

Intertemporal decision making

- a) Please give an example of a financial decision that involves a temporal dimension (i.e. a tradeoff of benefits and costs that occur at different points in time). Explain in detail how standard economic theory has addressed this time dimension. Describe how time preferences are usually measured experimentally and the evidence we discussed in the course regarding short and long term discounting.

Points to include in the answer:

- *One decision that involves a time dimension is pension savings. It involves costs and benefits that materialize at different points in time*
 - *Standard economic theory uses discounted utility theory. Points that should be included here are the points raised in lecture "13_IntertemporalDecisionMaking_2020" slides 5-10.*
 - *In experiments people are usually asked to choose between smaller amounts now or bigger amounts later. See also slide 11 of the same lecture*
 - *One assumption in the standard theory is that people use a constant discount factor. Experiments suggest that this is not the case. Short-run discount rates seem to be higher than long-run discount rates*
- b) Take this evidence on short vs long term discounting as a starting point to formally explain the model of quasi-hyperbolic discounting discussed during the course. Give an example of how quasi-hyperbolic discounting affects financial decisions involving a temporal dimension.

Points to include in the answer:

- *Points that should be included here are the points raised in lecture "13_IntertemporalDecisionMaking_2020" slides 16-17 and the related mandatory literature.*

The Disposition Effect

- a) Explain the disposition effect and formally explain how prospect theory can rationalize it.

Points to include in the answer:

- *In short: The disposition effect is the tendency to sell assets that have gained value ('winners') and keep assets that have lost value ('losers')*
- *The answer should in particular include a discussion of the 'Reference point effect' and 'reflection effect' which are both features of prospect theory*

- *Further, points that should be included here are the points raised in lecture "05_DispositionEffect_2020" on slides 5-14.*

b) Odean (1998) [*Odean (1998), Are Investors Reluctant to Realize Their Losses?, Journal of Finance, 53(5), 1775-1798*] also presents an alternative behavioral explanation. What is this alternative explanation? Furthermore, Odean empirically tests the disposition effect. Please explain Odean's methodological approach and results. In doing so, please explain why his analysis is not able to distinguish between the two behavioral hypotheses (i.e. prospect theory and the alternative).

Points to include in the answer:

- *Points to include here can be found in the relevant sections of the article as well as on slides 15 - 22 in the lecture "05_DispositionEffect_2020".*
- *The alternative is an irrational belief in mean reversion*
- *Points to include here can be found in section B. of the paper (starting on p. 1777) and the last section before the conclusion on p. 1795*

Heuristics and Financial Decision Making

a) What are the different judgement biases we discussed during this course. Please give examples that show how using these heuristics might impact people's financial decision making.

Points to include in the answer:

- *During the course we talked about Representativeness, Anchoring and Availability.*
- *Definitions of these can be found in lecture "11_Representativeness" on slide 6 and the lecture "12_Heuristics and Financial Decision Making". Availability is defined on slides 7-12, whereas Representativeness is defined on slides 14-16.*
- *Examples can be found on slides 21-35 of the same lecture*

b) Barberis et al. (1998) present a model of investor sentiment featuring judgement biases that lead to under / overreaction [Nicholas Barberis, Andrei Shleifer & Robert Vishny (1998), A model of investor sentiment, *Journal of Financial Economics*, 49, 307-343]. Please explain their model in detail and relate it to the judgment biases you mentioned in your answer to subquestion a).

Points to include in the answer:

- *Points that should be included in this answer can be found on slides 22-34 of lecture "14_Conservatism" and the associated mandatory reading.*