

Fachprüfung
Financial Management
Dr. Florian Hauser**04/2014**

N° 1	N° 2	N° 3	N° 4	N° 5	N° 8	Total	Note
6	6	6	6	6	10	max. 40	PS:

Name:

Studienkennzahl:

Matrikel:

You can answer in English and German language!

- 1) Discuss Random Walks. More specific, please explain
 - a) what a Random Walk is (you might want to use mathematical formulae to clarify).
 - b) what Random Walks have to do with stock prices.
 - c) the relationship between Random Walks and Market Efficiency.

- 2) Describe the most important findings (the results and implications) of **Schredelseker's agent-based coin-model**. More specific:
 - a) Describe three findings related to how investors should deal with information on stock markets. Give a short description (1 sentence) for each finding.
 - b) Describe three findings related to market efficiency. Give a short description (1 sentence) for each finding.

- 3) Choose **only one of the following two** topics. Explain it **in short words** and, more important, explain its relation to / implication for finance:
- Topic 1: The market for lemons.
- Topic 2: El Farol Bar (minority game).

- 4) The market is in CAPM equilibrium, and the equity premium is 6%. Stock “Blue” has the following characteristics: $\mu_{Blue} = 0.06$, $\sigma_{Blue} = 0.05$, $\sigma_{sys,Blue} = 0.03$, $\beta_{Blue} = 0.5$.
- a) Calculate r_f .
 - b) Calculate σ_M (market risk).
 - c) Calculate the unsystematic risk of stock “blue”
 - d) Calculate the risk (σ) of a well-diversified portfolio that has an expected return of 0.12.
 - e) Your personal wealth is 100.000 Euro. You already invested 20.000 Euro in r_f . The rest of your money (80.000 Euro) shall be invested in stock “blue” and in stock “red” ($\beta_{red} = 1.8$). How much money must be invested in “blue” and “red” so that your total portfolio (worth 100.000) has a beta of 1?

- 5) Assume firm “Tech” to have a book equity of 1.000.000, EPS of 4, and a payout ratio of 60%. There are 20.000 shares outstanding. One share quotes at 200.
- a) Calculate ROE of “Tech” (ROE as a percent figure, based on book values).
 - b) Calculate the growth-rate of “Tech”.
 - c) Calculate the dividend-yield of “Tech”.
 - d) Calculate the risk-adjusted discount factor for “Tech”.
 - e) Calculate the Price/Book ratio of “Tech”.
 - f) Interpret the Price/Book ratio of “Tech”.

6) 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
The bimatrix-game shows that both players can be harmed when one of them gets private (non-secret) information.	<input type="checkbox"/>	<input type="checkbox"/>
There are theoretical arguments, as well as empirical findings, that suggest a positive correlation between a firm's capital structure L , and the beta of the firm's stock.	<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, beta did explain stock returns better than firm-size.	<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"/>
According to the trade-off theory, the tax shield will decrease capital costs of a firm.	<input type="checkbox"/>	<input type="checkbox"/>
Firms should apply Shareholder-value-maximization to maximize their return on equity.	<input type="checkbox"/>	<input type="checkbox"/>
An empirical study shows that buying past winner stocks, and selling past loser stocks has been a profitable trading strategy.	<input type="checkbox"/>	<input type="checkbox"/>
An empirical study shows that buying past loser stocks, and selling past winner stocks has been a profitable trading strategy.	<input type="checkbox"/>	<input type="checkbox"/>