

**Integrated Master Program
Department of Economics
Albert-Ludwigs-University of Freiburg**

**Lecture “Measures of Risk, Solvency
and Capital Allocation”**

Winter Semester 2006/2007

Lecturer: Prof. Dr. Karl-Theodor Eisele
Université Louis Pasteur, Strasbourg

Time:	Monday, 8. Jan. 2007	14-18 h	HS 1098
	Tuesday, 9. Jan. 2007	9-13 h	HS 1098
	Thursday, 11. Jan. 2007	15-19 h	HS 1098
	Friday, 12. Jan. 2007	10-14 h	HS 1098
	Monday, 22. Jan. 2007	14-18 h	HS 3219
	Tuesday, 23. Jan. 2007	9-13 h	Haus “Zur Lieben Hand” Großes Besprechungszimmer

Target Group: Master of Finance students (second segment), and Diplom-VWL students (Hauptstudium, anrechenbar für Finanzmärkte)

Credits: 4 Credit points

Description:

The question “How much capital is needed to cover a risky short position or a liability?” is of great interest to regulators, financial institutions and insurances, as well as to researchers.

The Basel Committee, the International Accounting Standards Board (IASB), the Committee of European Insurance and Occupational Pensions (CEIOPS) and many others are all active in giving an answer to the question posed above. Moreover, the intimately related question of proper allocation of risk capital to different business lines is also important from an internal management point of view.

After an introduction to the problem, we start the lecture with the most applied risk measure, the value at risk (VaR). Its inconsistency, the non-subadditivity, is demonstrated. An axiomatic approach, leading to coherent or convex risk measures, or better to their counterparts, the risk adjusted values, is developed. The most popular coherent risk measure is the conditional tail expectation (Tail-VaR).

As examples, we study some standard European solvency models, like the Swiss Solvency Test. The question of costs of economic capital or the return on risk adjusted values comes up naturally.

Based on a coherent risk measure, we present a solution to the problem of allocation of risk capital to different lines of business, thus passing from risk measurement to risk management.

Finally, we give a hint to the problem of multi-period risk measures.