

EPGP Day 1

First Class 23/09/2018

Assets, Liability and Owners Equity

- $\text{Assets} = \text{Liability} + \text{Owners Equity}$
- $\text{Own} = \text{Owe to Others} + \text{Owe to Self}$
- $A = L + OE$
- Only two questions to ask
 - What you own
 - What you owe
- Balance Sheet will only capture
 - Tangible (Material)
 - Monetary Value
 - Quantifiable
 - Reliable
 - Verifiable
 - Property Rights

Assets, Liability and Owners Equity

Sr No	A	=	L	+	OE	Remarks
1	↑		↑			Buys a house using 100 % loan
2	↓		↓			Uses cash on hand to pay credit card balance
3	↓↑					Convert gold to cash
4						Converting hand loans to personal loan
5	↑				↑	Received a pay
6	↓				↓	Throw a party
7			↓		↑	Loan Waiver
8					↓↑	Change in ownership

Each of the activity defined in Remark column impacts the three parameters in the above mentioned way. The rule is :

- OE is residual in nature
- Typically increases with gains and increase in revenue
- Decreases due to expenses, write offs, losses and withdrawal

Balance Sheet

Total Assets

Current Assets are assets convertible in cash in 12 months :

- Cash equivalent
- Receivable
- FD
- Short Term loans and advances
- Inventory
- Non current assets up for sale

Non Current assets:

- Plant, Property and equipment
- Land and lease hold land
- Furniture
- Fixtures
- Computers and accessories
- Long term loans
- Software

Non Tangible

Total Liability and Equity

Current Liabilities :

- Trade payable
- Working Capital loans
- Portion of loans to be repaid in next 12 months
- Provisions for taxes, wages and dividend

Non Current Liabilities :

- Deferred tax liability
- Provision for retirement benefits
- Debentures
- Equity shares
- Reserves and surplus

Owner's Equity

Analyzing the Balance Sheet of BOI

Total Assets	Total Liabilities
Current assets : 27498+49441	Current Liability : 534482+40099+18013
Non current assets : 123196+404390+5915+14816	OE : 666+32025 (CAPITAL & RESERVES)

$$A=L+OE$$

$$625256 (A)=592594 (L) + 32691 (OE)$$

Analyzing the Balance Sheet of RIL

Total Assets	Total Liabilities
Current assets : 136577	Current Liability : 282949
Non current assets : 367909	OE : 221537

$$A=L+OE$$

$$504486 (A)=282949 (L) + 221537 (OE)$$

Analyzing the Balance Sheet of Infosys (31 March 2016)

Total Assets	Total Liabilities
Current assets : 47242	Current Liability : 15503 Non Current Liability : 50
Non current assets : 19047	OE : 50736

$$A=L+OE$$

$$66289 (A) = 15553(L) + 50736 (OE)$$

Analyzing the Balance Sheet of Infosys (31 March 2014)

Total Assets	Total Liabilities
Current assets : 43078	Current Liability : 12031 Non Current Liability : 405
Non current assets : 13888	OE : 44530

$$A=L+OE$$

$$56966 (A) = 12436(L) + 44530 (OE)$$

Notes

- Accountants are unbiased historians
- Contingent Liability is a liability for which amount is not known and timing of liability is not known. Examples Court cases, BGs etc
- Banks have very less FA
- Accrued liabilities are liabilities for which quantum and amount both are known. Expenditure already incurred only processing of bills pending
- In manufacturing industry Inventory and receivables are more
- In bank inventory and receivables are nil
- Some items are such as leases for a few days (or on hire basis) with aircrafts etc were recorded off balance sheet as notes at bottom.
- Gross block is the FC of tangible assets
- Every year accumulated depreciation has to be subtracted to reach the current value of asset.
 - $\text{Gross Block} - \text{Accumulated depreciation} = \text{Net Block}$
- One Company's asset is another company's liability. This is interconnectivity of companies

Finance for Non Finance

Second Class 30/09/2018

Queries from Class 1

- Asset (OWN) = Liabilities (OWE to outsider) +OE (Share holders)
- Balance sheet is looked at from company's prospective.
- OE consist of Capital Equity and Surplus reinvested (other equity)
- Assets are of two types
 - Current asset
 - Non current asset
- Liabilities are of two types
 - Current asset
 - Non current asset
- If you expect to gain from something in future then that is an asset.

Queries from Class 1

$$1000 (A) = L (0) + 1000 (EC) + 0 (RR) + 0 (CR)$$

Revenue of
10000
generated

$$11000 (A) = L (0) + 1000 (EC) + 10000 (RR) + 0 (CR)$$

Revenue
of 10000
generated

$$21000 (A) = L (0) + 1000 (EC) + 20000 (RR) + 0 (CR)$$

Own 50 % of
company.
issue 1000
equity capital
at premium
of 100000

$$122000 (A) = L (0) + 2000 (EC) + 20000 (RR) + 100000 (CR)$$

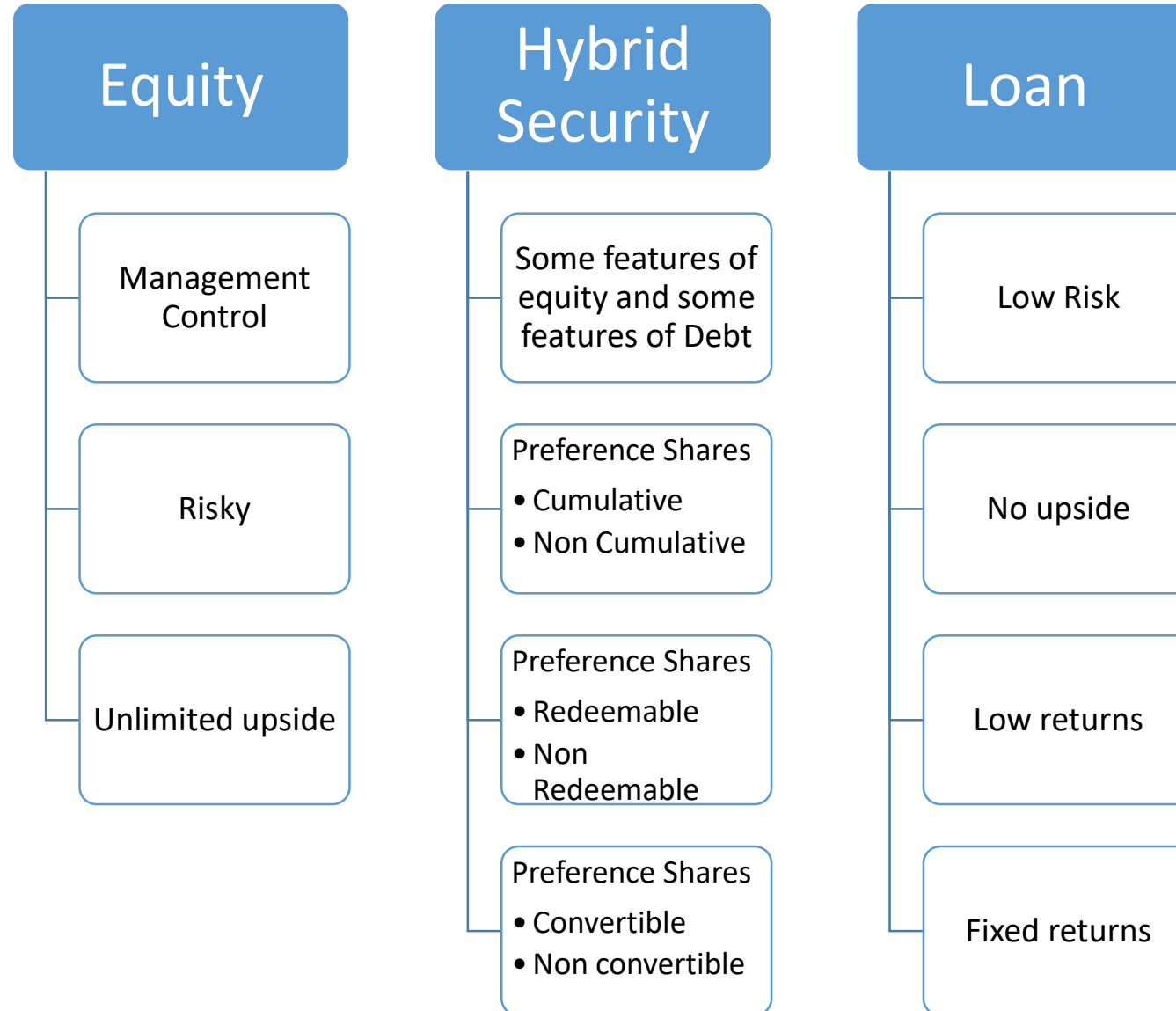
Issue a
bonus
share
of 1 : 1

$$122000 (A) = L (0) + 4000 (EC) + 18000 (RR) + 100000 (CR)$$

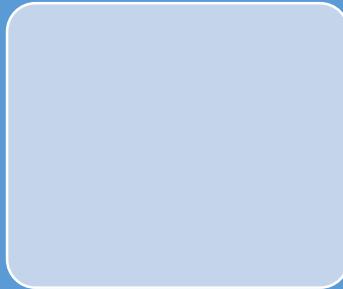
Please note that Cash Reserves cannot be used to issue bonus share / dividend. Revenue reserves can be used to issue Bonus shares

Equity vs Loan

- In case of cumulative preference share, dividend can be accumulated and paid in subsequent years.
- Irredeemable instruments not allowed in India
- Preference shares not popular in India
- A part of Convertible preference share may get converted into equity on maturity.

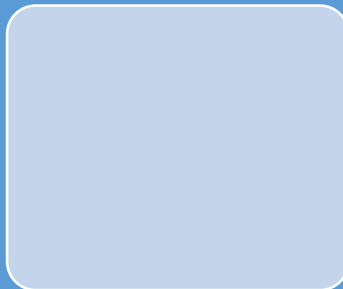


Debt



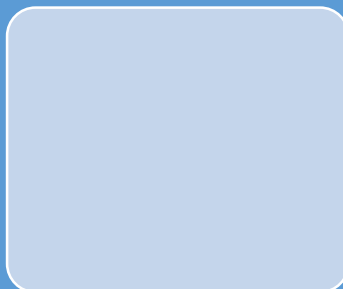
Debt

- Secured (Cheaper)
- Unsecured usually against Social Collateral



Debt

- “Borrowing” if taken from institutions
- “Debentures” if taken from public (“Rs 100 “ face value debentures offering 10.5 % redeemable after 5 years)



Debentures

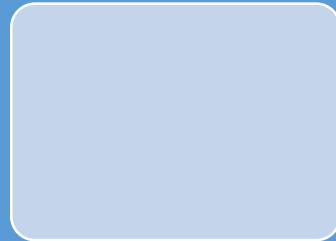
- Zero coupon if no yearly shell out
- Yearly coupon rate if yearly interest is payable

Debt



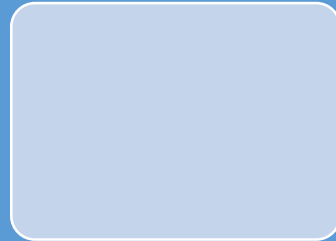
Debentures

- Redeemable
- Irredeemable



Debentures

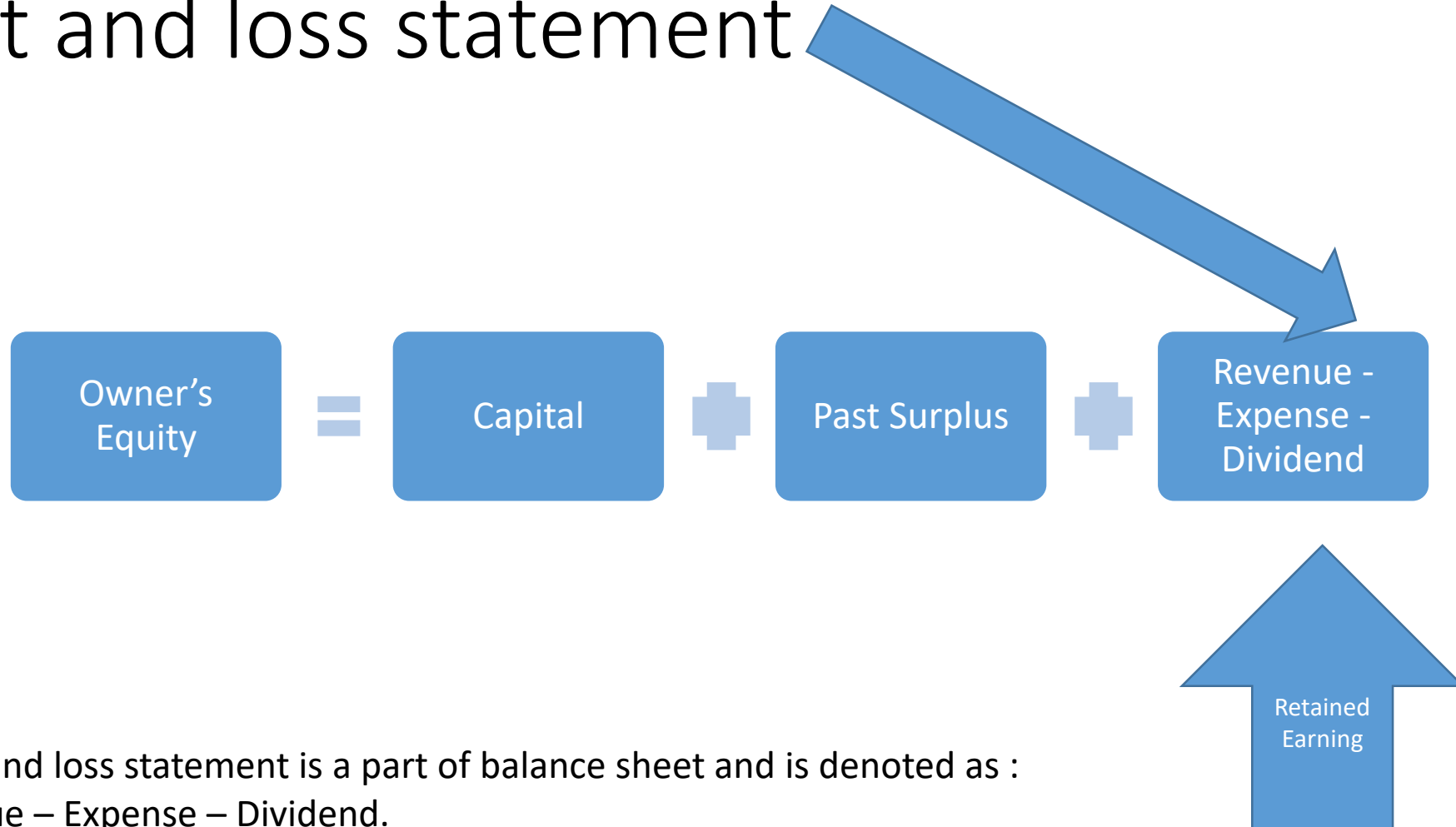
- Convertible
- Non Convertible



Debentures

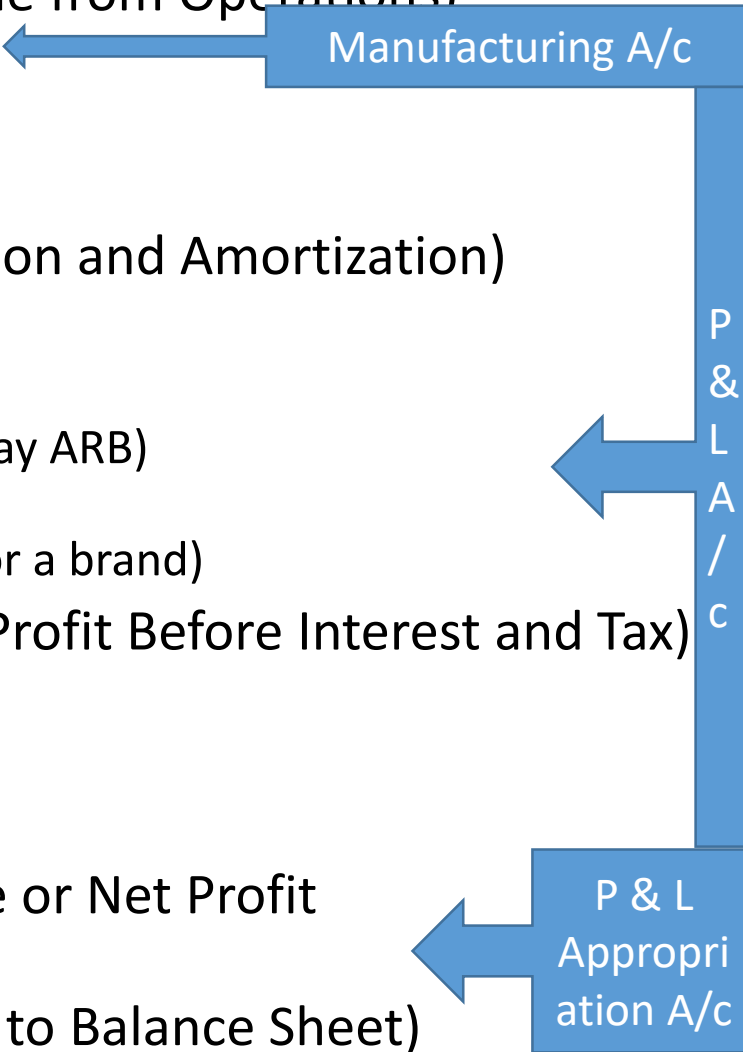
- Zero coupon if no yearly shell out
- Yearly coupon rate if yearly interest is payable

Profit and loss statement



Profit and loss statement is a part of balance sheet and is denoted as :
Revenue – Expense – Dividend.
P & L Statement is also known as Income Statement

Profit and loss statement

- Sales (Total Revenue or Top Line or Gross Income from Operations)
 - Less Costs of Goods
 - Gross Profit
 - Less Sales, General and Administrative Expense
 - EBITDA (Earning Before Interest, Tax, Depreciation and Amortization)
 - Less Depreciation and Amortization
 - Operating Profits
 - Add / Less Other Income (from other operations say ARB)
 - Add / Less Exceptional Item (Past Period Items)
 - Add / Less Extra Ordinary Item (Sale of a division or a brand)
 - EBIT (Earning Before Interest and Tax) or PBIT (Profit Before Interest and Tax)
 - Less Financial Expenses (Interest)
 - PBT (Profit Before Tax)
 - Less Tax
 - PAT (Profit after Tax) also known as Bottom Line or Net Profit
 - Less Dividend
 - Balance Reserves and Surplus (Carried Forward to Balance Sheet)
- 

Different companies may have different focus areas to increase the profits.

For example :

- Big Bazar plays a volume game so its procurement cost will be critical.
- Coca Cola plays a game of advertising so its advertising cost will be a key factor
- Tata Steel is a capital intensive technology industry. Operational cost will play a key role in profitability of the company.

Profit and loss statement

Manufacturing Account

Cost of Goods manufactured

Trade Account

Items purchased from outside

P & L Account

All other Expenses

P & L Appropriation Account

Allocation of Surplus

P & L Appropriation
account is also known as
Statement of Changes in
Equity (Other Equity)

Finance for Non Finance

Second Class 07/10/2018

Accrued Principle, Realization Principle, Matching Principle

- The **accrual principle** is the concept that you should record accounting transactions in the period in which they actually occur, rather than the period in which the cash flows related to them occur.
- The **realization principle** is the concept that revenue can only be recognized once the underlying goods or services associated with the revenue have been delivered or rendered, respectively. Thus, revenue can only be recognized after it has been earned.
 - A transaction is said to have happened when the ownership of coffee mug has changed.
 - For example if a firm receives an advance of Rs 5000. The accounting entry will be of Rs 5000 as liability. Once the goods are delivered then this Rs 5000 is transferred from liability to revenue account.
 - $A = L + OE$
 - On receiving Rs 5000 advance $A \uparrow = L \uparrow + OE$.
 - Once Goods delivered $A \downarrow = L \downarrow + OE \uparrow$
- In matching principle, when a sale transaction is happening, simultaneous all expenses including depletion in inventor may be recorded.

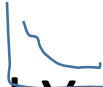
Notes

- Net worth also known as total equity.
- Negative net worth is possible when liability goes up drastically.

Amortization and Depreciation

- Norms for depreciation are fixed and non flexible as far as taxation is concerned.
- However in order to show a true picture to share holders, companies make second profit and loss account taking into true picture.
- So flexibility is give for presenting numbers to share holders.
- For taxation authorities say P & L statement uses 30 % (written down value method)
- Another statement for share holders uses apt depreciation rates in order to show more truthful statement.

Amortization and Depreciation

- WDV method is to calculate a uniform rate of depreciation on the last year's book value.
- Straight Line Method  Yearly depreciation = $(\text{initial cost} - \text{salvage value}) / \text{life}$
- Modified acceleration Cash Recovery System. This method is not popular in India.
- As per Indian Accounting Standards, big components of fixed assets may be segregated and different rates may be used.
- A lot of leeway is being given to accountants.
- CEO/CFO gives a letter confirming that the numbers are true.

Inventory Valuation

- Start a business with 20 ($20=0+20$)
- Purchased 2 kg of sugar @ 5 per kg ($10 \text{ Cash} + 10 \text{ inventory} = 0 + 20$)
- Purchased 2 kg sugar @ 4 per kg ($2 \text{ Cash} + (10 + 8) \text{ inventory} = 0 + 20$)
- Sold 2 kg @ 6 per kg ($2 \text{ Cash} + 12 \text{ cash revenue} + (8) \text{ inventory} = 0 + 20 + 2$) (FIFO)
 - P & L Statement = $12-10 = 2$
- Sold 2 kg @ 6 per kg ($2 \text{ Cash} + 12 \text{ cash revenues} + (10) \text{ inventory} = 0 + 20 + 4$) (LIFO) (Not allowed)
 - P & L Statement = $12-8 = 4$
- Sold 2 kg @ 6 per kg ($2 \text{ Cash} + 12 \text{ cash revenues} + (9) \text{ inventory} = 0 + 20 + 3$) (WAM)
 - P & L Statement = $12-9 = 3$

Inventory valuation method can result in huge fluctuation of profits where cost of inventory valuation keeps changing.

Fourth Inventory Valuation Method is Specific Identification Method. (Used in Jewelry)

Impact of Depreciation on Profits

Year	1	2	3	4	5
PBDT	100	100	100	100	100
-Dep (100 % in first year)	100	0	0	0	0
PBT	0	100	100	100	100
-Tax @ 50 %	0	50	50	50	50
PAT	0	50	50	50	50

P & L for Taxation

Year	1	2	3	4	5
PBDT	100	100	100	100	100
-Dep (20 % every year)	20	20	20	20	20
PBT	80	80	80	80	80
-Tax @ 50 %	40	40	40	40	40
PAT	40	40	40	40	40

P & L for Shareholders

Rs 40 was deferred tax liability which was paid @ 10 every year in subsequent years. In India losses can be carried forward for 8 years.

Linkage between balance sheet and P & L account

Balance Sheet	
Total Assets	Total Liability and Equity
<p>Current Assets are assets convertible in cash in 12 months :</p> <ul style="list-style-type: none"> • Cash equivalent • Receivable • FD • Short Term loans and advances • Inventory • Non current assets up for sale 	<p>Current Liabilities :</p> <ul style="list-style-type: none"> • Trade payable • Working Capital loans • Portion of loans to be repaid in next 12 months • Provisions for taxes, wages and dividend
<p>Non Current assets:</p> <ul style="list-style-type: none"> • Plant, Property and equipment • Land and lease hold land • Furniture • Fixtures • Computers and accessories • Long term loans • Software 	<p>Non Current Liabilities :</p> <ul style="list-style-type: none"> • Deferred tax liability • Provision for retirement benefits • Debentures • Equity shares • Reserves and surplus

- Sales (Total Revenue or Top Line or Gross Income from Operations)
 - Less Costs of Goods
- Gross Profit
 - Less Sales, General and Administrative Expense
- EBITDA (Earning Before Interest, Tax, Depreciation and Amortization)
 - Less Depreciation and Amortization
- Operating Profits
 - Add / Less Other Income (from other operations say ARB)
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- Balance Reserves and Surplus (Carried Forward to Balance Sheet)

Linkage between balance sheet and P & L account

Item in Balance Sheet	Positive on P & L	Negative on P & L	Remarks
High Cash	High Other Income	Less returns as capital not deployed for business	Infosys
	Reduces the liquidity stress		
High Receivable	High Sale	High financial charges.	Raymonds
		High Bad debt (SGA)	
Higher Inventory	More Sales as no stock out	High Demerage, ware housing charges, loss on inventory, interest expenses. (Higher SGA)	Colgate
High tangible in intangible assets	More scope to latch on to opportunity of scale	Higher financial charges, higher depreciation	Reliance GEO (aggressive marketing policy)
Loans and advances are high or investments are high	High other income	Diversion of funds from the core business	Infosys, Raymonds
High trade payables	Less interest expenses. Cash balances will go up	Vendors may charge more	
High advance from customers (zero interest liability)	Lower interest charges	Lesser sale	Ideal situation. Using others money
High secure loans, high debentures, high unsecured loans	Higher interest expenses. Mismanagement of funds	Positive boost to business by having higher sales, funding expansions	

Analyzing common sized statements

- Analyze items that are big
- Analyze items that has maximum change
- Justify the changes and numbers
- Don't make big conclusions on one or two findings
- Qualitative information will help in better analysis.
- Used to compare with competitors

Index bases analysis

- Used to capture trends and patterns
- Base year should be a normal year

21/10/2018

Revision of previous classes

- Standard form of Balance Sheet

Assets	Liabilities
Current Assets	Current Liabilities
Non Current Assets	Non Current Liabilities
	+
	OE (Owner's Equity)
Total Asset	Total Liability

- $A = L + OE$
- OE is residual in nature
- OE will go up with gains / Sales / Revenues
- OE will go down will loss / dividend / expenses
- $A = L + \text{Contributed Capital} + \text{Retained Earning (Revenue} - \text{Expenses} - \text{Dividend)}$



Revision of previous classes

- $A = L + \text{Capital} + \text{RE (past)} + \text{P \& L Statement of this period}$
- $A = L + \text{Capital} + \text{RE (past)} + \text{Balance amount carried forward from P \& L Statement}$
- P & L Statement
 - Sales
 - -Cost of Goods
 - Gross Profit
 - -Other Expenses
 - PBITDA (Profit before interest, tax, depreciation and amortization)
 - - depreciation and amortization
 - Operating Profit
 - +/- Other income
 - +/- Exceptional Items
 - PBIT
 - -Tax Expenses
 - PAT
 - -Dividend
 - Balance Carried Forward or Added to Balance Sheet

Revision of previous classes

- Annual Report
 - Balance Sheet
 - P & L Statement
 - Statement of Change in Equity (Other Equity)
 - Notes to account
 - Inventory Policy
 - Depreciation Policy
 - Cash Flow Statement

Revision of previous classes

- Interim Dividend : Declared and Paid during the year
- Final Dividend : Declared after books are closed. Declared and approved in AGM
- Other comprehensive income (revaluation of land , revaluation of loan etc) cannot be used to pay dividend
- Index based analysis : certain parameters of a certain year are made 100. Analysis is done as the item changes in years to come.

Revision of previous classes

- CAPEX : It is an expense for which there is a verifiable and reliable way to determine future use. All things where an accountant will say that there is going to be a future use.
- OPEX : No reliable way to say that this expense will have a future use. Advertisement, Electricity bill etc.
- CAGR : Annual growth rate, (10, 10.1, 11.11, 12.22 CAGR is 10 %)
- Discount Rate : Time value of money, Expected rate of return. As perception of risk increases, discounting rates also goes up.

Share Holder's Value

- Reputation
- Current Profitability
- Growth (Future Prospects)
- Risk

Any investment decision is based on above parameters. These parameters are responsible for Share Holder's Value.

Investment Decision

- Always from Investor's Prospective
- Theories for decision making
 - Historical Basis (Good from accounting prospective but not good from investor's prospective)
 - Liquidation Basis (Buy and sell immediately)
 - Going Concern Basis (No threat of imminent liquidation)
 - Replacement Basis (Cost of replacement)
 - Relative valuation basis (Combination of all four concepts)

Example

- M S Dhoni cost Rs 2 cr for each year.
- M S Dhoni makes 10 cr in first year and 2 cr in second year
- Average return of investment is 15 %
- $PV = FV / (1+i)^{\text{raise to power } n}$
- Value of M S Dhoni = $(10-2)/1.14 + (8-2)/(1.14)^2$
- 11.63 cr
- It is not profitable to buy M S Dhoni at a price less than 11.63 cr.
- Value of any asset = PV of all future cash flows (at certain discounting rate)

- As risk goes down share holder's value goes up
- Higher rate of return is preferred for same amount of risk.
- Valuation is from the prospective of owning it for a long run.

- Book Value per Share = Net Worth / Number of Shares
- EPS = PAT / Number of Shares
- Market Value = Market price per Share x Number of Shares
- Value Creation = Market Value / Book Value
- Future Growth Prospect = Market Value of share / EPS=P/E
- Return on Equity = Profits / Total Equity

- Profitability
- Growth
- Risk
- Reputation

Market has a sense of pricing

Shareholder's value maximization is the sole purpose.

P/BV and P/E are drivers of share holder's value

- Some expenses such as training, R & D are current as far as accountants are concerned but have long term economic advantages.
- Companies spending lot of money on such things will have a weaker balance sheet and their asset value will be lower.

28/10/2018

Driver's of Share Holder's Value P/BV

- Profitability PAT / NW equivalent to EPS / BV
- Perceived Growth $Mcap / PAT$ equivalent to $Share Price (P) / EPS$
- Reputation of Company
- Risk

Notes : One measure of Value Creation is $M Cap / NW$ equivalent to P / BV

Notes

- A company is said to be doing good when
 - It has good profitability
 - It has good liquidity

Profitability	good	good	bad	bad
Liquidity	good	bad	good	bad
	Infosys, TCS	ILFS	Bharti Airtel	Reliance Communications, JET

Ratio analysis means analyzing the company on both parameters.

Profitability is Return on Investment

Return on Equity = PAT / NW

Return on Net Worth

Story of Indian Cement Industry

- In 1985 there were 100 companies
- Government introduced low excise on small plants resulted in 300 companies in 1995
- Benefit was with drawn after 1995
- Consolidation happened and only 100 companies were there in 2005
- In 2010 only 70 companies were there.
 - ACC (owned by Laffarge) 8 % market share
 - Ambuja 8 % (Holcim)
 - Ultratech 7 %
 - Holcim purchased Laffarge

Transportation is the biggest cost in Cement Industry

Story of Indian Cement Industry (Capacity in MMT)

	2010	2012	2015	2018
Ultratech (Aditya Birla)	25 (7 %)	50	69 (13 %)	91 (18 %) (largest)
Ambuja	24	30	30	30
ACC	30	30	33	33
Shree Cement	12 (4 %)	16	18	39 (third largest)
RAMCO	8	8	8	8

Ultratech has a pan India presence. Shree Cement is concentrated in Central and Western part of India. Ramco is a regional player in South where raw material is in short supply.

Notes

- Average market capitalization is the average of share price multiplied with number of shares.
- Return on Investment = $PAT / NW = EPS / BV$
- Return on Investment (2018) = $PAT (2018) / NW (2018)$
- Return on Investment (2018) = $PAT (2018) / NW (2017)$
- Return on Investment (2018) = $PAT (2018) / \text{Average } \{NW (2018) \& NW (2017)\}$

When ever items of P & L statement is divided by items of Balance sheet use averages for balance sheet items.

Notes

- Return on Equity = PAT / NW
= $(PAT / SALES) \times (SALES / T \text{ ASSETS}) \times (T \text{ ASSETS}/NW)$
= MARGIN x Asset Turnover x Financial Leverage

- Gross Profit Margin = $GP / Sales$ (Big Bazar)
- EBITDA Margin = $EBITDA / Sales$ (Coca Cola)
- Operating Profit Margin = $Operating Profit / Sales$ (Tata Steel)
- PBT Margin = $PBT / Sales$ (International Dairy Company looking to acquire)
- Net Margin = $PAT / Sales$ (HDFC)

Margin game played by Anglo-Saxon Company (Coca Cola). Oriental companies (Big Bazar) play Asset Turn Over game. Financial Leverage game is played by Reliance.

Cost leadership (to play turn over game) is the strategy to be used in commoditized space (no differentiation in product).

Differentiation in product then Margin Game will be played.

Notes

- Financial Leverage = Total Assets / NW
= (Total Liabilities + OE) / NM
= TL/NW+NW/NW
= Debt/Equity +1

$$A=L+OE$$

$$20=19+1 \text{ Banks}$$

$$11=10+1 \text{ NBFC}$$

$$5= 4+1 \text{ Maufacturing}$$

ROE

- Return on Capital Employed = $PAT / (LT\ Liability + NW)$ [From Lender's Perspective]
- Return on Equity = PAT / NW [From Share Holder's Perspective]
- Return on Operating Assets = $Operating\ Profit / Average\ of\ Operating\ Asset$ [Management Perspective]
- Operating Profit = Sales - COGS - SG & A - DEP & AMORTIZATION
- Operating Assets = Total Assets – Investments - Loans and Advances

Various Ratios – Turn Over Ratio

- Total Asset Turn over ratio = $\text{Sales} / \text{Avg Total Asset}$
- Operating Asset Turn Over Ratio = $\text{Sales} / \text{Avg Operating Assets}$
- Operating Assets :
 - Fixed Asset
 - Working Capital Related Issues
- Fixed Asset Turn Over Ratio = Sales / FA
- Working Capital Turn Over Ratio = $\text{Sales} / \text{Working Capital}$
- Basic EPS = $\text{PAT} / \text{NUMBER OF SHARES}$
- Diluted EPS = $\text{PAT} / (\text{N} + \text{FUTURE SHARES TO BE ISSUED})$
- CASH EPS = $(\text{PAT} + \text{DEP \& AMORTIZATION}) / \text{N}$

NOTES

- PAT can be used
 - Reward share holders = $\text{DIVIDEND} / \text{PAT} = \text{DPS/EPS}$ known as dividend payout ratio
 - Reinvest (1- dividend payout ratio)

We can see that dividend payout ratio of Indian companies is less as compared to multinationals, probably because they want to take what ever money as they have less faith in the stability of economy.

notes

- P/E ratio is price per share by EPS
- P/BV ratio is price per share / BV per share
- Dividend yield ratio = $DPS / \text{Price per share}$
- Liquidity Ratios
 - Short term
 - Long term
- $D/E = \text{TOTAL LIABILITIES} / \text{NET WORTH} = \text{TOTAL DEBT} / \text{TOTAL CAPITAL}$
- Long Term Debt Equity Ratio = $\text{Non Current Liability} / \text{NW}$ (LOWER THE BETTER FROM BANKERS PERSPECTIVE)

NOTES

- Times Interest Covered Ratio = $\text{PBIT} / \text{Interest Expense}$ (more the better)

04/11/2018

Short Term Solvency

- Average Daily Operating Expense = $(\text{CoGS} + \text{SGA} + \text{Current Tax Expense}) / 365$
- Cash and bank Balance / Average daily operating expense = Cash cover in number of days

Cash cover for Ultratech is 2/ 3days. ACC / Ambuja has cash cover of 90-130 days.

A company is said to have short term solvency if it is able to pay all current liability at once.

Net Working Capital = Current Asset – Current liability and current provision.

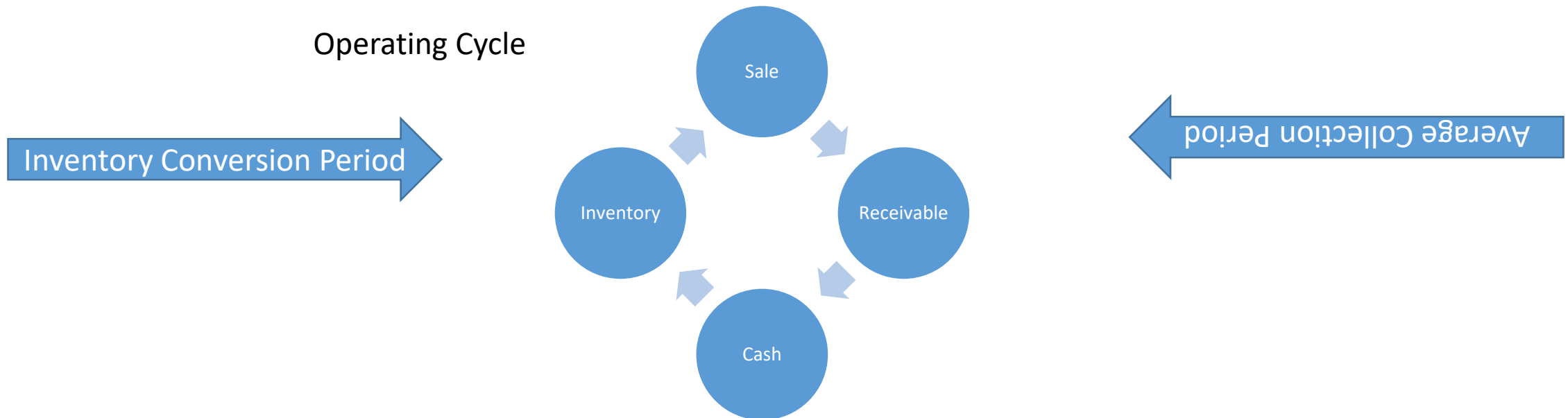
Notes

- Current Ratio = Current Asset / Current Liability and Provisions
- Quick Ratio = (Current Asset-Inventory)/Current Liability and Provisions
- Current Ratio is more relevant for Heavy Industry having large manufacturing cycle.
- For all others Quick ratio is good.

Competitiveness of a company impacts its Current Ratio.

Notes

- Sales per Day = Sales / 365
- Average Collection Period = Receivable/Sales Per day
- Inventory / Cost of Goods Sold= Inventory Conversion Ratio
- Number of operating cycles is a measure of efficiency



Illustration

	Link	Ultratech	H Unilever
Inventory Conversion Period (days)	90	18	35
Average Collection Period (days)	90	52	2
Operating Cycle (days)	180	70	37
Number of operating cycles in a year	2	5	10
Average Payable Period (days)	30	39	190
Cash Working Capital Needed (days)	150	31	(150)

- Raw Material Purchased per day = Raw Material Purchased / 365
- Payable / RM per Day = Average Payable Period

Time Value Money

- $FV = PV(1+i)^n$
- COMPUNDING
- $FV = PV(1+i/m)^{mn}$
- Recurring deposit 10000
- $= 10000/(1+i)^1 + 10000/(1+i)^2 + 10000/(1+i)^3 + 10000/(1+i)^4 + 10000/(1+i)^5 + 10000/(1+i)^6$
- Use excel formula $FV=(1,6,10000,0,0)$



- For calculating the PV of RD
- Use excel formula $PV=(I,DURATION,AMOUNT,0,0/1)$
- Qtrly rate of interest is 3.5%
- Yearly interest rate in power(1.035, 4)

- Financial Management of a company
 - Financing decision
 - Investment decision
 - Working Capital management

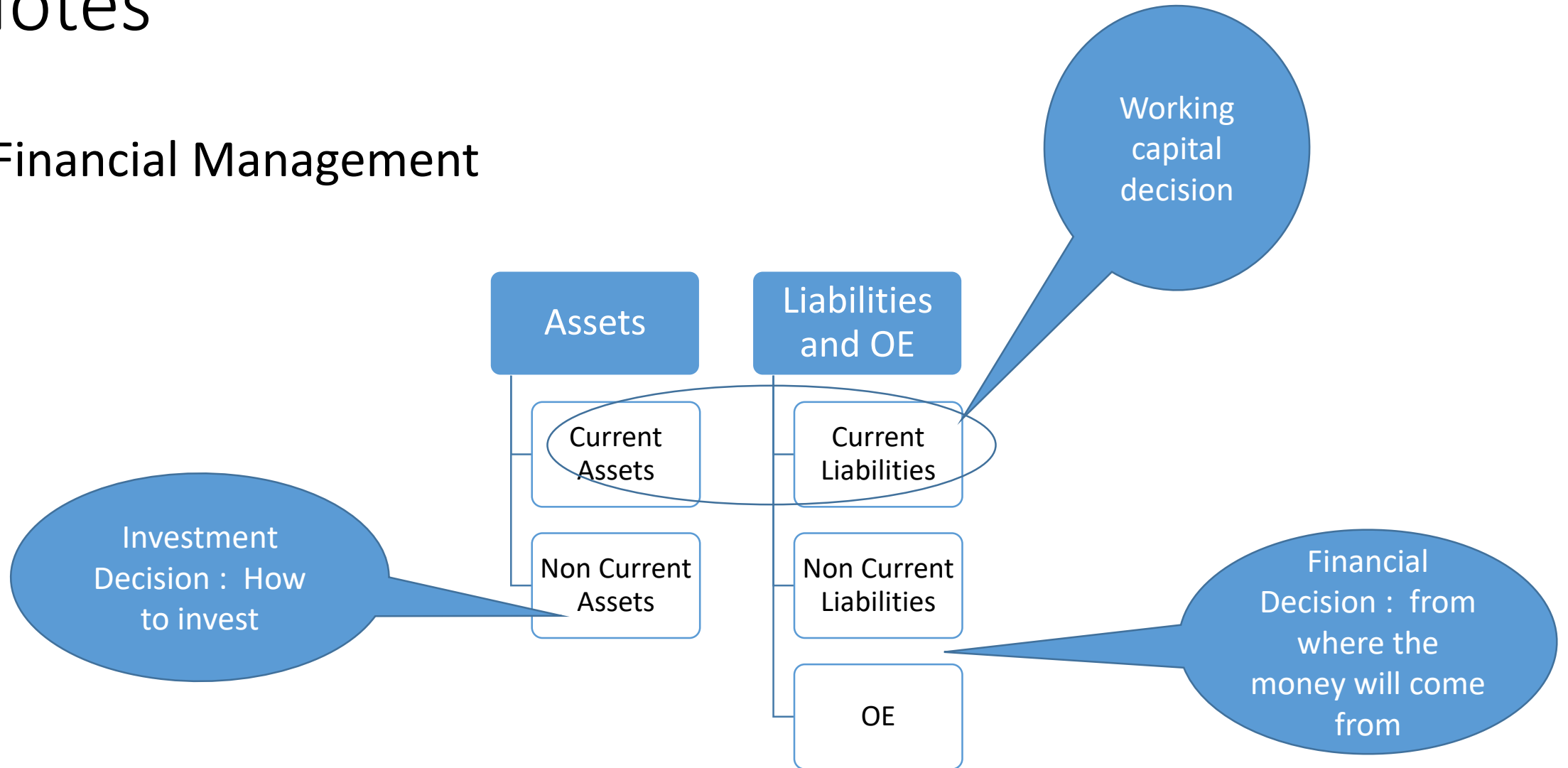
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Notes Revision

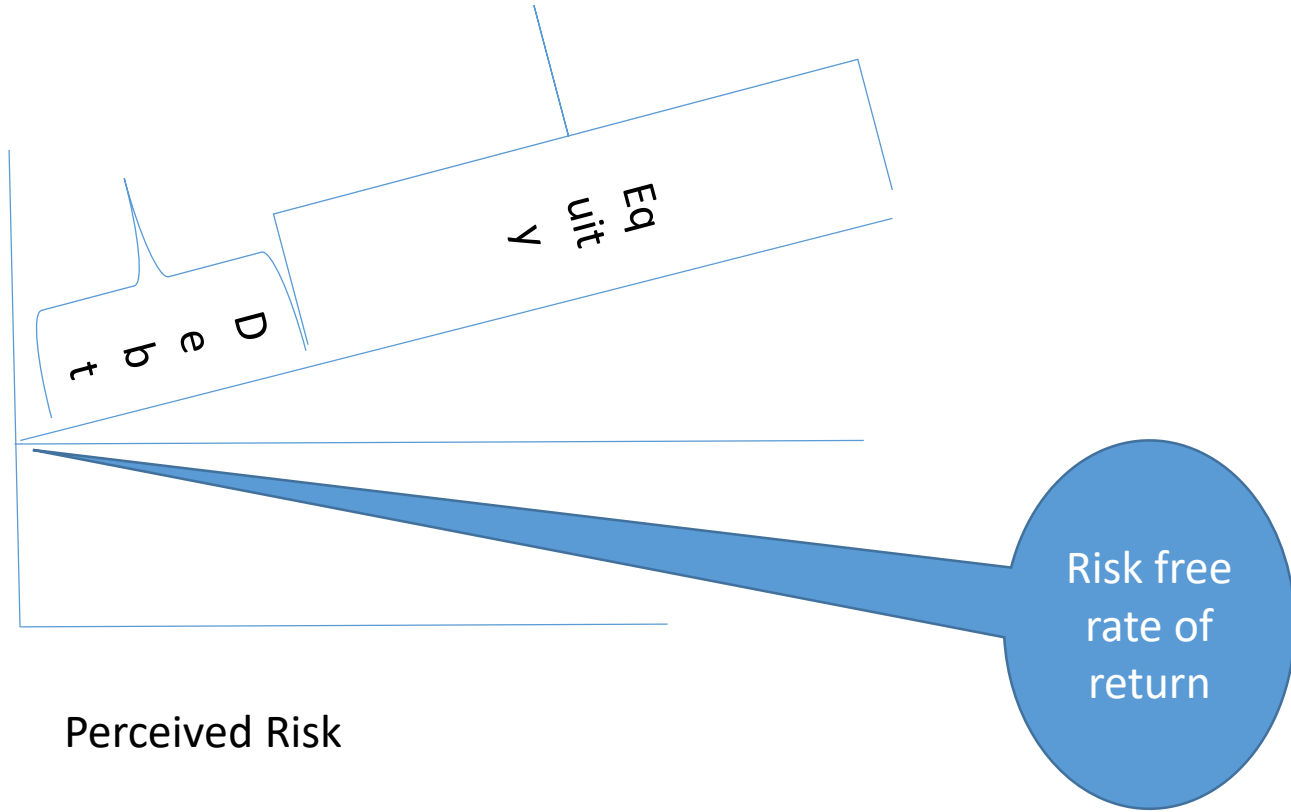
- Time value of money
 - Present value=future value / $(1+r)^n$
 - Present value of annuity = First annuity payment / (interest rate-rate of increase)
- Short term solvency ratios
 - Net Working capital=CA-CL
 - Current Ratio = CA/CL
 - Quick Ratio =(CA-INVENTORY)/CL
 - Average Payable Period (APP) = Total Payable / (Average inventory used per day)
 - Average Collection Period (ACP)= Total Receivable / average sale per day
 - Inventory Conversion Period (ICP) = Inventory / Cost of goods sold per day
 - Operating cycle = ICP+ACP
 - Working capital required for = Operating Cycle-APP

Notes

- Financial Management



Expected rate of return



Financing Decision

- A project is a go if rate of return is more than the cost of capital
- $(P_E \times K_E) + (P_D \times K_D) = K_C$ (expected rate of return)
 - K_C = Cost of capital
 - P_E = Proportion of Equity
 - P_D = Proportion of Debt
 - K_E = Cost of Equity
 - K_D = Cost of Debt

Notes

- Converting qtrly interest rate to yearly rate
- Future value after 4 qtrs. = present value $\times (1 + \text{qtrly rate})^4 = \text{Present value } (1 + \text{yearly rate})^1$
- Market value of share is captured in Corporate Governance report

Investment decision

- Payback period
 - How many years after the initial investment the future cash flows will be equal to initial investments.
 - It is a very easy method
 - It does not take care of the time value of money
 - Cash flow after cut off period are ignored
- IRR
 - We calculate the PV of all future cash flows and make it equal to initial investment.
 - Value of I calculated is IRR
 - $IRR > \text{Cost of capital}$ project is good to go.
 - This method takes care of time value of money. Excel calculate the IRR
 - All cash flows are incorporated
 - Psychologically % is better to explain to human beings
 - Relatively difficult
 - And assumes that all cash flows are reinvested at an IRR .

- Net present value

- We calculate the net present value of all cash flows assuming an interest rate equal to cost of capital.
- If the NPV is positive project is good to go.
- Excel calculate the NPV
- It takes care of time value of money
- All cash flows are incorporated
- Theoretically this is the best method
- It is not denoted in % so psychologically not effective

Notes

- Value of company = PV of cash flows from existing project + PV of cash flows from future projects
- Credibility of announcer effects the share prices and thus value of company.

Notes

- In case the project timelines of two projects is different we use modified IRR
- The cash flow of shorter time line project is invested at the discounting rate and then IRR of the project is calculate.
- MIRR can be used for other projects also. The cash flow are reinvested on discounting rate.
- In practice, Probabilities of various cash flow are evaluated.
- Such simulation is known as Monte Carlo Simulation
- Project = NPV + Real Options

Notes

- Estimating cash flows :
 - Use PAT + depreciation
 - Consider opportunity cost (manpower etc)
 - Ignore past sunk costs

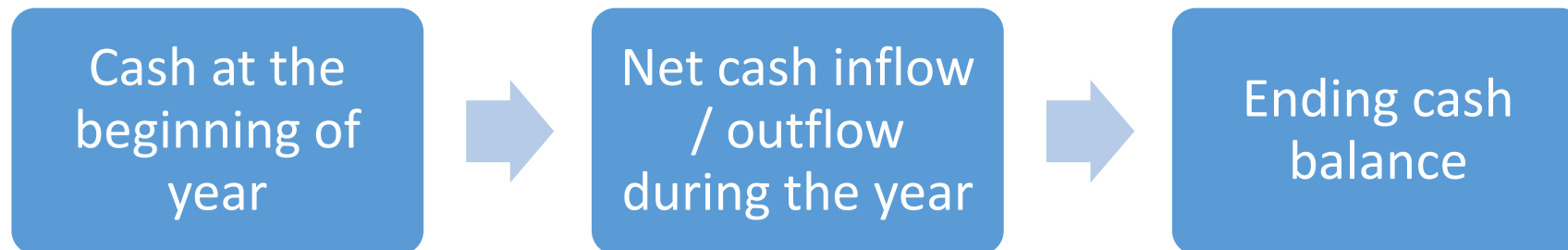
Cost of Capital

- Cost of Capital = $(P_E \times K_E) + (P_D \times K_D)$
 - P_E = Proportion of Equity (from balance sheet)
 - P_D = Proportion of Debt (from balance sheet)
 - K_E = Cost of Equity = Risk free rate of return (R_F) + β x premium for additional risk. Risk free rate of return in India is around 7.8 %, premium is around 5 %. β will vary with industry. For airlines it may be 2. So cost of equity for airline industry may be 7.8 + 2x5 = 17.8 %. For FMCG β may be 0.5 % accordingly the cost of capital for FMCG will be 12.8 %.
 - K_D = Cost of Debt = Interest Rate (1-corporate tax rate) as interest is paid before tax.
 - Interest rate depends on credit rating of company. Credit rating of company depends on Times Interest Covered ration (PBIT/ Interest Expense)
 - β of a company depends on Financial leverage (D/E), Operating Leverage (proportion of fixed cost) and Business Risk.

18/11/2018

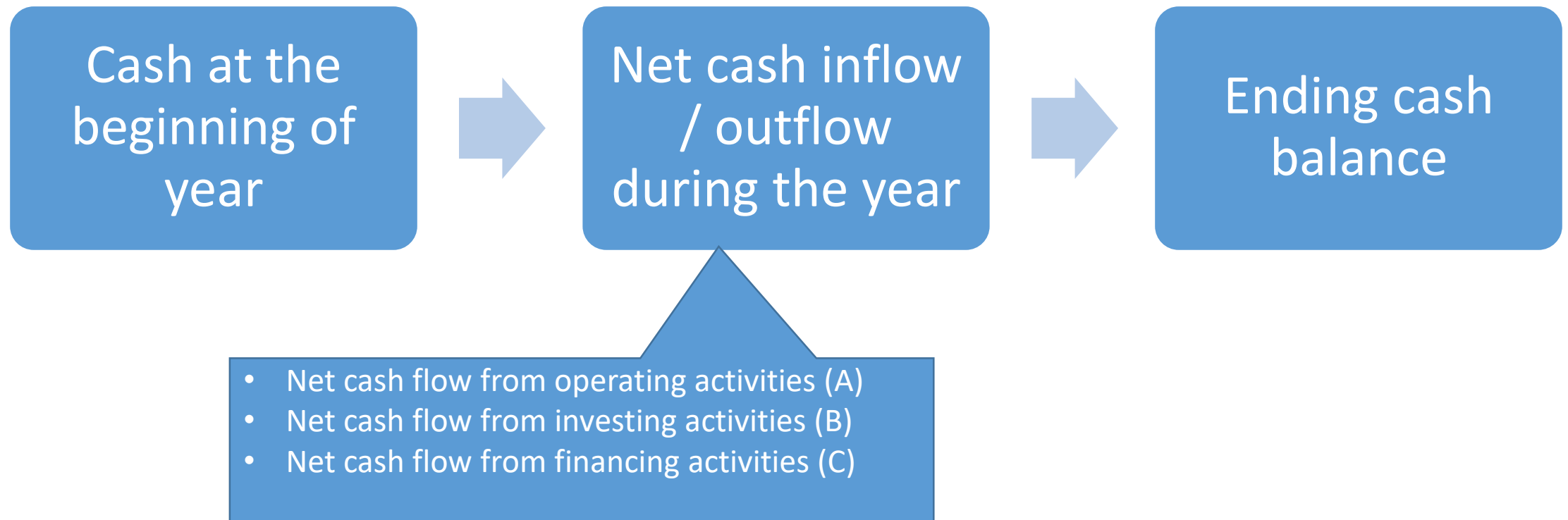
Notes

- Balance sheet and P & L statement of a company are prepared on accrual following Realization Principle and Matching Principle.
- It is beneficial if a cash based accounting is done.



Understanding Cash Flow

	Cash Inflow	Cash Outflow
Operating Activities	<ul style="list-style-type: none">• Receivables paid by customer	<ul style="list-style-type: none">• Salaries Payment• Rental Expense• M &R Expense
Investing Activities	<ul style="list-style-type: none">• Sale of Subsidiaries• Sale of Brand• Receipt of interest from investments• Money received from sale of investment	<ul style="list-style-type: none">• New CAPEX• Expansion of facilities• Merger and Accusation• Money being paid for any investing activity• Investing in banks and shares etc.
Financing Activities	<ul style="list-style-type: none">• Issue of IPO, New Shares, Debentures• Raising new loans	<ul style="list-style-type: none">• Payment of Dividend• Payment of Interest• Buy back of shares• Repayment of loans



$A+B+C = \text{Net Change in Cash}$

- In order to find out the net cash flow from operating activities there are two methods
 - Direct Method : directly all transactions are summed up and cash flow calculated
 - Indirect Method : Take Profit from income statement
 - Reverse all non cash transactions such as Depreciation and amortization
 - Reverse all non operating transaction such as other income etc.
 - We get net cash flow from operating activity

Indirect method is used in current days

Cash flow statement is also dependent on the stage of a company. Means a new company or new technology company may have negative cash flows from operation and may continue investing in new technologies., an old and seasoned company may reward share holders.

Analysis of cash flow statement

- Find out major sources of funds
- Find out major uses of funds
- Find out if capex is more (how much) than depreciation
- Find out if the funds from operations are more than interest + dividend + capex
- Analyze where the balance cash is being used or balance cash coming from.

Example

	2018	2017
Major Sources of funds	<ul style="list-style-type: none">• Net Cash from Operating Activity = 1878	<ul style="list-style-type: none">• Net Cash from Operating Activity = 2201
Major Uses of funds	<ul style="list-style-type: none">• Capex = 2525• Net investments = 1070• Interest = 125• Dividend = 184• Total outflow = 3904	<ul style="list-style-type: none">• Capex = 1280• Net investments = 766• Interest = 128• Dividend = 485• Total Outflow = 2659
Remarks	<ul style="list-style-type: none">• The difference in cash flow of 2026 is being bridged by taking loans (short term as well as long term)	<ul style="list-style-type: none">• The difference in cash flow of 458 is being bridged by taking loans (short term)