of Capital Structure Theory Mean What They say? *Journal of Finance* 62, 1747-87.

Tuesday 2 July: Going to the Real Side

Abel, A.B., and Eberly, J.C., 1994, A Unified Model of Investment Under Uncertainty, *American Economic Review* 84, 1369-1384.

★ Adda, J., and Cooper, R., 2003, *Dynamic Economics*, MIT Press, Chapter 8.

Cooper, R., and J. Haltiwanger, 2006, On the Nature of Capital Adjustment Costs, *Review of Economic Studies* 73, 611-633.

Dixit, A.K., and Pindyck, R.S., 1994, *Investment under Uncertainty*, Princeton Press, Chapter 5.

Hayashi, F., 1982, Tobin's Marginal q and Average q: A Neoclassical Interpretation, *Econometrica* 50, 213-234.

Kydland, F., and Prescott, E., 1982, Time To Build and Aggregate Fluctuations, *Econometrica* 50, 1345-1371.

★ McDonald, R., and Siegel, D., 1986, The Value of Waiting to Invest, *Quarterly Journal of Economics* 101, 707-728.

Peters, R.H., and Taylor, L.A., 2017, Intangible Capital and the Investment-q Relation, *Journal of Financial Economics* 123, 251-272.

Thursday 4 July: Constraints and Precautions

Acharya, V.V., Almeida, H., and Campello, M., 2007, Is Cash Negative Debt? A Hedging Perspective on Corporate Financial Policies, *Journal of Financial Intermediation* 16, 515-554.

Almeida, H., Campello, M., and Weisbach, M., 2004, The Cash Flow Sensitivity of Cash, *Journal of Finance* 59, 1777-1804.

Armenter, R., and Hnatkowska, V., 2017, Taxes and Capital Structure: Understanding Firms' Behavior, *Journal of Monetary Economics* 87, 13-33.

★ Bates, T., K. Kahle, and R. Stulz, 2009, Why Do U.S. Firms Hold So Much More Cash than They Used To? *Journal of Finance* 64, 1985-2022.

★ Boileau, M., and Moyen, N., 2016, Corporate Cash Savings and Credit Line Usage, *International Economic Review* 57, 1481-1506.

Bolton, P., Chen, H., Wang, N., 2010, A Unified Theory of Tobin's q, Corporate Investment, Financing, and Risk Management, *Journal of Finance* 66, 1545-78.

Bond, S., and Meghir, C., 1994, Dynamic Investment Models and the Firm's Financial Policy, *Review of Economic Studies* 61, 197-222.

Cooper, R., and Ejarque, J., 2003, Financial Frictions and Investment: Requiem in Q, *Review of Economic Dynamics* 6, 710-728.

Erickson, T., and Whited, T., 2000, Measurement Error and the Relationship between Investment and Q, *Journal of Political Economy* 108, 1027-57.

★ Fazzari, S.M., Hubbard, R.G., and Petersen, B.C., 1988, Financing Constraints and Corporate Investment, *Brookings Papers on Economic Activity* 19, 141-206.

Gamba, A., and Triantis, A., 2008, The Value of Financial Flexibility, *Journal of Finance*, 63, 2263-2296.

★ Gomes, J.F., 2001, Financing Investment, *American Economic Review* 91, 1263-1285.

Hennessy, C.A., and Whited, T., 2007, How Costly Is External Financing? Evidence from a Structural Estimation, *Journal of Finance* 62, 1705-1745.

Jermann, U., and Quadrini, V., 2012, Macroeconomic Effects of Financial Shocks, *American Economic Review* 102, 238-271.

★ Kaplan, S.N., and Zingales, L., 1997, Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints? *Quarterly Journal of Economics* 112, 169-215.

Leland, H., 1968, Saving and Uncertainty: The Precautionary Demand for Saving, *Quarterly Journal of Economics* 82, 465-473.

Miller, M.H., and Orr, 1966, A Model of the Demand for Money by Firms, *Quarterly Journal of Economics* 80, 413-435.

★ Moyen, N., 2004, Investment-Cash Flow Sensitivities: Constrained Versus Unconstrained Firms, *Journal of Finance* 59, 2061-2092.

Nikolov, B., Whited, T., 2014, Agency Conflicts and Cash: Estimates from a Structural Model, *Journal of Finance* 69, 1881-1921.

Opler, T., L. Pinkowitz, R. Stulz, and R. Williamson, 1999, The determinants and implications of corporate cash holdings. *Journal of Financial Economics* 52, 3-46.

Philippon, T., 2009, The Bond Market's Q, *Quarterly Journal of Economics* 124, 1011-1056.

Riddick, L., and Whited, T., 2009, The Corporate Propensity To Save, *Journal of Finance* 64, 1729-1766.

Strebulaev, I.A., and Whited, T.M., 2011, Dynamic Models and Structural Estimation in Corporate Finance, *Foundations and Trends in Finance* 6, 1-163.

Sufi, A., 2009, Bank Lines of Credit in Corporate Finance: An Empirical Analysis, *Review of Financial Studies* 22, 1057-1088.

Friday 5 July: Agency Costs and Learning

Alti, A., 2003, How Sensitive Is Investment To Cash Flow When Financing Is Frictionless? *Journal of Finance* 58, 707-722.

★ Andrei, D., Mann, W., and Moyen, N., 2018, Why Did the q Theory of Investment Start Working? Working Paper.

Chen, Q., Golstein, I., and Jiang, W., 2007, Price Informativeness and Investment Sensitivity to Stock Price, *Review of Financial Studies* 20, 619-650.

He, Z., 2011, A Model of Dynamic Compensation and Capital Structure, *Journal of Financial Economics* 100, 351-366.

He, Z., and D.W. Diamond, 2014, A Theory of Debt Maturity: The Long and Short of Debt Overhang, *Journal of Finance* 69, 719-762.

★ Hennessy, C.A., 2004, Tobin's q, Debt Overhang, and Investment, *Journal of Finance* 59, 1717-1742.

- Hennessey, C.A., and Whited, T., 2005, Debt Dynamics, *Journal of Finance* 60, 1129-1165.
- ★ Jovanovic, B., 1982, Selection and the Evolution of Industry, *Econometrica* 50, 649-670.
- ★ Jensen, M.C., 1986, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, *American Economic Review* 76, 323-329.
- ★ Jensen, M.C., and Meckling, W.H., 1976, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics* 3, 305-360.
- Leland, H., 1998, Agency Costs, Risk Management, and Capital Structure, *Journal of Finance* 53, 1213-1243.
- Manso, G., 2008, Investment Reversibility and Agency Cost of Debt, *Econometrica* 76, 437-442.
- Morellec, E., 2004, Can Managerial Discretion Explain Observed Leverage Ratios? *Review of Financial Studies* 17, 257-290.
- Morellec, E., Nikolov, B., and Schürhoff, N., 2010, Corporate Governance and Capital Structure Dynamics, *Journal of Finance* 67, 803-848.
- Moyen, N., 2007, How Big is the Debt Overhang Problem? *Journal of Economic Dynamics and Control* 31, 433-472.
- Moyen, N., and Platikanov, S., 2013, Corporate investments and learning, *Review of Finance* 17, 1437-1488.
- ★ Myers, S., 1977, Determinants of Corporate Borrowing, *Journal of Financial Economics* 5, 147-75.
- Myers, S., and Majluf, N.S., 1984, Corporate Financing and Investment Decisions when Firms Have Information That Investors Do Not Have, *Journal of Financial Economics* 13, 187-221.
- Taylor, L., 2010, Why Are CEOs Rarely Fired? Evidence from Structural Estimation, *Journal of Finance* 65, 2051-2087.
- Taylor, L., 2013, CEO Wage Dynamics: Evidence from a Learning Model, *Journal of Financial Economics* 108, 79-98.
- Zwiebel, J., 1996, Dynamic Capital Structure under Managerial Entrenchment, *American Economic Review* 86, 1197-1215.