

Hecon4210, exam 5 April 2019: General principles of assessment

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Summary

The exam consisted of four questions that should all be answered within three hours. Given that the questions were more or less open-ended, several solution strategies were deemed equally satisfactory.

The main points expected in an answer are listed below. A non-exhaustive list of “optional” points considered relevant is also included. Such optional points are not expected but can potentially, depending on the context, compensate for main points that were missing from the answer. Qualities such as clarity of arguments and conciseness were also given some weight.

Question 1

Main points:

- Explain all symbols in the two equations.
- Explain the properties of the functions $U(\cdot)$, $t^s(\cdot)$, and $I(\cdot)$. First order derivatives are more important than second order derivatives.
- Explain some of the trade-offs in the maximization problem.
- Relate the “investment model” and “the consumption model” to the explanation.

Optional points:

- Present some of the first order conditions of the optimization problem.
- Present the demand functions obtained from the model.
- Discuss the realism of the models assumption or results.

Question 2

Main points:

- Provide an example of adverse conditions in early childhood.
- Present a framework/model for the health status at the end of childhood, as a function of health investments in early childhood and health investments in later childhood.
 - One alternative is to present three special cases of the CES production function: Linear, Cobb-Douglas, and Leontief.
- Explain how adverse conditions in early childhood can be incorporated in the framework/model.
- Discuss to what extent the adverse events in early childhood can be compensated by health investment in later childhood, depending on the properties of the CES production function.

Optional points:

- Mention that the sustained effects of childhood events may not be consistent with a multi-period Grossman model (where depreciation will tend to keep diminishing the importance of childhood in the long run).
- Mention empirical results from Almond & Currie, or contributors to the “early influences” literature.

Question 3

Main points:

- Explain all symbols in the two equations.
- Explain the properties of the functions $U(\cdot)$, $V(\cdot)$, and $W(\cdot)$. First order derivatives are more important than second order derivatives.
- Explain some of the trade-offs in the maximization problem.

Optional points:

- Explain how the maximization problem is solved.
- Present the demand functions obtained from the model.

Question 4

Part 1

Main points:

- Explain what is meant by symmetric information.
- Present the insurance model with two risk types.
 - Define terms such as risk aversion, risk premium, actuarial fair insurance premiums.
- Explain what will be the market equilibrium.

Part 2

Main points:

- Continue the discussion from the market equilibrium with two risk types and symmetric information. Explain what is different when the insurance companies cannot identify risk types.
- Define what is meant by a pooled equilibrium.
- Show that a pooled contract will not be an equilibrium.

Optional points:

- Mention the definition of a Rothschild-Stiglitz equilibrium, or the variant suggested by Wilson (1977).