Basic Framework of Finance: NPV, IRR and investment decisions

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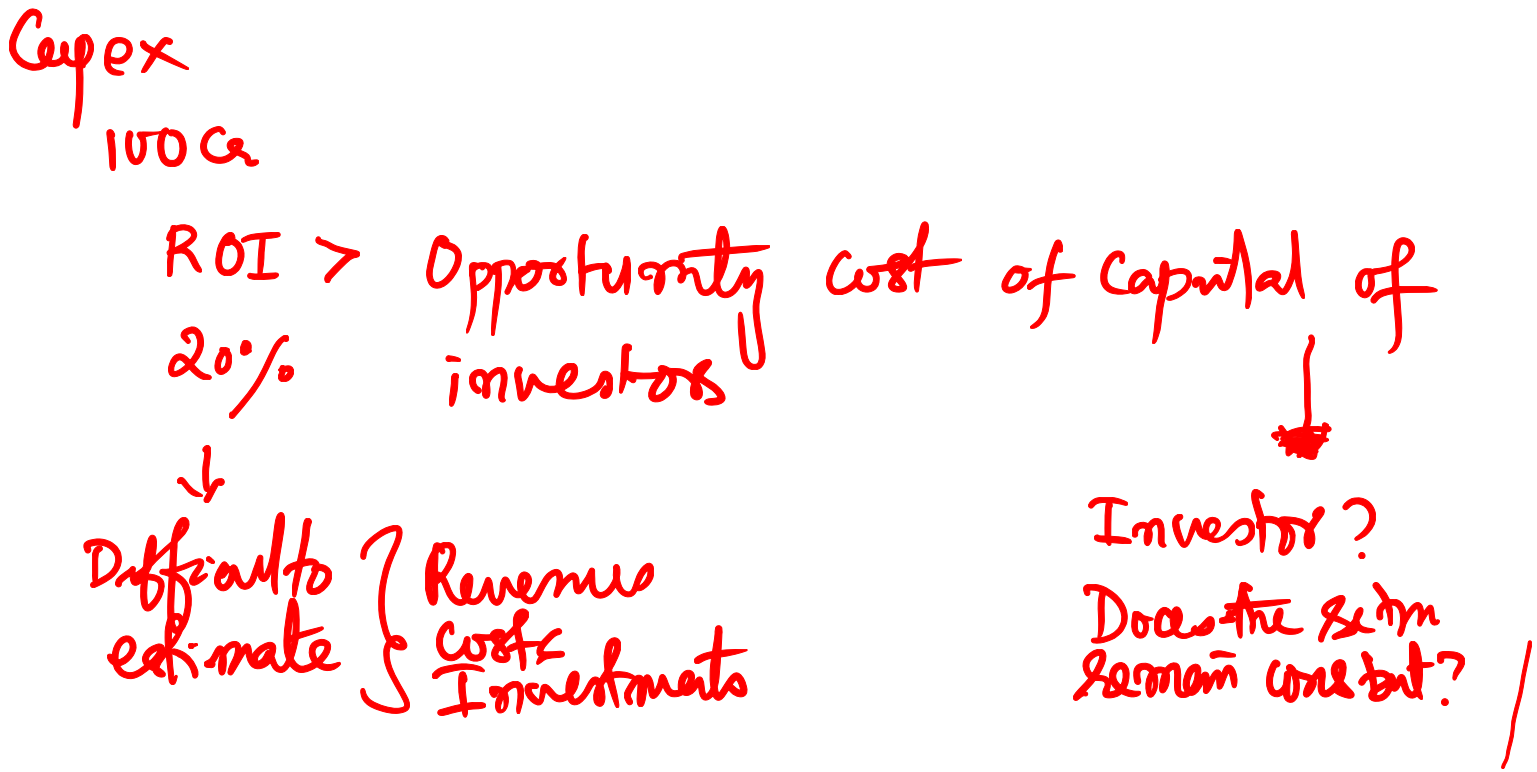
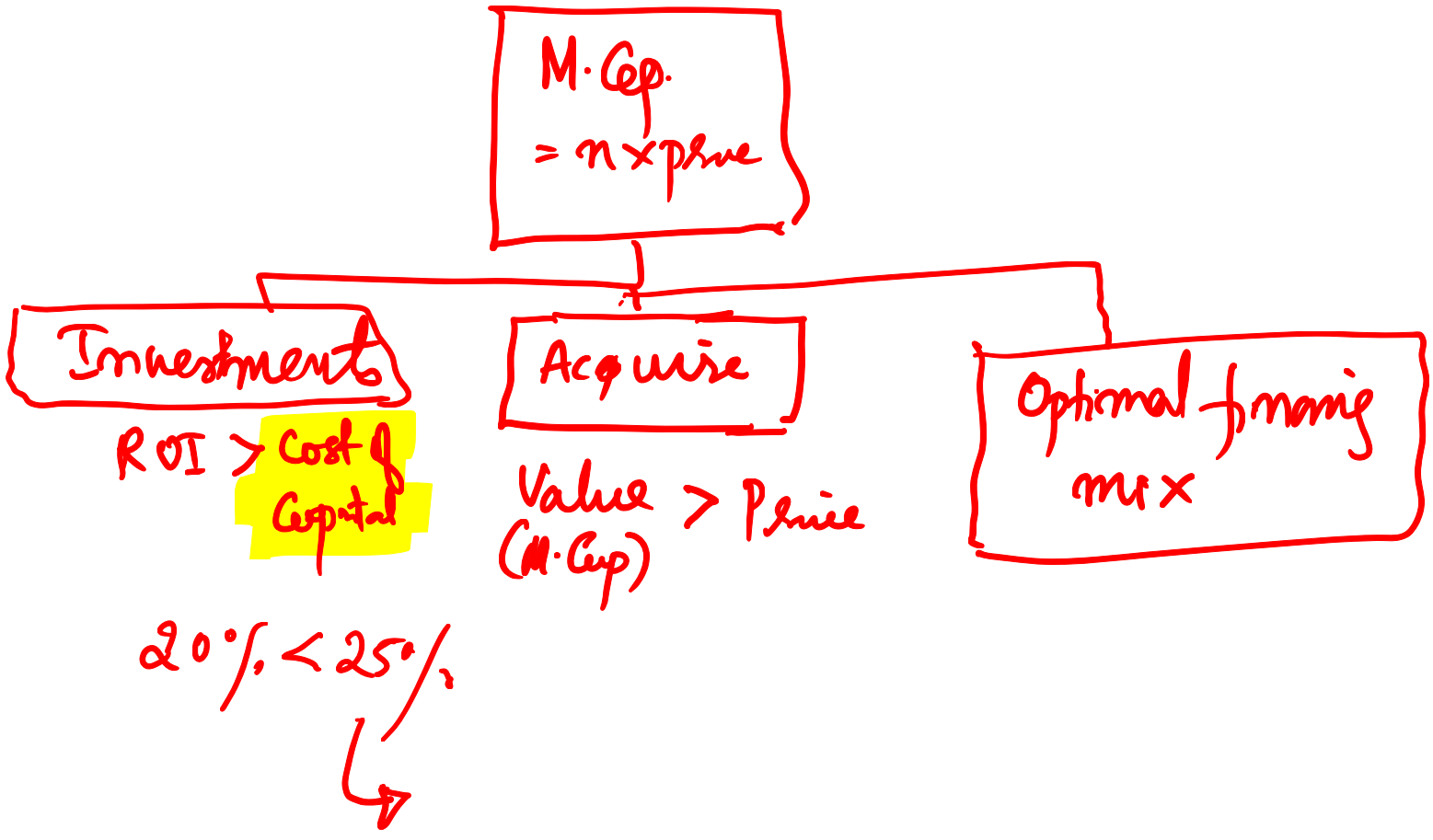
Assessing value creation

- Investors expect multiplication of their invested capital
- Value accretes when the Return on investment $>$ Return expected by investors for commensurate risk
- Assessing the Return on invested capital:




M·Cap.
= n × price
Investments
ROI > Cost of Capital
20% < 25%
Acquire
Value (M·Cap) > Price
Optimal financing mix

Should we invest?

Cost of capital = 10%

ROI = 37.5%

Capex Rs. 100 cr

	1	2	3	4
Sales	100	.	.	.
COGS	40			
SG&A	10			
PBT	50			
Tax rate (25%)	12.5			
PAT	37.5			

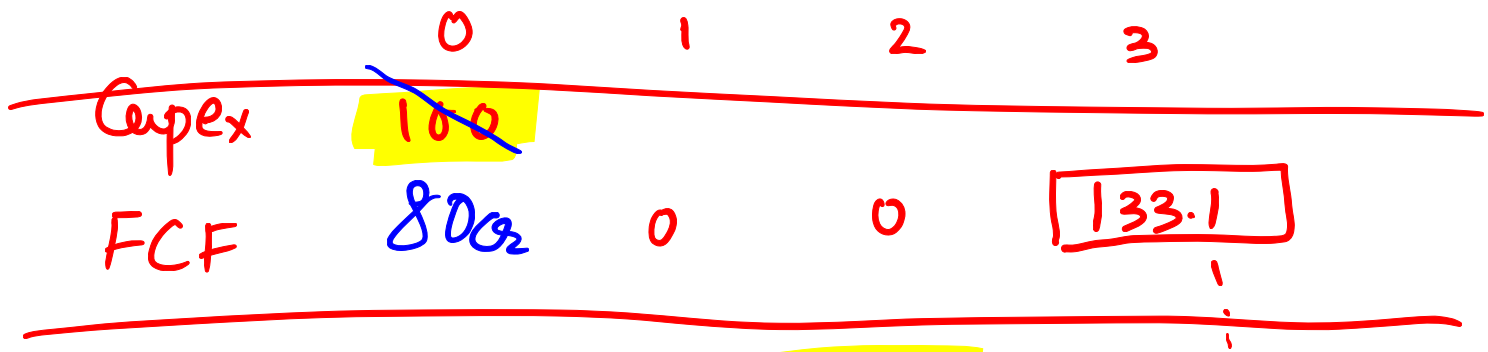
Sell the business 100% stake?

Estimation of value: A simple framework

Amazon — Net cashflow (-ve) — PAT (+) ✗

Alphabet — Net cashflow (+ve) — PAT (+) ✗

✓ Tesla — Net cashflow (-ve) — PAT (-) ✗



Cost of capital 10%

Market Capitalization 2

M.Cap = 110 110 121 133.1

PV of the cash flows = M.Cap of a company

NPV = PV of the Cashflows − Capex = 20cr

M.Cap = Investment + NPV

= 80 + 20 = 100

Mkt. Cap = PV Cashflows

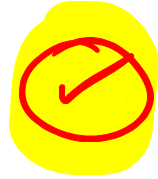
= Investments (Capex) + NPV

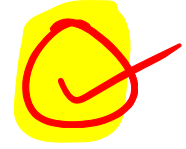
Assets owned — Value creation

Tesla

GE

UBER





M. Cap = PV of Free cash flows

0	1	2	3
			133.1

PV of $133.1 = \frac{133.1}{(1+10\%)^3} = 100$

Sales	360 m / year	1 m / day
Credit sale 60 days	60 m	
Supplier's credit 60 days	~~(30 m)~~ (180 m)	
Net working capital	30 m	

NWC = CA - CL

FCF = PAT + Depreciation − Investments

= PAT − (Investments − Depreciation)

= PAT − Net investment

high op. margins

= PAT / Sales

Asset turnover = Sales / Assets

high op. margins, asset turnover

⊕ Start with low level investments

PV Cash flows = Investments + NPV

Cost of capital = 10%

When NPV > 0

Return from the investment > Cost of Capital

IRR > Cost Capital

	1	2
Out-source	100	150
In-source	200	300
Diff	100	150
DiD	100	50