

Theoretical Corporate Finance

Part I: Corporate Financing and Agency Costs

The Graduate School of Finance (GSF)

Aalto University

Spring 2025

Mikko Leppämäki (Aalto University), lectures

&

Sina Ghavamabadi (Aalto University), exercises

Lectures, 20 hours

Tuesday	14.1.	12.15 - 14	U250a, Otakaari 1
Wednesday	15.1.	10.00 - 12	U250a, Otakaari 1
Tuesday	21.1.	12.15 - 14	U250a, Otakaari 1
Wednesday	22.1.	10.00 - 12	U250a, Otakaari 1
Tuesday	28.1.	12.15 - 14	U262 KPMG, Otakaari 1
Wednesday	29.1.	10.00 - 12	U250a, Otakaari 1
Tuesday	4.2.	12.15 - 14	U262 KPMG, Otakaari 1
Wednesday	5.2.	10.00 - 12	U250a, Otakaari 1
Tuesday	11.2.	12.15 - 14	U262 KPMG, Otakaari 1
Wednesday	12.2.	10.00 - 12	U250a, Otakaari 1

Exercises, 12 hours

Wednesday	15.1.	12.15 - 14	U250a, Otakaari 1
Wednesday	22.1.	12.15 - 14	U250a, Otakaari 1
Wednesday	29.1.	12.15 - 14	U250a, Otakaari 1
Wednesday	5.2.	12.15 - 14	U250a, Otakaari 1
Wednesday	12.2.	12.15 - 14	U250a, Otakaari 1
Wednesday	19.2.	12.15 - 14	U250a, Otakaari 1

Exams

Exam: at 10.00 - 14.00, Friday, March 28, 2025

Retake Exam: tba

Content: The course offers a *doctoral level introduction* to the theoretical corporate finance research with the help of game theory and contracting. In part I of the course the focus is on corporate financing and agency costs. We will examine financial contracting under moral hazard, financial contracting under asymmetric information, signaling in corporate finance and how the short and long term debt (debt maturity) can be used to control entrenched managers. To sum up: we examine how agency problems affect the way how corporations optimally finance their activities by taking into consideration the strategic behavior of other market participants.

Prerequisites: You are assumed to have basic knowledge of corporate finance, static optimization, utility functions, expected utility theory and microeconomics. You will be distributed in advance some notes on the basics of noncooperative game theory and contracting under moral hazard. **The expectation is that you have a look of some parts (to be specified later) of that self-study material before the course starts.** The first exercise session on January 15 is devoted to clarify some basic issues and solving techniques. During the course I will occasionally refer to some of the material in these notes.

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 only the question 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 simultaneously declare that answers to the questions are your own. Please note also that the teaching material of the exercises including the answers for the exercises is for your personal use only. Do not distribute the material further to your future colleagues.

Teaching material: Lecture notes and exercises will be posted on the home page of the course. You will be provided with 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 exam covering both parts of the course. There is also be a retake exam. It is expected that you master the materials covered in lectures, exercises and in the required readings. In addition, you are encouraged to get familiar with the additional readings announced at the lectures. The exam questions are similar(ish) as in the exercises. *Working on your own with the exercises helps you in learning and prepares to solve problems at the exam. 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 you 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 Outcome:

After completing the course, students should be able

1. to identify the potential agency problems that may arise with various type of external financing under different scenarios,
2. to set up a simple game theoretic and contracting models to characterize those situations and to solve them, and
3. in general, be more comfortable and better prepared to follow the literature and read corporate finance theory papers published in top journals.

Teaching Plan

1. Corporate Financing under Moral Hazard

- moral hazard constraining financing possibilities; credit rationing
- 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