

i Department of Economics

Examination paper for SØK2012 – Behavioral economics

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Examination date: 2019-06-20

Examination time (from-to): 15:00-19:00

Permitted examination support material: Support code C.

- *Matematisk formelsamling for økonomer*, Gyldendal, by Sydsæter, Strøm & Berck.
- *Economists' mathematical manual*, Berlin, 2005, by Sydsæter, Strøm & Berck.
- Calculator: Casio fx-82ES PLUS, Casio fx-82EX, Citizen SR-270X, Citizen SR-270X College or Hewlett Packard HP30S.

The grade is based on an overall assessment, so the points are only indicative.

Other information:

Students will find the examination results in Studentweb. Please contact the department if you have questions about your results. The Examinations Office will not be able to answer this.

- 1** Politician A has a political program that promises lower taxes and cuts in public services. Politician B has a political program that promises higher taxes and increases in public services. All things equal, the voters prefer low taxes and generous public services.

Politician C acts as a decoy for politician A. What kind of political program has politician C?

Write your answer here:

Maximum marks: 5

- 2** Alexa and Bob each have the value function $v(x) = \frac{x}{2}$ for gains and $v(x) = 2x$ for losses. During an election, a politician promises a tax cut of 30, but loses. Alexa did not assume the tax cut would happen. Bob did.

a. What is Alexa's loss in terms of value?

b. What is Bob's loss in terms of value?

c. Who is more disappointed?

Maximum marks: 12

3

Anne is trying to determine whether or not a coin has two heads. She cannot see the coin. She only knows the outcome after it is flipped. She believes with 20% confidence that it has two heads.

a. The first flip is heads. What is her posterior probability? Answer with a fraction:

b. The second flip is also heads. What is her posterior probability now? Answer with a fraction:

Maximum marks: 10

- 4 For all the following questions, suppose that you are facing the following gamble: 1/3 probability of winning 36 and 2/3 probability of winning 9.

a. What is the expected value of the gamble?

Suppose, first, that Jenny's utility function is $u(x) = \sqrt{x}$

b. Compute the expected utility of the gamble:

c. Compute the certainty equivalent of the gamble:

d. Is Jenny risk averse or risk prone? Explain your answer.

Suppose, next, that Alice's utility function is $u(x) = x^2$.

e. Compute the expected utility of the gamble: .

f. Compute the certainty equivalent of the gamble: .

g. Is Jenny risk averse or risk prone? Explain your answer.

Maximum marks: 28

- 5 Assume that two people, Hip and Hop, have the choice between the following two options:
A: studying at time 1 (utility = 0) and getting good marks at time 2 (utility = 18);
B: watching television at time 1 (utility=6) and getting bad marks at time 2 (utility=0).

Hip discounts the future exponentially. Her $\delta = \frac{2}{3}$.

- a. From the point of view of time 0:

What is her utility of **A**: ?

What is her utility of **B**: ?

- b. From the point of view of time 1:

What is her utility of **A**: ?

What is her utility of **B**: ?

Hop discounts the future hyperbolically. His $\beta = \frac{1}{3}$ and his $\delta = 1$.

- c. From the point of view of time 0:

What is his utility of **A**: ?

What is his utility of **B**: ?

- d. From the point of view of time 1:

What is his utility of **A**: ?

What is his utility of **B**: ?

- e. Who is more likely to experience regret? Explain your answer.

Maximum marks: 27

- 6 Consider the following game:

| | | |
|---|------|------|
| | L | R |
| U | 3, 2 | 0, 1 |
| D | 1, 0 | 2, 1 |

where Player 1 plays U or D and Player 2 plays L or R.

Suppose that this game is played by two utilitarians, for whom the payoffs are $u(x,y)=x+y$. The game has an equilibrium in mixed strategies.










- a. Compute the probability p with which Player 1 plays **U**. Answer with a fraction: $p =$

- b. Compute the probability q with which Player 2 plays **L**. Answer with a fraction: $q =$

Maximum marks: 8

7 Describe aspects of prospect theory.

Fill in your answer here

Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  | Ω |  |  | Σ | ABC | 

Words: 0

Maximum marks: 10