

# SUMMARY AND GUIDELINES FOR THE EXAM

## Part 1

### Chapter 1

- The basic model – choosing between consumption and leisure (you should be able to put up the model, solve it analytically and graphically as well as explain the implications)
  - o Solutions
  - o Reservation wage
  - o Substitution and income effect
- Taxes: Discuss flat versus progressive taxation
  - o Theory (based on Røed and Strøm – using figures and words)
  - o Empirical evidence (based on Røed and Strøm – not in great detail)
- Aggregate labor supply – the participation rate
  - o Additional worker effect

### Chapter 3

- Motivation for job-search theory: the insufficiency of the classical model
- The basic model (You should know the derivations)
  - o The discounted expected utility of an employee
  - o The reservation wage
  - o The discounted expected utility of a job-seeker
  - o Comparative statics, the effect of ....
    - Unemployment benefits
    - Interest rate
    - The separation rate
  - o ... the reservation wage
- The choice among non-participation, job-seeking and employment
  - o How to incorporate non-participation in the model
    - The effect of social assistance benefits
  - o Discouraged workers
  - o Discuss the “frontier between non-participation and job-seeking”
- Extensions of the basic model (You should be able to explain and discuss but you do not need to know all derivations)
  - o Eligibility and unemployment
    - “Outside the model”: The effect of sick-leave and disability benefits on the reservation wage
  - o On the job-search

- Optimal effort (“Choosing how hard to look”)
- Unemployment insurance in the presence of moral hazard
  - Why moral hazard – how does it influence behavior?
  - Discuss the design of the unemployment insurance scheme
    - Regressive benefits
  - Empirical Work
    - The hazard rate
    - The effect of the replacement for unemployed workers (Røed and Zhang)

## Chapter 9

- Motivation for the matching model and studies of job-reallocation and unemployment (You should be able to discuss and describe the empirical background and motivation in Ch.9)
  - Job flows and worker flows
  - The limitations of the competitive model
- The matching model (You should be able to derive the model)
  - The matching function
    - The beveridge curve
  - The behavior of firms
    - Expected profits
    - Labor demand
  - The behavior of workers
    - Surplus sharing
    - The wage curve
  - Labor market equilibrium
    - Describe the equilibrium
    - Discuss and show comparative statics

## Chapter 6

- Contracts
  - Complete and incomplete
- Risk sharing
  - Optimality conditions (You should be able to discuss and explain)
  - Predictions from the risk-sharing model
    - How do they differ from the classical model?
    - How do they fit “real world observations”?
- Hidden action
  - The principal agent model
    - What kind of contract should the principal give the agent?

- Discuss and describe this contract and how it depends on the model's assumptions (such as attitudes to risk, volatility of output, costs of effort etc.)
- The agency model with two signals
  - Discuss and describe

## Part 2

Though I'm probably unable to be 100% consistent, in the whole: To "state" means to be able to set up the correct equations, "solve" means familiarity with the equations and ability to manipulate them correctly to produce the solution (though not necessarily being able to recall them by heart), and "derive" means both of these. "Note" means to list, but not necessarily in mathematical firm. "Interpret" means to display your understanding of equations by giving them an intuitive explanation that clarifies what they express. "Explain" means to verbally express the logic/mechanism involved, supporting this by diagrams or equations to the degree one finds useful.

- 4 – labor demand
  - One input factor
    - Derive, interpret and explain short run profit maximization with downward sloping demand curve
  - Two input factors
    - Derive and interpret profit maximization and explain conditional demand (including graphical analysis of two-input optimization with isoquant- and isocost-curves) and interpret and explain properties of the cost and demand functions
    - Derive, interpret and explain the conditional factor cross price elasticity in terms of the labor share of costs and elasticity of substitution
    - Derive, interpret and explain the unconditional factor demand, and decompose into scale and elasticity of substitution
  - Explain in what ways the analysis changes when there are more than two inputs
  - Adjustment costs
    - What it is and why it matters
    - State and interpret different functional forms for modelling adjustment costs and explain their implications (symmetric, asymmetric, quadratic, lumpsum)
    - Explain how firms adjust in a deterministic setting under various forms of adjustment costs (including figure for linear and asymmetric costs)
    - What is the intuition for the results that follow when firm experiences stochastic demand?
    - What are the main empirical results?
  - Trade-off workers and hours

- State the profit maximization problem of the firm when hours and workers can both be adjusted and explain how the firm identifies the optimal solution
  - Give examples of counter-intuitive results of wage increases and explain why they occur in your chosen context
- 6.3-6.4 – Incentive-contracts
  - Solve, interpret and explain the tournament model
  - Explain extension of tournament model with shirking
  - Solve, interpret and explain the shirking model
  - Explain the idea behind and the issues surrounding the efficiency wage theory, explain the equilibrium diagram and interpret the main equations
  - Note the main empirical findings regarding seniority and experience
- 7.1-7.4 – Unions and collective bargaining
  - Describe main features and dimensions of collective bargaining as an empirical phenomenon
  - Note and discuss the various proposed union preferences
  - Explain the two main approaches to analytically solving bargaining problems
    - Axiomatic - main conditions
    - Strategic
      - Backward induction when fixed end-point, including deriving, interpreting and explaining the expression for the offer made in the next to last and next to next to last period
      - Discuss the main determinants of bargaining power in this model
    - When and why should we expect strikes according to theory?
    - When is there room for an agreement before an arbitrator is used?
    - Explain with words and diagram the right to manage model and solution
    - Explain with words and diagram the weakly and strongly efficient contracts solution
    - Explain the main idea behind insider/outsider theory
- 10.1 – Technological progress
  - Derive and interpret the Solow growth equation and discuss types of progress, noting main empirical results
  - Explain the two different effects of technological progress on the job market
    - capitalization effect
    - Creative destruction
- 12 – institutions
  - Minimum wage
    - What are the key dimensions of this empirical phenomenon?
    - Explain the traditional analysis (classical, “perfect competition” market cross)
    - Derive, interpret and explain the monopsony model
    - Explain how the minimum wage affects the matching model equilibrium when employment is endogenous and when the job search effort is endogenous

- Note and explain some alternative theories that imply increasing employment with increasing minimum wage
  - Note and discuss the main empirical findings
- Employment protection
  - Explain how employment wages affect the matching model equilibrium when wages are exogenous and endogenous and why this differs
  - What are the main empirical findings?
- Taxation
  - What is the tax wedge?
  - What do empirical studies tell us of the effects of the tax wedge and tax level?
- Wage bargaining level
  - Explain why Calmfors and Driffil argued that we should expect a hump shaped relationship between degree of centralization of bargaining and unemployment
  - Discuss the empirical support and main arguments for and against this relationship
- Macroeconomic analysis of Institutions
  - Discuss the main empirical findings regarding the impact of institutions on unemployment