

No. 10146-01

Finanzmarkttheorie I

Portfolio Theory and Asset Pricing

1. Course Objective

The course gives a thorough introduction to portfolio theory and capital market equilibrium. These are the building blocks of modern asset pricing theory with relevance for investment management, banking, corporate finance and capital budgeting. The material presented pertains to all kind of asset classes though we will focus on applications to stock investments. Specifics of fixed income and derivative securities will be covered in separate classes (e.g. Dr. Philippe Mangold). Specifically, the following topics are covered:

- The measurement of risk and return
- Diversification, systematic and unsystematic risk
- Mean-variance portfolio frontier
- Asset allocation principles and portfolio selection
- Asset pricing models (CAPM and multifactor models)
- Applications of the CAPM
- Performance measurement

The lecture requires some mathematical, statistical and empirical skills: this is part of modern finance. You should be comfortable with these technical issues. However, we take a hands-on approach and cover it in an applied way.

2. Grading, Exam, Credit Points

Credit Points: 6 ECTP. Grading is based on a final written exam at the end of the semester. The exam is open book, and a non-programmable calculator without network connections is required (see regulations concerning permitted aids; <https://www.unibas.ch/en/studies/examinations/permitted-aids/>).

3. Handouts

There is no required textbook; some recommended texts can be found at the end of the syllabus. For most topics, handouts / lecture notes are available on ADAM a few days before the lecture. Notice that this material does not fully substitute your own notes in the lectures.

4. Exercise Sessions

Exercises sessions are held for reviewing and applying the contents of the course; mostly, the sessions discuss numerical examples, illustrations or some empirical stuff. The contents of the exercises form an integral part of the course material and are relevant to the exam.

The exercises are put on ADAM one week before discussion. We *strongly recommend* that you try to solve the exercise before in-class discussion, individually or in groups. You need not be able to work-out full solutions but find out your question marks.

5. Organization

Presumably, all lectures will take place on site. Adaptations will be made in accordance with the circumstances and regulations of the University of Basel.

Location: Kollegienhaus, Hörsaal 102

Date and time: Monday: 14:15-17:30
 Exceptions: Lecture 2 and 12
 1st lecture: 20th February 2023
 Last lecture: 30th May 2023
 No lecture: 27th February 2023, 10th April 2023, 1st May 2023
 & 29th May 2023

Lecturers: Prof. Dr. Heinz Zimmermann, HZI (1st part)
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 <https://wwz.unibas.ch/de/zimmermann/>

 Prof. Dr. Tim Kröncke, TKR (2nd part)
 t.kroencke@unibas.ch
 <https://www.unine.ch/iaf/home/equipe/tim-kroencke.html>

Assistant: Lukas Jaeger, LJA
 l.jaeger@unibas.ch

Offices: HZI: Peter-Merian Weg 6, 4002 Basel
 TKR: Rue A.-L. Breguet 2 - 2000 Neuchâtel, or WWZ Basel
 Office Hours: By appointment (please send an email)

Please check regularly our department website:

<https://wwz.unibas.ch/de/finanzmarkttheorie/> → Teaching

6. Course Outline

Date	No	Topic	SZ&Z
		Part 1 - Portfolio Theory (HZI, LJA)	
20.02.2023	1	Risk and Return I – Returns and Volatility	2, 3
09.03.2023 Hybrid, 16:15-20:00	2	Risk and Return II – Stochastic Model	4
13.03.2023	3	Risk and Return III – Risk Measures	3, 4
20.03.2023	4	Risk aversion. Portfolios and Diversification	5, 8
27.03.2023	5	Efficient Diversification	9, 10
03.04.2023	6	Efficient Diversification	9, 10
		Part 2 - Asset Pricing (TKR)	
17.04.2023	7	Systemic Risk and the Capital Asset Pricing Model (CAPM)	8, 11
24.04.2023	8	Empirical Tests of the CAPM	11
08.05.2023	9	Anomalies and the Factor Zoo	11
15.05.2023	10	Response to the Failure of the CAPM	12
22.05.2023	11	Application: Performance Measurement	14
30.05.2023 Zoom, 16:15-open end	12	Case Study: Buffet's Alpha Exercise and Q&A	

The referenced chapters from the textbook of YZ&Z are indicative, they are not relevant for the exam (unless the topic overlaps with the lecture notes)

7. Recommended books

A comprehensive and detailed textbook in German, which contains aspects of almost all the relevant topics, is:

- Seiler Zimmermann, Y. / Zimmermann, H. (2021): „Finance Compact Plus“, NZZ Libro → abbreviated by SZ&Z

A good German textbook with Excel applications is

- Poddig, T./ Brinkmann H./ Seiler K. (2009): „Portfoliomanagement: Konzepte und Strategien“, 2. Auflage, Uhlenbruch Verlag

An excellent book for working with concrete examples in Excel is

- Benninga, S. (2014): “Financial modeling”, MIT-Press, CambridgeMA, 4th edition

An extremely useful introduction in empirical (econometric) methods used in finance with EViews applications is

- Brooks, C. (2019): “Introductory Econometrics for Finance”, Cambridge University Press, 4th edition

A lot of empirical material related to asset classes, return and risk estimates etc. can be found in

- Ilmanen, A. (2011): “Expected returns”, Wiley

Several advanced but practically extremely useful topics in portfolio management and asset allocation are covered by

- Scherer, B. (2015): “Portfolio Construction and Risk Budgeting”, Risk Books, 5th edition

Two textbooks emphasizing international issues in finance are

- Solnik, B./ McLeavey D. (2008): “Global investments”, 6th edition, Pearson/AddisonWesley
- Zimmermann, H./ Drobetz W./ Oertmann P. (2002): “Global Allocation”, Wiley (slightly outdated, available from the first author at a discount)

A very readable and still elaborate introduction into the quantitative foundations of financial markets is given by

- Wilmott, P. (2007): „Paul Wilmott introduces Quantitative Finance“, 2nd edition, Wiley