

# [Example of pv fv 1rn case study](https://assignbuster.com/example-of-pv-fv-1rn-case-study/)

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## PART I

A   
1)

## Where;

PV is the present value   
FV is the Future value which is 15, 000   
R is the Interest rate which is 7%   
N is the number of years which is 1   
PV = 15, 000/(1+0. 07)1 = 14, 018. 69

2)   
PV = FV/ (1+r)n

## Where;

PV is the present value   
FV is the Future value which is 15, 000   
R is the Interest rate which is 4%   
N is the number of years which is 1   
PV = 15, 000/ (1+0. 04)1 = 14, 423. 08   
B.

## Account A

PV = FV/ (1+r)n   
Where;   
PV is the present value   
FV is the Future value which is 6, 500   
R is the Interest rate which is 6%   
N is the number of years which is 2   
PV = 6, 500/ (1+0. 06)2 = 5, 784. 98   
Account B   
PV = FV/ (1+r)n   
Where;   
PV is the present value   
FV is the Future value which is 12, 600   
R is the Interest rate which is 6%   
N is the number of years which is 2   
PV = 12, 600/ (1+0. 06)2= 11, 213. 96   
C

## Year

Cash flow   
PVIF@7%   
Present value

Total present value

Cash flow   
PVIF@5%   
Present value

Total present value

Cash flow   
PVIF@3%   
Present value

Total present value

The present value is lower than the future value when the cash flows are discounted. The higher the discount factor the lower the present value. This is because discount factor considers the cost of capital and the opportunity cost of investing the sum of money today in alternative investment projects. Therefore, the higher the discount factor, the higher the cost of capital and opportunity cost.

## PART II

Year   
Cash flows   
PVIF@0%   
Present value

Total present value

Less initial outlay

Net present value

Cash flows   
PVIF@2%   
Present value

Total present value

Less initial outlay

Net present value

Cash flows   
PVIF@6%   
Present value

Total present value

Less initial outlay

Net present value

Cash flows   
PVIF@11%   
Present value

Total present value

Less initial outlay

Net present value

The discount rate at which the graph intersects the horizontal axis is 48%

B

## Year

Cash flows   
PVIF@1%   
Present value

Total present value

Less initial outlay

Net present value

Cash flows   
PVIF@4%   
Present value

Total present value

Less initial outlay

Net present value

Year   
Cash flows   
PVIF@10%   
Present value

Total present value

Less initial outlay

Net present value

Cash flows   
PVIF@18%   
Present value

Total present value

Less initial outlay

Net present value

The discount rate at which the graph intersects the horizontal axis is 2. 5%

C.   
Present value = Profitability index\*Initial investment   
Present value = 0. 94\* 4, 200, 000 = 3, 948, 000

## Brigham, E. F., & Ehrhardt, M. C. (2010). Financial Management Theory and Practice (13 ed.). London: Cengage Learning.