



Application of Capital Market Theory

Winter term 2018/19

Univ.-Prof. Dr. Alexander Kempf

Instructor of exercise sessions: Dr. Alexander Pütz

Course Description

This course (= specialization module "Finance 1") should enable students to apply financial models in real world problems. Therefore, students must have a solid knowledge of finance theory at the level of the course "Capital Market Theory" taught during the first half of the winter term.

The course consist of five parts (in addition to the introductory part). In the first section, we will discuss in detail how we can apply the basic Markowitz model in the real world. We will analyze how to take trading costs and restrictions into account and extend the investment universe to international asset markets.

The second section is dedicated to the core problem when applying the Markowitz model: How to get the model parameters needed? We will see how one can use asset pricing models to derive parameter estimations.

The emphasis of the third section is on how one can use asset pricing models to judge the investment performance. We will discuss several classical performance measures and their theoretical foundation.

The fourth section is dedicated to financial engineering. We will use asset pricing models to price and hedge non-standard derivatives. These include exotic options as well as various kinds of structured products.

The last section deals with risk management. We will discuss how asset pricing models can be used to measure and adjust the risk of a portfolio position.

Summing up, students will learn how to implement optimal portfolios taking their investment restrictions into account, analyze the performance of their investment, create tailor-made financial instruments, and control the portfolio risk using derivatives.

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Learning Concept:

The course consists of lectures and exercise sessions. In the lectures, the concepts of how to apply financial models are introduced and discussed. In the exercise classes you will practice yourself how to apply them. To do so, you will get two types of problem sets, home assignments and in-class assignments.

Students are expected to study the home assignments prior to the assigned dates and come prepared to discuss them in class. If there are problems in preparing the assignments, the students may consult the solution set provided with the assignment or send an email with specific questions to the instructor of the exercise sessions.

In-class assignments are intended to be solved during the class. The instructor stands ready to answer questions and give advice. Solution sets are provided after the session.

Students will be able to check their understanding by taking in-class tests covering several sections. These tests have no impact on the final grade.

Bibliography:

The main textbook for this course is “Financial Theory and Corporate Policy” by Copeland, Weston, and Shastri (2005). However, this book is mainly on financial theory, not on its application. Applications are mainly discussed in journal articles which are accessible through the homepage of the university library.

Materials:

The course material consist of lecture slides, problem sets, and the corresponding solution sketches. The material is made available to the students in ILIAS.

Workload and Grading

The total workload of the course consists of 180 hours, of which 60 hours are class and 120 hours study time. Grading will be based on a written 60 minutes exam.