



Course and Examination Fact Sheet: Spring Semester 2021

8,178: Asset Liability Management for Insurance Companies

ECTS credits: 4

Overview examination/s

(binding regulations see below)

Decentral - Written examination (100%, 90 mins.)

Examination time: term time

Attached courses

Timetable -- Language -- Lecturer

[8,178,1.00 Asset Liability Management for Insurance Companies](#) -- Englisch -- [Schmeiser Hato](#)

Course information

Course prerequisites

Bachelor Degree or equivalent.

Learning objectives

This course enables students to understand and work with complex matters in Asset Liability Management. Students will discuss various quantitative, theoretical concepts and apply them to practical problem settings. Coaching sessions accompany the successful learning path of all students.

Course content

The course Asset Liability Management describes and profoundly discusses concepts for the management of assets and liabilities in insurance companies. Initially, asset and liability management are considered separately. Finally, asset and liability side are combined with the purpose of developing integrated management approaches for life and non-life insurance companies.

Course structure

Asset management of insurance companies (basic considerations; Insurance Capital Asset Pricing Model; legal requirements of asset allocation policy; strategic aspects of asset allocation policy; performance measurement of capital allocation policy in insurance companies)

Liability management of insurance companies (group-balance concept; forms of risk diversification; reinsurance policy; Alternative Risk Transfer (ART); Solvency I, Solvency II, and Swiss Solvency Test (SST))

Asset liability management of insurance companies (overview and motivation; forms of asset liability management; asset liability management based on Markowitz approach: simultaneous vs. classical modeling; theoretical approaches for profit and solvency control based on integrated models)

Course literature

Albrecht, P. (1982): Gesetze der großen Zahlen und Ausgleich im Kollektiv - Bemerkungen zu Grundlagen der Versicherungsproduktion, *Zeitschrift für die gesamte Versicherungswissenschaft* (71), 501-538

Cummins J. D. (1991): Statistical and Financial Models of Insurance Pricing and the Insurance Firm, *The Journal of Risk and Insurance* (58), 261-302

Doherty, N. (2000): *Integrated Risk Management - Techniques and Strategies for Reducing Corporate Risk*, New York.



Farny, D. (2000): *Versicherungsbetriebslehre*, 3. Auflage, Karlsruhe.

Gründl, H./Schmeiser, H. (2002): Pricing Double-Trigger Re-insurance Contracts: Financial Versus Actuarial Approach, *Journal of Risk and Insurance* (69), 449-468

Liebwein, P. (2000): *Klassische und moderne Formen der Rückversicherung*, Karlsruhe

Lowe, St. P. and Stanard, J. N. (1997): An Integrated Dynamic Financial Analysis and Decision Support System for a Property Catastrophe Reinsurer, *ASTIN Bulletin* (27), 339-371. Markowitz, H. (1952): Portfolio Selection, *Journal of Finance* (7), 77-91.

Schmeiser, H. (2004): New Risk-Based Capital Standards in the European Union: A Proposal Based on Empirical Data, *Risk Management & Insurance Review* (7), 41-51 Gatzert, N./Schmeiser, H.: The Merits of Pooling Claims Revisited, *The Journal of Risk Finance*, Vol. 13 (2012), No. 3, S. 184-198

Braun, A./Schmeiser, H./Rymasewski, P. (2014): Stock vs. Mutual Insurers: Who Does and Who Should Charge More?, erscheint in: *European Journal of Operational Research*

Braun, A./Schreiber, F./Schmeiser, H.: Solvency II's Market Risk Standard Formula: How Credible is the Proclaimed Ruin Probability? erscheint in: *Journal of Insurance Issues*

Additional course information

In the case of the President's Board having to implement new directives due to the SARS-CoV-2 pandemic in SpS2021, the course information listed above will be changed as follows:

- The course is conducted online via the platform zoom.
- The recordings of the course are permanently available.
- The lecturer informs via Canvas on the changed implementation modalities of the course.

The examination information listed below would be changed as follows:

- The written examination is conducted online as a 90-min Take-Home exam and is being recorded.
- Allowed examination aids are slides, research articles and lecture notes.

Further information are communicated via Canvas.

Examination information

Examination sub part/s

1. Examination sub part (1/1)

Examination time and form

Decentral - Written examination (100%, 90 mins.)

Examination time: term time

Remark

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Examination-aid rule

Extended Closed Book

The use of aids is limited; any additional aids permitted are exhaustively listed under "Supplementary aids". Basically, the following is applicable:

- At such examinations, all the pocket calculators of the Texas Instruments TI-30 series and mono- or bilingual dictionaries (no subject-specific dictionaries) without hand-written notes are admissible. Any other pocket calculator models and any electronic dictionaries are inadmissible.
- In addition, any type of communication, as well as any electronic devices that can be programmed and are capable of



- communication such as notebooks, tablets, mobile telephones and others, are inadmissible.
- Students are themselves responsible for the procurement of examination aids.

Supplementary aids

Pocket calculator TI-30 series

Examination languages

Question language: English

Answer language: English

Examination content

All course contents / topics as defined above and treated in class.

Examination relevant literature

See course references.

Please note

Please note that only this fact sheet and the examination schedule published at the time of bidding are binding and takes precedence over other information, such as information on StudyNet (Canvas), on lecturers' websites and information in lectures etc.

Any references and links to third-party content within the fact sheet are only of a supplementary, informative nature and lie outside the area of responsibility of the University of St.Gallen.

Documents and materials are only relevant for central examinations if they are available by the end of the lecture period (CW21) at the latest. In the case of centrally organised mid-term examinations, the documents and materials up to CW 12 are relevant for testing.

Binding nature of the fact sheets:

- Course information as well as examination date (organised centrally/decentrally) and form of examination: from bidding start in CW 04 (Thursday, 28 January 2021);
- Examination information (regulations on aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 22 March 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 12 (Monday, 22 March 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before the end of the registration period in CW 14 (Thursday, 8 April 2021).