



Examination: Human Resource Management – Retake Exam (ST 2007)

Examiner: Dr. Marijaana Gunkel/Prof. Dr. Birgitta Wolff Course No.: 1524/5076

Please note that in the Final Exam at hand, you will have **2 hours** to solve the problems worth a maximum of 70 points. Please consider the following general advice:

- 1 Use the theoretical tools and terminology you have learned in class and from the textbook
- 2 Make sure there is a clear structure in your argument (Use some time to sort your ideas before you start writing the version you want to submit, esp. if you answer B)
- 3 Use the time you have! If you are ready much earlier than we planned you should ask yourself whether you forgot something.
- 4 Remember: people have to be able to decipher what you write
- 5 Leave a margin for our comments, so we can give you a more detailed feedback than just the number of points.
- 6 Each main question has sub-questions. Answer each one explicitly.

Examination Questions:

Please solve either problem(s) A or B (maximum 70 points):

You are welcome to use a dictionary and a calculator.

A) Please answer only 7 out of the following 9 questions:

1. Investing in Human Capital (max. 10 points)

Training is a way of investing in a worker's human capital. Against this background, please consider the following statement: "*German firms report that only 25 per cent of the workers above the age of 50 are trained on a regular basis.*"

- a) Provide an analytical description of what determines a human capital investment decision.
- b) Using the concept introduced in a) discuss the above statement and explain the potential role of mandatory retirement.
- c) Assuming a mandatory retirement age of 67 years and an interest rate of 5% p.a., calculate whether the following investment is beneficial for the firm: Ed is 63 and is planned to take part in a two-year training program. Due to the rather firm-specific human capital he accumulated over the years, he has no outside options. The training would incur costs of € 1500 for the firm. After the training, Ed's productivity is supposed to increase by € 800 per year over his remaining work life.

2. Optimal Incentive Contracts (max. 10 points)

A firm is contemplating about a new compensation structure to limit shirking. The new compensation scheme should consist of a fixed and a variable part that depends on the employee's effort. The work relation between the firm and its employees can best be described as a principal-agent-relationship. The employer (principal) wants to compensate his/her employee (agent) by using an incentive contract which induces the optimal level of effort.

- a) Explain the agency problem that this contract is supposed to solve.
- b) Which two constraints will the firm need to consider? Explain these constraints verbally.
- c) Which variables influence the optimal intensity (β) of the incentives? Explain these variables.

3. Recruiting: Setting Hiring Standards (max. 10 points)

T-Shirt.com is producing customized shirts. They can choose between two types of employees and two types of sewing machines for their production. The firm is now evaluating which worker-machine combination they should use.

Two types of workers:

- *Skilled workers* (learning by doing) produce 6 shirts a day and are paid € 8 per hour
 - *Professional workers* (formal qualification) produce 8 shirts a day and are paid € 10 per hour
- Two types of machines:
- *Machines type-A* which incur rental costs of € 6 a day
 - *Machines type-B* which incur rental costs of € 13 a day, however double the output per worker

- a) Name and explain the decisive criterion which should be used by T-Shirt.com to select between these different workers and machines.
- b) According to this criterion, which candidates should be hired and which machines should be rented? Show your calculations and explain the hiring decision.

4. Recruiting: Hiring the right people (max. 10 points)

Screening and contingent contracts are ways to reduce the adverse selection risk inherent in the recruiting process.

- a) Explain the adverse selection risk the recruiter is facing and highlight under which conditions credentials can be used as effective hiring screens. Give at least two different examples for credentials.
- b) Apart from screening, contingent contracts are used to reduce adverse selection of workers. What is the basic mechanism of contingent contracts? Use your own example to show how compensation by piece-rates, as one form of contingent contracts, helps to induce self-selection.
- c) Does it matter for the success of the self-selection mechanism whether the worker can assess his/her productivity correctly? Explain and refer to your example from part b)

5. Team management (max. 10 points)

Explain in detail the cost-benefit trade-off that firms have to consider when using team work. In specific, discuss the free-rider effect and its impact on team effort. How does the team size influence the prevalence of the free-rider effect?

6. Motivation and Efficient Use of Resources (max. 10 points)

What information do you theoretically have to know about your workforce in order to design an efficient incentive scheme? Is it always useful to acquire all this information? Please explain what HR-managers should do to solve that problem.

7. Output-based pay: Commission (max. 10 points)

ABC Inc. is selling high-quality radios at a price of € 200. Per radio sold ABC Inc. is making a profit of € 50. Since business is thriving ABC Inc. is looking for a new sales agent in the city of Magdeburg. They already had an interview with Jack who seems to be the perfect candidate for the job. Jack's compensation shall be output-based. He is to receive a commission of the sales revenue but will have to pay a charge to get and retain the job.

- a) Given the information below, what is the compensation scheme (i.e. what is the commission rate and the desk-charge) that ABC Inc. should use in order to attract Jack and to induce him to sell the profit maximizing number of radios? Explain and show your calculations for the compensation scheme and ABC Inc.'s profit.
- b) Calculate and evaluate the effects in case ABC Inc. decides to (1) reduce the commission rate by 2% or (2) increase the commission rate by 2%. Please consider the effect on charge as well as on profits.

<i>Radios sold</i>	<i>Agent's marginal costs of effort</i>	<i>Agent's Total required compensation</i>
90	€ 42	€ 2,175
95	€ 46	€ 2,250
100	€ 50	€ 2,400
105	€ 54	€ 2,700

8. Reengineering: Incentive Compatibility and Efficiency (max. 10 points)

Explain the concept of Reengineering. Subsequently, describe the notions of 'collective efficiency' and 'incentive compatibility', and their influence on the success of reengineering projects. For explaining this, use your own words as well as analytical expressions. Explain what can be done to establish an incentive compatible situation. You are welcome to use an example of your own choice.

9. Tournaments (max. 10 points)

Describe the logic which is underlying the tournament model and explain how this model is applied to promotions in a firm. What does noise/luck mean in this context and how does it influence the worker's level of effort? Explain. What are possible remedies for the firm if luck/noise is an important factor? You are welcome to use your own examples.

B) Essay (max. 70 points)

By using the theory concepts discussed during the lecture, explain why employees might be motivated by different compensation plan elements in various countries. The essay should include discussion about the (1) process of motivation and how it might be influenced by country specific factors, (2) examples of potential differences in compensation plan element preferences of employees, (3) suggestions for employers for coping with international workforce with respect to compensation practices and (4) discussion on how employees of various nationalities might have different preferences with respect to the performance measurement practices which determine the compensation.

Make sure that you use the theoretical concepts and terminology introduced during the course.

Good Luck!