



# Selected economic and financial risks

## Topic 7: Risk assessment





# Aim of the topic

- The aim of the topic is to acquaint students with specific methods of risk assessment and show their strengths and weaknesses





# Content

- Risk assessment
- Aggregated data from the CZSO
- Family accounts statistics (SRÚ)
- Standards ISO 31000
- Risk assessment process
- Selected methods of risk assessment
- ČSN ISO 31010 and examples of risk management methods





# Evaluation risk

- **Scoring credit risk assessment model**
- The score is usually represented by an estimate of the probability that the client will repay the loan.
  - Suitable For a banking institution providing a loan, the client is one who repaid the loan on time and under the specified conditions
  - Inappropriate and a bad client is the opposite.
- Scoring is then established on the history of both groups of these clients.
- To graphically represent the ability to diversify, we use e.g. Lorenz curve for numerical quantification then Giniho coefficient.





# Aggregated data from CZSO

- Information about clients and the situation can also be obtained for the so-called "average citizen" or "average household". In the Czech Republic, so-called family accounts statistics are compiled in this context.





## Family accounts statistics (SRÚ)

- Survey outputs:
- <https://www.czso.cz/csu/czso/prijmy-a-zivotni-podminky-domacnosti-2019>





# Examples of methods usable for risk assessment in investment decision making

- Expected return on investment
- Dispersion of investment returns
- Standard deviation of investment returns
- Coefficient of variation
- Dispersion of portfolio returns
- Standard deviation of portfolio returns
- Portfolio variation coefficient





# ISO standards 31000

- International Standards Series 31,000 (International Organization for Standardization - ISO) focus on the organization's risk management system (Enterprise Risk Management System).





## **The risk assessment seeks to answer the following questions:**

- What can happen and why?
- What are the consequences?
- What is the probability of their future occurrence?
- There are any factors that mitigate the consequences of the risk or that reduce the likelihood of the risk?
- Yippee level of risk tolerable or acceptable and requires further treatment?





# Selected evaluation methods risk

- Check Sheet (checklist)
- Safety Audit (security check)
- Failure Mode and Effect Analysis - FMEA  
(analysis of failures and their impacts)
  - Calculation risk / priority level "RPN" (Risk Priority Number):  $RPN = VV \times PV \times PO$





# ČSN ISO 31010 and examples of risk management methods

- *Monte simulation Carlo*
- *Hazard analysis and critical control body*
- *Technique Delphi*
- *Brainstorming*
- *Assessment of trouble-free operation man*
- *Ad.*





# Resources on the topic

- *What is ISO 31000 Enterprise Risk Management System* [online]. TÜRCERT [Cited: 19. 06. 2020]. Available at: <https://www.sertifikasyon.net/en/detay/iso-31000-kurumsal-risk-yonetim-sistemi-nedir/>
- ČSN EN 31010 (010352) A Risk management - Risk assessment techniques = Risk management - Risk assessment techniques
- CZSO, Statistics of family accounts.
- MAREK, Petr. *Study guide to business finance*. Prague:Ekopress, 2006. ISBN 80-86119-37-8.
- *Supplier evaluation methods* [online]. Moodle UNOB[Cited: 17. 06. 2020]. Available at: [https://moodle.unob.cz/pluginfile.php/43098/mod\\_resource/content/1/Studijn%C3%AD%20text%20-%20Metody%20hodnocen%C3%AD%20v%20r%C3%A1mci%20akvizi%C4%8Dn%C3%ADho%20procesu.pdf](https://moodle.unob.cz/pluginfile.php/43098/mod_resource/content/1/Studijn%C3%AD%20text%20-%20Metody%20hodnocen%C3%AD%20v%20r%C3%A1mci%20akvizi%C4%8Dn%C3%ADho%20procesu.pdf)
- According to Risk Analysis and Management Published: 1.3.2007, Type: interpretations, Source: UNES (Non-Profit Sector Accounting) 2007/2 <http://www.ucetnikavarna.cz/archiv/dokument/doc-d8966v11782-analyza-a-rizeni-risk/>
- *Scoring model* [online]. Wikipedia[Cited: 17. 06. 2020]. Available at: [https://cs.wikipedia.org/wiki/Sk%C3%B3ringov%C3%BD\\_model](https://cs.wikipedia.org/wiki/Sk%C3%B3ringov%C3%BD_model)

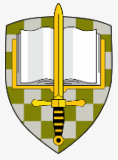




# Questions on the topic

1. TO what purposes they serve scoring credit risk assessment model and on what assumptions is it based?
2. What is it family accounts statistics, what does it tell us and how is it compiled?
3. What are the basic benefits of ISO 31000 risk assessment?
4. On What are the principles of failure analysis and its impacts - FMEA?
5. On what principles the technique is based on Delphi and what information can this technique provide us with?
6. On What are the principles of the Monte Carlo technique and what information can this technique provide us with?





# Thank you for your attention

