SECURITIZATION

(I) Participant in Securitization

Primary Participants

(a) Originators
- Sells assets & receive funds

(b) Special Purpose Vehicles
- Payment to originators
- Issue the securities

(c) Investors
- Buyer of securitized papers.

Secondary Participants

(a) Obligors
- The parties who owe money to the firm

(b) Rating Agency
- Assets have to be assessed by rating agency

(c) Receiving & Paying Agent (RPA)
- Collect the payment from obligors & passes it to SPV

(d) Trustee
- Takes care of interest of investors

(e) Credit Enhancer
- Originators provides his comfort in from of over collateralization
- Third party provides surety bonds

(f) Structurer
- Brings together originators investors credit enhancer etc.

(II) Benefits of Securitization

From the angle of originators

(a) Off – Balance Sheet Financing

- It releases a portion of capital tied up

(b) More Specialization in Main Business

- Concentrate more on core business
- Burden of default is shifted

(c) Helps to Improve Financial Ratio

- Capital to weighted asset ratio improve

(d) Reduced Borrowing Cost

- Securitized papers issued at reduced rate due to credit enhancement.

From the angle of investors

(a) Diversification of Risk

- Securities backed by different assets

(b) Regulatory Requirement

- Helps bank to meet regulatory requirement & investment

(c) Protection Against Debt

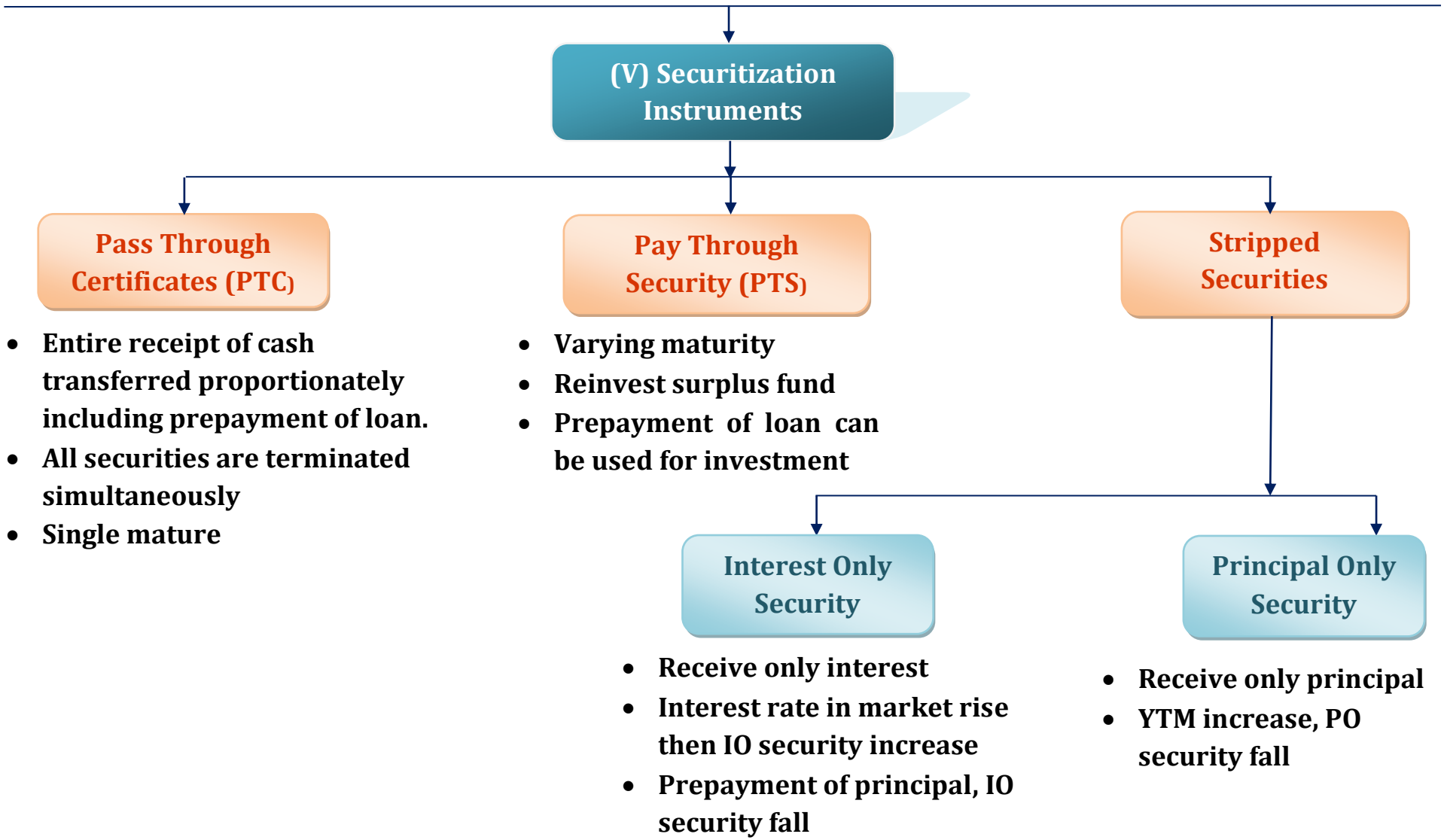
- Recourse :- Originator make good
- Non Recourse :- Insurance arrangement

(III) Mechanism of Securitization

1. **Creation of Pool of Assets**
   - Segregation of assets
2. **Transfer to SPV**
   - Assets transferred
3. **Sale of Security Paper**
   - Issues securities
     - Pass through securities
     - Pay through securities
4. **Administration of Assets**
   - Just like RPA
5. **Recourse to Originators**
   - In case of default go back to originators
6. **Repayment of Fund**
   - SPV will repay to investors
7. **Credit Rating to Instruments**
   - Credit rating can be done to assess the risk

(IV) Features of Securitization

1. **Creation of Financial Instruments**
   - Process of creation of financial product.
2. **Bundling & Unbundling**
   - Bundling :- Combined in one pool
   - Unbundling :- Broken into instrument
3. **Tool of Risk Management**
   - If securitization on non recourse basis then risk of default shifted
4. **Structure Finance**
   - Meet the risk return trade off profile of investors.
5. **Trenching**
   - Different loans all split into several parts.
6. **Homogeneity**
   - Securities issued are of homogenous nature.


(V) Securitization Instruments
Pass Through Certificates (PTC)
Pay Through Security (PTS)
Stripped Securities
Entire receipt of cash transferred proportionately including prepayment of loan.
All securities are terminated simultaneously
Single mature
Varying maturity
Reinvest surplus fund
Prepayment of loan can be used for investment
Interest Only Security
Principal Only Security
Receive only interest
Interest rate in market rise then IO security increase
Prepayment of principal, IO security fall
Receive only principal
YTM increase, PO security fall

(VI) Problems in Securitization

1. **Stamp Duty**
   - Mortgage debt stamp duty goes upto 12% [high cost]
2. **Taxation**
   - Absence of any specific provision in income tax
3. **Accounting**
   - Accounting in the books of originators difficult
4. **Lack of Standardization**
   - Following own format for documentation
5. **Inadequate Debt Market**
   - Lack of growth of secondary market of asset backed securities.
6. **Ineffective Foreclosure Law**
   - Lenders face difficulty in transfer of property in event of default b borrower.

(VII) Pricing of Securitized Instruments

From Originators

Instrument can be priced at a rate at which originator has to incur an outflows

From Investors Angele

Discounting of best estimated future cash flows

RISK MANAGEMENT

(I) Type of Risk

1. **Strategic Risk**
   - Company's strategy becomes less effective.
   - Technological change, new competitor entering the market, shift in customer demand, etc.
   - KODAK & NOKIA, SAMSUNG, XEROX.
2. **Compliance Risk**
   - If company fails to comply with law, it will pose a serious threat to its survival cement business & sugar business.
3. **Operational Risk**
   - Internal risk
   - It relates to people as well process.
4. **Financial Risk**
   - Unexpected changes in financial conditions.
   - Exchange rate, Credit rating, Interest rate etc.

(II) Financial Risk

Types

1. **Counter Party Risk**
   - Failure to deliver goods for payment already mode.
   - Credit Risk.
2. **Political Risk**
   - Faced by overseas investors.
   - Restriction of borrowing, patent etc.
3. **Interest Rate Risk**
   - Important for banking company.
   - Fixed v/s floating.
4. **Currency Risk**
   - Affect the firm dealing with foreign currency ₹ v/s $.
5. **Liquidity Risk**
   - Mismatch of assets & liabilities.

Evaluation of Financial Risk

1. **From stockholder's point of view**
   - High gearing faces more risk.
2. **From company's point of views**
   - Borrow excess or lend excess but default risk of liquidation.
3. **Government's point of view**
   - Lehman brothers.
   - Distrust among society.

Method for Identification & Management of Financial Risk

1. **Counter Party Risk.**
2. **Political Risk.**
3. **Interest Rate Risk.**
4. **Currency Risk**

(III) Value At Risk

- **VAR is a measure of risk of investment.**
- **Given the normal market condition in a set of period, it estimates how much an investment might lose.**

Features

1. **Components**
   - Time.
   - Confidence.
   - Loss in % or Amount
2. **Statistical Method**
3. **Time Horizon**
4. **Probability**
5. **Risk Control**
6. **Z Score**

Applications

1. **To measure maximum loss.**
2. **Benchmark for performance.**
3. **Fix limit for individual dealing.**
4. **Decide trading strategy.**
5. **Tool for asset management in bank.**

STARTUP FINANCE

(I) Innovative Ways to Finance a Startup

1. **Personal Financing**
   - Personal saving.
   - Personal contribution must to attract others.
2. **Personal Credit Line**
   - Personal credit effort.
   - Business has endues cash flows to repay.
3. **Family & Friends**
   - Should always be in writing.
4. **Peer-to-Peer lending**
   - Group of people come together & lend money to each other.
5. **Crowd Funding**
   - Small amount of capital from large no of individuals thrash website.
6. **Micro Loans**
   - Aggregated across a number of individuals.
7. **Vendor Financing**
   - Company lends money to one of its customers.
   - Defer payment until goods are sold.
8. **Purchase Order Financing**
   - Purchasing order financing company advance the required fund directly to the supplier.
9. **Factoring Account Receivables**
   - Facility is given to seller to fund his receivables till amount fully received.

(II) Pitch Presentation

1. **Introduction**
   - Introduction in short & sweet.
2. **Team**
   - People behind the scenes.
   - Investors are interested in the team.
3. **Problems**
   - Explain the problems.
   - Facebook v/s Orkut (Privacy)
4. **Solution**
   - How the company is planning to solve the problem.
   - Flipkart [Payment problem, Supply chain system]
5. **Marketing /Sales**
   - Investors interested in market size.
   - Target customers.
6. **Projection or Milestones**
   - Income statement, Cash flow statement, BLS
7. **Competition**
   - Necessary to highlight.
   - How product different from others.
8. **Business Model**
   - Purpose, Process, Target customers, Strategies etc.

(III) Modes of Financing For Startup

(i) Bootstrapping

From Personal Finances Or From Operating Revenue

(a) Trade Credit

- Suppliers are reluctant to give trade credit.
- Need to get the first order on credit.

(b) Factoring

- Account receivables of business are sold to commercial finance company.

(c) Leasing

- Take the equipment on lease

(ii) Angel Investors

- Invest in small startup in early stage.
- Exchange for owner equity or convertible debts.
- Use their own money

(iii) Venture Capital

- Investment vehicles that manage funds of investors.
- They finance in rapidly growing company purchase equity & active participation.

I. Characteristics

i) **Long Time Horizon**
- 3 to 10 years.

ii) **Lack of Liquidity**
- Less liquidity on equity.

iii) **High Risk**
- Works on principal of high risk & high return.

iv) **Equity Participation**
- Investing in the from of equity of a company.

II. Advantages

- Long term equity finance.
- Sharing both the risk & rewards.
- Provide practical advice.
- Contact in many areas.
- Providing additional round of funding
- Experience in the process of IPO.

III. Stages

1. **Seed Money**
   - New idea, R & D, 7-10 years.
2. **Start Up**
   - Marketing & product development 5-9 years.
3. **First Round**
   - Sales & Manufacturing 3-7 years
4. **Second Round**
   - Working capital need 3-5 years
5. **Third Round**
   - Market expansion acquire new profitable company 1-2 years
6. **Fourth Round**
   - Public issue 1-3 years

IV. VC Investment Process

1. **Deal Origination**
   - Inform about sector, Stages, Promoter, Turnover.
2. **Screening**
   - By committee.
3. **Due Diligence**
   - Verify the veracity of documents.
4. **Deal Structures**
   - About stakes by VC.
5. **Post Investment Activity**
   - Participate in BOARD.
6. **Exit Plan**
   - Sell to 3rd party.
   - Buy back by promoters.

V. Structure of Venture Capital Fund In India

(a) Domestic

- Domestic Vehicles
- Separate Investment Adviser

(b) Off Shore

Off Shore Structure

- Investment Vehicle Outside India.
- Managed by Off Shore Manager.

Unified Structure

- Domestic Investor Participate.

(IV) Startup India Initiative

Startup Means

- Private limited, LLP, partnership firm upto a period of 10 years of DOI.
- Turnover has not exceeded one hundred crore rupees.
- Innovation, Development, Improvement & High potential of employment generation.
- Splitting up or reconstruction of existing business shall not be considered a 'Start UP'.

FINANCIAL POLICY & COPORATE STRATEGY

1. Strategic Financial Decision Making Framework

Introduction

- Wealth creation.
- Selecting optimum investment & financial opportunity.
- Maximum expected return.
- Optimum allocation of fund.
- Fundamental essential of business.
  - ➢ Strategy.
  - ➢ Financial Resources.
  - ➢ Right Management Team.

Functions

- Search for best.
- Selection of the best.
- Optimal Mix.
- Established system for internal control.
- Analysis of result.

Key Decision of Financial Strategy

1. Financing Decision :- Mix of debt & equity.
2. Investment Decision :- Utilization of fund.
3. Dividend Decision :- Division of earning.
4. Portfolio Decision :- Evaluation of aggregate performance.

2. Strategy at Different Hierarchy Level

1. Corporate Level Strategy

- Strategy of selection of business.
- Answer three basic question
  - (i) Suitability
  - (ii) Feasibility
  - (iii) Acceptability

2. Business Unit Level Strategy

- Profit centre planned independently.
- Coordination of operating unit.

3. Functional Level Strategy

- Level of operating division & department R & D, Operation, Manufacturing, Marketing, Finance etc.
- Providing input to business level.
- Function activities are highest importance during top down & bottom up interaction of planning.

3. Financial Planning

- Back bone of business planning.
- Maximize existing financial resources.
- 3 Major component
  - (i) Financial resources.
  - (ii) Financial tool.
  - (iii) Financial goals.
- Outcomes of financial planning
  - (i) Financial objective.
  - (ii) Financial decision making.
  - (iii) Financial measures.

4. Interface of Financial Policy & Strategic Management

- **Starting point is money & end point is money**
- **Strategic plan**

(i) Sources of Finance & Capital Structure

- Generation of fund.
- Owner capital or borrowed capital.
- Equity, preference, debentures, public deposits, overdraft, cash credit etc.
- Desired mix of debt – equity.

(ii) Investment & Fund Allocation Decision

- Investment decision may be divided into three groups
  i) Addition of a new product.
  ii) Increase the level of operation.
  iii) Cost reduction & efficient utilization of resource.

(iii) Dividend Policy

- Earnings distributed v/s earnings retained
- Policy (i) Stable dividend policy
  (ii) Constant percentage
  (iii) Minimum dividend plus additional
- Cash dividend v/s stock dividend.

5. Balancing Financial Goal VIS-À-VIS Sustainable Growth

- **Growth objective should be consistent.**
- **Fuel industry.**
- **Sustainable growth is important for long term development.**
- **Organizational financial sustainable.**
  - ✓ More than one source of income.
  - ✓ Planning regularly.
  - ✓ Adequate financial system.
  - ✓ Good public image.
  - ✓ Financial autonomy.
- **Sustainable grow rate**

SGR = ROE × (1 – Dividend payment ratio)

Assumption

(i) Maintain target capital structure.
(ii) Maintain target dividend payout ratio.
(iii) Increase sales as market condition allow.

Risk in Securitization

1. Credit Risk or Counter party Risk
   - Risk of Bankruptcy (Borrower)

2. Legal Risk
   - Dispute over the legal ownership of Asset.

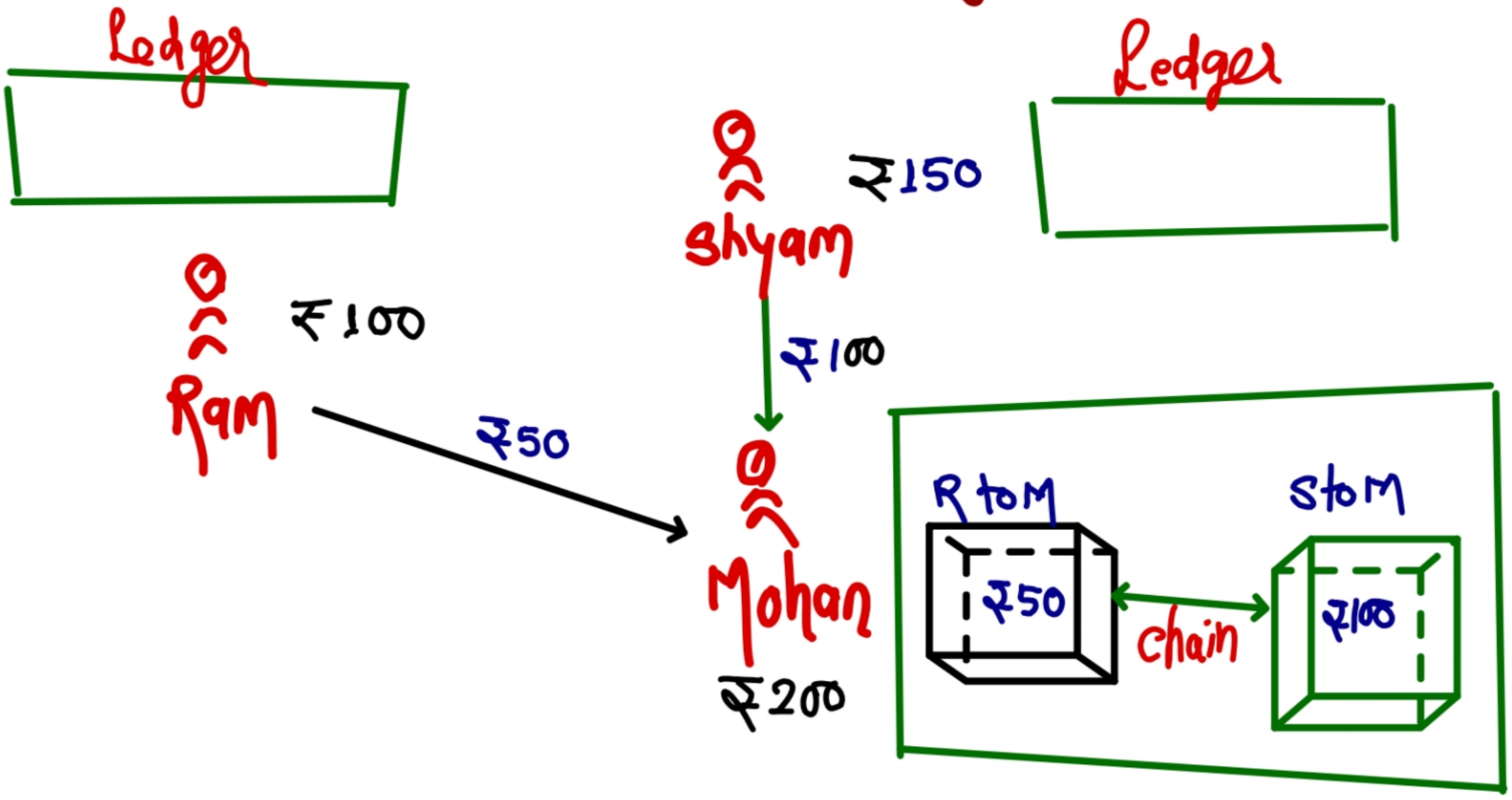
3. Market Risk
   - (a) Macro Economic Risk
     - Industry downturn
     - Loan default
   - (b) Prepayment Risk
     - Intt Rate ↓ prepayment ↑
   - (c) Intt Rate Risk
     - Intt Rate Mismatch
     - Intt. Rate Swap

Blockchain

Google Doc

- Creat Documents
- Share with Group of people
- Everyone access to documents at same time
- Modification in Real time

Block chain Technology



Working of Blockchain Transaction

1. Transaction Initiate
2. BroadCasted via Network
3. Incryption
4. Transaction is represented as a block
5. Block is added to Existing Block
6. Complete

Application of Blockchain

(a) Financial Service

- Automated Traded lifecycle
- Laptop, Smartphones, automobiles etc.

(b) HealthCare

- Secure sharing data
- Increasing privacy, security, elimination of interference

(c) Government

- Land Registration
- Vehicle Regd.
- E-Voting etc.

(d) Travel Industry

- passport
- Reservation
- Insurance
- Changing the working of Travel etc.

(e) Economic forecast

- Market prediction
- Voting
- Stock Trading

Risk Associated in Blockchain

1. Responsibility
2. Reliability
3. Development & maintenance of process control
4. Information Overload

Tokenization

"Converting Tangible & Intangible assets into Blockchain Token"

Similarities between Tokenization & Securitization

1. Liquidity
   Convert illiquid Asset in liquid Asset.
2. Diversification
3. Trading
4. New opportunity

Startup India Initiative

- Upto 10 years from DOI
- PVT ltd, partnership firm, LLP
- Turnover for any financial year not Exceeded ₹ 100 Cr.
- Innovation, development or improvement of product, process or services. High potential of Employment Generation
- Not formed by splitting up of an Existing Company

Why India Became a Sustainable envirnoment for start up

1 Pool of Talent
- B. School
- Collage

2. Cost Effective Workforce

3 Increase use of Internet
Second Largest Internet user

4 Technology
AI & Blockchain

5 funding option
Numerous options

Succession of planning in Business

[process of identifying the critical position in organization]

↓

Why

1 Risk Mitigation
organization without Leader can invite disruption

2. Cause Removal
Existing Leader has been barred from Activities by court due to fraud

3 Talent Pipeline
Keeping employees Motivated

4 Conflict Resolution mechanism
promoting open communication

5 Aligning family owned Business

Business Succession Strategy

Step 1 Evaluate key leadership position
[critical Role, Risk or impact]

↓

Step 2 Map, Competencies required for above position
[Identify qualification, behavioral etc.]

↓

Step 3 Identify Competencies of current Workforce
[Internal option]

↓

Step 4 Bridge Leader
[Appoint outsiders]

Challenges in Sucession planning

1. Mindset different [founder & corporate]
2. premature for startup to implement
3. founders are the face of startups

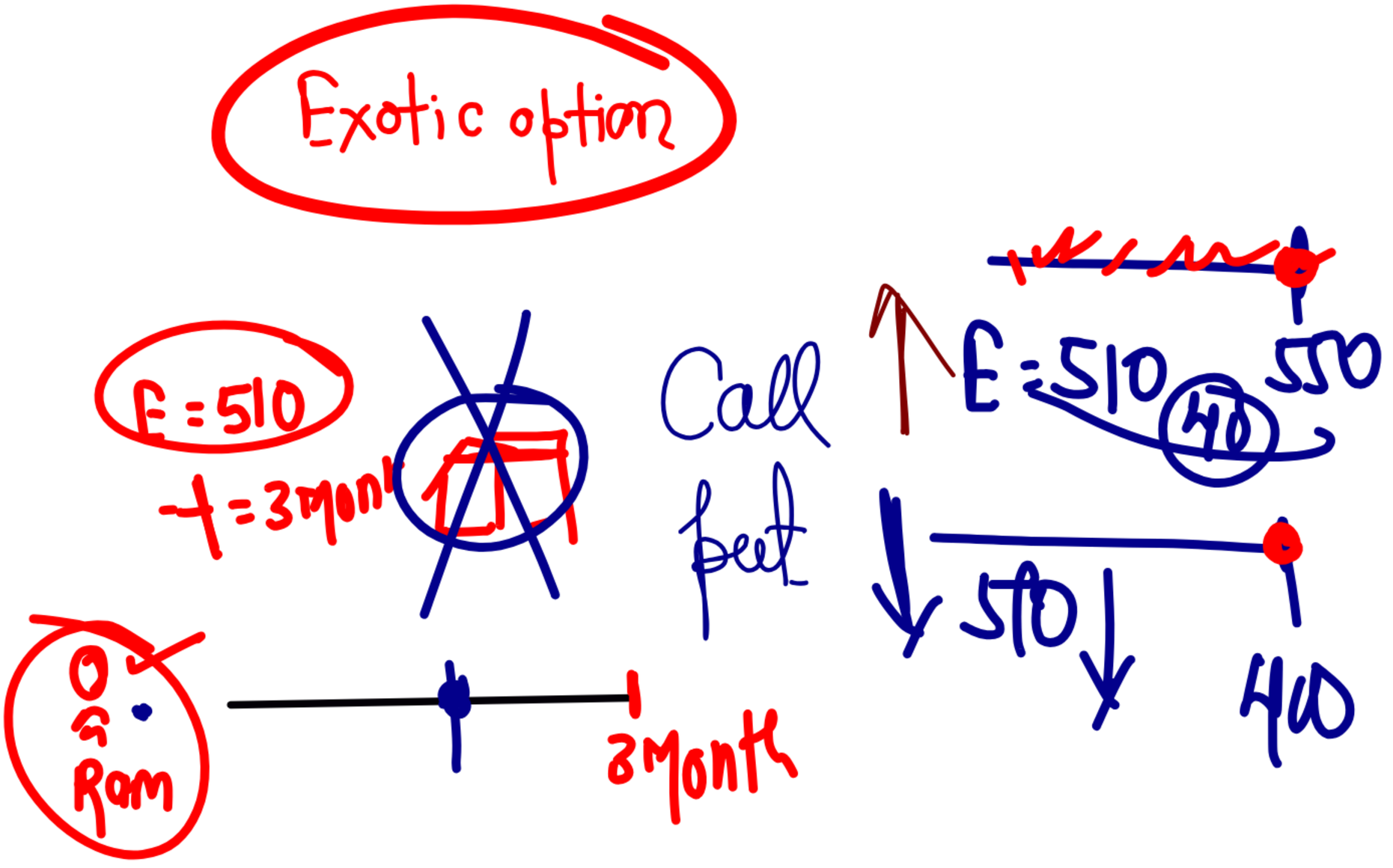
Concept of Unicorn

1. privately held startup
2. Valuation of Startup reaches US $1 Billion
3. Emphasis is on rarity of success of such startup
4. New Idea, Innovation, consumer focus etc.

Derivatives Theory [New]

1. Exotic option
2. CDO & CDS
3. Weather Derivatives
4. Electricity derivatives
5. Derivatives Mishaps & Lesson

Exotic option



Exotic option

- Different from plain Vanilla option
- Hybrid of American & European option
- Vary in term of payoff
- More Complex
- Traded at OTC

1 Barrier option

Become activated only if price reaches a certain price

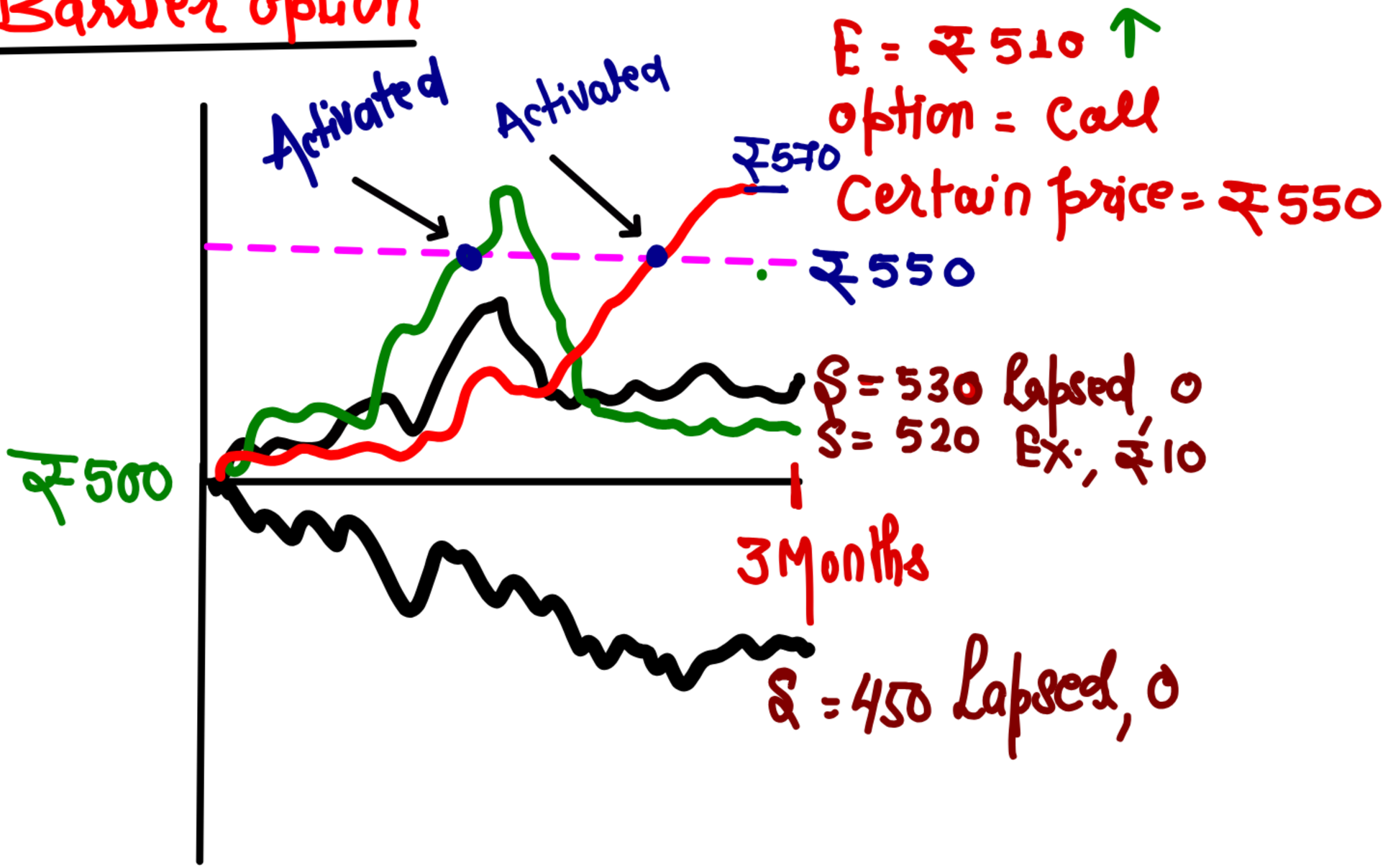
2. Chooser option

Right to the buyer after a specified period whether option is Call or put

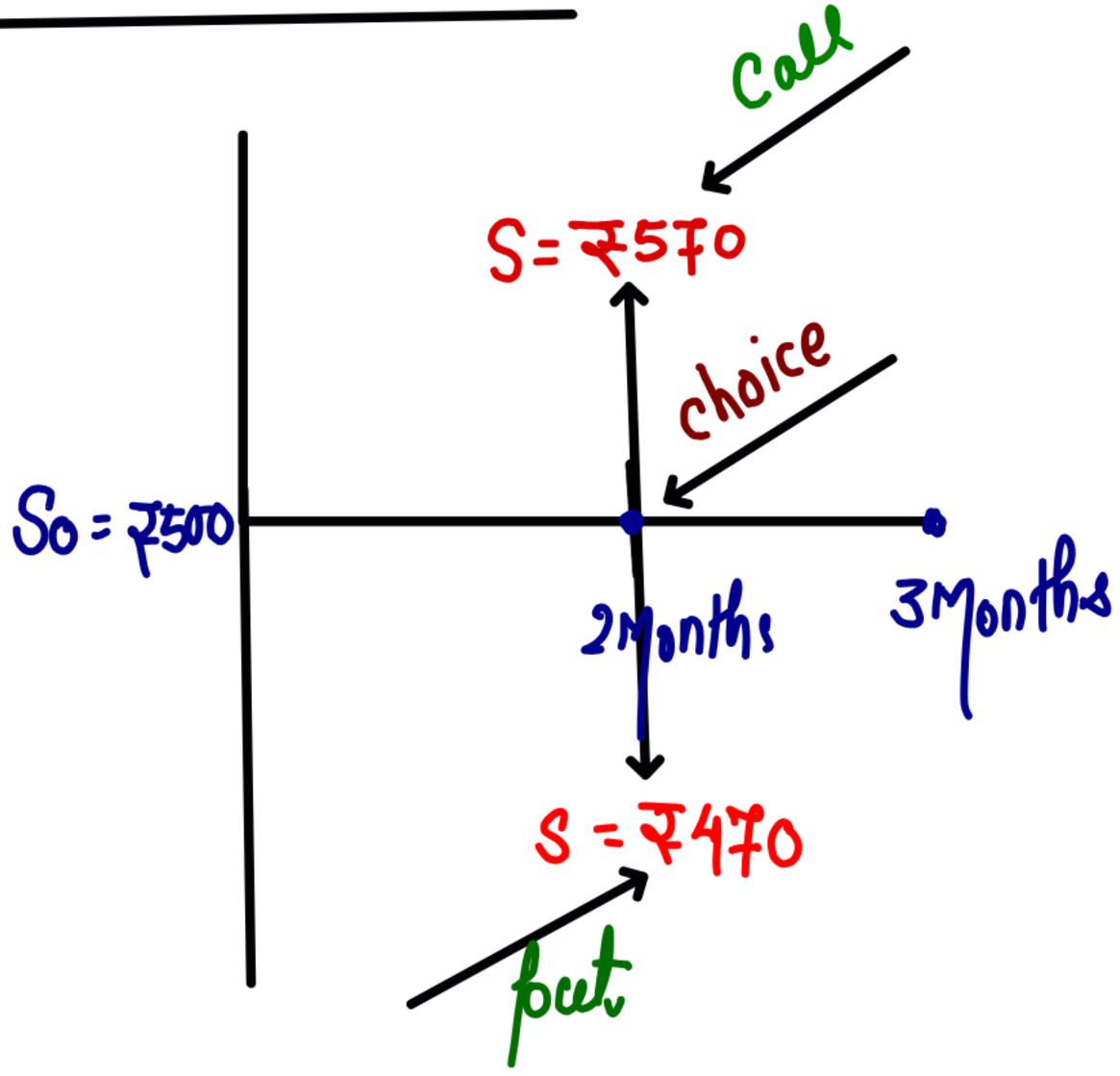
3. Compound option

- Split fee option or option on option
- underlying asset is an option

① Barrier option



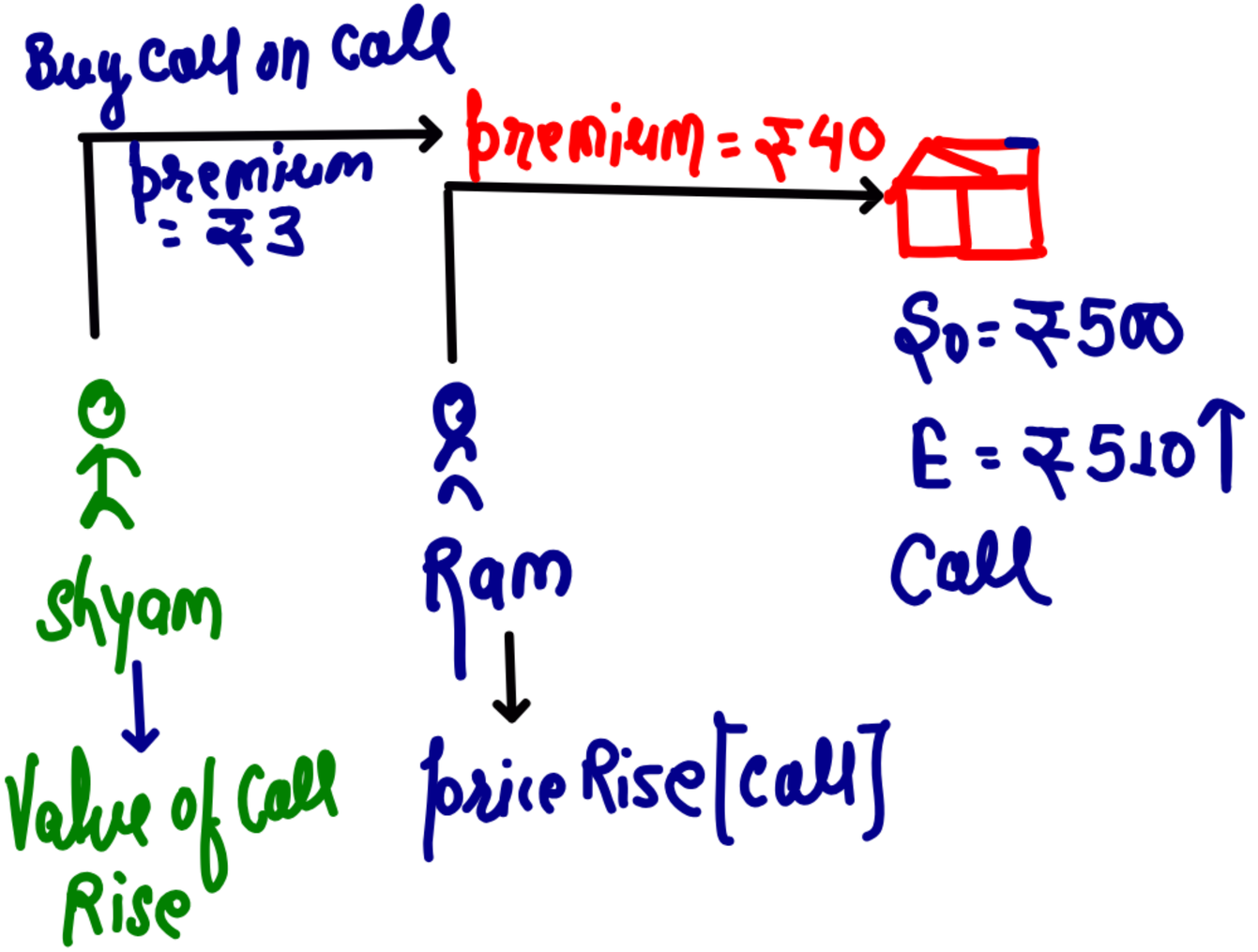
② Chooser option



E = 510

t = 3Months

3. Compound option



4. Look Back option

Choose a most favourable Strike price depending on the minimum & Maximum price

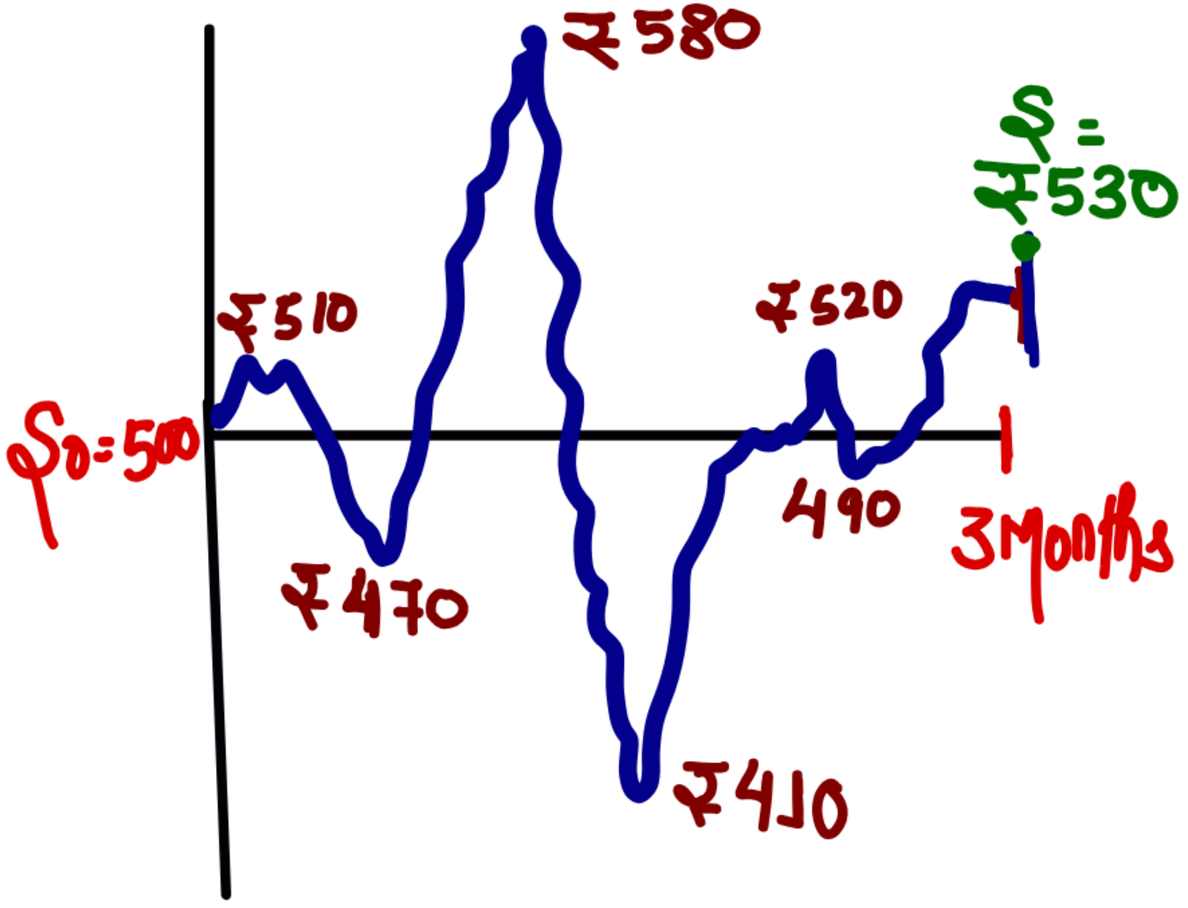
5. Asian option

Payoff are determined by Average of the price

6. Bermuda option

Exercise is restricted to certain date

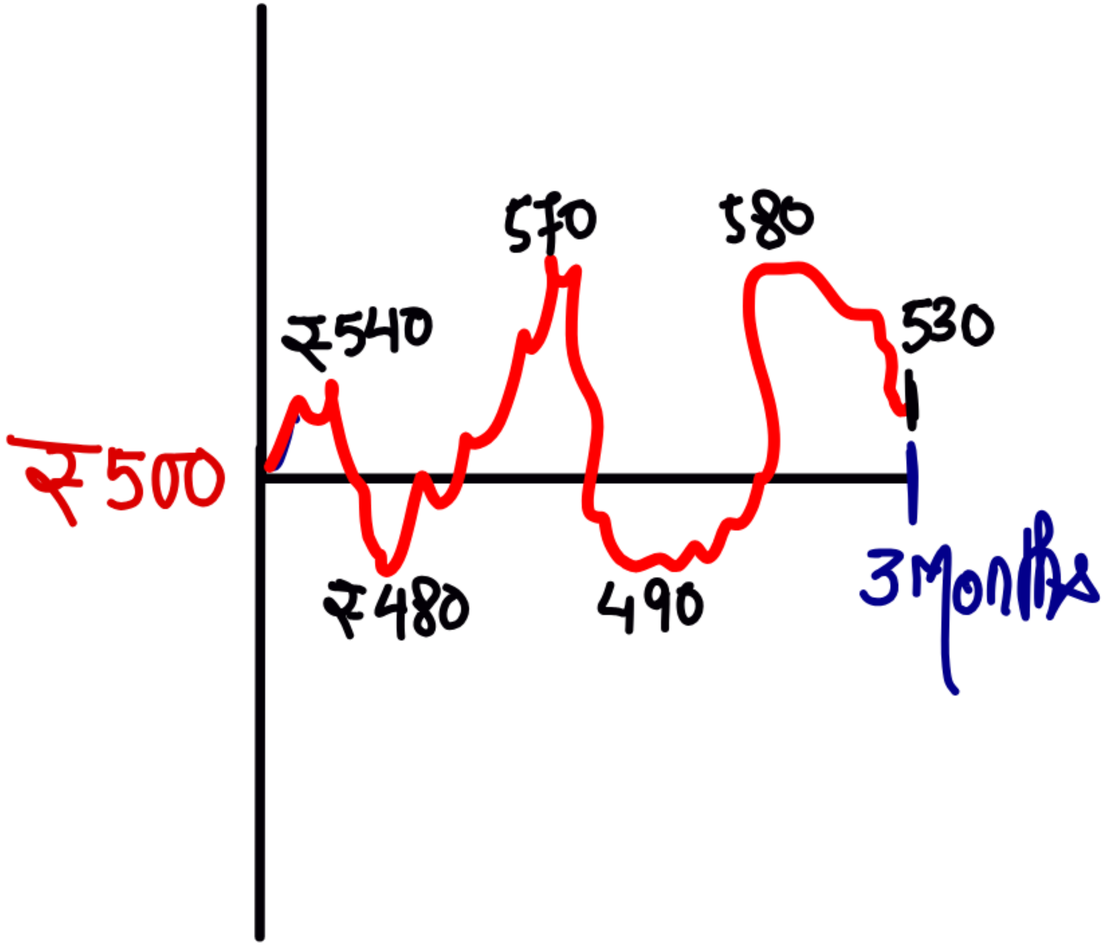
4. Look Back option



Call option

t = 3Months

5. Asian option

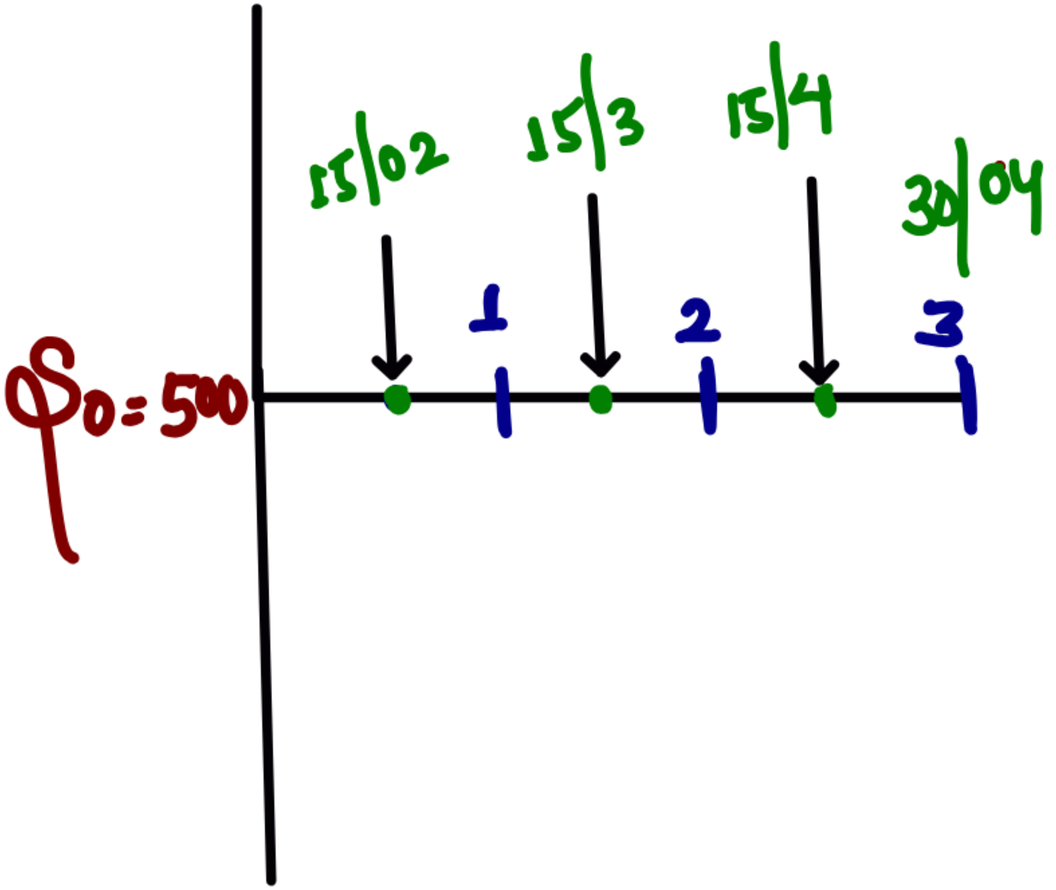


E = ₹510 ↑

Call

t = 3 months

6. Bermuda option



Call
E = ₹510 ↑
t = 3 months

7. Binary option

- Payoff Shall be predecided Amount
- Happening of a specific Event

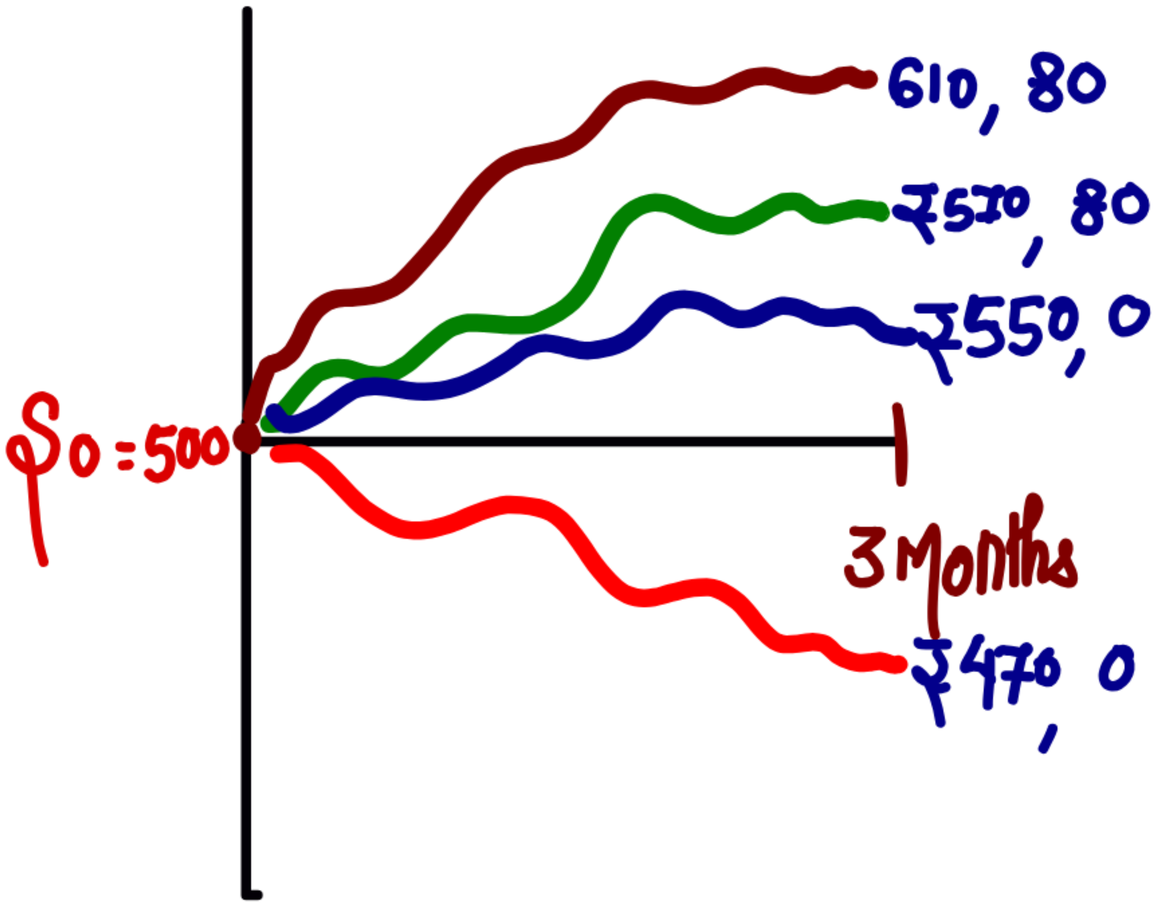
8. Basket option

- Instead of one asset, depends on Value of portfolio

9. Spread option

Depends on difference between price of Two Assets.

7. Binary option



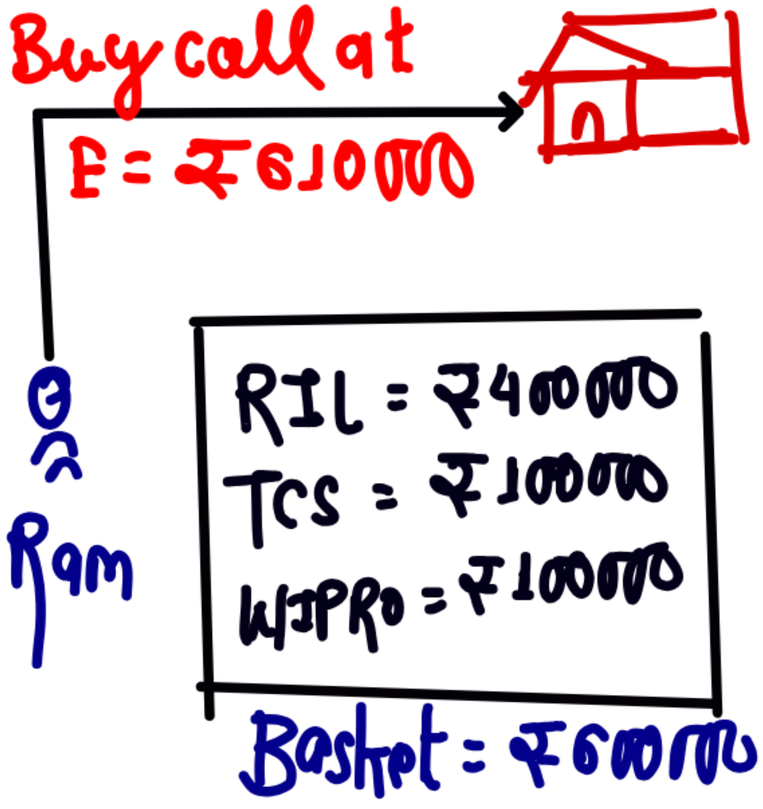
Price ₹560 से above मिलेगा तो ₹80 मिलेगे नही तो 0

8 Basket option

Call option

$t = 3$ months

$E = ₹610000$



9. Spread option

Ram

HDFC = 1440
ICICI = 1010
spread = ₹430

If difference ↑ Buy call
If difference ↓ Buy put

EXOTIC OPTIONS

Exotic options are the classes of option contracts with structure and features different from plain vanilla options i.e. American and European style options. Not only that Exotic options are different from these vanilla options in their expiration dates also. As mentioned earlier an American option allows the option buyer to exercise its right at any time on or before expiration date. On the other hand European option can be exercised only at the expiry of maturity period. Exotic option is some type of hybrid of American and European options and hence falls somewhere in between these options.

Exotic Vs. Traditional Option

a. An exotic option can vary in terms of pay off and time of exercise.

b. These options are more complex than vanilla options.

c. Mostly Exotic options are traded in OTC market.

Types of Exotic Options

The most common types of Exotic options are as follows:

(a) Chooser Options: This option provides a right to the buyer of option after a specified period of time to decide whether purchased option is a call option or put option. It is to be noted that the decision can be made within a specified period prior to the expiration of contracts.

(b) Compound Options: Also called split fee option or 'option on option'. As the name suggests this option provides a right or choice not an obligation to buy another option at specific price on the expiry of first maturity date. Thus, it can be said in this option the underlying is an option. Further the payoff depends on the strike price of second option.

(c) Barrier options: Though it is similar to plain vanilla call and put options, but unique feature of this option is that contract will become activated only if the price of the underlying reaches a certain price during a predetermined period.

(d) Binary Options: Also known as 'Digital Option', this option contract guarantees the pay-off based on the happening of a specific event. If the event has occurred, the pay-off shall be predecided amount and if event it has not occurred then there will be no pay-off.

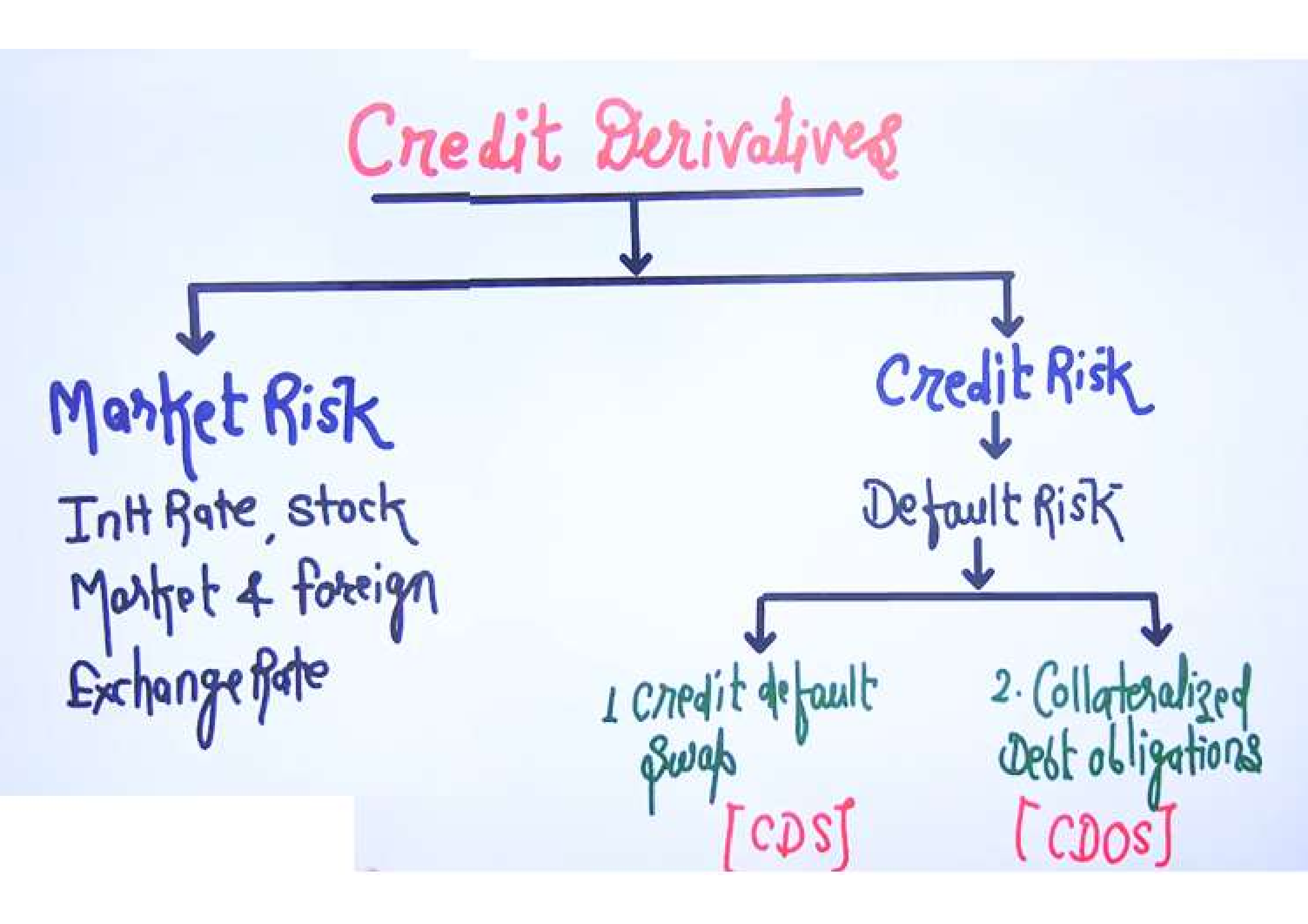
(e) Asian Options: These are the option contracts whose pay off are determined by the average of the prices of the underlying over a predetermined period during the lifetime of the option.

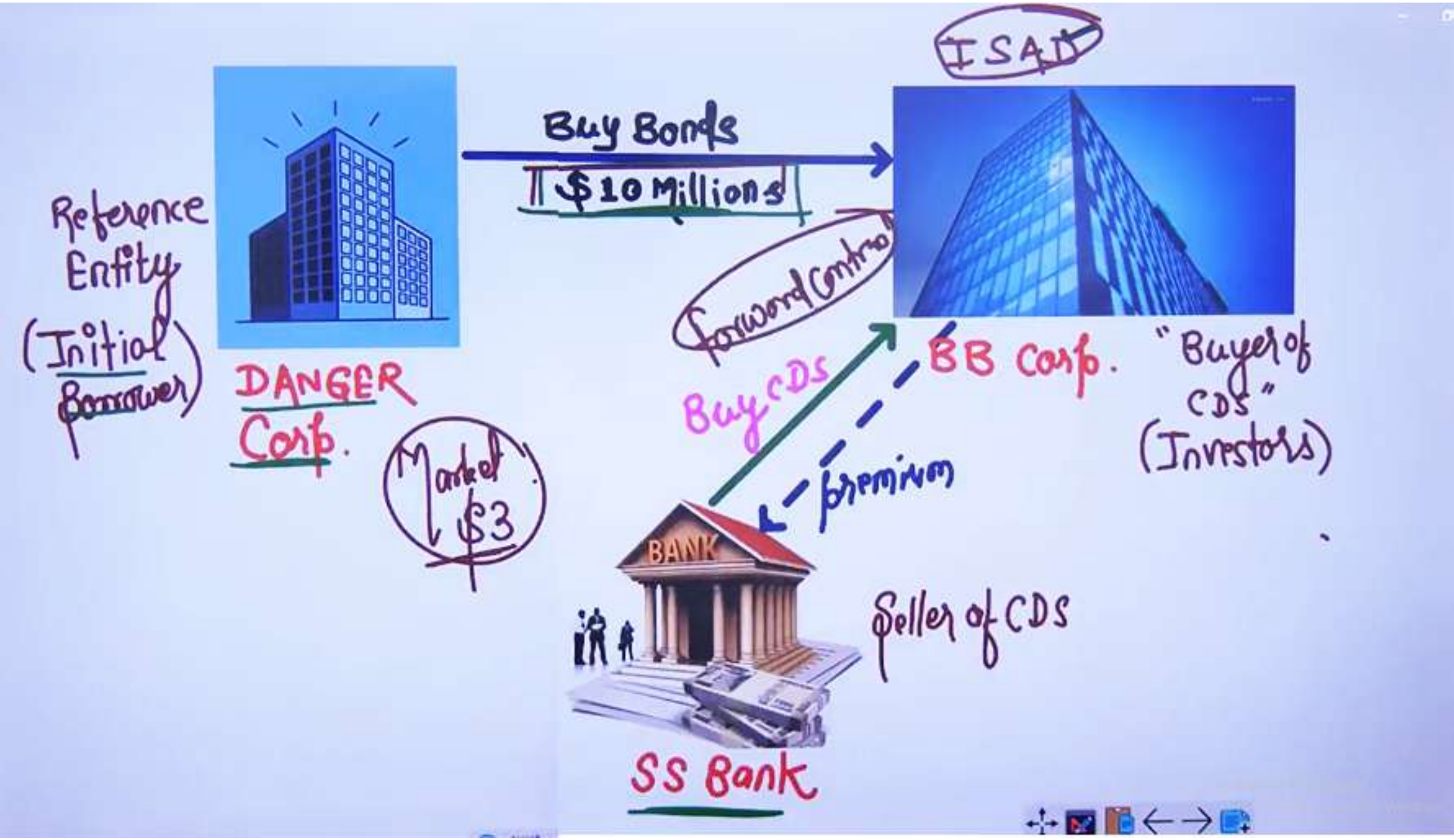
(f) Bermuda Option: It is somewhat a compromise between a European and American options. Contrary to American option where it can be exercised at any point of time, the exercise of this option is restricted to certain dates or on expiration like European option.

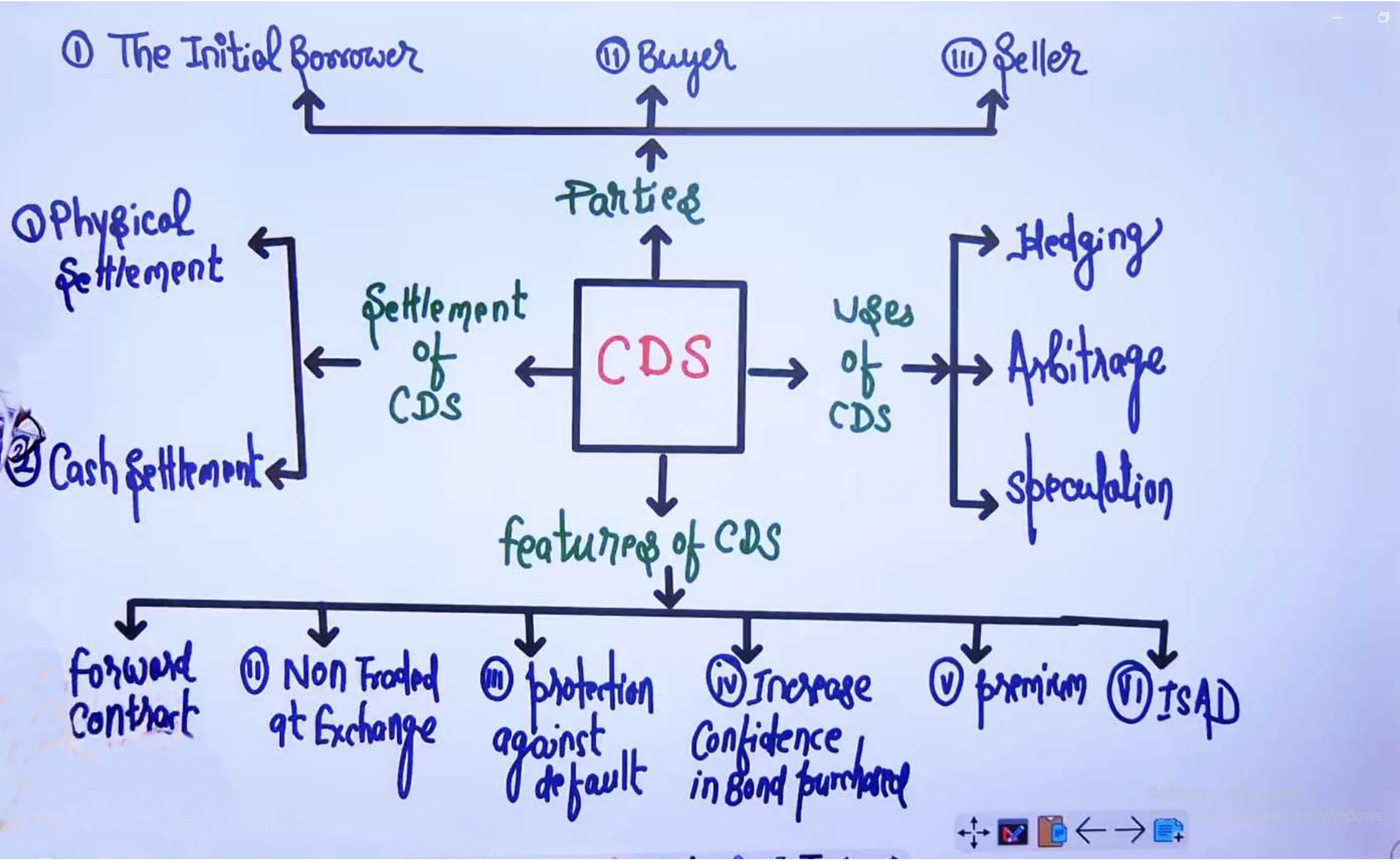
(g) Basket Options: In this type of contracts the value of option instead of one underlying depends on the value of a portfolio i.e., a basket. Generally, this value is computed based on the weighted average of underlying constituting the basket.

(h) Spread Options: As the name suggests the payoff of these type of options depend on difference between prices of two underlying.

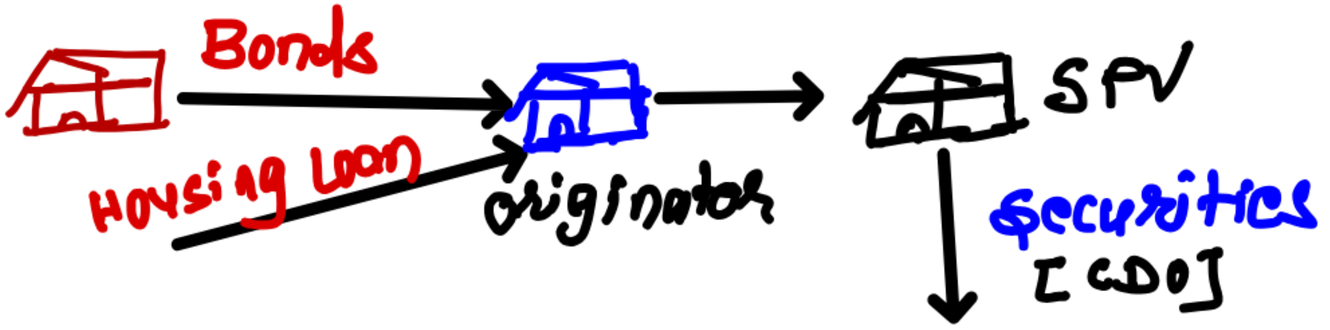
(i) Look back options: Unlike other type of options whose exercise prices are pre-decided, in this option on maturity date the holder of the option is given a choice to choose a most favourable strike price depending on the minimum and maximum price of an underlying achieved during the life time of option.


Credit Derivatives
Market Risk
Int Rate, stock
Market & foreign
Exchange Rate
Credit Risk
Default Risk
1 Credit default
Swap
[CDS]
2. Collateralized
Debt obligations
[CDOs]


Reference Entity (Initial Borrower)
DANGER Corp.
Buy Bonds
$10 Millions
I SAID
Forward Control
BB Corp.
"Buyer of CDS" (Investors)
Buy CDS
premium
Market $3
BANK
Seller of CDS
SS Bank


① The Initial Borrower
② Buyer
③ Seller
Parties
CDS
Settlement of CDS
① Physical Settlement
② Cash Settlement
Uses of CDS
Hedging
Arbitrage
Speculation
features of CDS
forward Contract
② Non Traded at Exchange
③ protection against default
④ Increase Confidence in Bond purchased
⑤ premium
⑥ ISAD

(II) Collateralized Debt obligation (CDOs)



Types of CDOs

1. Cash flow CDOs
   Transfer of Assets to SPV
2. Synthetic CDOs
   Credit Risk is transferred by originator without Actual T/F of Assets
3. Arbitrage CDOs

Risk involved in CDOs

1. Default Risk
   - prime Buffereers of Risk "Junior tranche"
2. Interest Rate Risk
   - Floating Asset vs fixed liabilities
3. liquidity Risk
4. prepayment Risk
5. Reinvestment Risk
6. Foreign Exchange Risk

WEATHER DERIVATIVES

- Risk faced by company whose performance is liable to be affected by the weather. i.e. airline companies, Juice manufacturing.
- To manage volumetric risk from unfavorable weather, weather derivative is introduced [Rainfall, temperature, humidity, wind speed etc.]
- To Hedge Volume Risk [change volume due to change weather]

- Insurance v/s weather derivatives
- parties in weather derivatives
- Problems in pricing of weather derivatives
  - Data → Differs country to country.
  - Forecasting of weather → Difficult to predict.
  - Temperature Modelling → No perfection

ELECTRICITY DERIVATIVES

- Risk faced by company having requirement of Electricity for long term basis.
- Electricity spot price in India are volatile hence there is a need for hedging instrument to reduce price risk.
- This will help the buyer to pay fixed price irrespective of variation in spot electricity prices.
- Electricity derivatives are
  - (i) forward
  - (ii) future
  - (iii) swap

DERIVATIVE MISHAPS & LESSONS

1 Orange County's Case

2 Barings Bank's Case

3. Procter & Gamble & Gibson Greeting's Case

① ORANGE Country [1994]

↓

Municipality

↓

Treasurer Robert Citron [No background in Trading]

↓

Use derivative in yield Curve [Bonds]

↓

Over Leveraged

↓

In 1994, Intt Rate rise then Bond price fall

↓

Loss $1.5 Billions, Orange country declared bankrupt.

2. Barings Bank's Case [1995]

↓

Nick Leeson

↓

Arbitrage [Singapore S.E & Osaka Market - Nikkei 225 future

↓

Huge Losses, to Coversup Loss, started taking speculation]

↓

Influence the Staff of Back office to Hide Losses

↓

In 1995, Leeson take short position in Japanese Govt Bond

↓

Earthquake in Japan in 95 & Int Rate fall

↓

Barings Bank became bankrupt, Dutch Bank purchase this Bank for £1

3. Protector & Gamble & Gibson Greeting' case [1994]

↓

Banker Trust [BT]

↓

Complicated Derivative "Leverage Swap"

↓

Floating v/s fixed

↓

LIBOR Rise

↓

In 1994, Huge Losses

LESSONS

1. Don't buy any derivative product that you don't understand.
2. Due diligence before making Treasury department as a profit centre.
3. Specify the Risk Limit
4. Separation of Front, Middle & Back offices
5. Ensure that a hedger should not become a speculator
6. Carryout stress Test, Scenario Analysis etc.

Business Valuation [Amendments]

1. Valuation of distressed company
2. Valuation of Startups
3. Valuation of digital platforms
4. Valuation of professional / Consultancy firm
5. Impact of ESG on Valuation

VALUATION OF DISTRESSED COMPANIES

Some firms are clearly exposed to possible distress, though the source of the distress may vary across firms. For some firms, it is too much debt that creates the potential for failure to make debt payments and its consequences (bankruptcy, liquidation, and reorganization) whereas for other firms, distress may arise from the inability to meet operating expenses.

A company is said to be in distress when the company is unable to meet, or has difficulty paying off, its financial obligations to its creditors, typically due to high fixed costs, illiquid assets, or revenues being sensitive to economic downturns. Such distress can lead to operational distress as increasing costs of borrowings take a toll on the operations of the company as well.

Distressed companies are businesses that are likely to, or already have defaulted on their debts. Although a company may not be making payments on some, or all of its debt obligations, however there still may be some value remaining on the instruments they hold. Just because a company cannot make payments on its debt does not mean the company is entirely worthless.

Conventional methods are not usefully deployed when valuing companies in distress as:

- Discounted cash flow valuation method required terminal value calculation which is based upon an infinite life and ever-growing cash flows. However, the assumption of perpetuity of cash flows may not be relevant in case of distressed firm because of negative cash flows.

- A distressed firm generally has negative and declining revenues hence expects to lose money for some more time in the future. For such firms, estimating cash flows is difficult, since there is a high risk of bankruptcy. For firms expected to fail, DCF does not work very well, since DCF values a firm as a going concern – even if the firm is expected to survive, projections have to be made until the cash flows turn positive, else the DCF would yield a negative value for equity or firm.

- Discount rates used in conventional methods reflect companies which are operationally as well as financially sound. They have to be adjusted for the probabilities of failures of the companies to be used in case of distressed companies.

Methods of valuation of distressed companies

The above-mentioned reasons warrant adjustments or amendments and modifications to be made to the conventional methods to eliminate any issues that may arise in the valuation of a distressed company.

PART I Valuation of distressed Company

1 DCF Valuation + Distress Value

2 Modified Discounted Cash flows Valuation

3. Adjusted present Value Model

4. Relative Valuation

1 DCF Valuation + Distress Value

Eg

B/S

ESC	1500000	Assets	3800000
16% Debt	2500000	P&L	500000
CL	300000		
	4300000		4300000

Discounted Value of Equity = 1200000

Distress Sale Value of Equity 20% of Book Value

Cumulative probability of distressed = 35%

Value of Equity = DCF Value of Equity (1 - probability of distress)
+ Distress Sale Value of Equity x prob. of distress

Distress Sale Value of Equity

= 1000000 x 20% = 200000

Value of Equity = 1200000 (1 - 0.35) + (200000 x 0.35)

= ₹ 850000

1 DCF Valuation + Distress Value

A DCF valuation values a business as a going concern. However, DCF valuations will understate the value of the firm if there is a possibility that the firm will fail before it reaches stable growth, and the assets will be sold for a value less than the present value of the expected cash flows (a distress sale value).

Thus, the value of Distressed firm can be computing by following under-mentioned steps:

(i) Value the business as a going concern by looking at the expected cash flows it will have if it follows the path back to financial health.

(ii) Determine the probability of distress over the lifetime of the DCF analysis.

(iii) Estimate the distress sale value as a percentage of book value or as a percentage of DCF value of equity estimated as a going concern.

Accordingly following formula can be used to calculate the value of equity of a distressed firm.

② APV

$$V_L = V_U + [D \times t - \text{Expected Bankruptcy Cost}]$$ ②

Expected Bankruptcy Cost =

$$[V_U - \text{Distress sale value}] \times \text{prob. of distress}$$

Value of Equity= DCF value of equity (1 - Probability of distress) + Distress sale value of equity (Probability of distress)

Adjusted Present Value Model

This approach is based on the logic of separating investment decision from financing decision. Accordingly, first the value of firm is computed without debt (the unlevered firm) and then effect of debt on firm value is adjusted in the same:

Firm Value = Unlevered Firm Value + (Tax Benefits of Debt - Expected Bankruptcy Cost from the Debt)

While the first part can be computed by discounting the free cash flows to the firm at the unlevered cost of equity the second part reflects the present value of the expected tax benefits from the use of debt. The expected bankruptcy cost can be estimated as the difference between the unlevered firm value and the distress sale value:

Expected Bankruptcy Costs = (Unlevered firm value - Distress Sale Value)* Probability of Distress

Eg V_U = ₹ 1200000

10% Debt = ₹ 250000

Tax = 30%

Distress Sale Value of Equity = ₹ 200000

probability of distress = 35%

firm Value = ?

Expected Bankruptcy cost = (1200000 − 200000) × 35%

= 350000

V_f = 1200000 + [2500000 × 10% − 350000]

= ₹ 1100000

3 Modified Discounted Cash Flow Valuation

This method requires coming up with probability distributions for the cash flows (across all possible outcomes) to estimate the expected cash flow in each period. While computing this cash flow the likelihood of default should be adjusted for. In conjunction with these cash flow estimates, discount rates are also estimated:

- Using updated debt to equity ratios and unlevered beta to estimate the cost of equity.

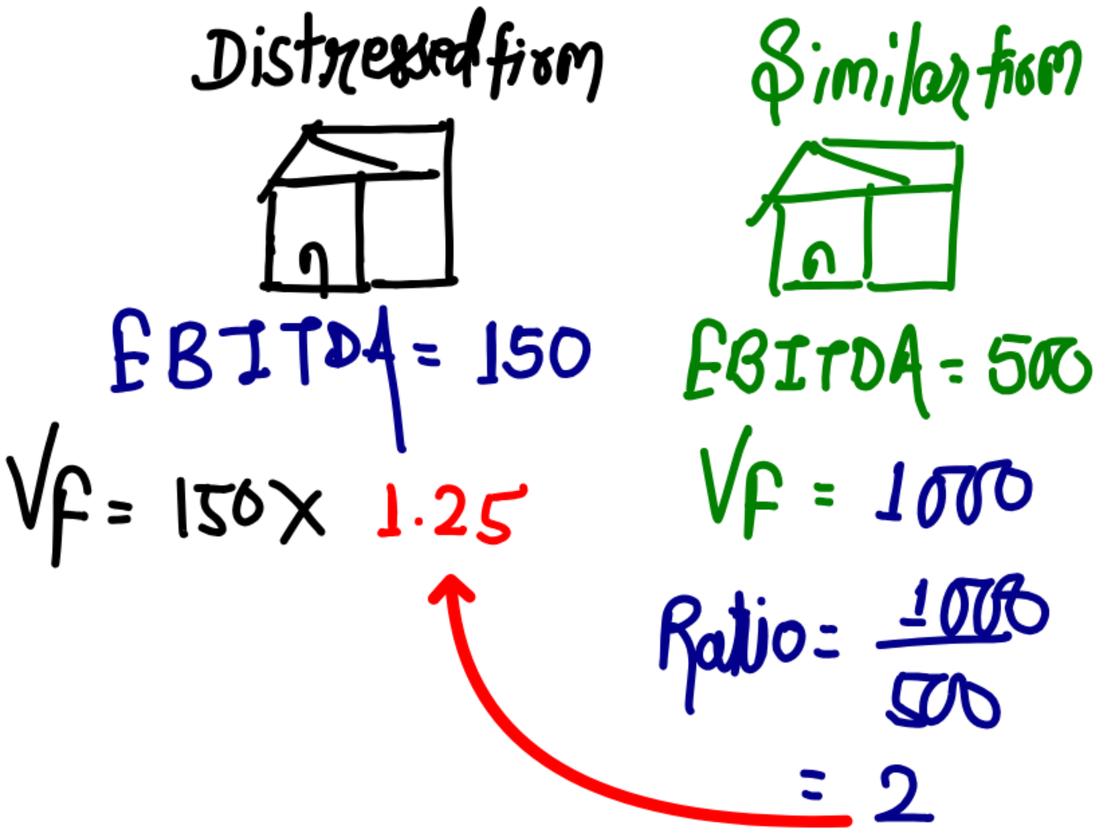
- Using updated measures of the default risk of the firm to estimate the cost of debt.

However, in case of inability to estimate the entire distribution, probability of distress shall be estimated for each period and used as the expected cash flow:

Expected cash flow$_t$ = Cash flow$_t$ * (1 - Probability of distress$_t$)

④ Relative Valuation [Market Value]

Relative Valuation multiples such as Revenue and EBITDA multiples are used more popular measures to value distressed firms than healthy firms because multiples such as Price Earnings or Price to Book Value etc. often cannot even be used for a distressed firm. Analysts who are aware of the possibility of distress often consider them subjectively at the point when they compare the multiple for the firm they are analyzing to the industry average. For example, assume that the average telecom firm trades at 2 times revenues. So, adjust this multiple down to 1.25 times revenues for a distressed telecom firm.



PART - II VALUATION OF START UPS

As discussed, earlier following are three most common globally accepted methods of valuing a business:

(i) **Earning/ Cash Flow Approach:** In this approach, estimated cash flows for the foreseeable future are discounted to present value and business is valued accordingly.

(ii) **Asset Approach:** This approach is generally used when the business is not a going concern viz. during liquidation, untimely losses etc. The assets and liabilities are valued based on their current realizable value and that is considered as value of the business.

(iii) **Market Approach:** This approach assigns the value of a business based on the value of comparable companies in same/ similar industries, adjusted for their specific parameters.

One common feature in the above approaches is that it pre-supposes a business that is established and generates cash flows using its assets.

On the contrary it is difficult to call Start-ups "established" in any sense or assume that their cash flows (if not already spent on marketing) will remain constant. Profitability seems to be a cursed word in the startup investor circles.

Like the valuation of startups is often required for bringing in investments either by equity or debt. However, the most significant differentiating factor in the valuation of a startup is that there is no historical data available based on which future projections can be drawn.

The value rests entirely on its future growth potential, which, in many cases, is based on an untested idea and may not have been based on an adequate sampling of consumer behaviour or anticipated consumer behaviour. The estimates of future growth are also often based upon assessments of the competence, drive, and self-belief of, at times, very highly qualified and intelligent managers and their capacity to convert a promising idea into commercial success.

The major roadblock with startup valuation is the absence of past performance indicators. There is no ‘past’ track record, only a future whose narrative is controlled based on the founders’ skill. It can be equated as founders walking in the dark and making the investors believe that they are wearing night vision goggles. While this is exciting and fun for the founders, this is risky for the investors.

This is why valuation of startups becomes critical and the role of a professional comes in – it is a way of definitively helping investors navigate the dark using facts, rather than fairy tales.

Why traditional methods cannot be applied?

Each of the commonly used methods discussed above pre-suppose an established business – which is profitable, has established competitors and generates cash using its assets.

• However, this is missing in new age startups whose value can lie majorly in the concept and potential rather than numbers with a track record.

The failure of each of the traditional methods in case of new age startups is tabulated below:

Method	Why does it fail in case of new age startups
Income approach	A vast majority of startups operate under the assumption of not generating positive cash flows in the foreseeable future. Off late, this business model has been accepted and normalized by the investor community as well. Since there are no or minimal positive cash flows, it isn't easy to value the business correctly.
Asset approach	There are two reasons why this approach does not work for new age startups: **(i)** Startups have negligible assets

	because a large chunk of their assets are in the form of intellectual property and other intangible assets. Valuing them correctly is a challenge and arriving at a consensus with investors is even more difficult. **(ii)** Start ups are new, but usually operate under the going concern assumption; hence their value should not be limited to the realisable value of assets today.
Market approach	New-age startups are disruptors. They generally function in a market without established competitors. Their competition is from other startups working in the same genre. The lack of established competitors indicates that their numbers may be skewed and not be comparable enough to form a base. However, out of the three traditional approaches, we have seen a few elements of the market approach being used for valuing new-age startups, especially during advanced funding rounds.

While every startup can be vastly different, we now take a look at a few key value drivers and their impact on the valuation of a startup.

Drivers	**Impact on valuation**
Product	The uniqueness and readiness of the product or service offered by significantly impact the company's valuation. A company that is ready with a fully functional product (or prototype) or service offering will attract higher value than one whose offering is still an 'idea'. Further, market testing and customer responses are key sub-drivers to gauge how good the product is.
Manage ment	More than half of Indian unicorn startups have founders from IIT or IIM. While it may seem unfair prima facie, it is a fact that if the founders are educated from elite schools and colleges, the startup is looked upon more favourably by the investors and stakeholders alike. Accordingly, it is imperative to consider the credentials and balance of the management. For instance, a team with

	engineers is not as well balanced as a team comprising engineers, finance professionals and MBA graduates. Keeping aside the apparent subjectivity in evaluating the management, the profile of the owners plays a crucial role in valuing the startup.
Traction	Traction is quantifiable evidence that the product or service works and there is a demand for it. The better the traction, the more valuable the startup will be. The more revenue streams, the more valuable the company. While revenues are not mandatory, their existence is a better indicator than merely demonstrating traction and makes the startup more valuable.
Revenue	The more revenue streams, the more valuable the company. While revenues are not mandatory, their existence is a better indicator than merely demonstrating traction and makes the startup more valuable.
Industry attractiveness	The industry's attractiveness plays a vital role in the value of a company. As good as the idea may be, to sustainably scale,

	various factors like logistics, distribution channels and customer base significantly impacts the startup value. For example, a new-age startup in the tourism industry will be less valuable, as innovative or unique as their offering is if significant lockdowns are expected in the future.
Demand - supply	If the industry is attractive, there will be more demand from investors, making the industry's individual company more valuable.
Competitiveness	The lesser the competitors, the more valuable the startup will be. There is no escaping the first-mover advantage in any industry. While it is easier to convince investors about a business that already exists (for example, it must have been easier for Ola to convince investors when Uber was already running successfully), it also casts an additional burden on the startup to differentiate itself from the competition.

Methods for valuing startups

One key observation would be that most value drivers described above are highly subjective. Hence, there is a need to provide standard methods using value drivers above in order to value the startup in a manner comparable to others.

There are many innovative methods for valuing startups that try to reduce the subjectivity in the valuation of startups that have come in recent times.

Let us take a look at the most common methods of valuing startups:

1. Venture Capital Method
2. Comparable Transaction Method
3. Scorecard Valuation Method
4. Berkus Approach
5. Cost to Duplicate Approach
6. first chicago Method

1 Venture Capital Method

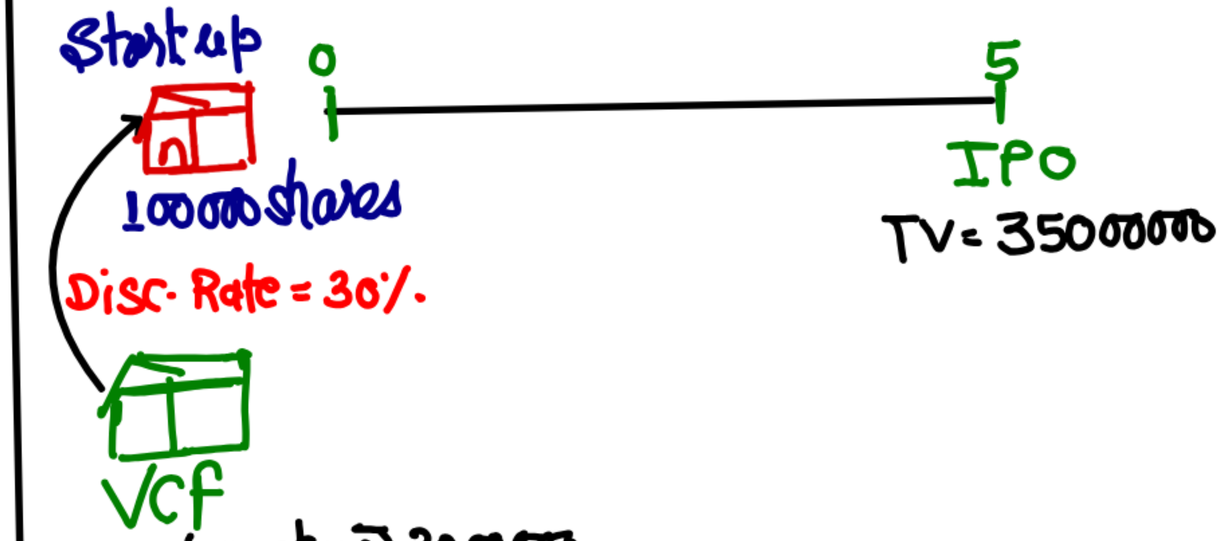
As the name suggests, venture capital firms have made this famous. Such investors seek a return equal to some multiple of their initial investment or will strive to achieve a specific internal rate of return based on the level of risk they perceive in the venture.

The method incorporates this understanding and uses the relevant time frame in discounting a future value attributable to the firm.

The post-money value is calculated by discounting the rate representing an investor's expected or required rate of return.

The investor seeks a return based on some multiple of their initial investment. For example, the investor may seek a return of 10x, 20x, 30x, etc., their original investment at the time of exit.

New-age startups are disruptors in their own right and a necessary tool for global innovation and progress. By their very nature, startups disrupt set processes and industries to add value. In that



Investment = ₹3000000

① Post Money Value = $\frac{3500000}{(1.30)^5} = 9426518$

② pre money Valuation = 9426518 - 3000000
= ₹6426518

③ Ownership position = $\frac{3000000}{9426518} \times 100 = 31.83\%$

process, they transcend traditional indicators of success like revenues, profitability, asset size, etc. Accordingly, it is no mean feat to uncover the actual value of a startup.

While the traditional methods fall short, there is no shortage of new innovative methods used to value startups based on their value drivers. However, the valuation of a startup is much more than the application of ways – it is about understanding the story of the future trajectory and communicating that narrative using substantial numbers.

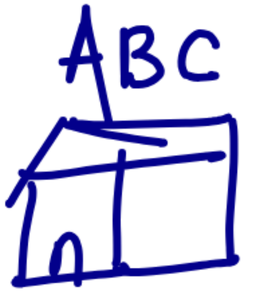
② Comparable Transactions Method

With the traditional market approach, this approach is lucrative for investors because it is built on precedent. The question being answered is, "How much were similar startups valued at?"

For instance, imagine XYZ Ltd., a logistics startup, was acquired for Rs 560 crores. It had 24 crore, active users. That's roughly Rs 23 per user.

Suppose you are valuing ABC Ltd, another logistics startup with 1.75 crore users. ABC Ltd. has a valuation of about Rs 40 crores under this method.

With any comparison model, one needs to factor in ratios or multipliers for anything that is a differentiating factor. Examples would be proprietary technologies, intangibles, industry penetration, locational advantages, etc. Depending on the same, the multiplier may be adjusted.



Users = 1.75 cr.

Hence

Vf = 1.75 cr. × ₹23

= ₹40.25 cr.

XYZ

₹560 cr.

Users 24 cr.

Value per user = ₹23

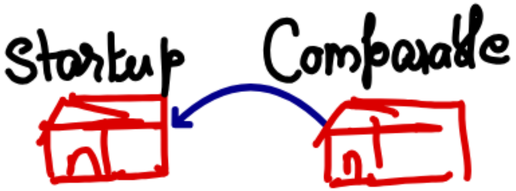
③ Scorecard Valuation Method

The Scorecard Method is another option for pre-revenue businesses. It also works by comparing the startup to others already funded but with added criteria.

First, we find the average pre-money valuation of comparable companies. Then, we consider how the business stacks up according to the following qualities.

- Strength of the team: 0-30%
- Size of the opportunity: 0-25%
- Product or service: 0-15%
- Competitive environment: 0-10%
- Marketing, sales channels, and partnerships: 0-10%
- Need for additional investment: 0-5%
- Others: 0-5%

Pre money Valuation = 40.95 cr.



Strength	80%
Size of opportunity	110%
product	140%
Competitive Env.	90%
Marketing	150%
Additional Investment	80%
other	100%

$[0.8 \times 0.30) + (1.10 \times 0.25) + (1.40 \times 0.15)$
$+ (0.90 \times 0.10) + (1.50 \times 0.10) + (0.8 \times 0.05)$
$+ (1 \times 0.05) = 1.055$

Then we assign each quality a comparison percentage. Essentially, it can be on par (100%), below average (100%) for each quality compared to competitors/ industry.

For example, the marketing team has a 150% score because it is thoroughly trained and has tested a customer base that has positively responded. You'd multiply 10% by 150% to get a factor of .15.

This exercise is undertaken for each startup quality and the sum of all factors is computed. Finally, that sum is multiplied by the average valuation in the business sector to get a pre-revenue valuation.

$$Vf = 40.25\,cr \times 1.055$$

$$= 42.46\,cr.$$

4 Berkus Approach

The Berkus Approach, created by American venture capitalist and angel investor Dave Berkus, looks at valuing a startup enterprise based on a detailed assessment of five key success factors:

(1) Basic value,

(2) Technology,

(3) Execution,

(4) Strategic relationships in its core market, and

(5) Production and consequent sales.

A detailed assessment is carried out evaluating how much value the five critical success factors in quantitative measure add up to the total value of the enterprise. Based on these numbers, the startup is valued.

This method caps pre-revenue valuations at $2 million and post-revenue valuations at $2.5 million. Although it doesn't consider other market factor, the limited scope is useful for businesses looking for an uncomplicated tool.

5 Cost-to-Duplicate Approach

The Cost-to-Duplicate Approach involves taking into account all costs and expenses associated with the startup and its product development, including the purchase of its physical assets. All such expenses are considered determine the startup's fair market value based on all the expenses. This approach is often criticized for not focusing on the future revenue projections or the assets of the startup.

6 First Chicago Method

This method combines a Discounted Cash Flow approach and a market approach to give a fair estimate of startup value. It works out:

- Worst-case scenario
- Normal case scenario
- Best-case scenario

Valuation is done for each of these situations and multiplied with a probability factor to arrive at a weighted average value.

VALUATION OF DIGITAL PLATFORMS

A digital platform is a software based online infrastructure that facilitates interactions and transactions between users. Principally platforms are built to facilitate many to many interactions. A few illustrations based on the kind of services provided are as under:

Category	Descriptions
Marketplace	Multiple buyers are matched to multiple suppliers. **For example:** Booking.com connects guests to hotels, while Uber links travelers to drivers, Amazon connects sellers and buyers through its platform.
Search engine	Multiple people looking for information are matched to multiple sources of information. As a search request triggers the system to actively seek out the desired information, it is also called a search engine. **For example:** Google, Bing, and Baidu
Repository	Multiple suppliers 'deposit' their

	materials into a type of library, to be retrieved by users at a later moment. **For example:** Spotify, YouTube, GitHub
Digital communication	Multiple users to send messages and/or documents to a variety of other people, or interact in real time via voice as well as video. **For example:** Whatsapp, Microsoft Teams, Telegram, Slack etc are internet-based communication platforms.
Digital community	On a digital community platform, people who want to remain virtually connected for a longer period of time can find each other and interact. **For example:** Facebook lets one build one's own network of friends, LinkedIn plays a similar role in the business context.
Payments Platform	On a digital payment platform, matching takes place between those owing money and those wanting to be paid.

	For example: Paytm, GPay, are directed at online consumers and facilities payments across vendors.

The principles of valuation for digital platform are largely like other types of companies with certain nuances which are peculiar to the digital platform industry.

Income Approach

As mentioned earlier, valuation methods under the Income Approach lay emphasis on projected financial performance which takes into consideration future revenues and costs using company specific revenue and cost drivers and applicable capital expenditure and working capital cycles.

Backward working is required under the **Top-Down Approach**, which starts with analysis of the total potential market for the Platform on a global or domestic level. This is often referred to as Total Addressable Market ('TAM'). The next step is to estimate the share in this target market, the

Step 1 Total Addressable Market

Step 2 Share in Target Market

Step 3 Serviceable Addressable Market

company estimates to gain in the future, and the time to reach such share. These are often referred to as Serviceable Addressable Market ('SAM') and Serviceable Obtainable Market ('SOM'). The company then needs to estimate its business plan to accomplish its objectives and the strategy. This would involve estimating the manner in which the company will gain market share and increase its revenues while optimizing cash or utilizing cash. The financial forecast should take into consideration the types and features of the business model of the platform. A digital repository which allows streaming of content may earn revenue based on its subscribers while a payments solution platform may earn revenues based on the number of transactions done using the same. The direct operating costs for these types of platforms shall also be unique to each type of platform or platform business.

It has often been seen in the digital platforms businesses that in order to create market share companies and popularize the platform among end users, companies have to resort to penetrative strategies by burning cash on books and keeping

lower margins. The cash requirement is expected to reduce with time as profit margins become stable and the rate of reinvestment reduces.

The Top-Down Approach can be ambitious for a company at a nascent stage as estimating market size and market share poses its practical challenges. Under the **Bottom-Up Approach** the Platform can estimate its earnings based on the limited resources it has. A young Platform can estimate its revenue and costs given its financial constraints. The promoters of such platform can deploy appropriate strategies to target high margin sales and cost cutting methodologies to generate more cash for the Platform. This is more in line to making efficient capital budgeting decision, which will ultimately help to forecast earnings and cash flows.

Under both the scenarios i.e Top-Down or Bottom-up, the value of a digital platform will depend on the quality of the financial forecasts. In the digital platform the growth and survival of an entity is highly dependent on its promoters, investors and stakeholders creating products or services that fill

or meet a need in the market, and their capability to execute their products and services efficiently by adapting to unexpected circumstances.

Discounting Rate

The discounting rate used should be based upon the type of cash flows being discounted. The free cash flow to the Firm ('FCFF') should be discounted using the Weighted Average Cost of Capital ('WACC') and the free cash flow to Equity should be discounted at the Cost of Equity Capital ('Ke').

CAPM can be used to calculate the Cost of Equity which is calculated as under:

$$R = r_f + \beta\ (r_m - r_f)$$

Where R = expected rate of return

r_f = risk free rate of return

β = Beta value of the stock

r_m = market rate of return

Specific Considerations

(a) Beta measures the sensitivity of a stock or company to the market. Practically, the beta of a company is estimated based on the sensitivity of the share price of the stock, its comparable or the industry with respect to the market. Due to the unique nature of each digital platform and scarcity of listed traded comparable, estimating beta becomes challenging. One might need to draw a comparison between the general diversified sector, the industry driving the revenue or international comparable.

(b) The survival of such a digital platform is highly dependent upon the quality of management, ability to adapt to change quickly, and foresee opportunity.

Thus, there are certain specific risks of a digital platform that cannot be estimated using CAPM with regard to only the industry or general sector beta. A Company Specific Risk Premium ('CSRP') or Alpha needs to be estimated and added to determine the appropriate cost of equity used to discount the

estimated cash flows. The CSRP for nascent companies would be higher than mature digital platforms with adequately large operations having a large customer base.

Market Approach [Comparable]

The Market Approach values a company by drawing a comparison from similar valued companies based on multiples like profit to earnings ('P/E') ratio, Enterprise Value to Earnings before Interest, Tax, Depreciation and Amortization ('EV/EBITDA') ratio, Price to Book Value ratio, Price to Revenue/Sales Ratio. The selection of comparable to draw such comparison is vital and parameters like the market capitalization, revenue, Profit margins, capital structure etc. are used while making the selection.

However, in case of digital platform, such comparison becomes difficult due to the following reasons:

- The listed comparables are scarce and even absent for many platforms.

- The underlying value specifically Profit and EBITDA may be negative for certain digital platforms.
- Such digital platforms are capital-lite making their Book Value very low.

Due to the above complexity, the application of Market Approach for digital platform, lays emphasis on revenue of a digital platform. Comparison is sought on the manner the platform envisages its primary driver of revenue.

Certain examples of the drivers of revenue that can be used as a basis are as under:

Category of Digital Platform	Drivers of Revenue
Market Place (Matching Supply and Demand)	No of Booking made, No of registered users, volume of Transactions
Payment (Matching Billing and Payments)	No of active subscriber, No of merchants registered on the platform, Compatibility and speed of the operating system, Security, Ease of Use

Community (Network of Contacts)	Number of users, subscription fees, platform for professionals
Communication (Network for Messaging)	Number of users, sponsored links, advertising revenue
Repository (Supply Library)	Number of readers and contributors, authenticity of data, duration of use, quality and variety of data
Search (Machine Queries and Information)	Number of users, relevant search results, time taken per search

Two Search engines can be compared based on their total number of active users and the average time taken to show relevant search results. The one with more relevant search results in shorter time, shall be valued at a premium and can be used as a base for comparison.

For a repository platform that seeks to draw subscription or advertising revenue based on the number of times the content is viewed on its platform and the duration of such visit, comparison can be drawn based upon the number of users, the

average number of views per user and the average revenue per user.

Example: A Search engine platform Company valued at 100.00 Cr with a subscriber base of 50 million users and content of 100,00 hours can be used to draw a comparison while valuing a similar platform with fewer users however having same or similar revenue parameters.

Cost Approach

The Cost Approach estimates the value based on the sum total of the cost to build the same platform or similar platform with the same utility. Since, the asset behind the digital platform is the code written, the numbers of hours spent to write the code by the developers is the primary cost of the platform. However, this approach may not be most appropriate as it fails to take into account the revenue generating capacity of the digital platform which may create significantly higher value for the shareholders of the company versus the cost spent on developing the platform.

The valuation of digital platform can be tricky based on the peculiarities as mentioned above. However, the fundamentals of valuation remain the same. The understanding of the business, the revenue model, the quality of management, and the risk-reward parameters determine the value of the digital platform.

VALUATION OF PROFESSIONAL/ CONSULTANCY FIRMS

The professional services firms can be defined as firms that provide customized, knowledge-based services to clients such as Chartered Accountants, Advocates, Management Consultancy firms etc. Even within industry firms vary significantly due to the different nature of services each firm provides.

Like any other business valuation understanding the present and projected industry trends plays a significant role in determining an accurate valuation amount but experts generally look at the firm's historical data to compare them with industry Key Performance Indicators (KPIs) and benchmarks. Further, generally valuation experts compare the company against its competitors. The main source of information are Audited Annual Statements and Income Tax Returns etc.

As mentioned earlier when using the income approach while historical data is important, projected growth (Terminal Value) also impacts the overall value. Although Valuation experts plan for

future growth and compare it to the projected trends after conversations with management but there is an inherent risk associated with using future earnings potential, as results may or may not materialize. Hence, this risk should be factored into the overall calculation.

In addition to analysis of financial statements and their comparison to industry standards, normalization of net income and cash flows is another important aspect. This step allows comparison of firms on equal footing. This step involves adding back of non-cash items and specific items, which might not apply to a new firm. Then these normalized cash flows are applied to the chosen valuation method and used in calculating overall value.

One commonly used method to analyse the extent that a firm meets expectations in comparison to current industry benchmarks and KPIs. Since professional services includes several different types of firms, KPIs can vary greatly and hence it is

equally important to look at specific indicators which align with acquirer firm's goals.

To accurately value a professional services firm each piece of information contributes importantly.

IMPACT OF ESG ON VALUATION

As per Wikipedia Environmental, Social, Governance (ESG) is a framework designed to be embedded into an organization's strategy that considers the needs and ways in which to generate value for all organizational stakeholders (such as employees, customers and suppliers and financiers).

Illustrative list of contents included in these three factors are as follows:

Environmental	**Social**	**Governance**
Climate change	Employee development	Board Independence
Water	Diversity & inclusion	Board diversity
Waste generation	Community development	Anti-Corruption & Bribery
Emissions	Health & Safety	Tax transparency
Biodiversity	Customer	Ethical conduct

ESG is on the radar of several investors today. Focusing on ESG issues can bring out risk and opportunities for the company's ability for sustainable value creation. The key environmental aspects under consideration are climate change and natural resource scarcity. It covers social issues like diversity and inclusivity, labor practices, health & safety, and cyber security. There is greater emphasis on governance aspect covering topics like board diversity and independence, executive pay, and tax transparency.

There has been tremendous momentum in the whole ESG game plan and the summary of key developments are captured as below:

- Investment pace in ESG funds: ESG funds tapped in excess of $ 50 billion in 2020 and total assets with ESG focus crossed more than $35 trillion in the same period.

- Green bonds have been of significant focus: The green bonds market in 2020 crossed a major milestone of $ 1 trillion dollars.

- Sustainability taxonomy on the rise: Key regions have already defined sustainability taxonomy for e.g. European Union (EU). Several other countries / region are in process of introducing taxonomy related to sustainability / ESG.

- Up next - Convergence of ESG framework: IFRS launched an important work to develop single global reporting standard on ESG.

- SEBI - SEBI (Securities Exchange Board of India) in February 2023 proposed a regulatory framework on ESG disclosures by listed entities.

The ESG performance and linked ratings have begun to play an influencing role for companies going to market to raise funds for future growth. The high ESG focus from investors, lenders and financial institution in the recent times has reached the tipping point and have started to impact the financing options for companies. Companies with high ESG focus stand to get benefits in the form of preferential / lower cost of debt or access to

specialized financial products like the Green, Social and Sustainability linked Bonds.

Traditional belief was that ESG was ‘good to have’ in the area of business ethics, sustainability, diversity and community. However with the heightened interests from different stakeholders groups, directors realize that it is now moving into the ‘must-to-have’ territory. The business case for ESG generally begins with operational efficiency and risk reduction as primary goals and then extends to longer-term operational and organizational resiliency and sustainability. Boards recognize the strong and direct link to build a profitable business with a strong focus on environmental and social considerations. They also know that focus on ESG issues requires robust governance practices which will fortify their company’s portfolio as a strong contender with investors and shareholders.

Now question arises how the risks of ESG factors can be incorporated in the Valuation of any business. As mentioned earlier the most popular technique of valuing any business is discounting of Future Cash

Flows. Accordingly, the impact of these risks can be incorporated either in discount rate or expected cash flows.

Generally, management and investors are more interested in adjusting discount rate by inclusion of risk premium in the same. Even though this approach is more practical but the impact of ESG factors may not be that much explicit. Hence adjustment of ESG factors in cash flows would be more explicit.

Now let see how the impact of each factor can be incorporated in computation of expected cash flows:

(i) E of ESG: The risk of this factor (Environment) can be incorporated by carrying out 2-degree scenario analysis i.e. if temperature of the plant is increased by 2 degrees. Similarly, adjustment in cash flows can be made by considering carbon points.

(ii) S of ESG: The risk of this factor (Social) can be considered by adjusting the impact of social measures cost on the revenue such as better

labour working conditions, CSR, and other welfare measures for the various stakeholders.

(iii) G of ESG: The risk of this factor (Governance) can be considered by adjusting the impact of poor governance on revenue in the form of penalty, fines, taxes etc.

CASE STUDIES

A couple of real life case studies would help us to understand the Concepts better –

Case Study 1

The application of 'valuation' in the context of the merger of Vodafone with Idea Cellular Ltd:

The valuation methods deployed by the appointed CA firms for the merger were as follows:

(a) Market Value method: The share price observed on NSE (National Stock Exchange) for a suitable time frame has been considered to arrive at the valuation.

(b) Comparable companies' market multiple method: The stock market valuations of comparable companies on the BSE and NSE were taken into account.

(c) NAV method: The asset based approach was undertaken to arrive at the net asset value of the merging entities as of 31st December 2016.

Surprisingly, the DCF method was not used for valuation purposes. The reason stated was that the managements to both Vodafone and Idea had not provided the projected (future) cash flows and other parameters necessary for performing a DCF based valuation.

The final valuation done using methods a to c gave a basis to form a merger based on the 'Share Exchange' method.

Above information extracted from: 'Valuation report' filed by Idea Cellular with NSE

However, let's see how the markets have reacted to this news – the following article published in The Hindu Business Line dated 20th March 2017 will give a fair idea of the same:

"Idea Cellular slumped 9.6 per cent as traders said the implied deal price in a planned merger with Vodafone PLC's Indian operations under-valued the company shares. Although traders had initially reacted positively to the news, doubts about Idea's valuations after the merger sent shares downward.

Idea Cellular Ltd fell as much as 14.57 per cent, reversing earlier gains of 14.25 per cent, after the telecom services provider said it would merge with Vodafone Plc's Indian operations.''

Hence, we can conclude that the valuation methods, though technically correct, may not elicit a positive impact amongst stockholders. That is because there is something called as 'perceived value' that's not quantifiable. It depends upon a majority of factors like analyst interpretations, majority opinion etc.

Case Study 2

Valuation model for the acquisition of 'WhatsApp' by Facebook

Facebook announced the takeover of WhatsApp for a staggering 21.8 billion USD in 2015. The key characteristics of WhatsApp that influenced the deal were –

(a) It is a free text-messaging service and with a $1 per year service fee, had 450 million users worldwide close to the valuation date.

(b) 70% of the above users were active users.

(c) An aggressive rate of user account increase of 1 million users a day would lead to pipeline of 1 billion users just within a year's range.

The gross per-user value would thus, come to an average of USD 55, which included a 4 billion payout as a sweetener for retaining WhatsApp employees post takeover. The payback for Facebook will be eventually to monetize this huge user base with recalibrated charges on international

messaging arena. Facebook believes that the future lies in international, cross-platform communications.

Above information extracted from the official website of business news agency ‘CNBC’