

**Fachprüfung Financial Management**

**04/2016**

Q1	Q2	Q3	Q4	Q5	Q6	Sum	Grade
6	6	6	6	6	10	max. 40	PS:

.....  
 Name Matrikel Studienkennzahl

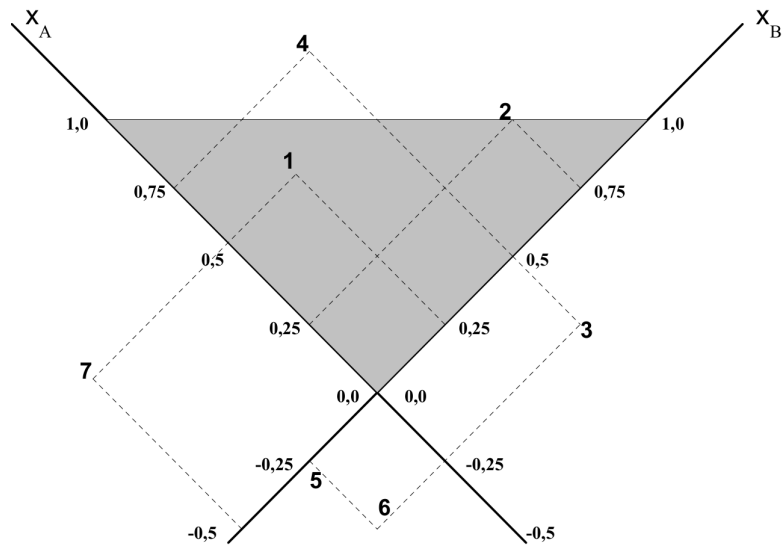
**You can answer in English and German language!**

**Question 1: Fundamental analysis with Gordon's formula.**

- Firm "*frst*" pays no dividends at the moment. You assume that the first dividend of 1 Euro is payed in 5 years, and that dividends grow at a rate of 4% in the following years. The risk-adjusted discount rate for stock *frst* is 7%. What is the fair market price  $P_0$  of *frst*?
- The risk-adjusted discount rate for stock "*scnd*" is 10%. You assume that earnings and dividends of *scnd* grow indefinitely at a rate of 6%, and you find that the market price of *scnd* is fair. What is the dividend yield of *scnd*?

## Question 2: Two-funds-theorem

The above figure shows the feasible portfolio space for three stocks A, B, and C.



- What are the shares  $x_A$ ,  $x_B$ , and  $x_C$  for the portfolios 1, 2, and 3?
- Mark all points in the graph where  $x_C = 0.5$ .
- Summarize the core result of the two-funds-theorem in one sentence.

**Question 3: Efficient markets**

Malkiel and Jensen did extensive analyses on the performance of mutual funds. Discuss the main findings and, more important, discuss what the findings mean in context of the efficient markets hypothesis.

**Question 4: Insider regulation**

- a) Why do regulators prohibit insider trading?
- b) What are the downsides (i.e. problems) of insider regulation from an economic perspective?

### Question 5: 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 1111000000.

Trader $t_n$	0	1	2	3	4	5	6	7	8	9
$n$ (n° of coins seen)	0	1	2	3	4	5	6	7	8	9
a) $E(V)$										
a) Return										

- a) Calculate the predictions of all traders  $E(V)$  in the above table.
- b) Calculate returns of all traders in the above table.
- c) Explain in short words (not more than two sentences!) the covariance effect in context of that coin sequence.

## Question 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 / untick multiple choice questions:



tick a box



untick a box



tick a box again

	true	false
In the Modigliani-Miller model on capital structure, the risk premium on financial risk will increase with increasing leverage (c.p.).	<input type="checkbox"/>	<input type="checkbox"/>
According to the pecking-order-hypothesis, issuing new stocks is the preferred source of fresh capital for managers.	<input type="checkbox"/>	<input type="checkbox"/>
In the traditional view on capital structure, the weighted average costs of capital are independent of leverage.	<input type="checkbox"/>	<input type="checkbox"/>
Assuming prices follow a random walk implies that price changes (i.e. returns) must be free of autocorrelation.	<input type="checkbox"/>	<input type="checkbox"/>
According to Roll's critique, the only legitimate test of the CAPM would be to check if the market portfolio is $\mu - \sigma$ efficient.	<input type="checkbox"/>	<input type="checkbox"/>
<b>The following five questions refer to Figure 1 below!</b>		
In CAPM equilibrium the slope of the Q-curve has to be equal to the slope of the capital market line.	<input type="checkbox"/>	<input type="checkbox"/>
CAPM equilibrium is characterized by $M = Q$ and $x = 1$ .	<input type="checkbox"/>	<input type="checkbox"/>
In CAPM equilibrium, stock $j$ must be the market portfolio.	<input type="checkbox"/>	<input type="checkbox"/>
In CAPM equilibrium, stock $j$ will not be part of the market portfolio.	<input type="checkbox"/>	<input type="checkbox"/>
In CAPM equilibrium, there will be no excess demand for $j$ , thus $x = 0$ .	<input type="checkbox"/>	<input type="checkbox"/>

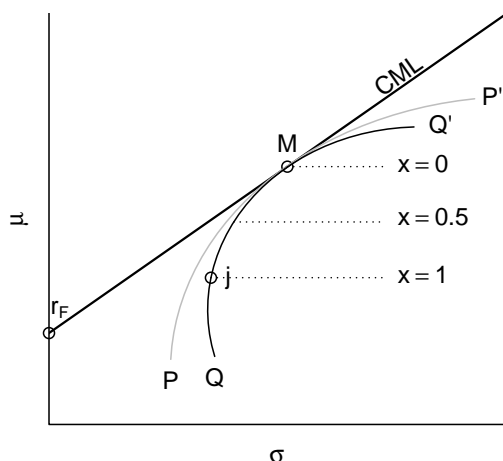


Figure 1

Microeconomic foundation of the CAPM:  
The Markowitz efficient set is given by  $PP'$   
 $QQ'$  covers all portfolios consisting of  $M$  and a single stock  $j$ .

