

Demo 14-1

BOJO, Inc. is considering purchasing an asset for \$470,000 that will save BOJO the following amounts. Assume that the asset will have a salvage value of \$50,000, and assume that BOJO pays taxes at a tax rate of 40%, and that any gain on the asset is taxed at this rate. BOJO requires a minimum return of 10% from its investments.

	<u>Cash Savings</u>
Year 1	\$ 100,000
Year 2	200,000
Year 3	250,000
Year 4	150,000
Year 5	100,000
Year 6	100,000
	<u>\$ 900,000</u>

BOJO will use MACRS to depreciate this asset and receive the following tax deductions in each of the following years:

	<u>MACRS</u>	
Year 1	\$94,000	(\$470,000 x 20%)
Year 2	150,400	(\$470,000 x 32%)
Year 3	90,240	(\$470,000 x 19.20%)
Year 4	54,144	(\$470,000 x 11.52%)
Year 5	54,144	(\$470,000 x 11.52%)
Year 6	27,072	(\$470,000 x 5.76%)
	<u>\$ 470,000</u>	

- Calculate the Net Present Value by hand and using Excel. (Hint: Remember that the sale of the asset at salvage will produce a taxable gain.)
- Calculate the IRR using Excel.
- Calculate the Payback Period.
- Calculate the Simple Rate of Return. (Hint: For accounting purposes, you use traditional straight-line depreciation – even for tax expense. Also the sale of the asset at salvage will not produce income)

Demo 14-2

Taggart Newspapers is considering the purchase of twenty microcomputers to speed up copy production. Management feels that the purchase will save after taxes \$20,000 annually for the first six years and \$25,000 annually for the remaining four years of the computers' useful lives. After ten years, the computers will be obsolete and have no salvage value. Each computer costs \$2,500. The company uses a 12% cut-off rate

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when using Net Present Value, and depreciates all property using the straight-line method.

- What is the Payback Period?
- What is the Simple Rate of Return?
- What is the Net Present Value?

Demo 14-3

Carolina Company is evaluating a possible \$150,000 investment in equipment that would increase cash flows from operations for four years. The equipment will have \$30,000 salvage value and will be depreciated using the straight-line method. The income tax rate is 30%. Carolina uses a 15% cutoff rate when using NPV analysis. Pretax Cash Flow from operations are as follows:

	<u>Before-Tax Cash Flows</u>
Year 1	\$60,000
Year 2	87,000
Year 3	42,000
Year 4	40,000

- Compute the Payback Period
- Compute the Net Present Value.
- Compute the Simple Rate of Return.

Demo 14-4

Landover Amusement Park is considering the construction of a new facility to house a curved, multistory movie screen. The facility will cost \$400,000 and be useful for ten years, with no salvage value. The facility will be depreciated on a straight-line basis over ten years. The following annual results are expected if the facility is constructed:

Increase in Annual Cash Revenue	\$200,000
Increase in Expenses:	
Cash Operating Expenses	\$80,000
Depreciation	40,000
Total Expenses:	<u>-120,000</u>
Before Tax Net Income:	\$ 80,000

Landover pays tax at the rate of 40%, and it uses a 15% cutoff rate when analyzing capital expenditure proposals using Net Present Value.

- Compute the Payback Period
- Compute the Simple Rate of Return.
- Compute the Net Present Value.
- Assume Landover decides to use a 20% cutoff rate when using NPV Analysis. Compute the Net Present Value.

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