31E99906 Capstone Microeconomic PolicyInstructor: Matti LiskiTA: William OgdenReturn method: through mycourses by the deadline

## Problem Set 3: Question 5

Here is a collection control questions on past lectures.

- 1. Each one of the following questions can be answered concisely so there is no need to write an essay. A few thoughtful lines are enough. Pictures can be used.
  - (a) Marko receives €100 per month in vouchers for cultural activities from the city of Helsinki. He can take only € 60 of culture per month, and throws away €40 of vouchers (these cannot be sold). The welfare loss of giving the culture vouchers rather than € 100 in money to Marko is thus € 40. True or false?
  - (b) Insurance companies develop better technologies for screening their customers. This mitigates the adverse selection problem. True, false, or uncertain?
  - (c) Juuso uses expected utility to make decisions. Juuso is indifferent between having € 5000 for sure (option A) or receiving € 3000 with probability 40% and € 6000 with 60% (option B). What can you tell about Juuso's risk attitudes?
  - (d) In addition to indifference A between B, Juuso is also indifferent between the following: € 3000 for sure (option C) or receiving € 600 with probability 50% and € 5000 with 50% (option D). Does Juuso prefer option B or D?
  - (e) There are two types of firms. Low cost types can produce quantity q with cost  $\theta_L q$  and high types can produce the same service with cost  $\theta_H q$ , where  $0 < \theta_L < \theta_H$ . The government does not know firms' costs but designs contracts that pay different amounts conditional on the quantity produced. Based on contract theory,

under what circumstances the government should offer only one type of contract?