

Theoretical Corporate Finance

The Graduate School of Finance (GSF)

Aalto University

Spring 2026

GSF Director Mikko Leppämäki (Aalto University), lectures
Professor Martin Ruckes (Karlsruhe Institute of Technology), lectures
Mr. Sina Ghavamabadi (Aalto University), exercises

Teaching Schedule: <https://gsf.aalto.fi/tcf/>

Exams: at 10.00 - 14.00, Wednesday, April 1, 2026, Retake Exam: tba

Content: The course offers a doctoral level introduction to Theoretical Corporate Finance. The early part of the course focuses mainly on corporate financing and agency costs. We will examine corporate financing under moral hazard and asymmetric information as well as signalling in corporate finance and how the short- and long-term debt (debt maturity) can be used to control entrenched managers. The latter part of the course focuses in depth on selected topics including, but not limited to, theories of debt/debt markets, equity markets: initial public offerings, market for corporate control, and internal capital markets and investment.

Prerequisites: Students are expected to have basic knowledge of master level corporate finance, as well as familiarity with static optimization, utility functions, expected utility theory and basic microeconomics. This course is designed for Finance PhD students who may not be familiar with game and contract theoretic techniques before the course. *To help prepare for the course, students will receive notes on the basics of noncooperative game theory and contracting. The expectation is that students get familiar with some parts (to be specified later) of the notes before the course starts.* The first exercise session on January 14 is devoted to clarify some basic issues and solving techniques.

Exercises: Assignments will be posted on the home page of the course and you have about one week to solve them. *You are expected to submit answers only to the questions marked with (*) in the assignment from exercise set 2 onwards.* However, it is highly recommended that you make an attempt at solving all questions before the exercise session for your own benefit. You can earn up to 20 points from the questions marked with (*) towards the final grade. Please send the answers for the questions marked with (*) directly to sina.ghavamabadi@aalto.fi before the exercise session. *Please keep a copy of your answers, since the answers are not returned.*

Honor Code: Please note that when you submit your answers to the exercises marked with (*) you acknowledge that answers to the questions are your own, they have not been copied from the internet or other sources. *The AI policy: You must state whether you have used AI and also briefly explain how you have used it.* We however strongly encourage you to solve exercises without consulting AI and possibly check only afterwards your answers with it. Working on your own with the exercises helps you in learning and prepares also to solve problems at the exam. *Notice that at the exam you have no access for AI.* Please note also that the teaching materials of the exercises including the answers is for your personal use only. Do not distribute materials further to future cohorts.

Teaching materials: Lecture notes and exercises will be posted on the home page of the course before weekly lectures/exercises. You will get a password for opening them.

Grading: The course comprises two compulsory parts (a written closed book exam and exercises). The total points of the course are 100. To pass the course, one needs at least 50 points. In addition, one must get at least 50% of the points from each compulsory parts: a written closed book exam (max 80 points) and exercises (max 20 points).

Exams: There is a written closed book exam and also a retake exam. It

is expected that you master the materials covered in lectures, exercises and in the required readings. Naturally, you are encouraged to get familiar with the additional readings announced at the lectures. The exam questions are similar(ish) as in the exercises. *Try to solve as many exercises as you can - the (second) best way to learn!*

Course Objectives:

1. Introduce and explain why and what type of *agency problems* are associated with external finance/capital structure?
2. To familiarize students with the *formal way of modeling* and solving agency problems by using game theory and contracts.
3. Explain in detail how firms can *optimally finance* their activities given various type of agency problems.

Intended Learning Outcomes:

After completing the course, students should be able to:

1. identify potential agency problems that may arise with various type of external financing (under different scenarios),
2. understand how the careful design of financial contracts can minimize these problems,
3. set up and solve game theoretic and contracting models in corporate finance related to external financing, and
4. be better prepared and more comfortable to follow the literature and critically read corporate finance theory papers published in the leading finance and economic journals.

Teaching Plan - Topics (ML)

1. Corporate Financing under Moral Hazard

- Moral Hazard Constraining Financing Possibilities
- Under Supply of Effort and Risk Shifting
- Optimality of Debt
- Debt Overhang & Renegotiation
- Nonverifiable Cash Flows: Strategic Default and Threat of Termination
- Inalienable Human Capital: Access to External Funding

2. Corporate Financing under Asymmetric Information

- Asymmetric Information Constraining Financing Possibilities
- Contract Design and Full Equilibrium Analysis
- Pecking Order Theory

3. Signaling in Corporate Finance

- Actions Revealing Private Information to Financiers (Capital Market)
- Signalling with Externalities (or to several audiences)

4. Debt, Managerial Incentives and Entrenchment

- Empire Building Managers Controlled by Debt Set by The Owners (Shareholders)
- The Role of Long Term Debt Set by The Owners (Shareholders) to Control Managers' Investment Choices
- The Manager Choosing Debt Level to Self Restrain from The Inefficient Actions (Investments)
- Short and Long Term Debt (Debt Maturity) Chosen by the Manager or Shareholders

Teaching Plan - Topics (MR)

5. Debt Markets

- Static Financial Contracting
- The Number of Creditors
- Direct and Intermediated Debt
- Contracts and Control
- Coexistence of Debt and Equity

6. Equity Markets: Initial Public Offerings

- IPO Underpricing
- IPO Pricing in Hot Markets

7. The Market for Corporate Control

- Takeovers
- Voting
- Ownership Structure

8. Internal Capital Markets and Investment

- External vs. Internal Capital Markets
- Incentive Problems in Multi-Division Firms
- Corporate Socialism
- Herd Behavior and Investment