



## **FIN 360: PRINCIPLES OF FINANCIAL MANAGEMENT NPV, IRR, AND CAPITAL INVESTMENT DECISIONS CRITICAL THINKING & CONCEPTUAL QUESTIONS**

1. Explain how an investment in net working capital is a cash outflow at the beginning of a project and why it is “recovered” at the end.
2. A firm owns land that it purchased for \$2.8 million 10 years ago, hoping to build a theme park. The park was never built, and the land could be sold today for \$3.8 million. Now, they are reconsidering the theme park project. Building the park would cost \$325 million, and would require \$2 million in permitting and licensing fees. The land was cleared at the time of the land purchase for \$500,000 and costs an additional \$20,000 per year to keep clear from overgrowth. An estimated \$400,000 in ticket sales per year at this new theme park would be from guests pulled away from the nearby competitor’s park, and \$2,800,000 in ticket sales would be from guests that have never been to the competitor’s park. The firm acquires several hundreds of thousands of dollars’ worth of merchandise inventory to sell in the park’s gift shop. Identify each of the incremental and relevant cash flows in this example.
3. A manager knows that a new project is expected to produce sales of \$100,000 per year, but that \$20,000 of those sales will be from existing customers that switch to the new product. How should they incorporate this into their NPV analysis?
4. If firms borrow, they will incur financing costs through interest expense. Why do we not consider these expenses *relevant* or *incremental* cash flows?
5. Explain the concepts of erosion and synergy. Why are they considered relevant and incremental cash flows?
6. If a firm’s depreciation expense increases, what happens to its tax bill, assuming all else is held constant?
7. What are the pros and cons of *each* of the 5 methods we’ve looked at to evaluate investments? Which one should *always* be used at a minimum?
8. Regarding the 5 methods, if one method is superior to the others, why consider other methods at all?
9. Could the payback method and discounted payback reach different conclusions (holding constant the number of years it has to pay back?)
10. If we increase the discount rate for cash flows, will the discounted payback period shorten or lengthen? Why?
11. As the discount rate chosen in an NPV analysis rises, what happens to the likelihood a project will be accepted? Why?
12. In general terms, how do firms choose an appropriate required rate of return or “discount rate” for NPV computations?
13. Describe the multiple IRR problem and why it exists.
14. Explain how IRR affects decisions involving mutually exclusive projects.

15. Explain how a project can satisfy the “accept” criteria for all 5 evaluations and *still* be a bad investment.
16. Will the discounted payback period be more or less than the payback period given a positive discount rate?
17. Explain how the payback period method may contradict decisions based on NPV or IRR.
18. A manager claims “we ignore depreciation when evaluating projects because it is a noncash expense, and all we care about are incremental aftertax cash flows.” Critique this statement.
19. All else equal, which increase the chances of a project having a positive NPV? Why?
  - a. High cash flows earlier in the project that steadily decline
  - b. Low cash flows earlier in the project that steadily rise
20. Two employees at your firm compute different NPVs for the same project. Both did their math correctly. How is this possible? What implications might this have for the firm’s choice to pursue the project?
21. Two employees at your firm compute different IRRs for the same project. Both did their math correctly. How is this possible? What implications might this have for the firm’s choice to pursue the project?
22. You are considering going to grad school to get your MBA. How might you use an NPV analysis to determine if that is a good idea?
23. For which type of projects might a payback period or discounted payback period be best?
24. Why shouldn’t the profitability index be used to rank projects?
25. Explain how the payback period and discounted payback period might be more likely to accept projects that are “liquid” than “illiquid”.
26. In practice, what should managers do when computing NPV, IRR, and other investment criteria to ensure the validity of their estimates?

