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Utility theory

Expected utility

- Decisions in finance and banking are characterised by uncertainty about the outcome of decisions
- The utility a decision gives cannot be determined ex-ante, instead we form expectations about the utility that is obtained
- This expected utility is then used as the basis for decision-making
- The uncertainty about the outcome of decisions, the risk, plays an important part in many models

Asymmetric information

- Another characteristic in finance and banking in many models is that market participants do not have the same level of information
- Such asymmetric information between market participants can have profound impact on decision-making and market outcomes
- We will briefly discuss how asymmetric information affect decisions and markets

Risk-taking behaviour

- Companies and managers, as well as investors, make decisions that maximize their own utility, but these decisions will also affect other market participants
- In finance and banking the risk-taking is of specific concern and frequently there is an incentive to take more risk than would be socially optimal
- We will briefly discuss how risk-taking is affected and what consequences there might be

Assessing risk-preferences

- Individuals do not like taking risks and utility functions have properties that exhibit such properties
- Measuring risk-preferences is not possible without the knowledge of the specific utility function
- We will discuss the most common measure of risk preferences, called risk aversion

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Risk aversion

Maximizing expected utility with knowing the utility function

- Risk aversion can be used as a measure of the attitude towards risk
- By using risk aversion we can maximize expected utility without the need to know the utility function
- Often it is more convenient to consider only expected returns and ignore risks
- In this case we assume implicitly that individuals are risk neutral

Asymmetric information

- Market participants often have different information about possible outcomes of decisions or the risks involved
- Of particular concern is if some market participants have better information than others, allowing them to make additional profits
- We will investigate how in such a situation markets may not be able to function properly

Adverse selection

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The need to identify the types of market participants

- If the risk of market participants to make a loss is too high, markets may not function
- Such adverse selection can only be overcome if the type of market participants can be identified
- Many theories in corporate finance and banking evolve around the identification of different types of market participants

Socially sub-optimal decisions

- Decision-makers can make decisions about which type of investment to pursue, it could be low-risk or high-risk
- Often the consequences of a decision do not have to be borne fully by the decision-maker, costs might be imposed on others
- The benefits of their decisions are often accruing only to the decision-maker
- This can distort incentives in decision-making sway from the socially optimal decision

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Moral hazard

Incentives to align decisions

- Moral hazard can lead to markets not being able to function properly
- Contractual arrangements need to be found that align the interests of the decision-maker with the social optimum
- The development of arrangements that align incentives is an important topic in corporate finance and banking

Comparing adverse selection and moral hazard

- In adverse selection, companies are of different types
- Ex-ante banks do not know which type a company is
- In moral hazard, companies make a decision on which type they are
- Banks can infer which decision a company will make

Key problems in finance and banking

- Corporate finance, banking, and insurance are exposed to the problems of adverse selection and moral hazard
- Adverse selection is also a concern when trading in financial markets
- Risk preferences are of concern when making investment decisions, while in corporate finance and banking these are often ignored

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