

Corporate capital budgeting

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Mutual exclusivity requires a business organization to choose only one project. Consistent with the goal of every company to maximize its wealth, the project with the higher NPV is chosen regardless of the investment cost. Thus, project B is chosen over project A even though its IRR and MIRR are lower.

Since the lowest even life cycle of the projects under consideration is 12, the Equivalent Annual Annuity is utilized to make the best decision. Thus, the present values of cash flows within the first three years of each project are computed. Afterward, these are divided by the PVIFA of the projects. For project A, this means dividing it with the PVIFA within 3 years at 8%, while for project B, a life of 4 years and 8% discount rate is utilized. In the end, the four-year alternative is chosen because it has a higher NPV (\$63, 100. 92).

Any investment should still be evaluated even though the investment is higher than the cash inflow. It should be noted that the profitability of an investment is not solely based on whether the investment exceeds the cash inflow because of the time value of money. Evaluation of the project using different required rates of return also reveals that NPVs can be positive or negative depending on the discount rate.

For this project, there are two computed IRRs which is because there is a change in the sign of cash flow for the project's life span. For the first year, there is an outflow (negative cash flow), while in the second year cash flow is positive. During the end of its life, the project again has a negative cash flow. Since, the sign changes twice, two IRRs are expected. As computed by Excel, these IRRs are 10. 09% and 20. 81% indicating that NPVs are zero in these discount rates.

Figure 1 in the Appendix shows the computed NPVs at discount rates of 5%
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(NPV=-\$730.16), 15% (NPV=\$215.50), 18% (NPV=\$159.44), and 25% (NPV=-\$400.00). Thus, the project should be accepted at 15% and 18% discount rates. Noting the IRRs above, projects should be accepted at discount rates within 10.09% and 20.81%.