

---

## 103215 Introduction to Financial Engineering (HW7)

Organizer: Albert Ferreiro-Castilla

room: PC email: [aferreiro@mat.uab.cat](mailto:aferreiro@mat.uab.cat)

---

- Please follow the guidelines for assignments given in the Module Handbook.
- All programs should be written in R (compilable without errors or warnings).
- You should submit a write-up (.pdf) of the program as well as the source code (.r).
- File names should be as yoursurname\_yourname\_HW7.extension
- You should submit via moddle.
- Deadline: 15th December 2023 at 10am.

Westcott-Smith is a privately held investment management company. Two other investment counseling companies, which want to be acquired, have contacted Westcott-Smith about purchasing their business. Company *A* price is EUR 2 million. Company *B* price is EUR 3 million. After analysis Westcott-Smith estimates that company *A*'s profitability is consistent with a perpetuity of EUR 300.000 yearly. Company *B*'s profitability is consistent with a perpetuity of EUR 450.000 yearly. Westcott-Smith has a budget that limits acquisition to a maximum purchase cost of EUR 4 million. Its opportunity cost of capital relative to undertaking either project is 12%.

1. Determine which company or companies (if any) Westcott-Smith should purchase according to the NPV rule.
2. Determine which company or companies (if any) Westcott-Smith should purchase according to the IRR rule.
3. State which company or companies (if any) Westcott-Smith should purchase. Justify your answer.