

Lecture 3 practice exercises

Question 1:

Graham (2022) surveys firms on their capital budgeting techniques in practice. Describe three key conclusions from his survey on capital budgeting techniques in practice.

Question 2:

Why may conservative hurdle rates be problematic for long-term transition projects?

Question 3:

Describe the Integrated PV investment decision rule. Discuss its strength and limitation.

Question 4:

A researcher estimates the following two OLS regressions of investment on Tobin's Q and Total Q for a large sample of firms and years. The numbers in parentheses below each coefficient are t-statistics, while *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels.

	<i>Investment/Assets</i>	<i>Investment/Assets</i>
<i>Tobin's Q</i>	0.09*	
	(1.79)	
<i>Total Q</i>		0.32***
		(2.61)
No. of Observations	15,213	15,213
R ²	0.109	0.211

Interpret each independent variable. What do you conclude about the standard Q-theory and its empirical limitations.

Question 5:

Consider a company that currently has cash holdings of 500€, but no access to any further external finance (ever). Cash earns a risk-free return of 0%. The discount rate is 0%.

In year 0, the company has access to one investment project. The project has the following characteristics:

- Upfront investment of €500 in year 0.
- Payoff in year 1: With a probability of 0.8 a return of €800 and with a probability of 0.2 a return of €300.
- The project is neither divisible nor scalable.

In year 1, the company with certainty has access to the following investment project:

- Upfront investment of €400 in year 1.
- Payoff in year 2: With a probability of 1 a return of €800.
- The project is neither divisible nor scalable.

In year 2, the company terminates.

Compare the following two strategies: (A) Invest in the project in year 0. (B) Do not invest in the project in year 0 but save the money. For both strategies, the firm does whatever is optimal in year 1.

5a. Calculate the payoff for both strategies.

5b. Which strategy is optimal?

5c. Give one change in parameter that would tilt the decision toward the other strategy and explain why.

5d. What does this problem imply for the validity of Tobin's Q?