

**Gesamtprüfung**  
**Financial Management**  
Dr. Florian Hauser**04/2013**  
**18. April 2013**

N° 1	N° 2	N° 3	N° 4	N° 5	N° 6	N° 7	Total	Note
5	5	5	5	5	5	10	max. 40	PS:

Name:

Studienkennzahl:

Matrikel:

**You can answer in English and German language as well!**

- 1) Explain the term “efficient portfolio” in the context of portfolio theory. Explain why an investor might have an incentive to hold an inefficient stock in his portfolio.

- 2) Assume a CAPM-efficient market where Modigliani-Miller assumptions can be applied. Risk-free interest rate (to be applied for firms and investors for savings and credits) is 5%, and the equity premium is 4%. Firm A's Beta is 1.25.
- a) Calculate Firm A's expected return.
  - b) Assume Firm A's weighted average costs of capital  $r_{wacc}$  to be 8%, what is Firm A's capital structure (leverage)?
  - c) Firm B is unlevered, and faces the same business risk as firm A. What are the costs of equity  $r_E$  for firm B?
  - d) What is B's beta?

3) A firm in excess of cash decides whether to increase the dividend or repurchase own shares.

- a) Discuss advantages / disadvantages from the viewpoint of the firm.
- b) Discuss the effect of both decisions for investors.

4) Explain potential problems of dividend discount models that are used to calculate the fundamental value of stocks.

- 5) The table shows historical log-returns over the last 5 years. Over the same time, the risk-free rate of return was flat at 2% per year. Use those historical values to:

- a) Calculate the historical equity premium.
- b) Calculate the Sharpe ratio (=slope of the capital market line).
- c) Calculate Beta of stock A.

Year t	Return Stock A	Return Market
1	1%	6%
2	-2%	4%
3	5%	3%
4	2%	3%
5	4%	4%

- 6) Schredelseker-Model: Consider a market for a security with the true value being the sum of ten Laplace-coins. There are ten risk-neutral fundamental traders  $t_n$ ; every trader  $t_n$  sees the first  $n$  coins. Every trader wants to trade one unit (long or short). The sequence of the coins is 0011011010.

<b>Trader <math>t_n</math></b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>

- What is the equilibrium price for the security?  
Argue if this price is informationally efficient according to the definition of Jensen.
- What are the returns for buyers and sellers (partitioning is applied if needed)?
- Who has an advantage or disadvantage if the first three coins become public information?

7) Multiple Choice.

Correct answers will bring 1 point; incorrect answers count -1 point. If a question is not answered, no points are assigned. Even with wrong answers, the total points for the multiple choice questions cannot be below 0. Comments will be ignored.

How to tick a box in the multiple choice section:

tick a box



untick a box



tick a box (again)



	true	false
A bank credit of 10.000€ together with an investment of 20.000€ in the market portfolio will give you a beta of 2.	<input type="checkbox"/>	<input type="checkbox"/>
The efficient-market hypothesis assumes that investors have perfect foresight.	<input type="checkbox"/>	<input type="checkbox"/>
The efficient-market hypothesis requires successive price changes to be free of economically significant autocorrelation.	<input type="checkbox"/>	<input type="checkbox"/>
In a study by Fama / French, firm size did explain stock returns better than beta.	<input type="checkbox"/>	<input type="checkbox"/>
According to the two-funds-theorem, all efficient stocks can be found at the same iso-return-line.	<input type="checkbox"/>	<input type="checkbox"/>
Event-studies are frequently used to test the CAPM model.	<input type="checkbox"/>	<input type="checkbox"/>
For a portfolio P of stocks A and B ( $\rho_{AB} = 0$ ) holds: $\sigma_P = x_A * \sigma_A + x_B * \sigma_B$ .	<input type="checkbox"/>	<input type="checkbox"/>
According to the trade-off theory, financial distress will increase capital costs of a firm.	<input type="checkbox"/>	<input type="checkbox"/>
According to the traditional view on capital structure, the weighted average cost of capital are a linear function of leverage.	<input type="checkbox"/>	<input type="checkbox"/>
In CAPM equilibrium, the security market line describes the expected return of stocks as a linear function of beta.	<input type="checkbox"/>	<input type="checkbox"/>

