

**MASTERCLASS TITLE**

Dynamic Corporate Finance Theory

COURSE COORDINATOR

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COURSE VENUE

Zoom Meetings
Fridays 9am-12:30pm on June 4, June 18, July 2, July 16, July 30

COURSE DESCRIPTION

This course covers canonical models in dynamic corporate finance. Throughout the course, we pay special attention to firm dynamics with an emphasis on capital structure decisions. Topics include default, investment, and agency costs. These models serve as the foundation upon which to examine more realistic settings with financial constraints, precautionary savings, learning, among others.

COURSE OBJECTIVE

The objective of the course is to gain an appreciation for the methods and topics at the frontier of the dynamic corporate finance field.

TENTATIVE COURSE SCHEDULE

June 4: Structural Models, Debt versus Equity, the Irrelevance Theorem
June 18: Stochastic Calculus, Endogenous Default, the Tradeoff Model
July 2: Valuation of Corporate Claims, Optimal Capital Structure
July 16: Dynamic Programming, Real Options July 30:
Neoclassical Investment, Tobin's q

COURSE PRE-REQUISITE KNOWLEDGE

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

ASSESSMENT

The assessment is comprised of five homework sets which serve to review and solidify the materials taught. You may work individually or in groups. Even when working in a group, you must submit your own homework solutions. In case of deductions, there will be an opportunity to earn partial points back.

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

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 acknowledgement. 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.

READING LIST

The readings most relevant to my lectures 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.

There's no Finance in a Frictionless World

Kahn, R.J., and T.M. Whited, 2018, Identification Is Not Causality, and Vice Versa, *The Review of Corporate Finance Studies* 7, 121.

* 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.

Here's some 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* 39, 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.

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.

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 Hnatkovska, 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.

Who's in Charge and What Do They Know?

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? *Journal of Financial Economics* 133, 251-272.

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.

Hennessy, 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.