

# Changes in CFA level 1 curriculum 2011

Những thay đổi trọng yếu trong Curriculum level 1 CFA năm 2011 so với 2010

(sắp xếp theo thứ tự thay đổi lớn được nêu trước):

**Môn Equity:** 70% nội dung được viết lại mới, trong đó đưa một số phần quan trọng từ level 2 xuống, như hướng dẫn cách viết industry analysis và company analysis, giới thiệu các mô hình định giá equity, và nhiều khái niệm về các công cụ equity được giới thiệu. Các nội dung Efficient Market Hypotheses và Anomalies được viết lại ngắn gọn và súc tích hơn, không đi quá sâu vào các hypothesis tests mang tính chất quá kỹ thuật nữa. Có thêm hướng dẫn về cách phân ngành (industry classification). Sự thay đổi này mang đến nhiều tính ứng dụng thực tế và sẽ hữu ích hơn đối với candidates, vì có thể tìm thấy nhiều guidelines cụ thể cho công việc.

**Môn Portfolio Management:** 50% nội dung được viết lại mới, đưa một số nội dung quan trọng từ level 3 xuống, như giới thiệu sâu hơn cách xây dựng IPS (Investment Policy Statement) và cách phân loại các đối tượng nhà đầu tư, giới thiệu các bước như execution và rebalancing. Các nội dung cơ bản như CAPM, CAL, CML, Markowitz, utility curves giữ nguyên nhưng bớt đi sâu vào assumptions và relaxing assumptions. Những thay đổi này giúp level 1 candidates có cái nhìn chính xác hơn về thực tế công việc quản trị danh mục đầu tư thay vì thuần túy những lý thuyết mang nhiều tính kỹ thuật như nội dung cũ.

**Môn Corporate Finance:** thêm 2 readings hoàn toàn mới, lấy từ level 2 xuống. Đó là Reading 46 Measures of leverage và Reading 47 Dividends & Share repurchase. Hai readings này tuy được trình bày ở mức độ chưa thực sự đủ sâu, vẫn còn khá sơ sài, nhưng đã giúp cho bức tranh về công việc tài chính doanh nghiệp giới thiệu ở level 1 trở nên đầy đủ và hợp lý hơn những năm trước.

**Môn Quantitative analysis:** Reading về Technical Analysis được thay máu gần như hoàn toàn, với nội dung phong phú và cập nhật hơn rất nhiều so với trước. Đọc mục này trong curriculum cũ có cảm giác nó được viết cách đây cả mấy thập kỷ rồi, vì những kỹ thuật được giới thiệu là những kỹ thuật khá cũ kỹ, trong khi đó trong thực tế technical analysis đã phát triển với tốc độ chóng mặt. Thật may là CFA Institute đã viết lại reading này, đưa vào những kỹ thuật gần đây hơn nhưng cũng đã kịp trở nên kinh điển như Fibonacci numbers, Elliot wave, Bollinger bands, Stochastic oscillator... và hàng loạt các chart patterns kinh điển khác mà đã bị curriculum cũ "bỏ quên".

**Môn FRA:** Reading 36 Inventories thêm Periodic & Perpetual inventory systems, bớt phần adjustments từ LIFO sang FIFO. Reading 37 Long-lived assets bớt phần ARO (Asset Retirement Obligations) và bớt phần tính average age, depreciable life, remaining useful life của tài sản. Đặc biệt nhất là Reading 39 Long term liabilities thêm 2 LOS giới thiệu về 2 loại pension plans, là nội dung khó được học sâu ở level 2. Cuối cùng là Reading 40 Red flags and accounting warning signs bớt phần case studies về Enron & Subbeam.

Các môn còn lại như Fixed Income, Derivatives, Economics, Ethics và Alternative Investments chỉ có những thay đổi nhỏ không đáng kể khoảng 3 LOS đổ lại.

**Người tổng hợp: Nguyễn Hoài Phương, AFTC.**

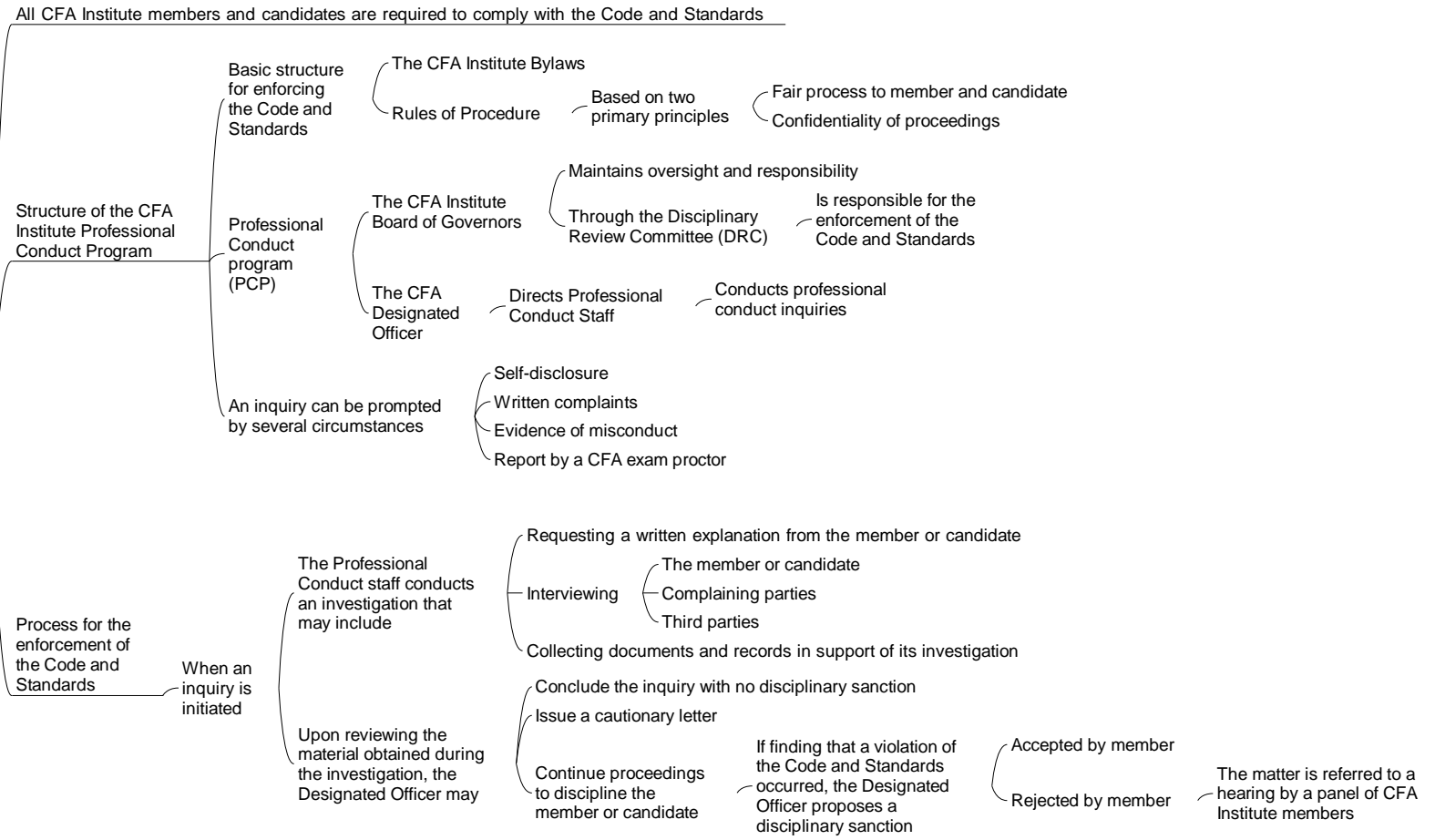
CFA LEVEL 1

STUDY SESSION 01

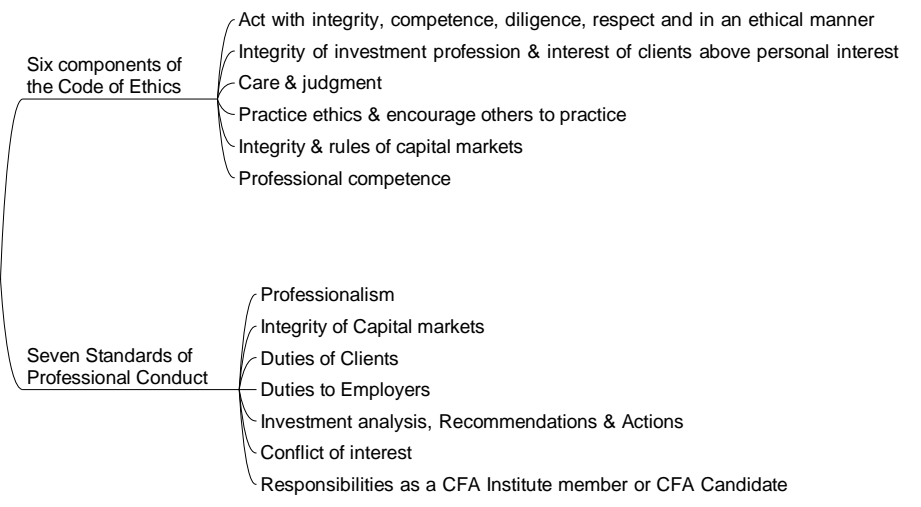
**ETHICAL &  
PROFESSIONAL  
STANDARDS**

# 1. Code Of Ethics And Standards Of Professional Conduct

a.

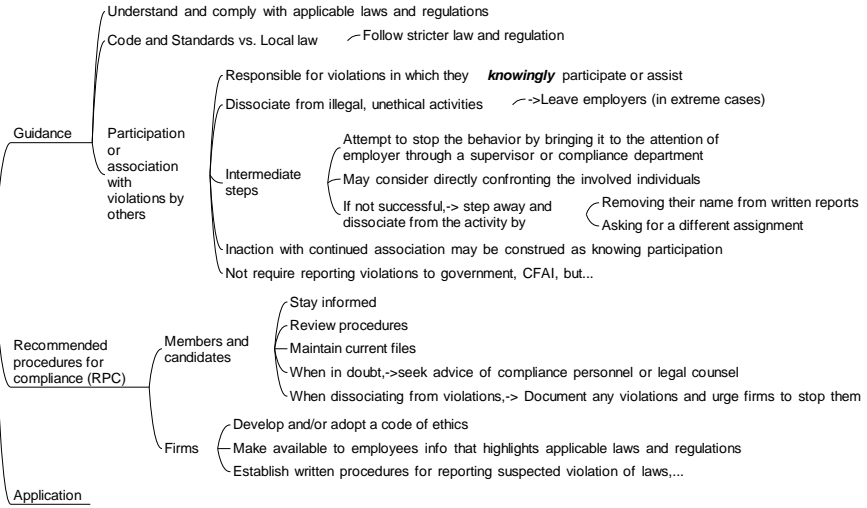


b,c.

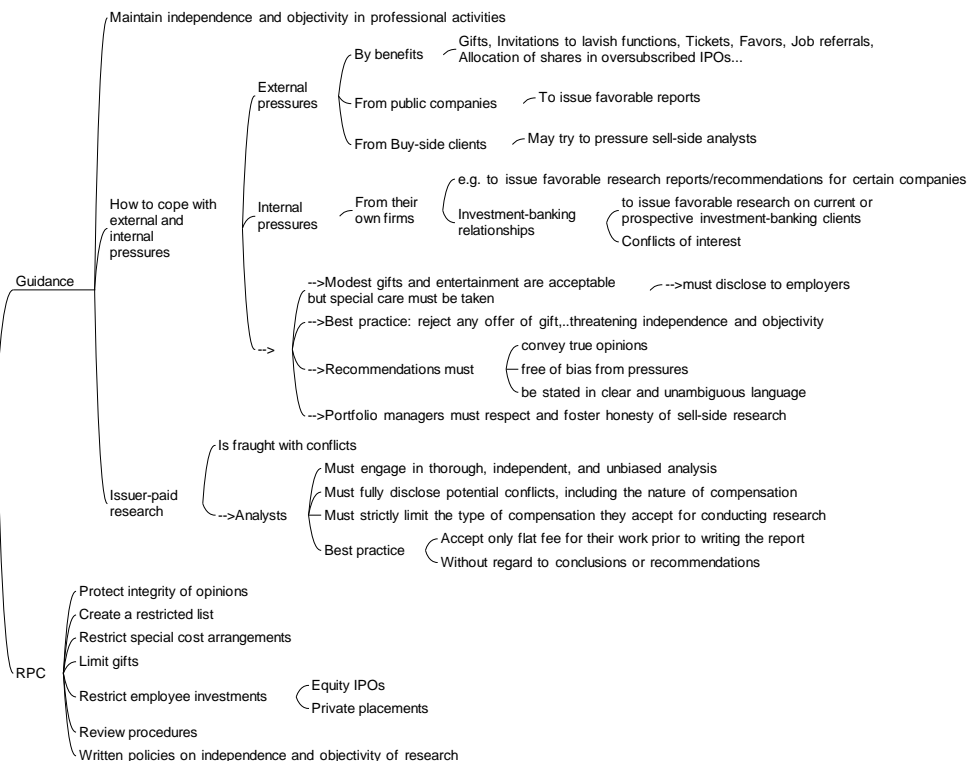


# 2.1 Standard I PROFESSIONALISM

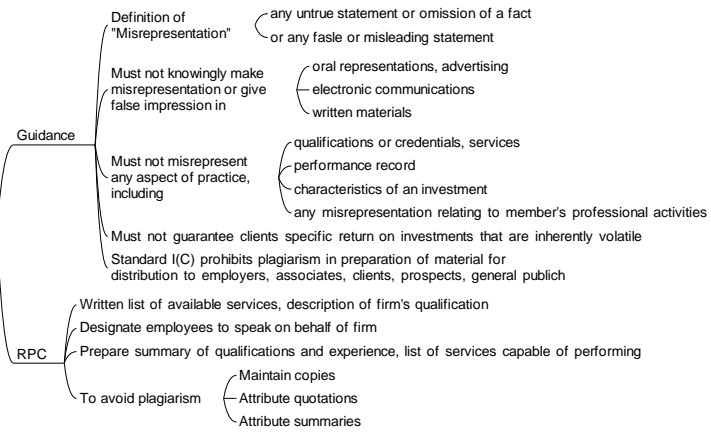
## A. Knowledge of the law



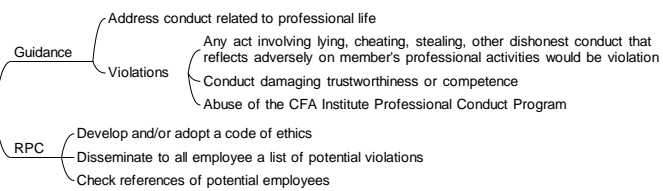
## B. Independence and objectivity



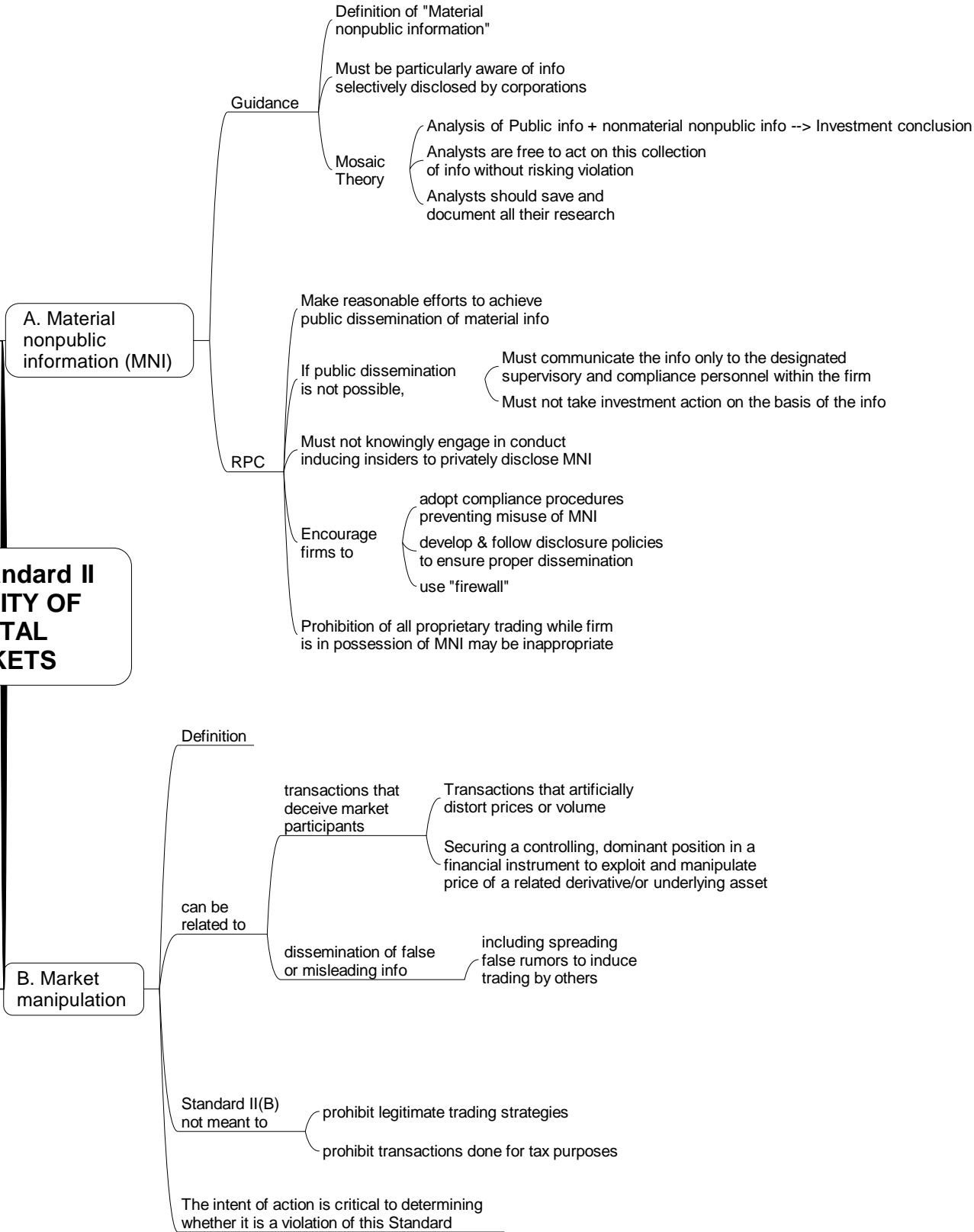
## C. Misrepresentation



## D. Misconduct



## 2.2 Standard II INTEGRITY OF CAPITAL MARKETS



**2.3 Standard III DUTIES TO CLIENTS**

**A. Loyalty, prudence, and care**

- Guidance
    - Responsibility to a client includes
      - duty to exercise reasonable care
        - Prudence
          - require cautions and discretion
        - act with care, skill, and diligence
        - follow the investment parameters set forth by clients & balancing risk & return
      - duty of loyalty
        - Understand & adhere to fiduciary duties
          - Determine identity of "client"
          - Must be aware of whether they have "custody" or effective control of client assets
        - Manage pool of assets in accordance with terms of governing documents
        - Put their obligation to client first in all dealings
        - Avoid all real or potential conflicts of interest
        - Forgo using opportunities for their own benefit at the expense of client
        - Follow any guidelines set out by client for the management of assets
        - Judge investment decisions in context of total portfolio
        - Vote proxies in an informed & responsible manner
  - "Soft dollars"
- RPC
  - Submit to clients at least quarterly itemized statements
  - Separate assets
  - Review investments periodically
  - Establish policies & procedures with respect to proxy voting and the use of client brokerage
  - Encourage firms to address some topics (p. )

**B. Fair dealing**

- Guidance
  - Do not discriminate against any clients
  - "Fairly" vs "equally"
    - Standard III(B) addresses the manner of disseminating investment recommendations or changes in prior recommendations to clients
    - Ensure fair opportunity to act on
    - Encourage firms to design equitable system to prevent selective, discriminatory disclosure
  - Investment recommendations
    - Material changes should be communicated to all current clients
      - particularly clients may have acted on or been affected by earlier advise
    - Clients who don't know changes and therefore place orders contrary to a current recommendation
      - should be advised of the changed recommendation before the order is accepted
  - Investment actions
    - Treat all clients fairly in light of their investment objectives & circumstances
    - Disclose to clients & prospects written allocation procedures
      - duty of fairness and loyalty to clients can never be overridden by client consent to patently unfair allocation procedures
    - Should not take advantage of their position in the industry to the detriment of clients
- RPC (p. )

**C. Suitability**

- Guidance
  - In investment advisory relationships
    - Be sure to gather client info in the form of an IPS and make suitability analysis prior to making recommendation/taking investment action
    - Inquiry should be repeated at least annually/prior to material changes
    - If clients withhold info
      - > suitability analysis must be done based on info provided
    - Risk analysis
    - Fund managers
      - Be sure investments are consistent with the stated mandate
  - In case of unsolicited trade requests unsuitable for client
    - > refrain from making trade or seek affirmative statement from client that suitability is not a consideration
- RPC
  - Written IPS
  - Investors' objectives and constraints should be maintained and reviewed periodically to reflect any changes in clients' circumstances

**D. Performance presentation**

- Guidance
  - Standard III(D) prohibits misrepresentations of past performance or reasonably expected performance
    - > Provide credible performance info
    - > Should not state or imply that clients will obtain or benefit from rate of return generated in the past
  - Research analysts promoting the success of accuracy of their recommendations
    - > ensure that their claims are fair, accurate, and complete
  - If the presentation is brief, must make available to clients and prospects the detailed info upon request
- RPC
  - GIPS

**E. Preservation of confidentiality**

- Guidance
  - Standard III(E) is applicable when members receive info
    - on the basis of their special ability to conduct a portion of clients' business or personal affairs arising from or is relevant to that portion of clients' business that is the subject of special or confidential relationship
  - Comply with applicable laws
  - When in doubt
    - > consult with compliance department/ outside counsel before disclosing
  - Standard III(E) does not prevent cooperating with an investigation by CFAI PCP
- RPC

## 2.4 Standard IV DUTIES TO EMPLOYERS

### A. Loyalty

Guidance

- Employer-employee relationship
  - In matters related to their employment, members and candidates must not engage in conduct that harms the interests of the employer
  - > Comply with policies and procedures established by employers that govern employer-employee relationship
  - Standard IV(A) does not require to place employer interests ahead of personal interests in all matters
  - The relationship imposes duties and responsibilities on both parties
- Independent practice
  - Abstain from independent competitive activity that could conflict with employer's interests
  - Provide notification to employer, obtain consent from employer in advance
- Leaving an employer
  - Must
    - Planning to leave, must continue to act in employer's best interest
    - Firm records or work performed on behalf of firm stored on a home computer should be erased or returned to employer
  - Must not
    - engage in activities conflicting with duty until resignation effective
    - contact existing clients/potential clients prior to leaving for soliciting
    - take records of files to a new employer without written permission
  - Free to make arrangements/preparations provided that not breaching duty of loyalty
  - Applicable non-compete agreement
- Whistle blowing
- Nature of employment

### B. Additional compensation arrangements

Guidance

Obtain written consent from employer before accepting compensation or other benefits from third parties...

RPC

Should make an immediate written report to their employers

### C. Responsibilities of supervisors

Guidance

- Must have in-depth knowledge of the Code & Standards
- Apply knowledge in discharging supervisory responsibilities
- Delegation of supervisory duties does not relieve members of supervisory responsibility
  - > Instruct subordinates methods to prevent and detect violations
- Make reasonable efforts to detect violation of laws, rules, regulations, and Code & Standards
- > Establish and implementing Compliance procedures
  - Must understand what constitutes an adequate compliance system
  - Make reasonable efforts to see that appropriate compliance procedures are established, documented, communicated to covered personnel and followed
  - Bring an inadequate compliance system to senior managers's attention & recommend corrective action
  - If clearly cannot discharge responsibilities 'cos of absence of compliance system,
    - > decline in writing to accept responsibilities
  - In case of employee's violation,
    - promptly initiate investigation
    - take steps to ensure no repetition

RPC

Recommend employer to adopt a code of ethics

If there is a violation

- Respond promptly
- Conduct a thorough investigation
- Increase supervision or place appropriate limitations on the wrongdoer pending the outcome of the investigation

# 2.5 Standard V INVESTMENT ANALYSIS, RECOMMENDATIONS & ACTIONS

## A. Diligence and reasonable basis

### Guidance

- The application of Standard V(A) depends on
  - investment philosophy followed
  - role of member in the investment decision-making process
  - support and resources provided by employer
- Must make reasonable efforts to cover all pertinent issues when arriving at recommendation
- Provide or offer to provide supporting info to clients when making recommendations/changing recommendations
- Using secondary or third-party research
  - > must make reasonable & diligent efforts to determine whether 2nd/3rd party research is sound
- Group research and decision making
  - If member does not agree with the independent and objective view of the group
    - > Not necessarily have to decline to be identified if believing consensus opinion has reasonable & adequate basis
    - > Should document member's difference of opinion with group

RPC (p. )

## B. Communication with clients and prospective clients

### Guidance

- Standard V(B) addresses conduct with respect to communicating with clients
- Communication is not confined to written form but via any means of communication
- Developing and maintaining clear, frequent, and thorough communication practices is critical
- Must
  - distinguish clearly between facts & opinions
  - present basic characteristics of the analyzed security in preparing research report
  - adequately illustrate to clients & prospective clients the manner of conducting investment decision-making process
  - keep them informed with respect to changes to the chosen investment process
- Brief communications
  - > must be supported by background report or data on request
- Capsule form recommendations
  - > should notify clients that additional info and analyses are available from the producer of the report
- Investment advice based on quantitative research and analysis
  - > must be supported by readily available reference material
  - > in a manner consistent with previously applied methodology or with changes highlighted
- Should outline known limitations, consider principal risks in investment analysis, report

RPC

## C. Record retention

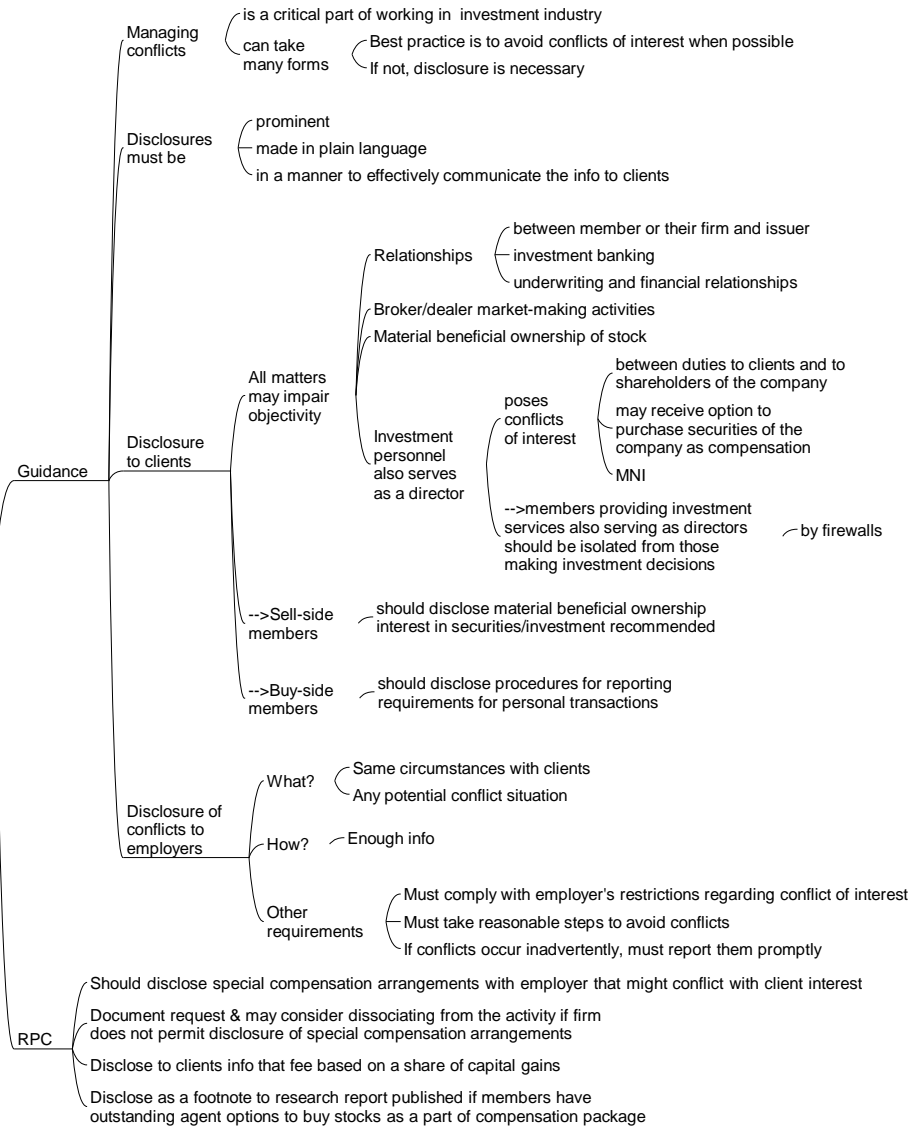
### Guidance

- In hard copy or electric form
- Fulfilling regulatory requirements may satisfy the requirements of this Standard
  - Must explicitly determine whether it does
- Absence of regulatory guidance
  - CFAI recommends maintaining records for at least 7 yrs

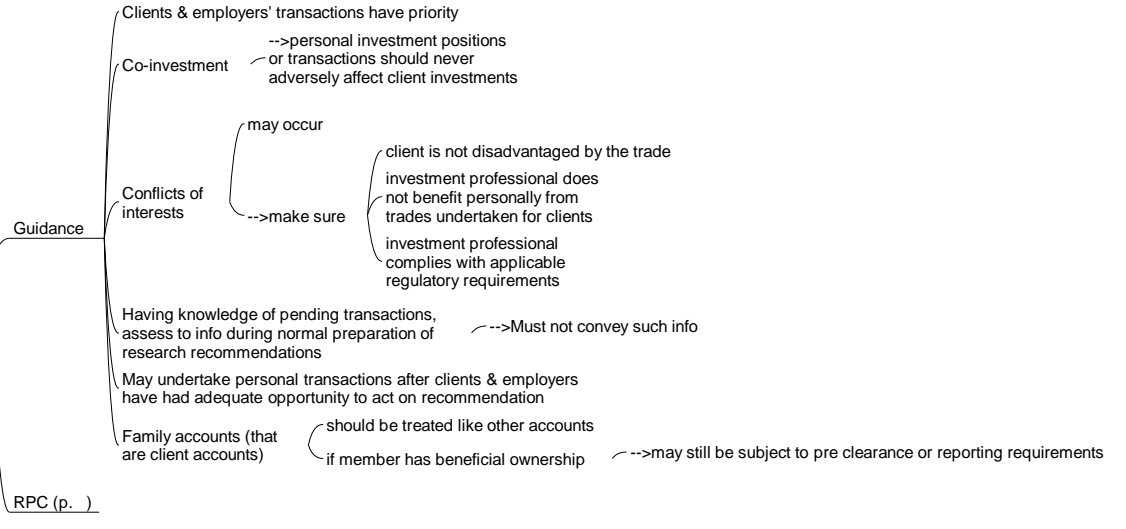
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## 2.6 Standard VI CONFLICTS OF INTEREST

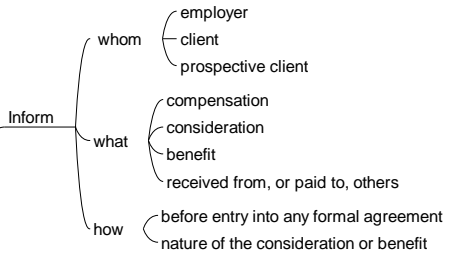
### A. Disclosure of conflicts



### B. Priority of transactions



### C. Referral fees



## 2.7 Standard VII RESPONSIBILITIES AS CFA MEMBER / CANDIDATE

A.  
Conduct  
as  
members  
and  
candidates  
in the CFA  
program

Prohibiting any conduct  
that undermines the  
integrity of the CFA  
charter (p. )

Cheating on CFA exam or any exam

Not following rules and  
policies of the CFA program

Giving confidential info on the CFA  
Program to candidates or the public

.....

Not precluded from expressing opinion  
regarding the CFA Program or CFAI

B.  
Reference to  
CFA  
Institute, the  
CFA  
Designation  
and the CFA  
program

Preventing promotional  
efforts that make promises  
or guarantees tied to the  
CFA designation

Over-promise the  
competence of an individual

Over-promise future  
investment results

Applies to any form of  
communication

To maintain  
CFAI  
membership

Remit annually to CFAI a completed  
Professional Conduct Statement

Pay applicable CFAI membership dues  
on an annual basis

Using the CFA designation  
(p. Curriculum)

Referencing candidacy in the CFA program  
(p. Curriculum)

Proper using of the CFA marks  
(p. Curriculum)

### 3. Introduction to Global Investment Performance Standards (GIPS)

a1. Why were the GIPS Standards created?

a2. Who can claim compliance?

a3. Who benefit from Compliance?

b. Construction & purpose of Composites

c. Verification

The Structure of the GIPS Standards

4a. Key characteristics of the GIPS standards & fundamentals of compliance

GIPS Objectives

Key characteristics

Fundamentals of compliance

Requirements

Recommendations

### 3+4 GIPS

b. The scope of the GIPS

Investment firm definition

Historical performance record

c1. How are GIPS standards implemented in countries with existing standards for performance reporting

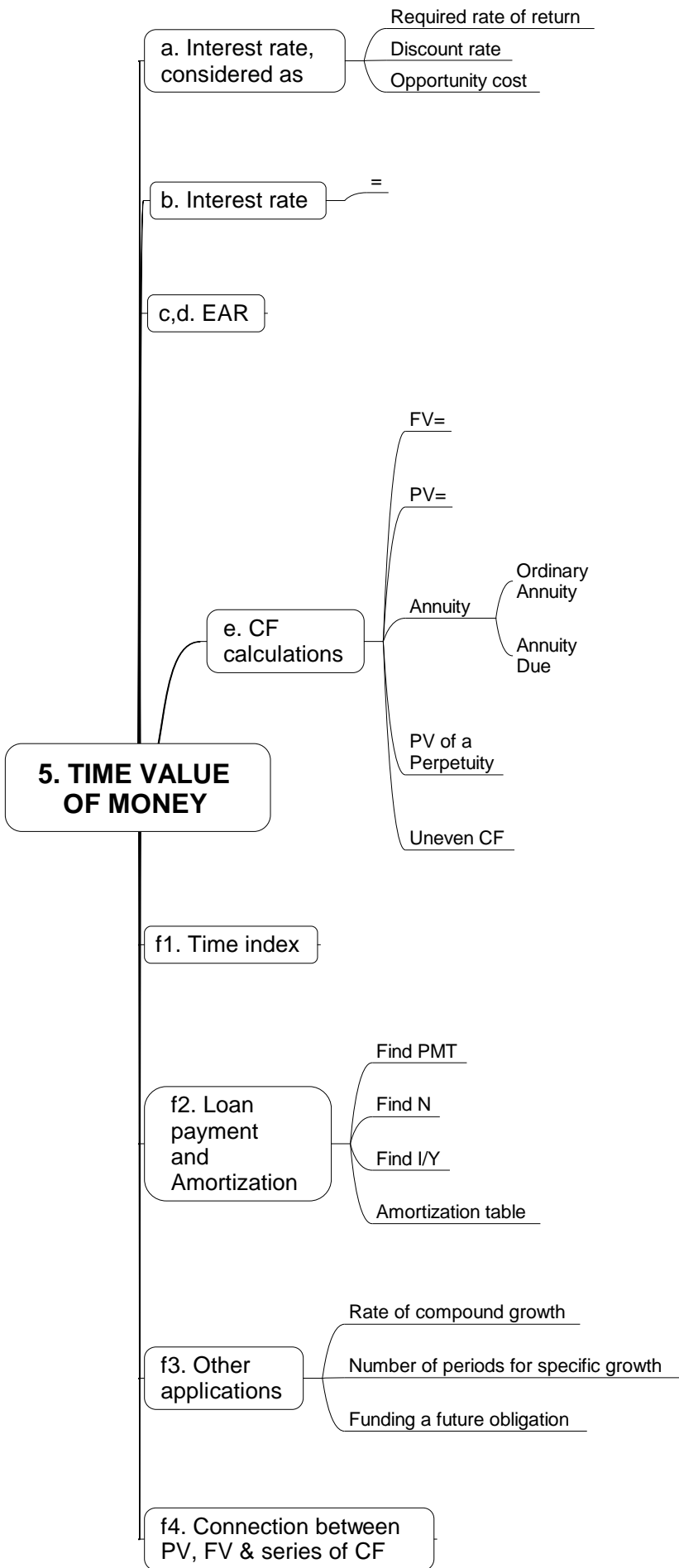
c2. Appropriate response when the GIPS standards & local regulations conflict

d. Major sections of GIPS standards

CFA LEVEL 1

STUDY SESSION 02&03

**QUANTITATIVE  
ANALYSIS**



# 6. DISCOUNTED CASH FLOW APPLICATIONS

a,b. Calculate, Interpret, Decision rule

- NPV
- IRR
  - Problems
  - Conflict with NPV due to
    - # Initial costs
    - # timing

c. HPR

d. Portfolio rate of return

- Money Weighted
  - IRR
  - More appropriate if manager has complete control over cash in/out
- Time weighted
  - Compound growth
  - Geometric mean
  - Not affected by cash in/out
  - Preferred method

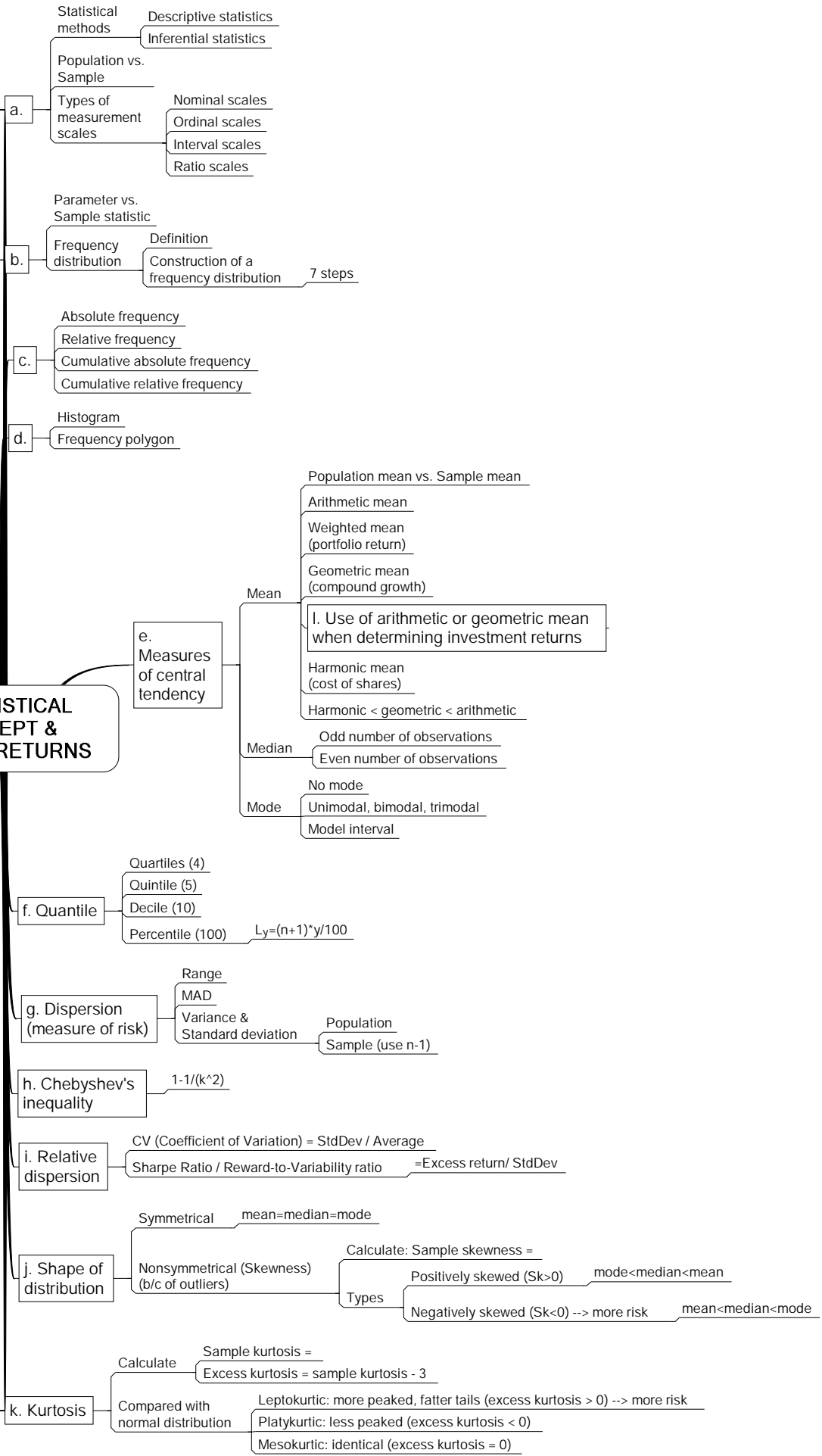
e. Yields of T-bills

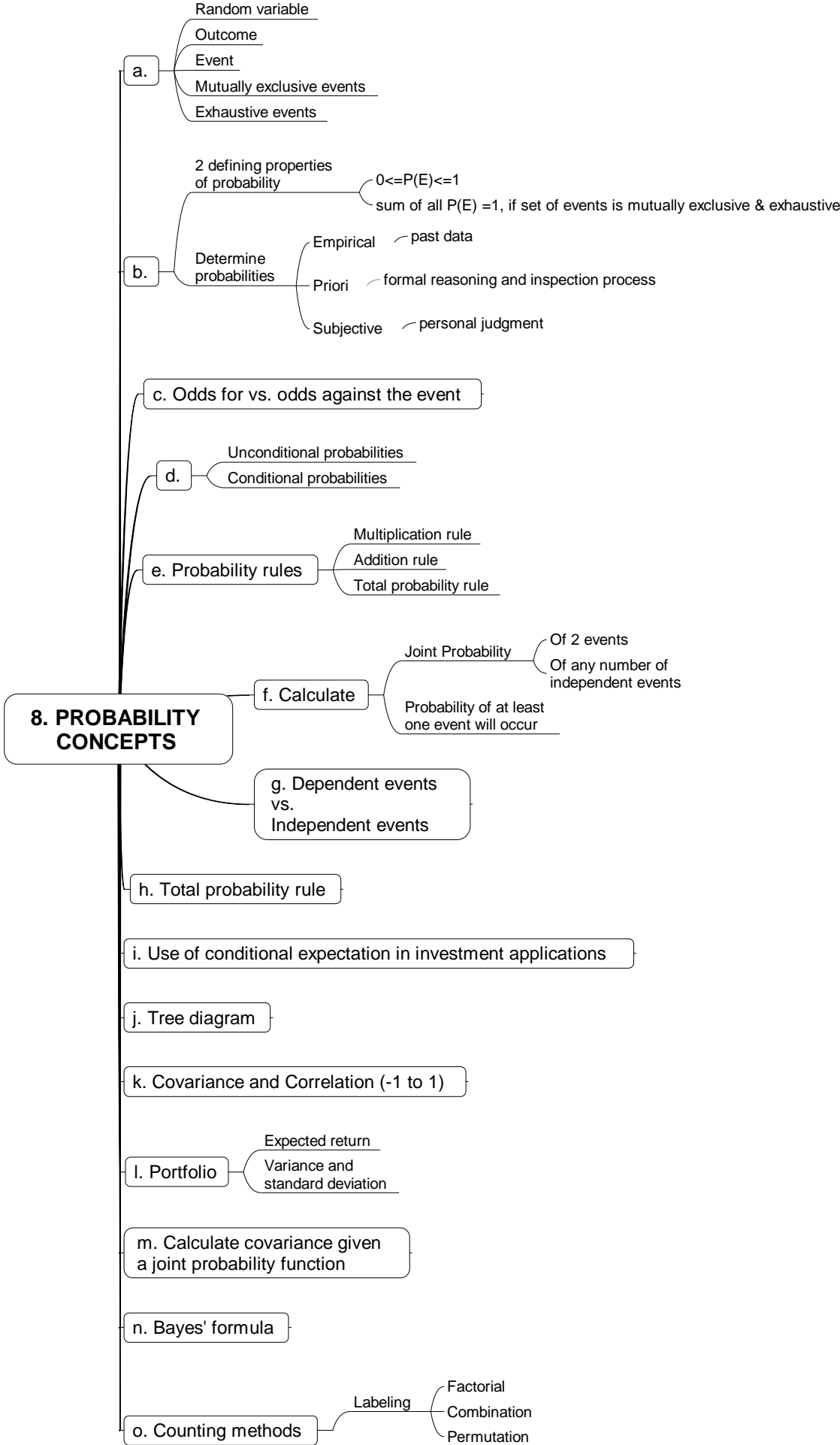
- Bank discount yield
- Holding period yield
- Effective annual yield
- Money market yield

f1. Convert among these yields

f2. Bond equivalent yield

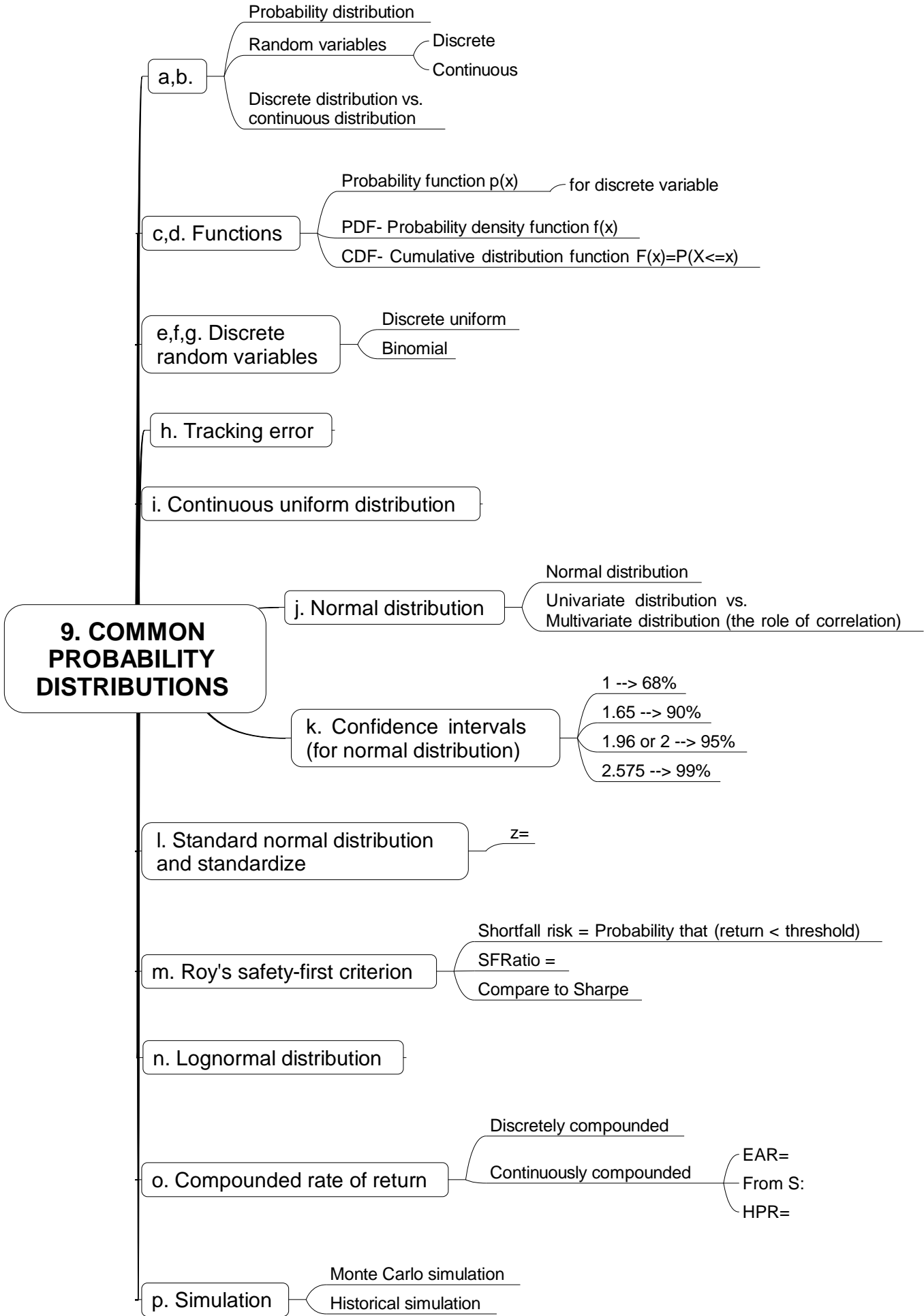
# 7. STATISTICAL CONCEPT & MARKET RETURNS

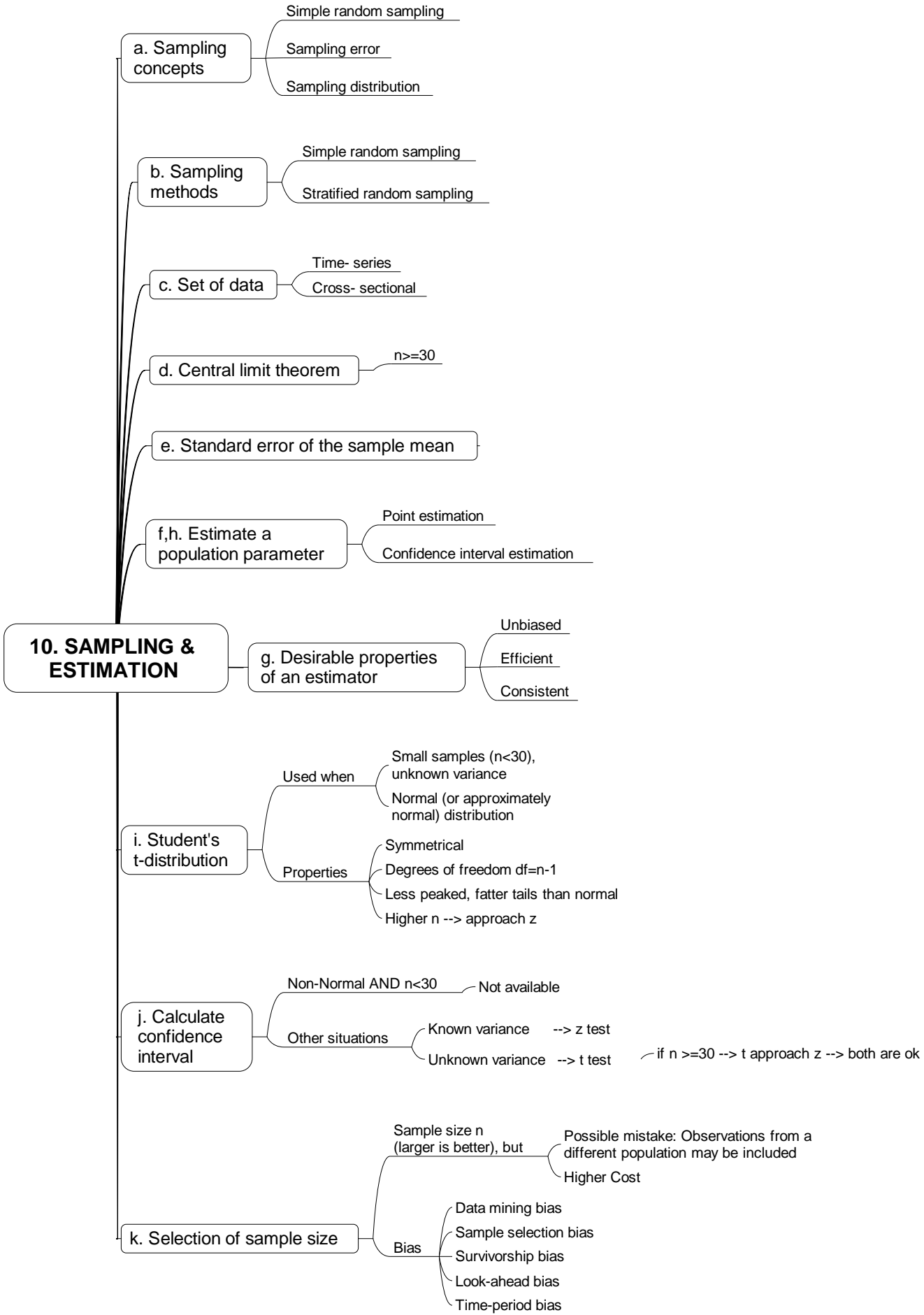




**8. PROBABILITY CONCEPTS**

- a.
  - Random variable
  - Outcome
  - Event
  - Mutually exclusive events
  - Exhaustive events
- b.
  - 2 defining properties of probability
    - $0 \leq P(E) \leq 1$
    - sum of all  $P(E) = 1$ , if set of events is mutually exclusive & exhaustive
  - Determine probabilities
    - Empirical - past data
    - Priori - formal reasoning and inspection process
    - Subjective - personal judgment
- c. Odds for vs. odds against the event
- d.
  - Unconditional probabilities
  - Conditional probabilities
- e. Probability rules
  - Multiplication rule
  - Addition rule
  - Total probability rule
- f. Calculate
  - Joint Probability
    - Of 2 events
    - Of any number of independent events
  - Probability of at least one event will occur
- g. Dependent events vs. Independent events
- h. Total probability rule
- i. Use of conditional expectation in investment applications
- j. Tree diagram
- k. Covariance and Correlation (-1 to 1)
- l. Portfolio
  - Expected return
  - Variance and standard deviation
- m. Calculate covariance given a joint probability function
- n. Bayes' formula
- o. Counting methods
  - Labeling
    - Factorial
    - Combination
    - Permutation





**10. SAMPLING & ESTIMATION**

a. Sampling concepts

- Simple random sampling
- Sampling error
- Sampling distribution

b. Sampling methods

- Simple random sampling
- Stratified random sampling

c. Set of data

- Time-series
- Cross-sectional

d. Central limit theorem

$n \geq 30$

e. Standard error of the sample mean

f,h. Estimate a population parameter

- Point estimation
- Confidence interval estimation

g. Desirable properties of an estimator

- Unbiased
- Efficient
- Consistent

i. Student's t-distribution

Used when

- Small samples ( $n < 30$ ), unknown variance
- Normal (or approximately normal) distribution

Properties

- Symmetrical
- Degrees of freedom  $df = n - 1$
- Less peaked, fatter tails than normal
- Higher  $n \rightarrow$  approach  $z$

j. Calculate confidence interval

Non-Normal AND  $n < 30$

Not available

Other situations

- Known variance  $\rightarrow$  z test
- Unknown variance  $\rightarrow$  t test

if  $n \geq 30 \rightarrow$  t approach z  $\rightarrow$  both are ok

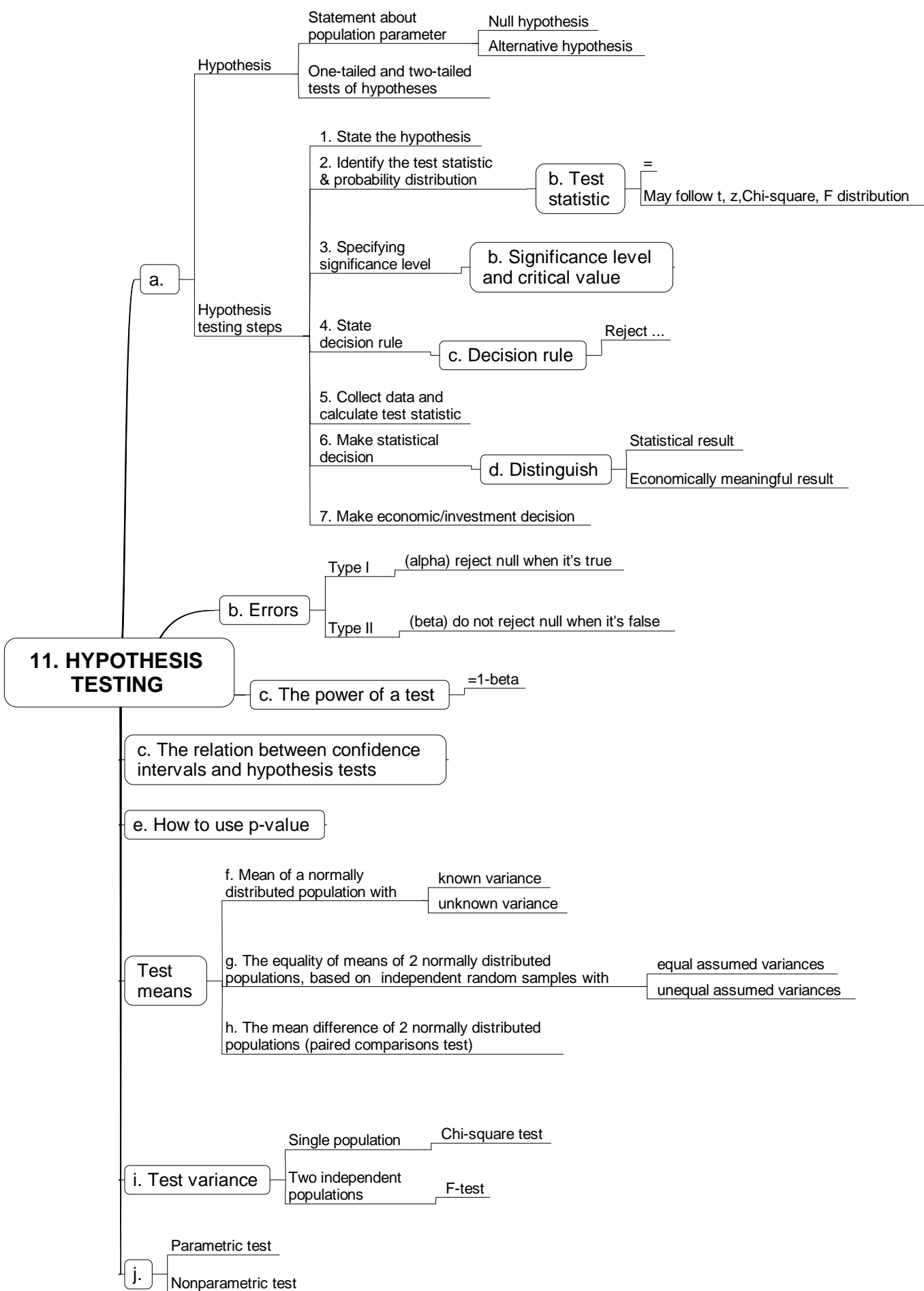
k. Selection of sample size

Sample size  $n$  (larger is better), but

- Possible mistake: Observations from a different population may be included
- Higher Cost

Bias

- Data mining bias
- Sample selection bias
- Survivorship bias
- Look-ahead bias
- Time-period bias



# 11. HYPOTHESIS TESTING

a.

Hypothesis

Statement about population parameter

Null hypothesis

Alternative hypothesis

One-tailed and two-tailed tests of hypotheses

Hypothesis testing steps

1. State the hypothesis

2. Identify the test statistic & probability distribution

b. Test statistic

=

May follow t, z, Chi-square, F distribution

3. Specifying significance level

b. Significance level and critical value

4. State decision rule

c. Decision rule

Reject ...

5. Collect data and calculate test statistic

6. Make statistical decision

d. Distinguish

Statistical result

Economically meaningful result

7. Make economic/investment decision

b. Errors

Type I

(alpha) reject null when it's true

Type II

(beta) do not reject null when it's false

c. The power of a test

=1-beta

c. The relation between confidence intervals and hypothesis tests

e. How to use p-value

Test means

f. Mean of a normally distributed population with

known variance

unknown variance

g. The equality of means of 2 normally distributed populations, based on independent random samples with

equal assumed variances

unequal assumed variances

h. The mean difference of 2 normally distributed populations (paired comparisons test)

i. Test variance

Single population

Chi-square test

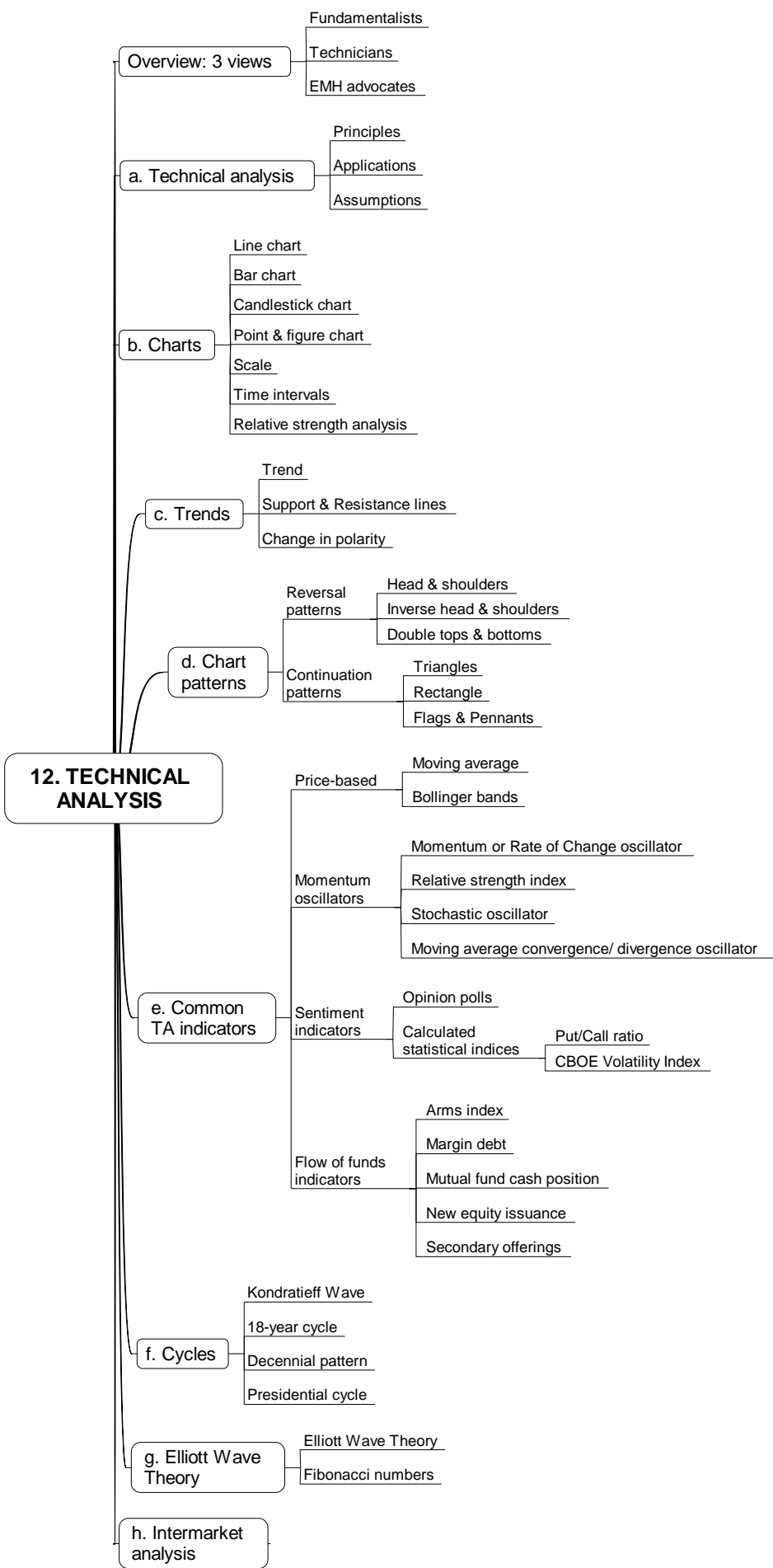
Two independent populations

F-test

j.

Parametric test

Nonparametric test



**12. TECHNICAL ANALYSIS**

Overview: 3 views

- Fundamentalists
- Technicians
- EMH advocates

a. Technical analysis

- Principles
- Applications
- Assumptions

b. Charts

- Line chart
- Bar chart
- Candlestick chart
- Point & figure chart
- Scale
- Time intervals
- Relative strength analysis

c. Trends

- Trend
- Support & Resistance lines
- Change in polarity

d. Chart patterns

- Reversal patterns
  - Head & shoulders
  - Inverse head & shoulders
  - Double tops & bottoms
- Continuation patterns
  - Triangles
  - Rectangle
  - Flags & Pennants

e. Common TA indicators

- Price-based
  - Moving average
  - Bollinger bands
- Momentum oscillators
  - Momentum or Rate of Change oscillator
  - Relative strength index
  - Stochastic oscillator
  - Moving average convergence/ divergence oscillator
- Sentiment indicators
  - Opinion polls
  - Calculated statistical indices
    - Put/Call ratio
    - CBOE Volatility Index
- Flow of funds indicators
  - Arms index
  - Margin debt
  - Mutual fund cash position
  - New equity issuance
  - Secondary offerings

f. Cycles

- Kondratieff Wave
- 18-year cycle
- Decennial pattern
- Presidential cycle

g. Elliott Wave Theory

- Elliott Wave Theory
- Fibonacci numbers

h. Intermarket analysis

**CFA LEVEL 1**

**STUDY SESSION 04, 05 & 06**

**ECONOMICS**

# 13. Elasticity

## Price elasticity of DEMAND

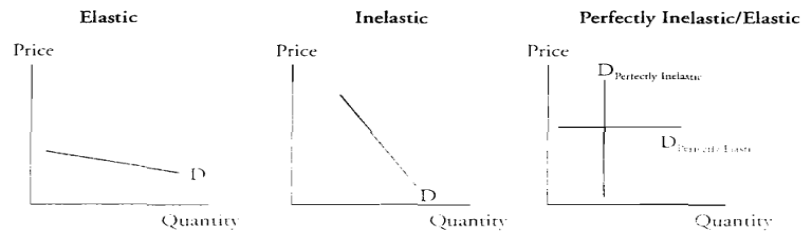
### Factors

- Availability of substitutes → Cross elasticity of demand = ⊕
- Relative amount of income spent on the good → Income elasticity ⊕
- Time since the price change

### Types

- Highly elastic
- Relatively inelastic
- Perfectly elastic
- Perfectly inelastic

Figure 1:



b. On a straight-line demand curve

Figure 3: Price Elasticity Along a Linear Demand Curve

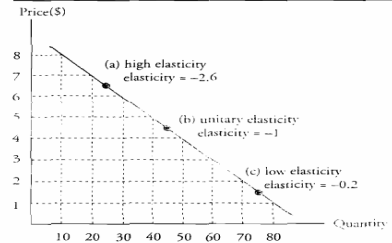


Figure 3:

- Differentiate → Elastic, Inelastic, Unitary elastic
- Relation between price elasticity of demand and total revenue

## Price elasticity of SUPPLY

### Factors

- Available resource substitutions → ⊕
- Supply decision time frame → Momentary supply, Short-term supply, Long-term supply

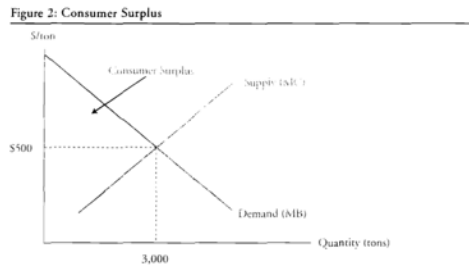
Calculation: Price elasticity of supply = ⊕

# 14. Efficiency And Equity

## a,b,c,d. EFFICIENCY

- b. Marginal Benefit (MB)
  - =Demand curve
  - Consumer surplus = Value - Price
- c. Marginal Cost (MC)
  - =Supply curve
  - Producer surplus = Price - Cost
- a. Allocative efficiency
  - MB = MC
- a,d. Efficient quantity
  - Where D and S intersect (Equilibrium)

## Consumer surplus



## Efficient markets & optimal resource utilization

- Inefficiency and Deadweight loss (DWL)
  - Overproduction
  - Underproduction

## e. Inefficiency

- Obstacles to efficiency
  - Price controls
    - Ceilings
    - Floors
  - Taxes
  - Trade restrictions
    - Subsidies
    - Quotas
  - Monopoly
  - External
    - Costs
    - Benefits
  - Public goods
  - Common resources

## f. EQUITY: Fairness principles (2 schools of thoughts)

- Utilitarianism ⊕
- Symmetry principle ⊕

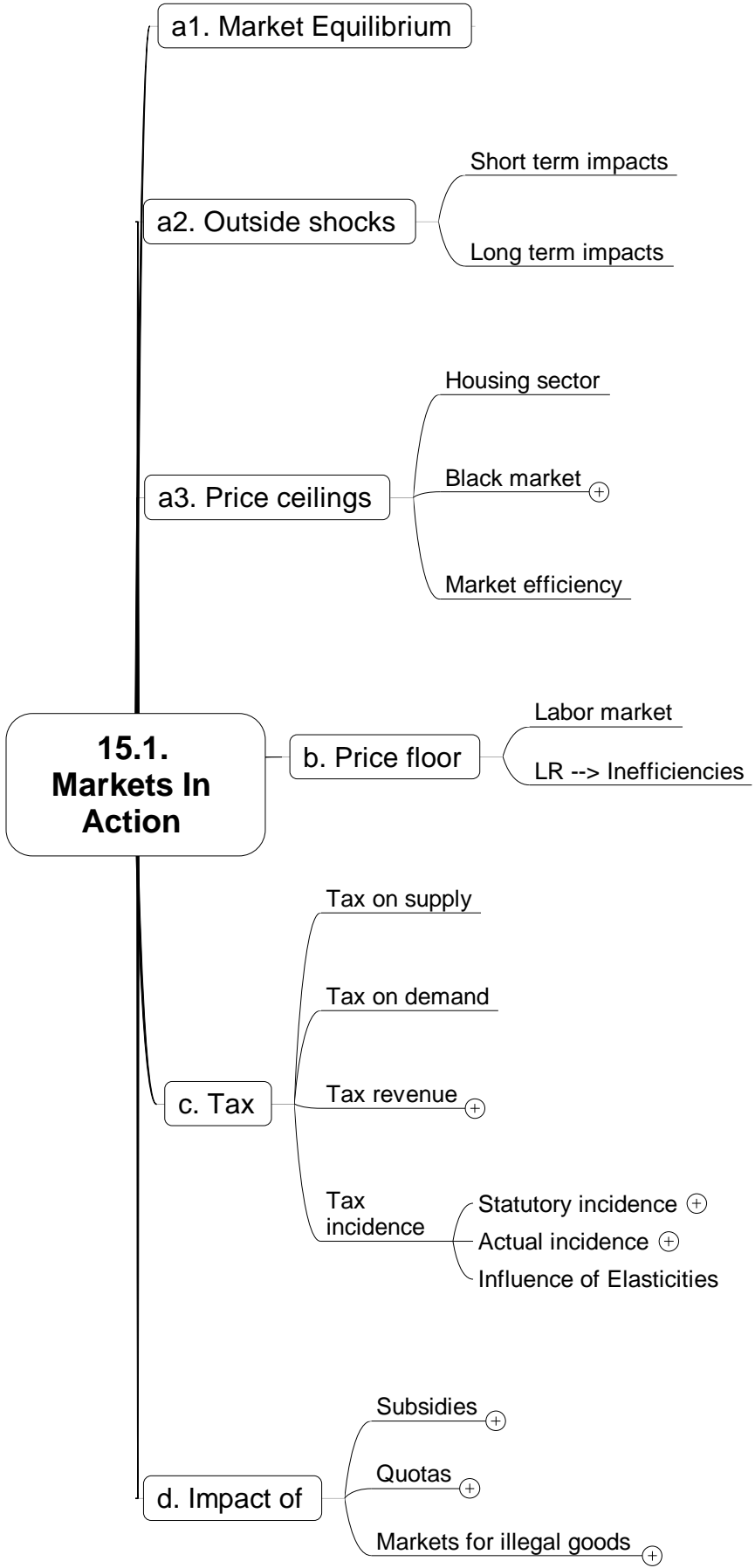


Figure 5: Elasticity of Supply and Tax Incidence

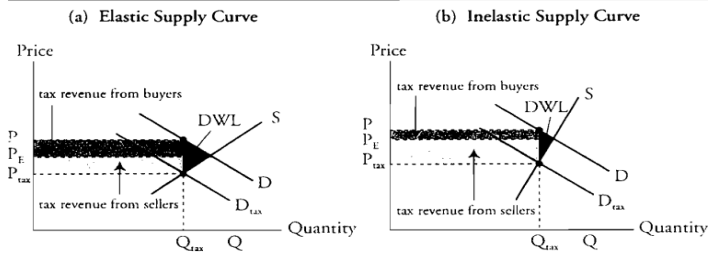
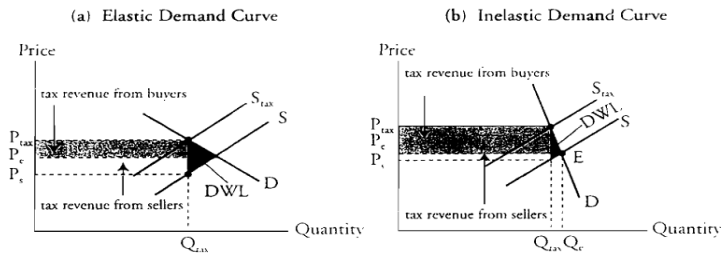


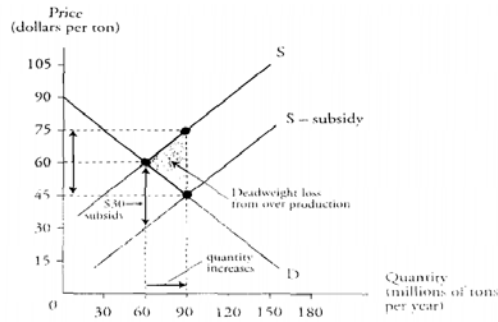
Figure 6: Elasticity of Demand and Tax Incidence



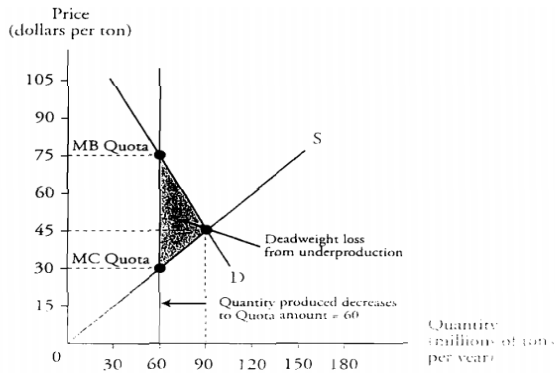
c. Tax

15.2. Markets In Action-Figures

Subsidies

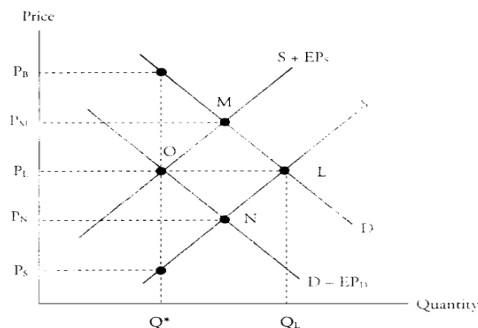


Quotas



d. Impact of

Markets for illegal goods



# 16. Organizing Production

## a. Opportunity cost

Definition ⊕

Including

Explicit costs

Implicit costs

Own Capital-  
Implicit rental rate

Time and financial  
resources of owners

Definition ⊕

Economic depreciation ⊕

Foregone interest

Normal profit ⊕

Foregone wages

Relation to economic profit ⊕

## b. Constraints on Profit maximization

Technology ⊕

Information

Market constraints ⊕

## c. Efficiency

Technological efficiency (TE) ⊕

Economic efficiency (EE) ⊕

Relationship EE-->TE

## d. Ways to organize productions

Command system ⊕

Incentive system

is \_\_\_\_\_ ⊕

Principal- agent problem

Agents (managers & workers) do not have the same motives & incentives as the firm's principals (owners)

Reduced by

Ownership

Incentive pay

Longer term contracts

## e. Types of business organization

Proprietorship ⊕

Partnership ⊕

Corporation ⊕

## f. Concentration measures

2 primary measures

Four firm concentration ratio ⊕

Herfindahl-Hirschman Index ⊕

Limitations ⊕

## g. Firm coordination vs. Market coordination

Market coordination

Firm coordination

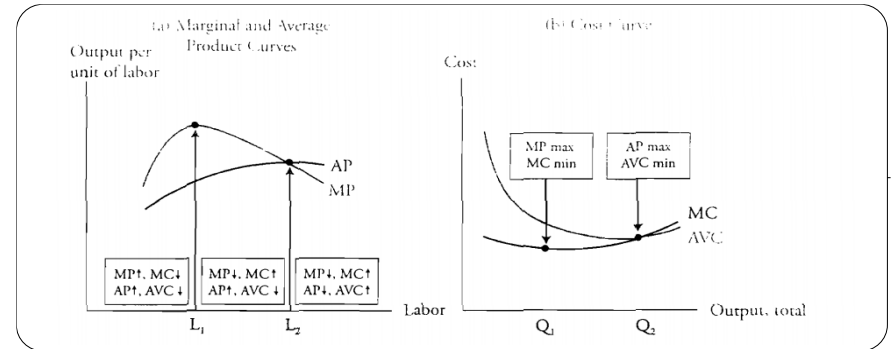
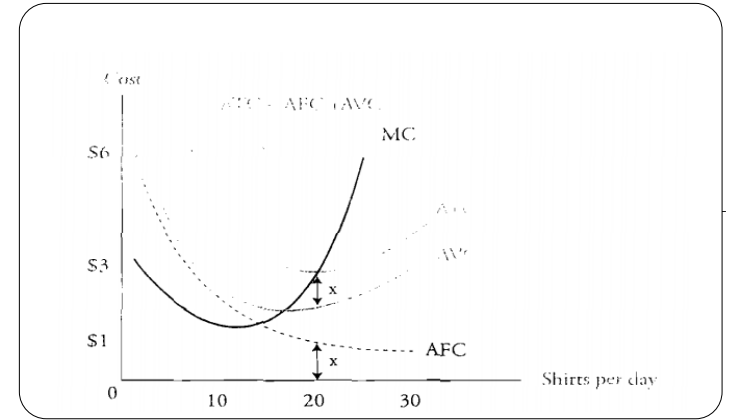
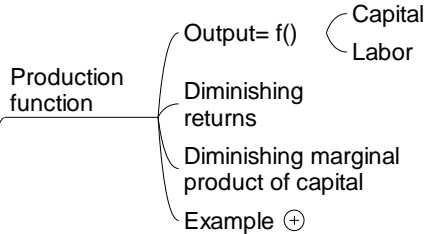
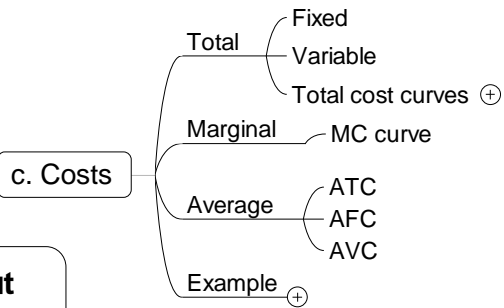
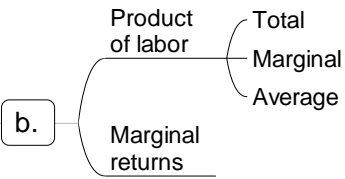
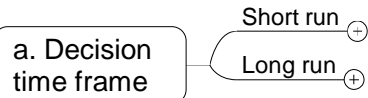
Lower transaction costs

Economies of scale

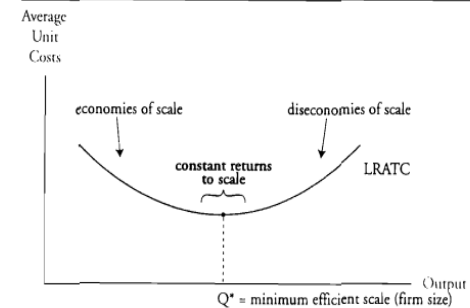
Economies of scope

Economies of team production

# 17. Output And Costs



**Figure 9: Long-Run Average Total Cost**



# 18. Perfect Competition

## a. Characteristics of perfect competition

- Price taker market
- Identical products
- Large number of independent firms
- Each seller is small relatively
- No barriers to entry & exit
- Demand curve for
  - Market
  - Firm

## b. Profit maximization output

- MC
- MR
- Economic P&L
- Price taker

Figure 2: Profit-Maximizing Output For A Price-Taker

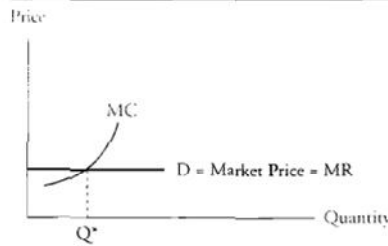
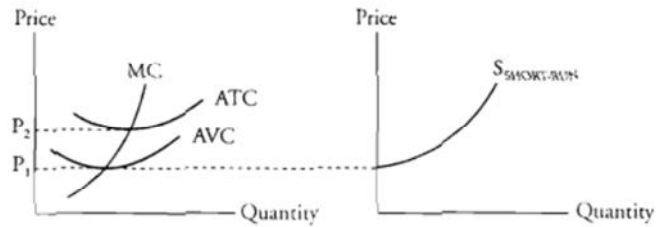


Figure 6: Short-Run Supply Curves

(a) Firm Supply

(b) Market Supply



SR supply curve

## c.

- LR equilibrium is impacted by
  - Changes in demand
  - Entry and Exit
  - Changes in plant size

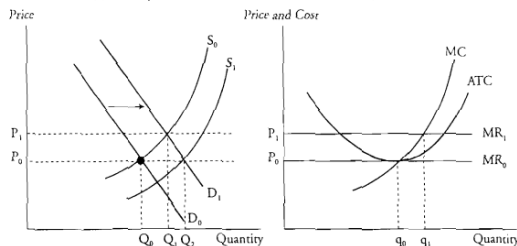
## d. Price, output & economic profit are affected by

- Permanent change in demand
- Changes in technology

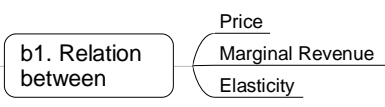
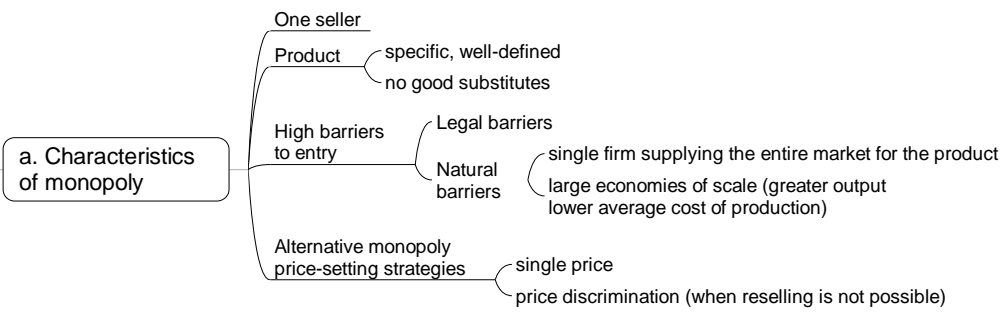
Figure 8: Effects of a Permanent Increase in Demand

(a) Industry

(b) Firm



# 19. Monopoly

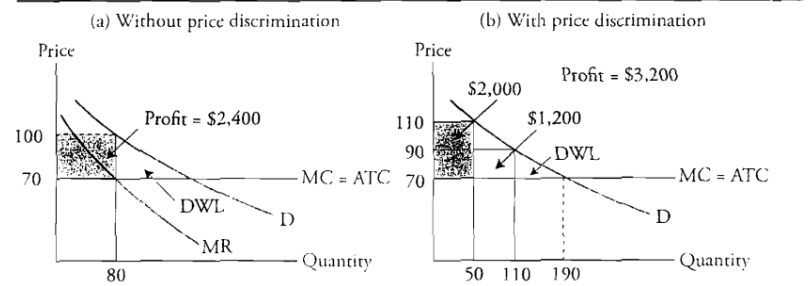


**b2. Profit-maximizing price and quantity**

**c. Price discrimination & efficiency**

Diagram

**Figure 2: Effect of Price Discrimination on Output and Operating Profit**

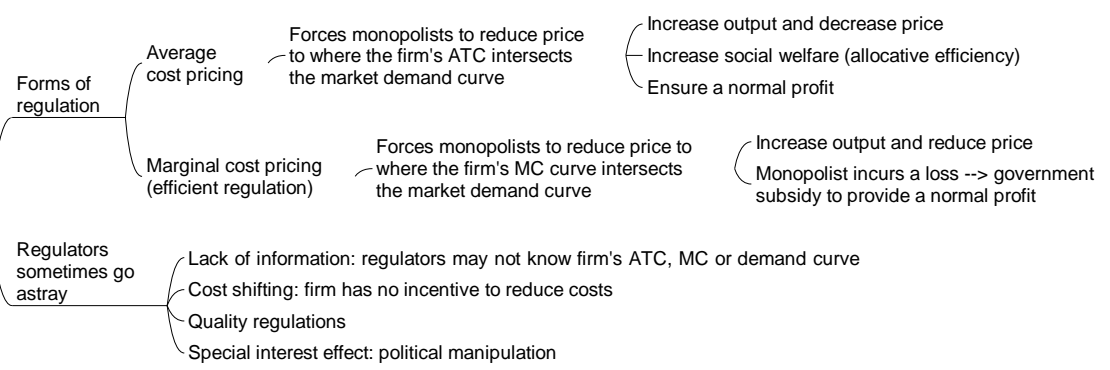


- For price discrimination to work, seller must
- Face a downward-sloping demand curve
  - Have at least 2 identifiable groups of customers with different price elasticities of demand for the product
  - Be able to prevent the customers paying the lower price from selling the product to the customers paying the higher price

**d. Consumer and Producer surplus redistributed**

**e1. Potential gains from monopoly**

**e2. Regulation of a natural monopoly**



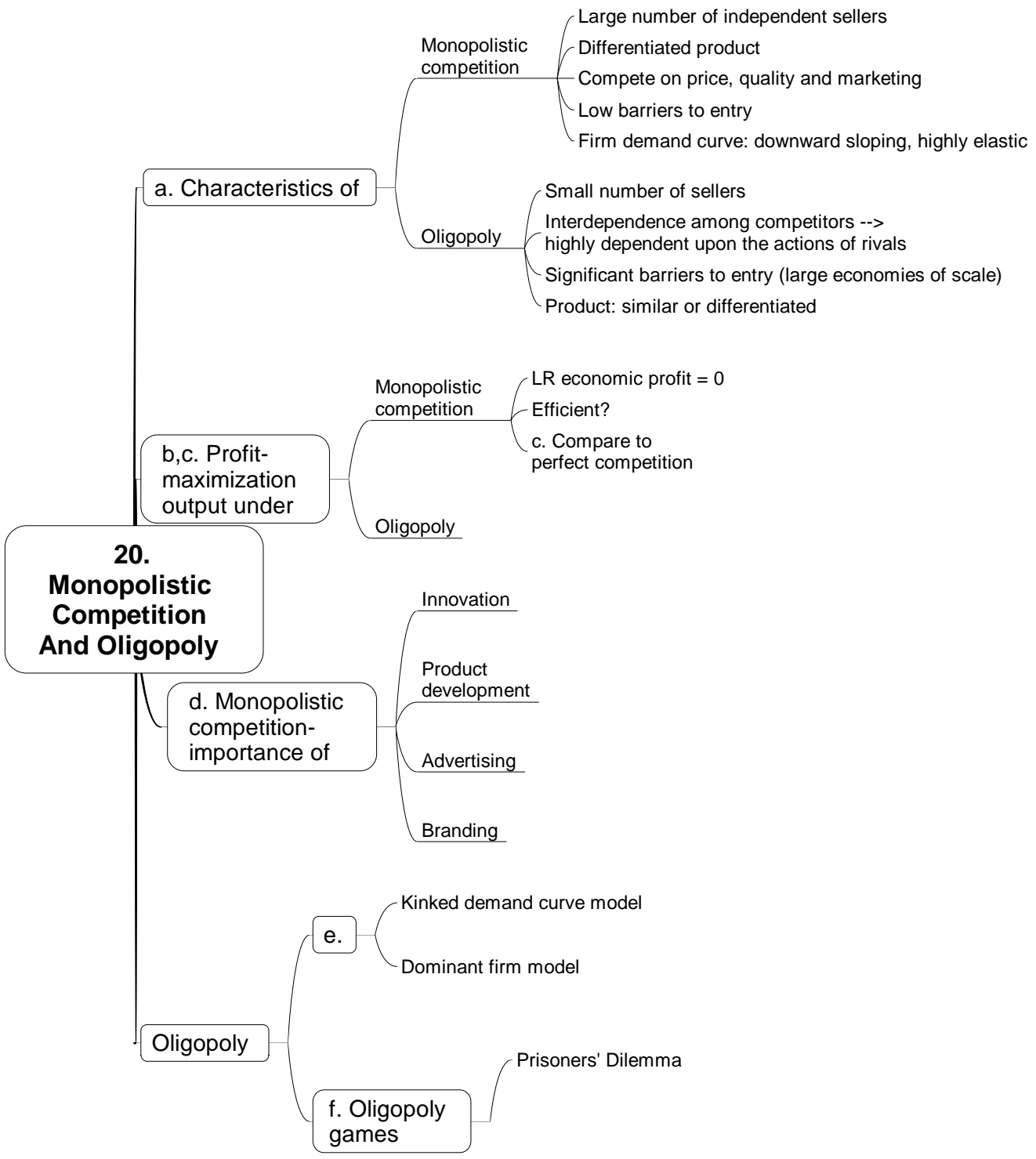
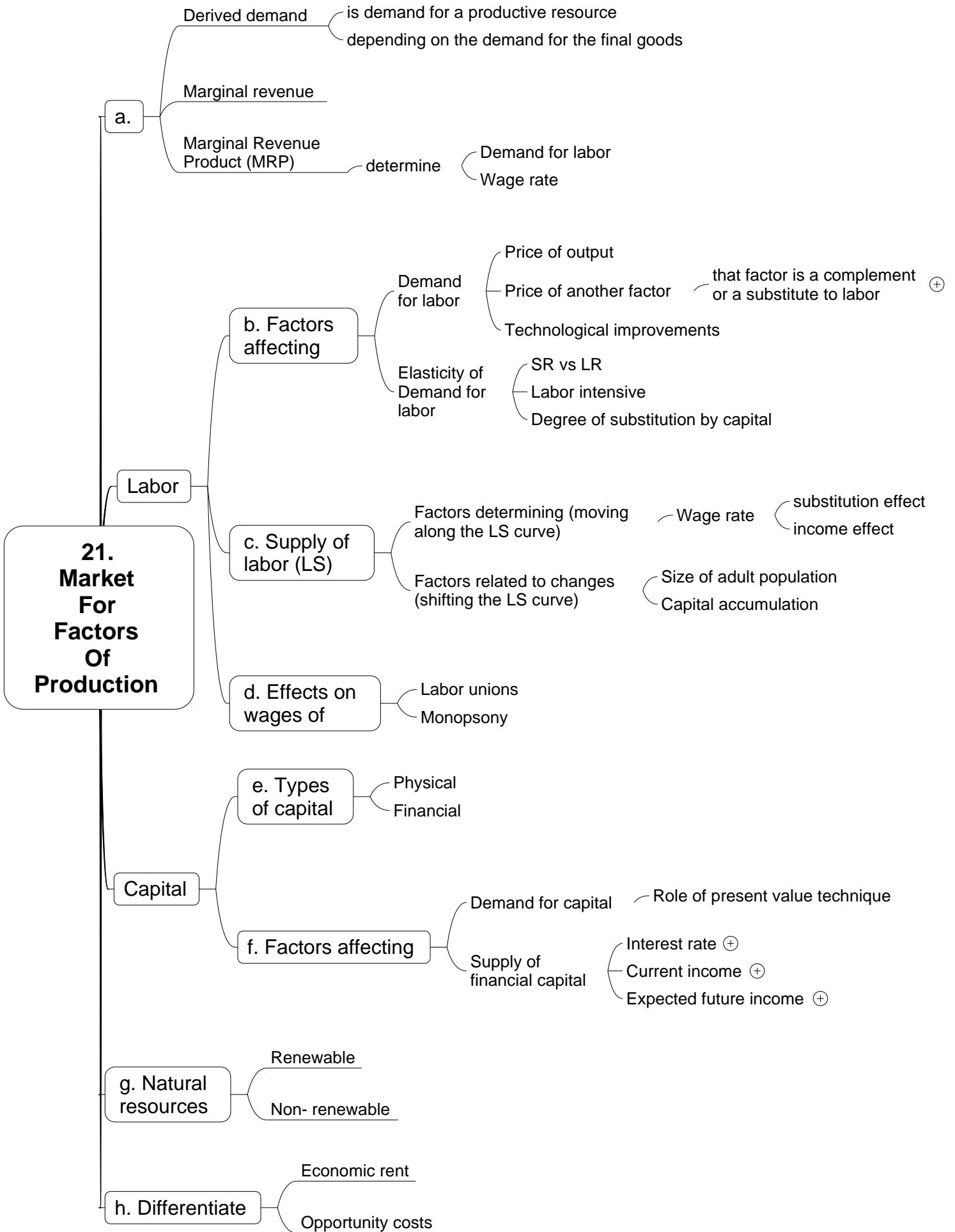


Figure 7: Prisoners' Dilemma for Two Firms

	<i>Firm B honors</i>	<i>Firm B cheats</i>
<b>Firm A honors</b>	A earns economic profit B earns economic profit	A has an economic loss B earns increased economic profit
<b>Firm A cheats</b>	A earns increased economic profit B has an economic loss	A earns zero economic profit B earns zero economic profit



**21. Market For Factors Of Production**

a.

Derived demand is demand for a productive resource depending on the demand for the final goods

Marginal revenue

Marginal Revenue Product (MRP) determine Demand for labor Wage rate

b. Factors affecting

Demand for labor Price of output Price of another factor that factor is a complement or a substitute to labor ⊕ Technological improvements

Elasticity of Demand for labor SR vs LR Labor intensive Degree of substitution by capital

Labor

c. Supply of labor (LS)

Factors determining (moving along the LS curve) Wage rate substitution effect income effect

Factors related to changes (shifting the LS curve) Size of adult population Capital accumulation

d. Effects on wages of

Labor unions Monopsony

e. Types of capital

Physical Financial

Capital

f. Factors affecting

Demand for capital Role of present value technique

Supply of financial capital Interest rate ⊕ Current income ⊕ Expected future income ⊕

g. Natural resources

Renewable Non-renewable

h. Differentiate

Economic rent Opportunity costs

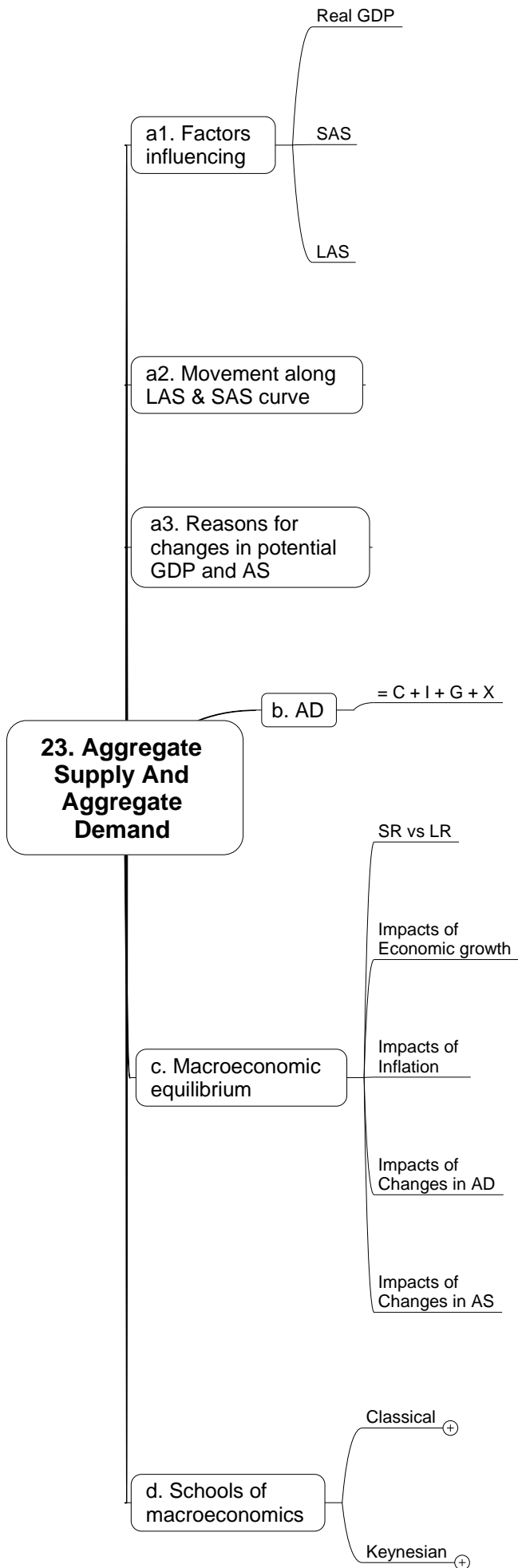
# 22. Monitoring Jobs And The Price Level

a,b,c. Labor

- a. Define "unemployed person" (last 4 weeks, laid off, waiting, next 30 days)
- a. Discouraged workers
- a. Labor market indicators
  - Unemployment rate= ⊕
  - Labor-force participation rate= ⊕
  - Employment-to-population ratio= ⊕
- b1. Aggregate hours
- b2. Real wage rate ⊕
- c. Types of unemployment
  - Frictional ⊕
  - Structural ⊕
  - Cyclical ⊕
- c. Full employment
  - Natural rate of unemployment
  - Potential GDP

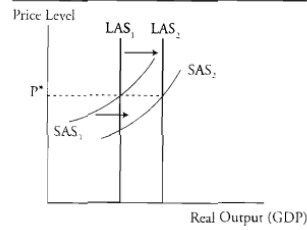
d. CPI

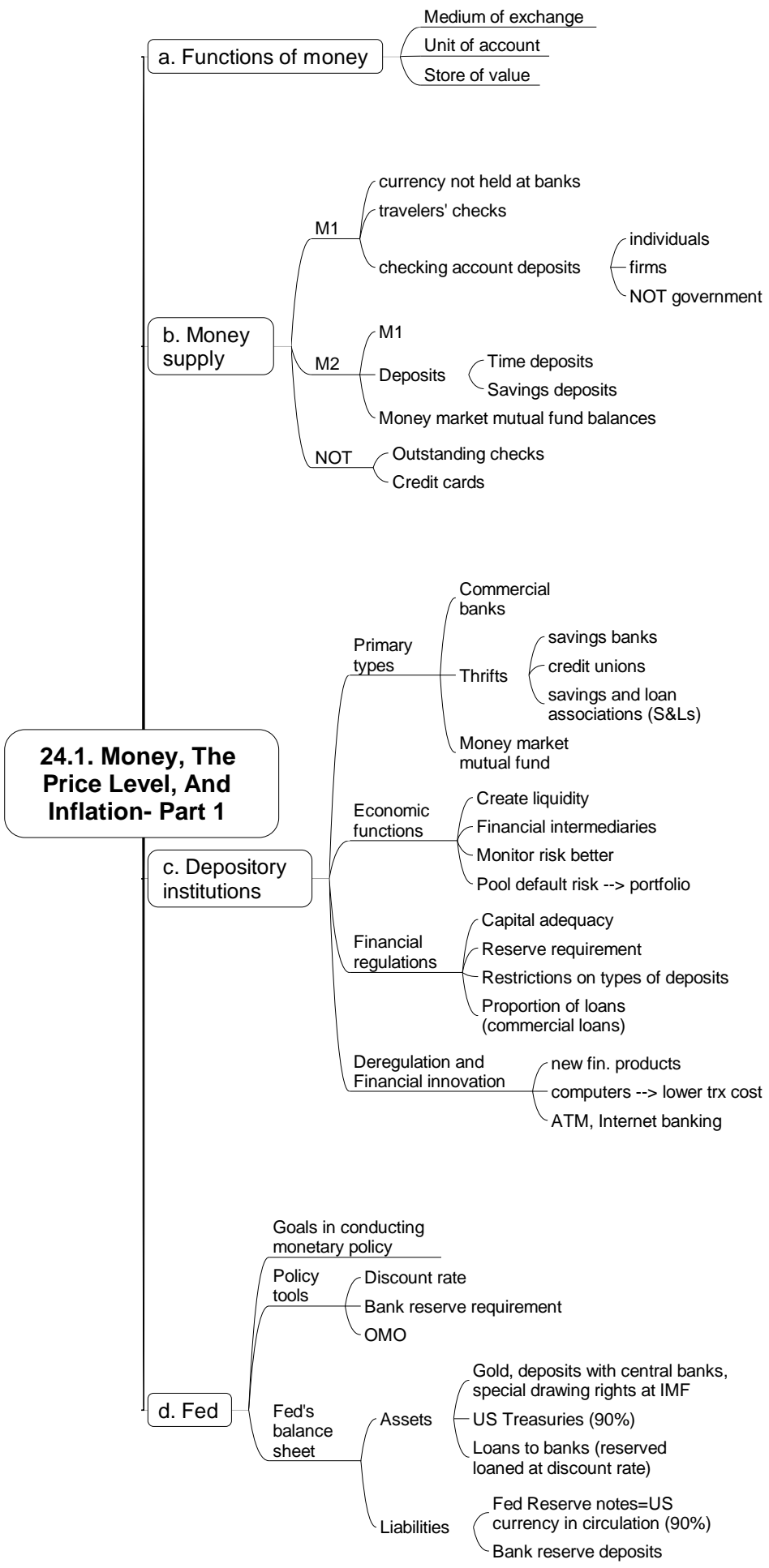
- BLS's calculation
  - Select CPI basket
  - Conduct monthly price survey
  - Calculate CPI= ⊕
- Inflation rate= ⊕
- CPI bias
  - New goods
  - Quality changes
  - Commodity substitution
  - Outlet substitution



In Figure 2, we illustrate the effects on LAS and SAS that would result from an increase in full-employment GDP due to an increase in labor, capital, or an advance in technology. Long-run aggregate supply increases to  $LAS_2$  and short-run aggregate supply increases to  $SAS_2$ .

**Figure 2: An Increase in Potential GDP**





**a. Functions of money**

- Medium of exchange
- Unit of account
- Store of value

**b. Money supply**

- M1
  - currency not held at banks
  - travelers' checks
  - checking account deposits
    - individuals
    - firms
    - NOT government
- M2
  - M1
  - Deposits
    - Time deposits
    - Savings deposits
  - Money market mutual fund balances
- NOT
  - Outstanding checks
  - Credit cards

**24.1. Money, The Price Level, And Inflation- Part 1**

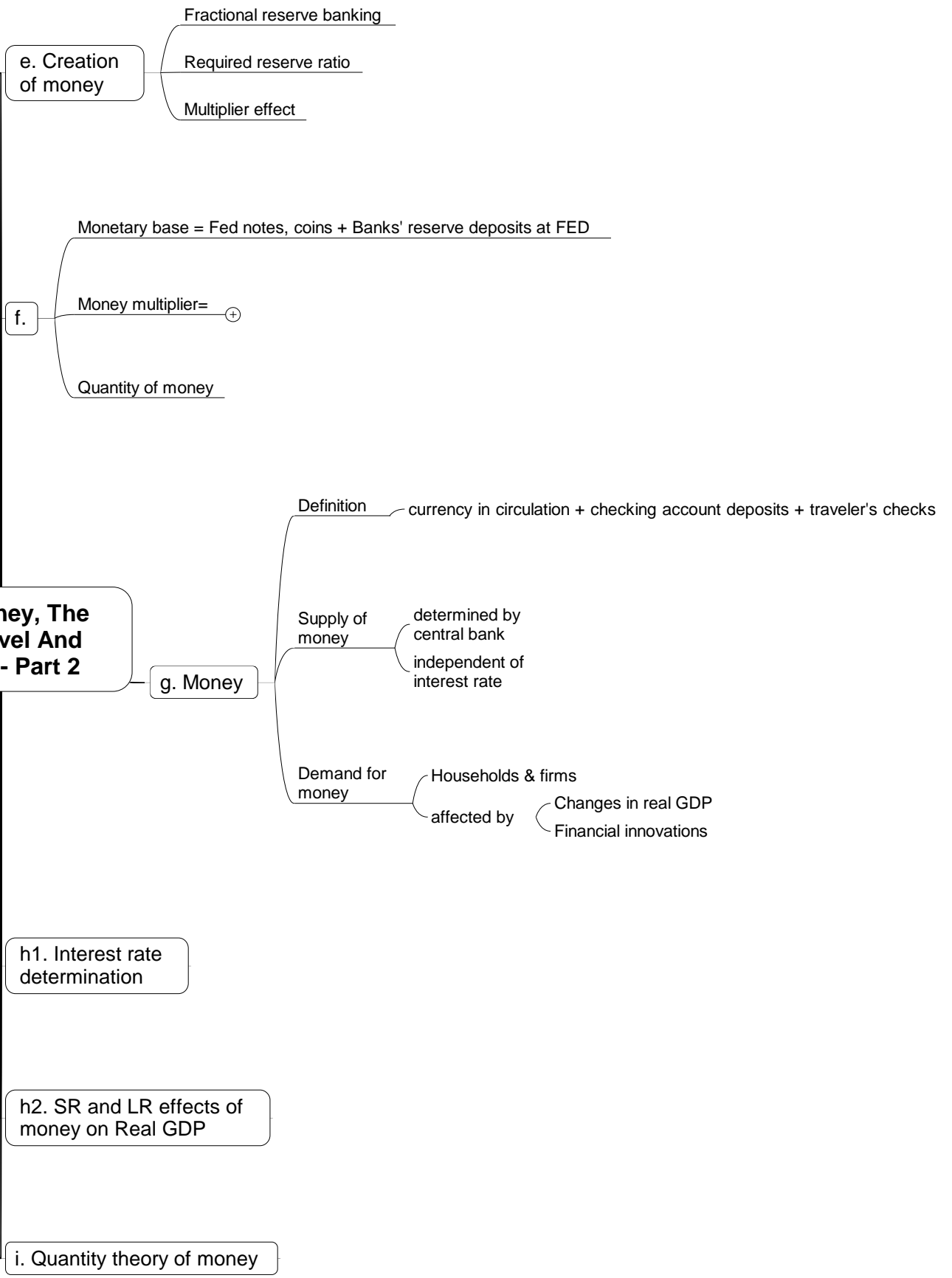
**c. Depository institutions**

- Primary types
  - Commercial banks
  - Thriffs
    - savings banks
    - credit unions
    - savings and loan associations (S&Ls)
  - Money market mutual fund
- Economic functions
  - Create liquidity
  - Financial intermediaries
  - Monitor risk better
  - Pool default risk --> portfolio
- Financial regulations
  - Capital adequacy
  - Reserve requirement
  - Restrictions on types of deposits
  - Proportion of loans (commercial loans)
- Deregulation and Financial innovation
  - new fin. products
  - computers --> lower trx cost
  - ATM, Internet banking

**d. Fed**

- Goals in conducting monetary policy
- Policy tools
  - Discount rate
  - Bank reserve requirement
  - OMO
- Fed's balance sheet
  - Assets
    - Gold, deposits with central banks, special drawing rights at IMF
    - US Treasuries (90%)
    - Loans to banks (reserved loaned at discount rate)
  - Liabilities
    - Fed Reserve notes=US currency in circulation (90%)
    - Bank reserve deposits

# 24.2. Money, The Price Level And Inflation- Part 2



e. Creation of money

- Fractional reserve banking
- Required reserve ratio
- Multiplier effect

f.

- Monetary base = Fed notes, coins + Banks' reserve deposits at FED
- Money multiplier= (+)
- Quantity of money

g. Money

- Definition
  - currency in circulation + checking account deposits + traveler's checks
- Supply of money
  - determined by central bank
  - independent of interest rate
- Demand for money
  - Households & firms
  - affected by
    - Changes in real GDP
    - Financial innovations

h1. Interest rate determination

h2. SR and LR effects of money on Real GDP

i. Quantity theory of money

# 25.1. US Inflation, Unemployment, And Business Cycles- Part 1

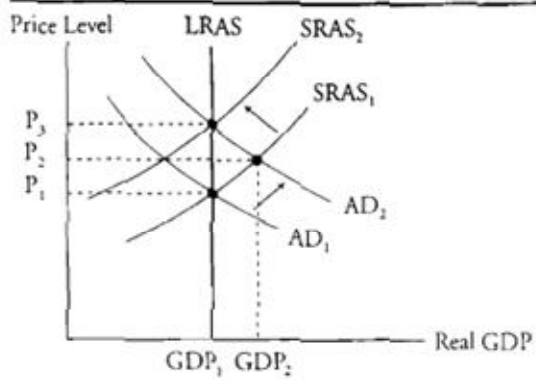
a. Differentiate

- Inflation
- Price level

b. Inflation processes

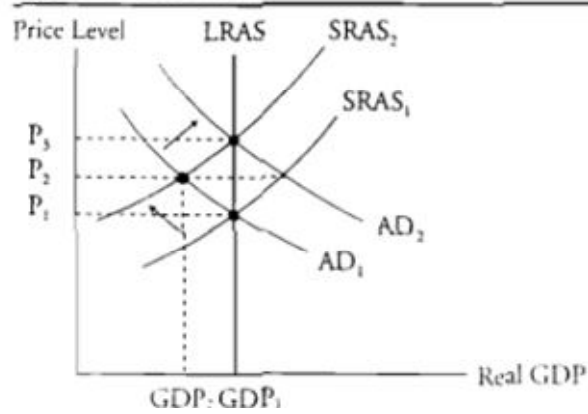
Demand pull

Figure 1: Demand-Pull Inflation



Cost push

Figure 2: Cost-Push Inflation



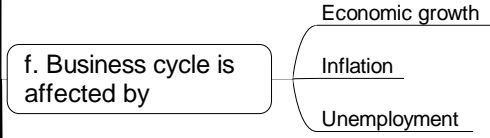
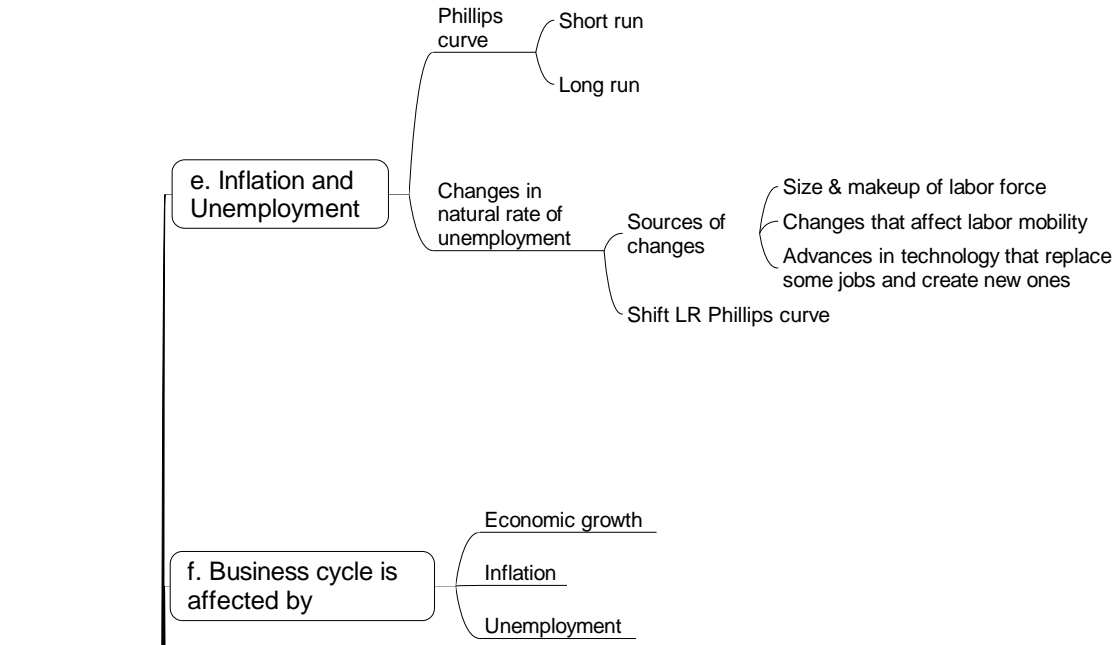
c. The costs of anticipated Inflation

d. Relation

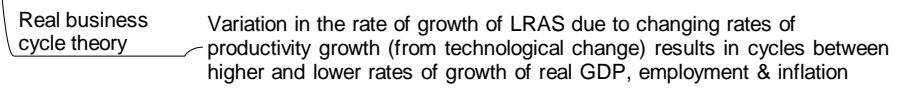
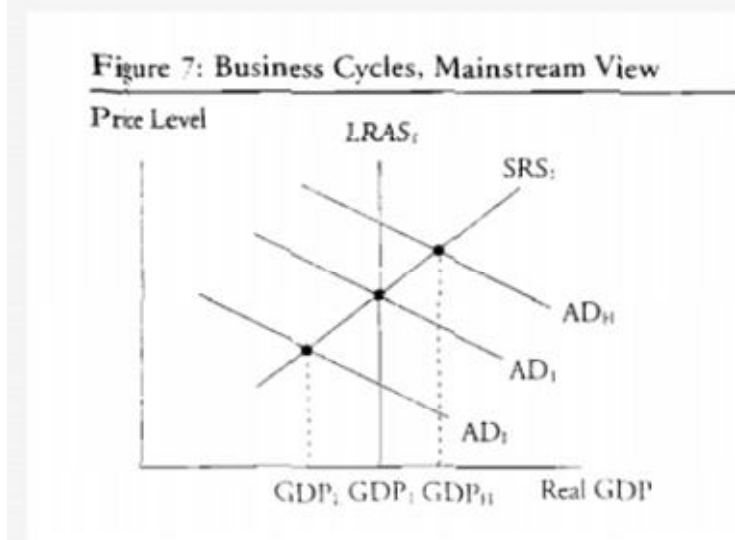
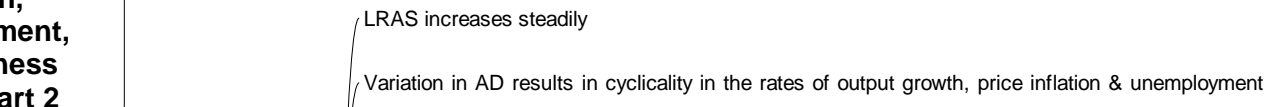
- Inflation
- Nominal interest rate
- D&S of money

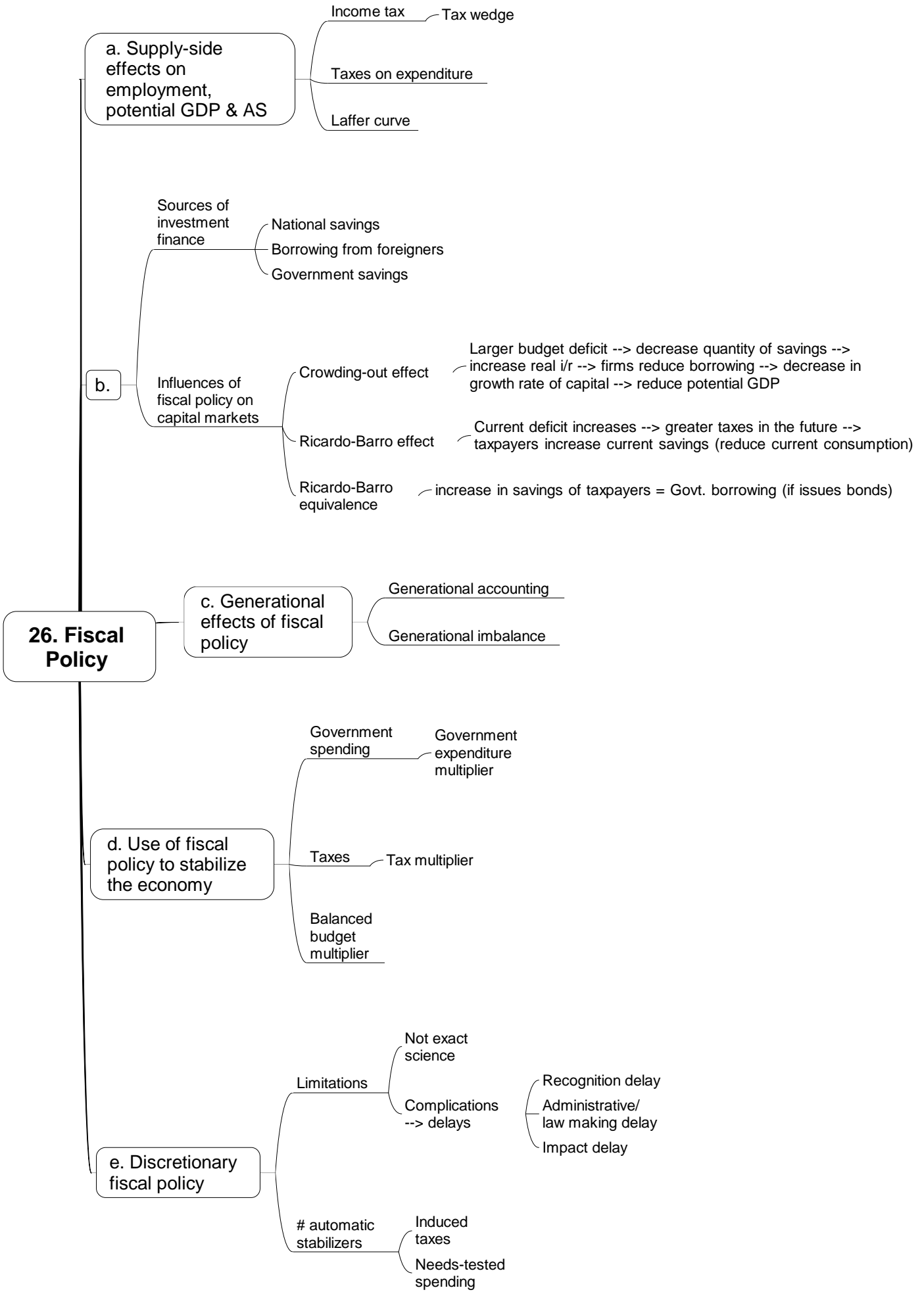
higher rates of growth of money supply lead to

- higher rates of inflation
- higher rates of expected inflation
- higher nominal interest rates



**25.2. US Inflation, Unemployment, And Business Cycles- Part 2**





**a. Supply-side effects on employment, potential GDP & AS**

- Income tax — Tax wedge
- Taxes on expenditure
- Laffer curve

**b.**

- Sources of investment finance
  - National savings
  - Borrowing from foreigners
  - Government savings
- Influences of fiscal policy on capital markets
  - Crowding-out effect
    - Larger budget deficit --> decrease quantity of savings --> increase real  $i/r$  --> firms reduce borrowing --> decrease in growth rate of capital --> reduce potential GDP
  - Ricardo-Barro effect
    - Current deficit increases --> greater taxes in the future --> taxpayers increase current savings (reduce current consumption)
  - Ricardo-Barro equivalence
    - increase in savings of taxpayers = Govt. borrowing (if issues bonds)

**c. Generational effects of fiscal policy**

- Generational accounting
- Generational imbalance

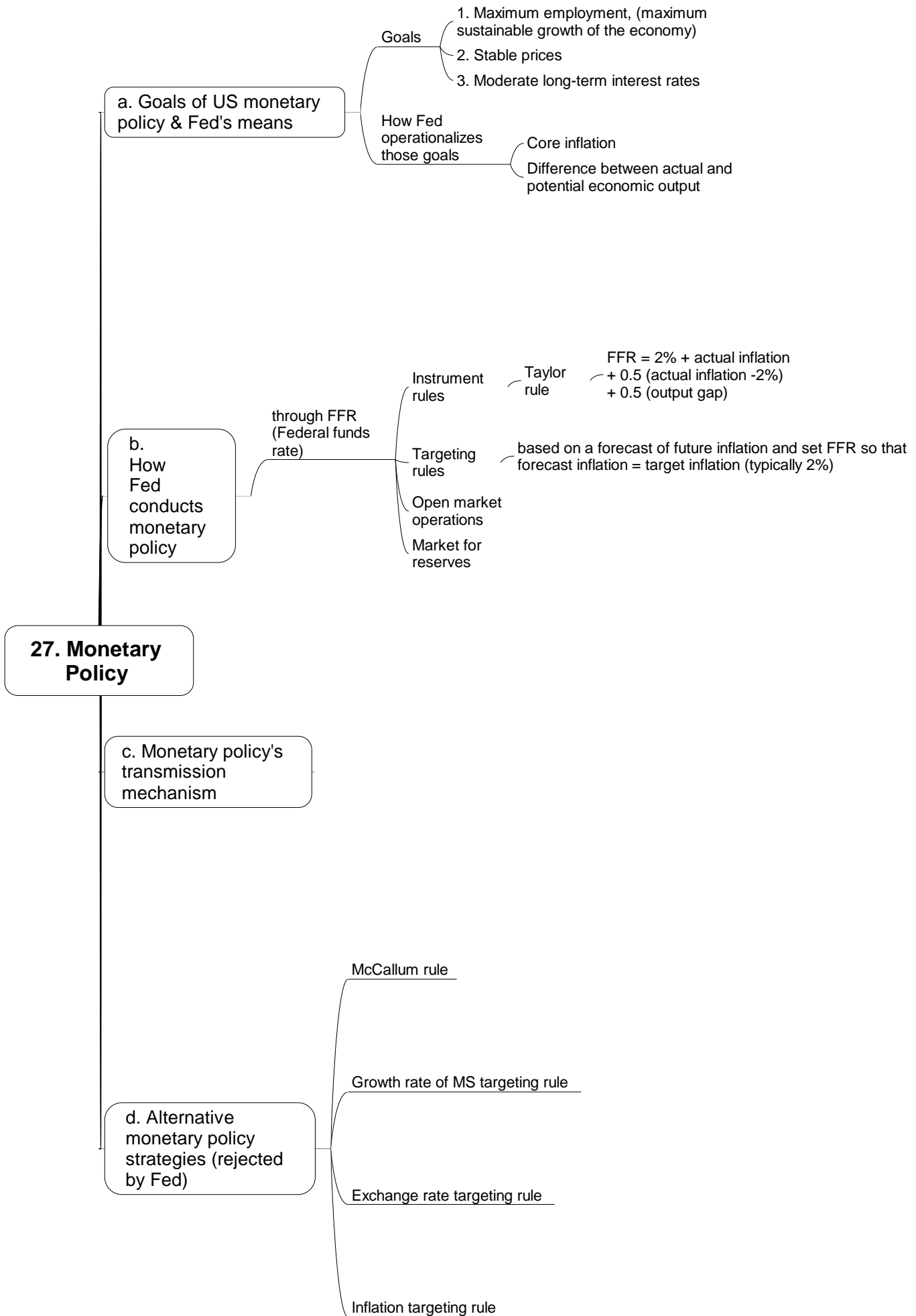
**26. Fiscal Policy**

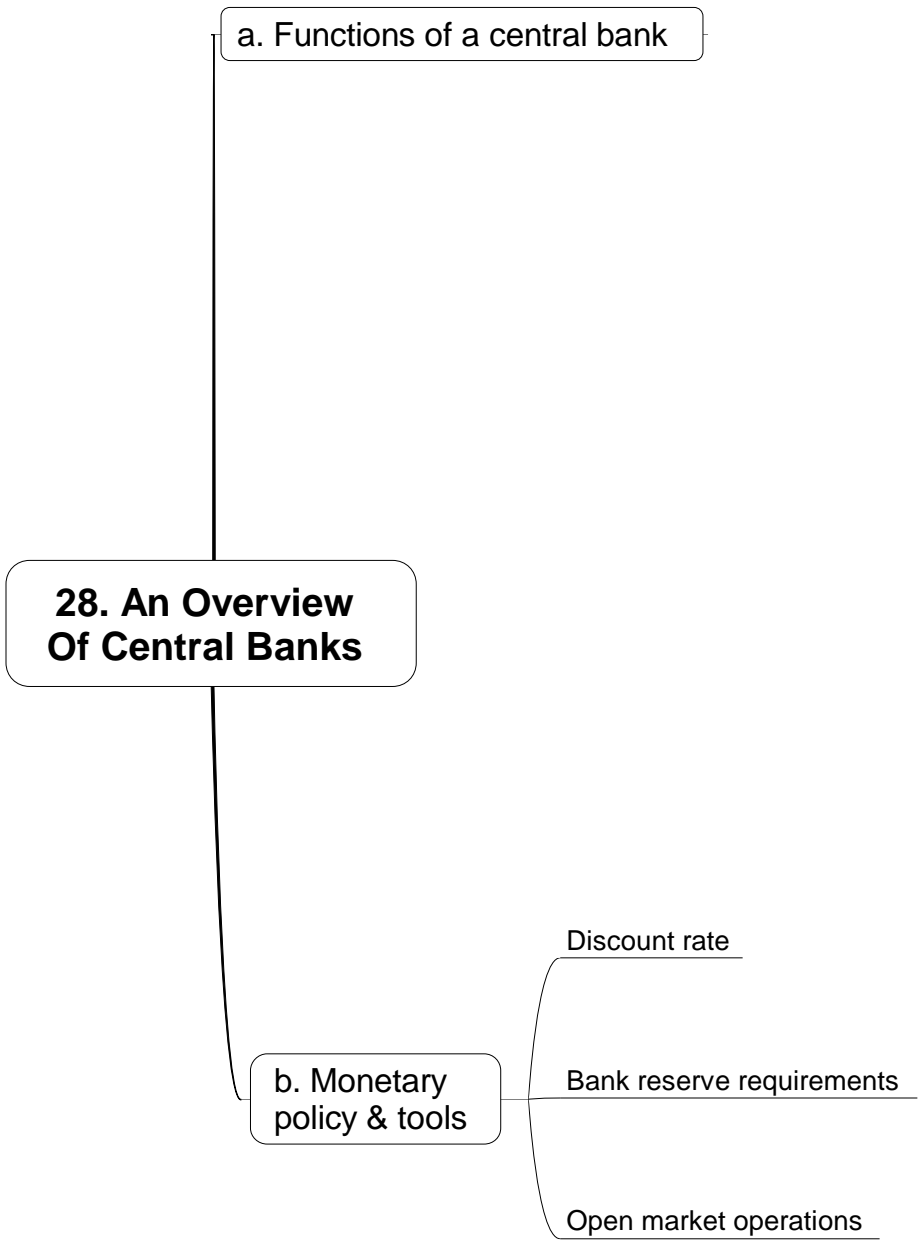
**d. Use of fiscal policy to stabilize the economy**

- Government spending — Government expenditure multiplier
- Taxes — Tax multiplier
- Balanced budget multiplier

**e. Discretionary fiscal policy**

- Limitations
  - Not exact science
  - Complications --> delays
    - Recognition delay
    - Administrative/law making delay
    - Impact delay
- # automatic stabilizers
  - Induced taxes
  - Needs-tested spending



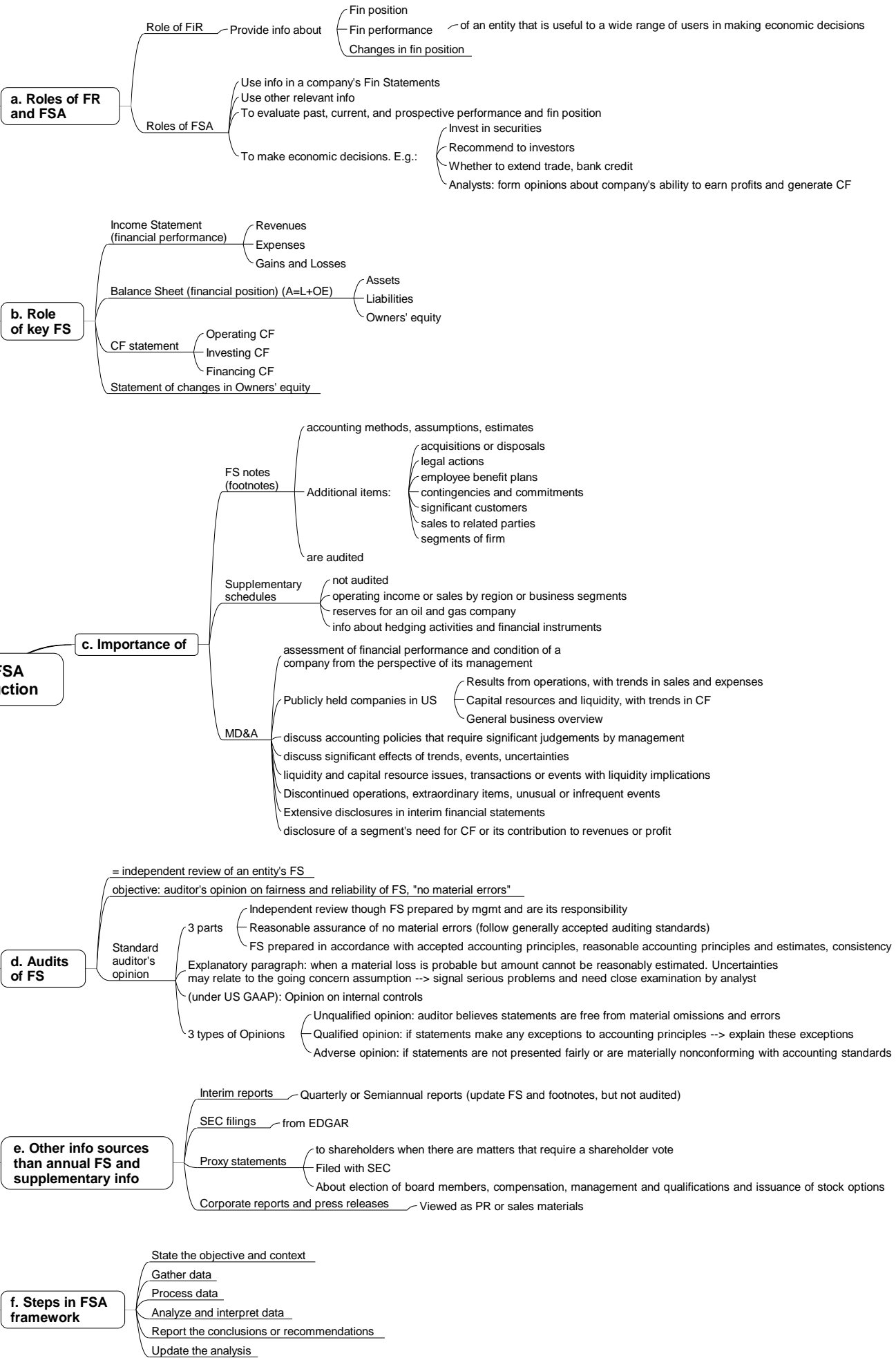


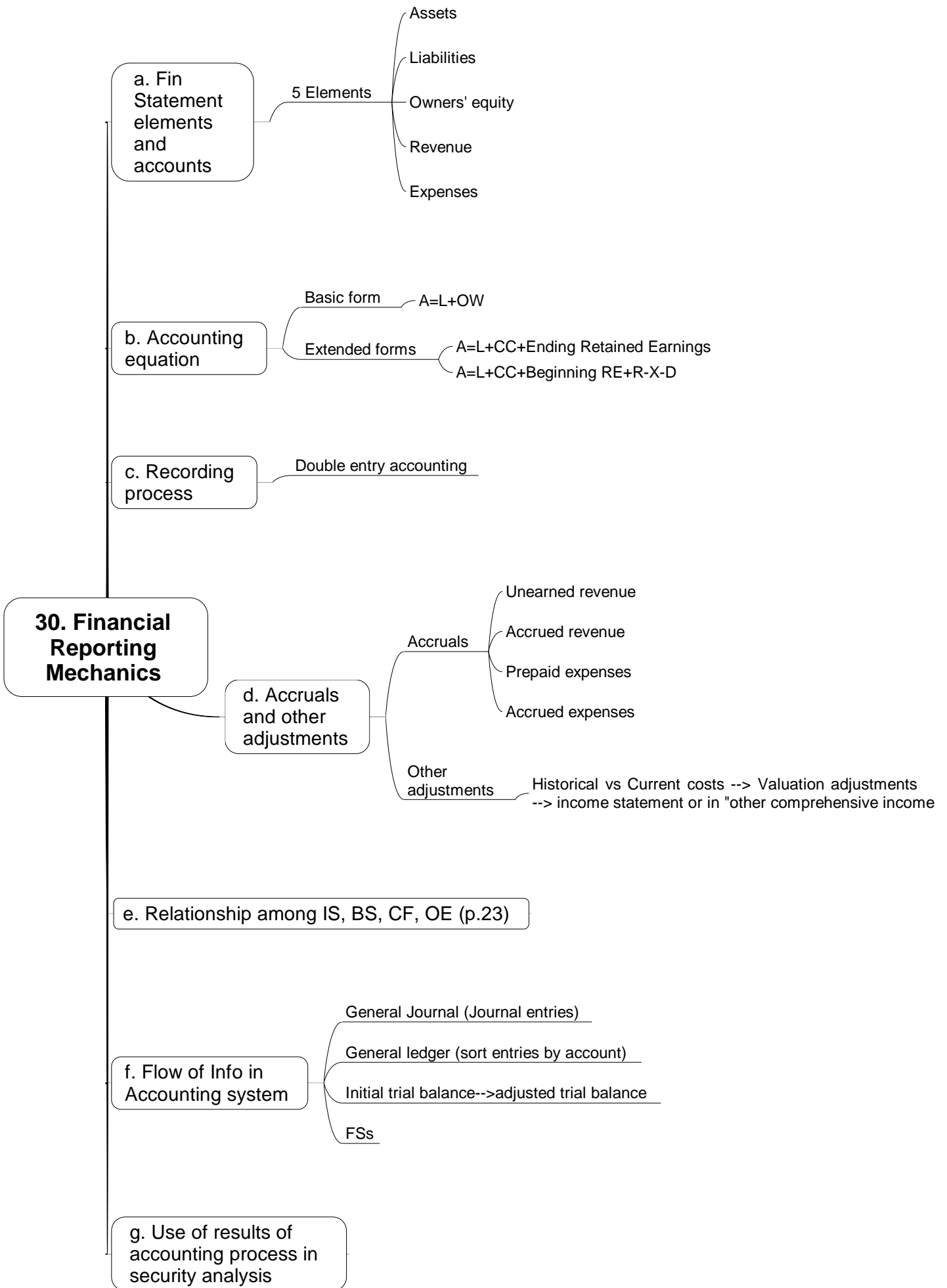
CFA LEVEL 1

STUDY SESSION 7,8,9,10

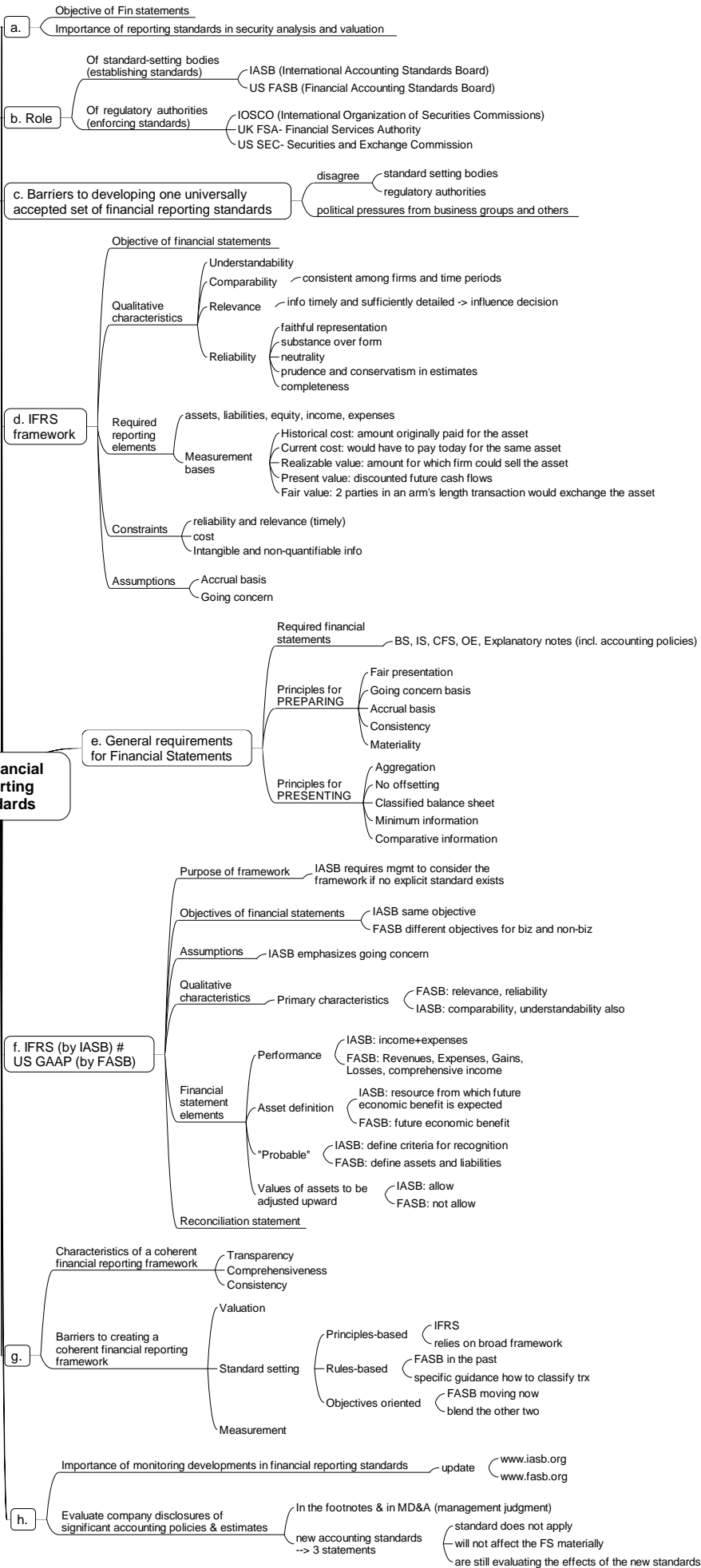
FRA

# 29. FSA Introduction

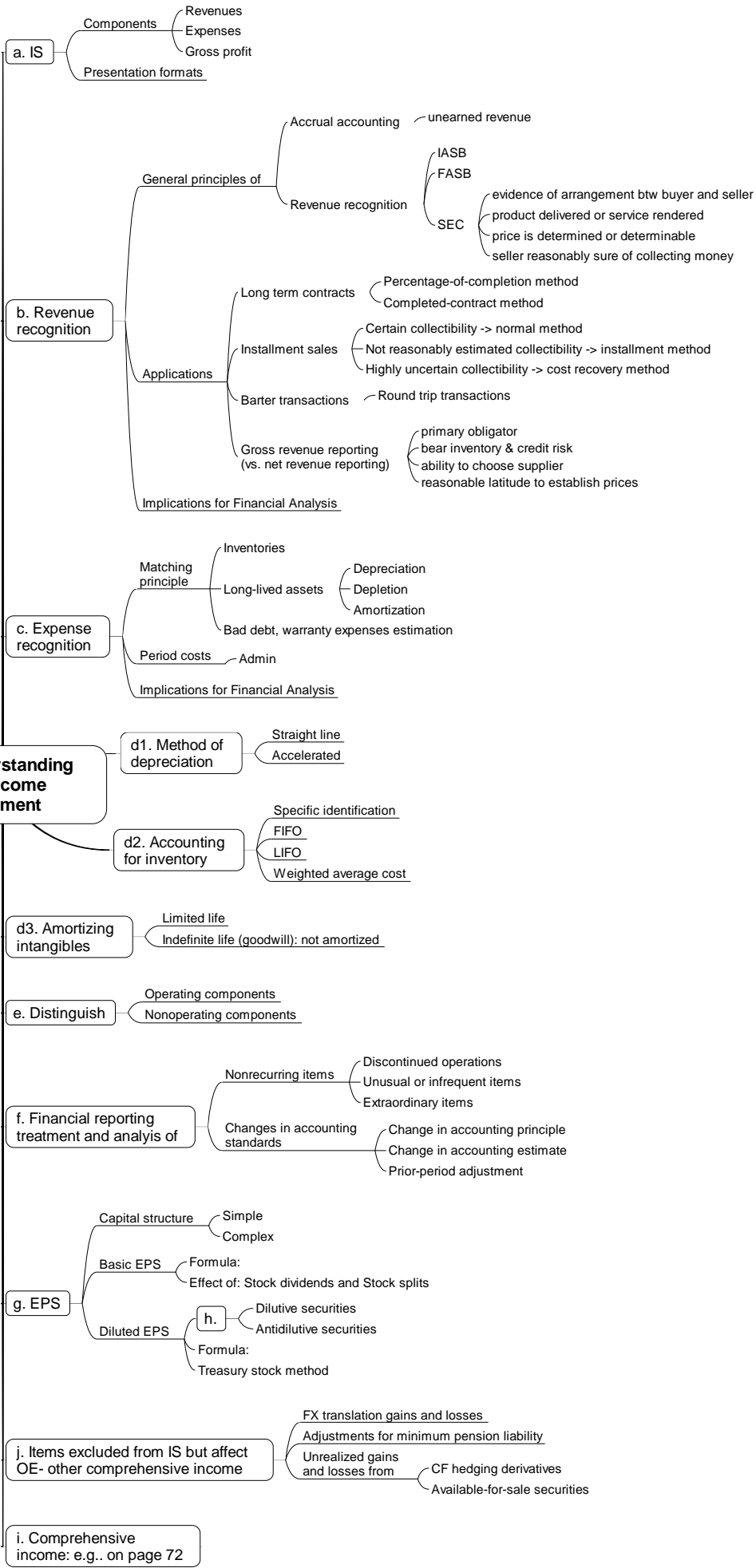




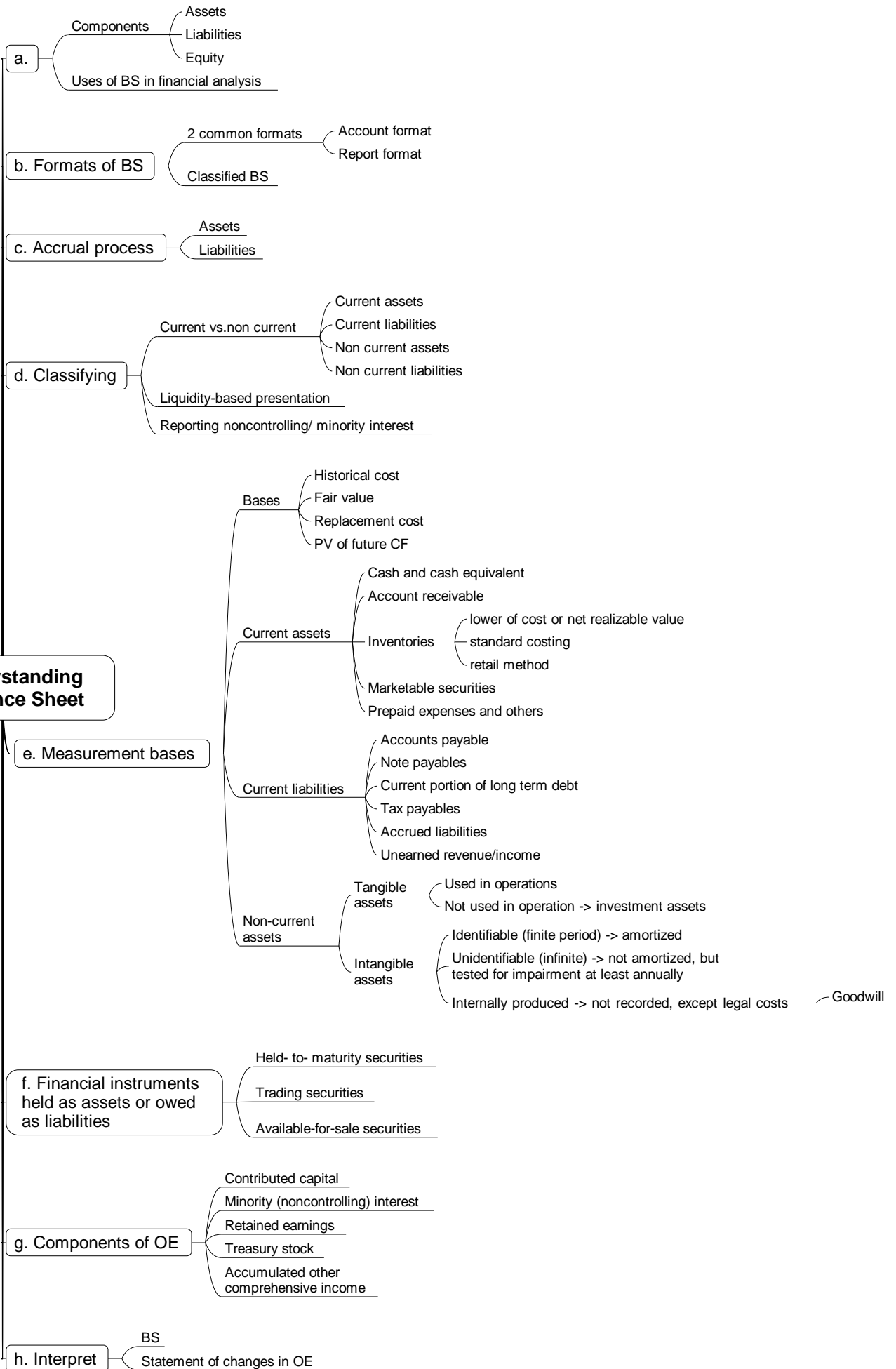
# 31. Financial Reporting Standards

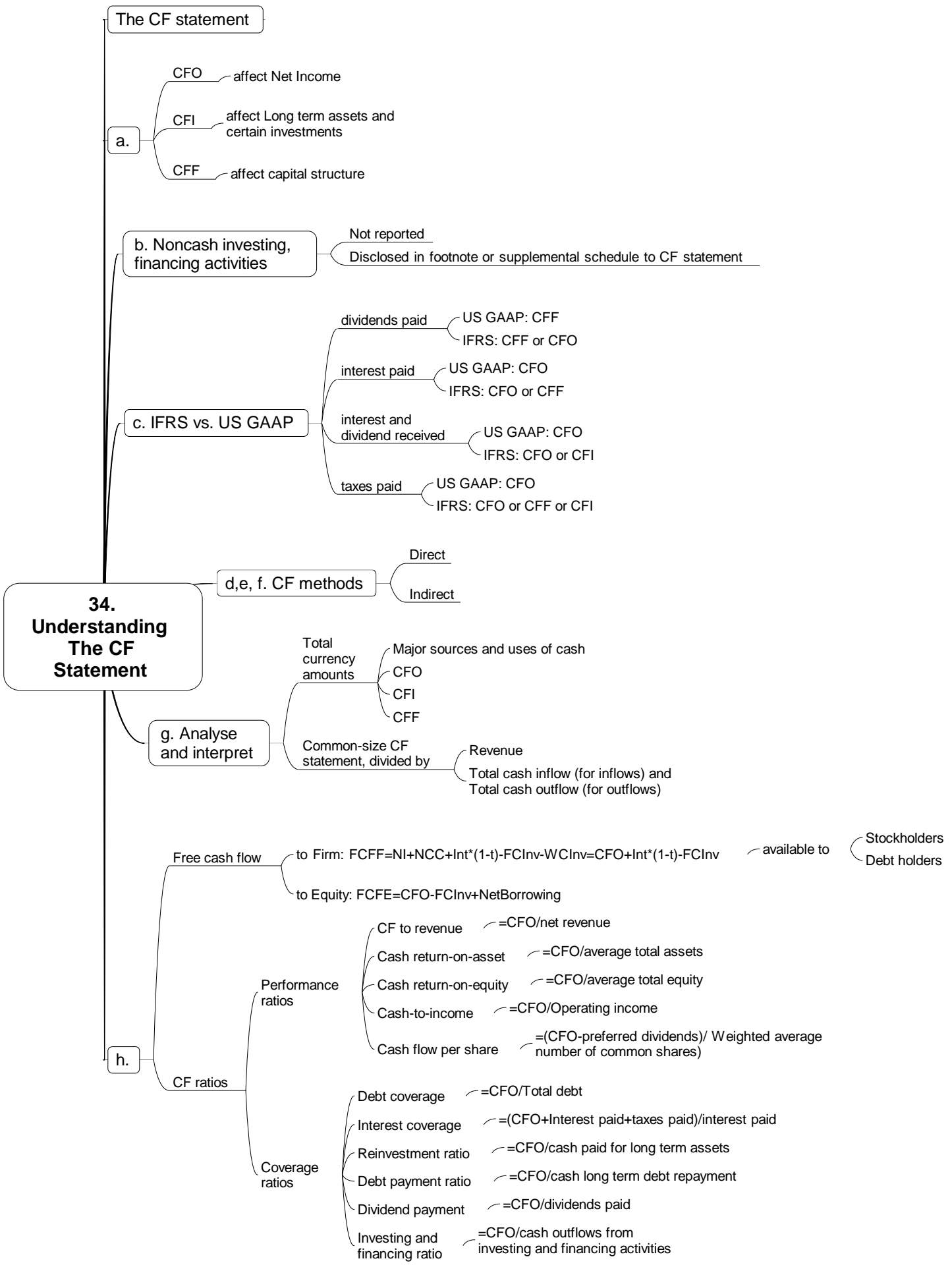


# 32. Understanding The Income Statement

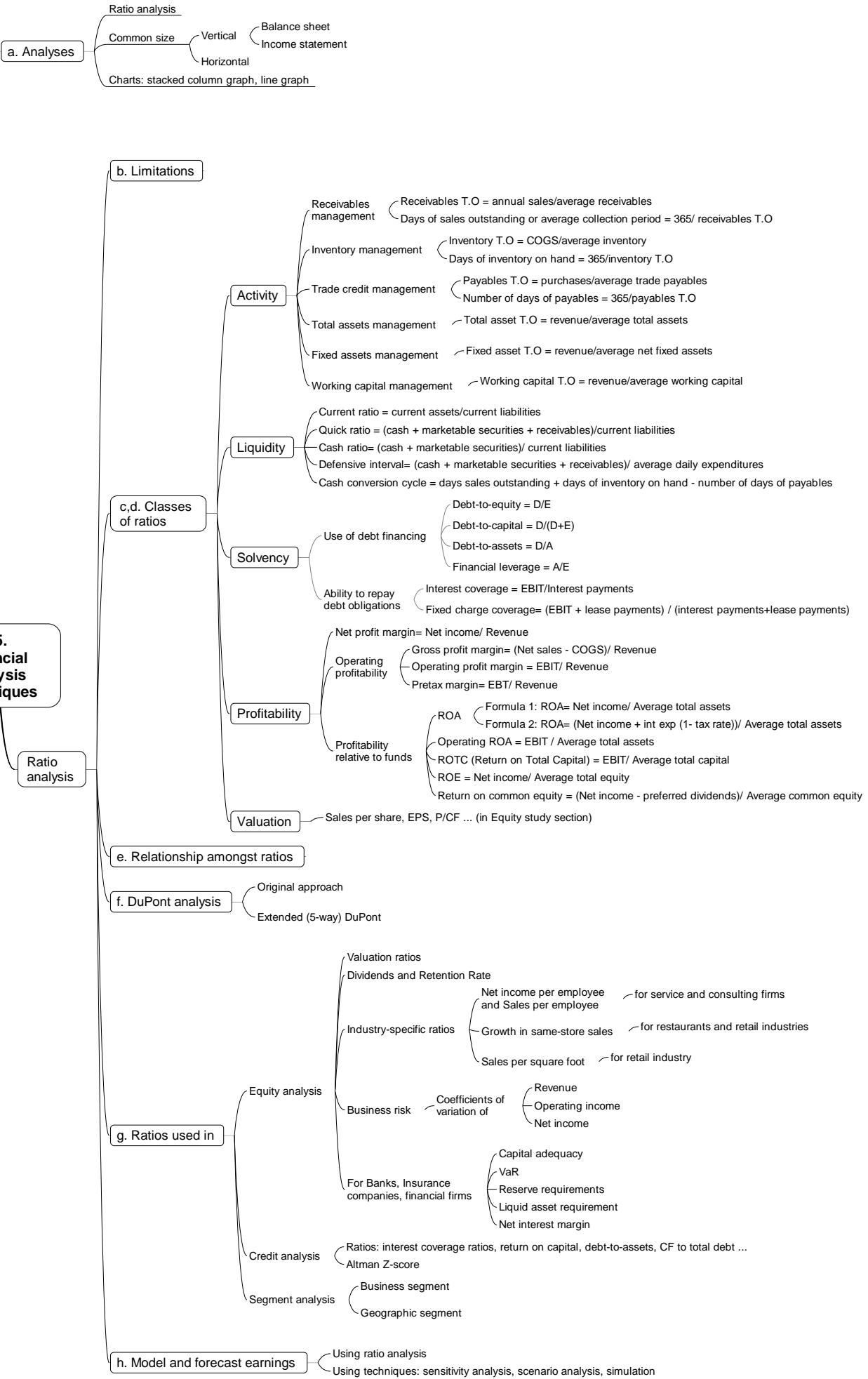


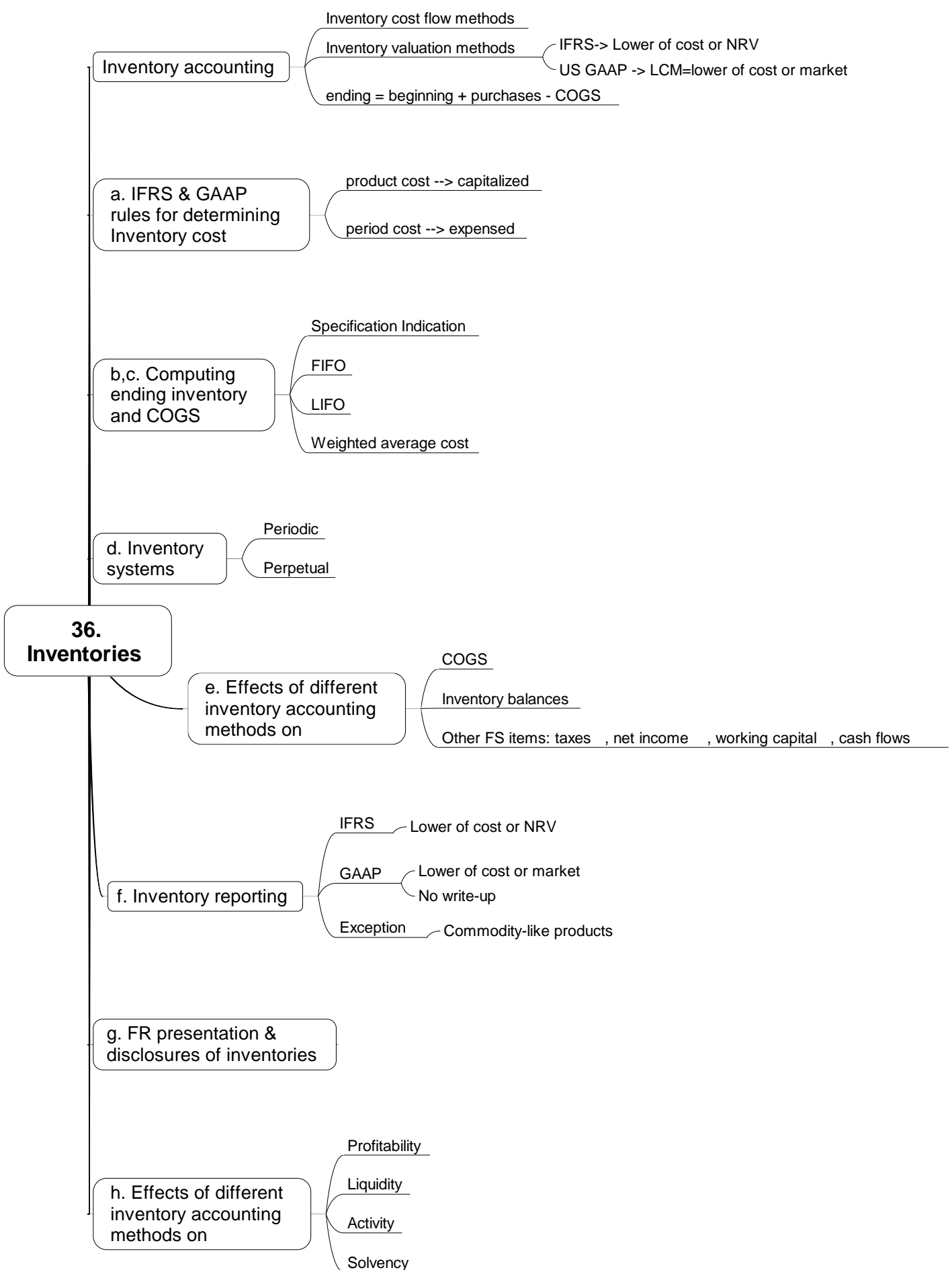
# 33. Understanding The Balance Sheet

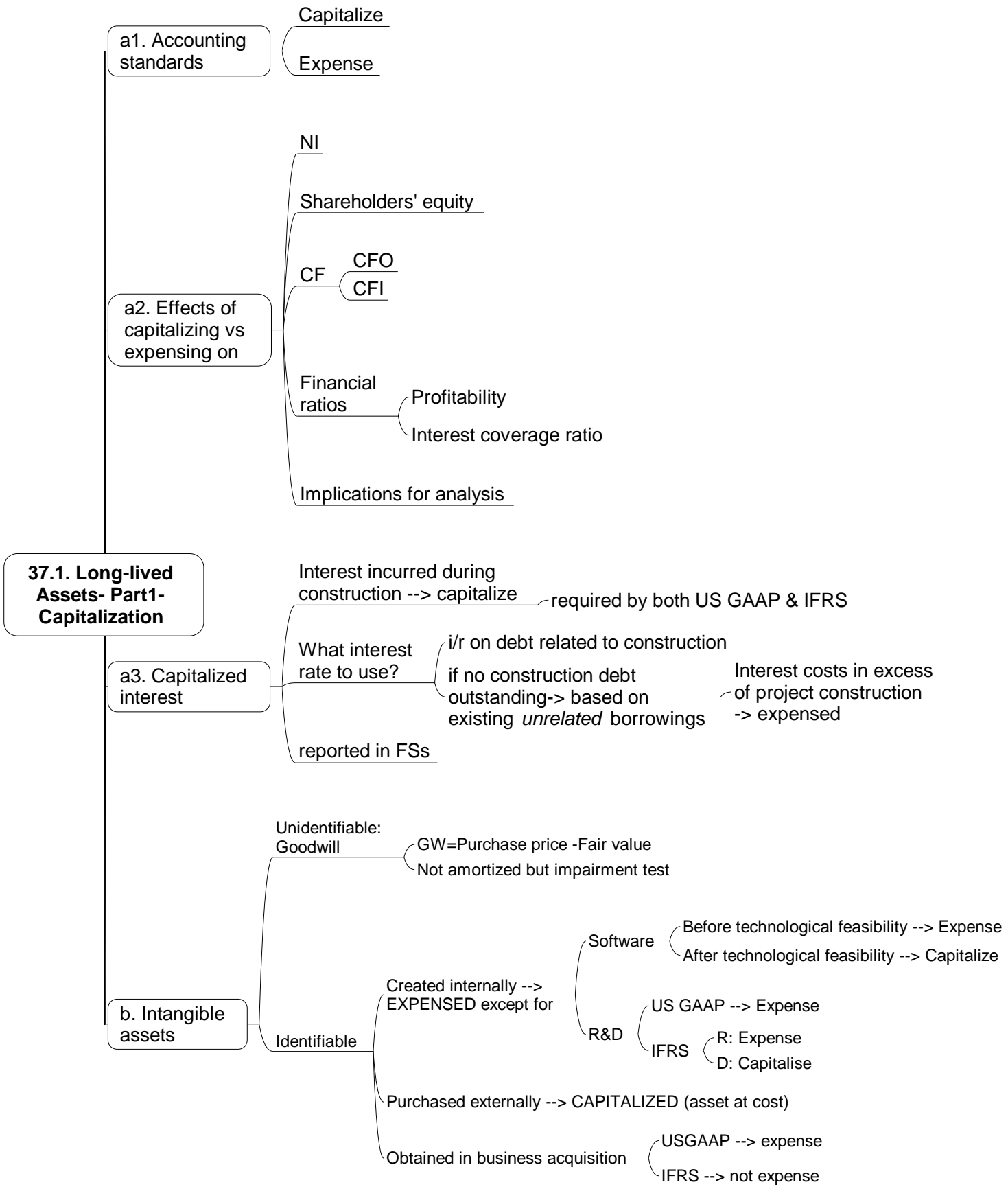




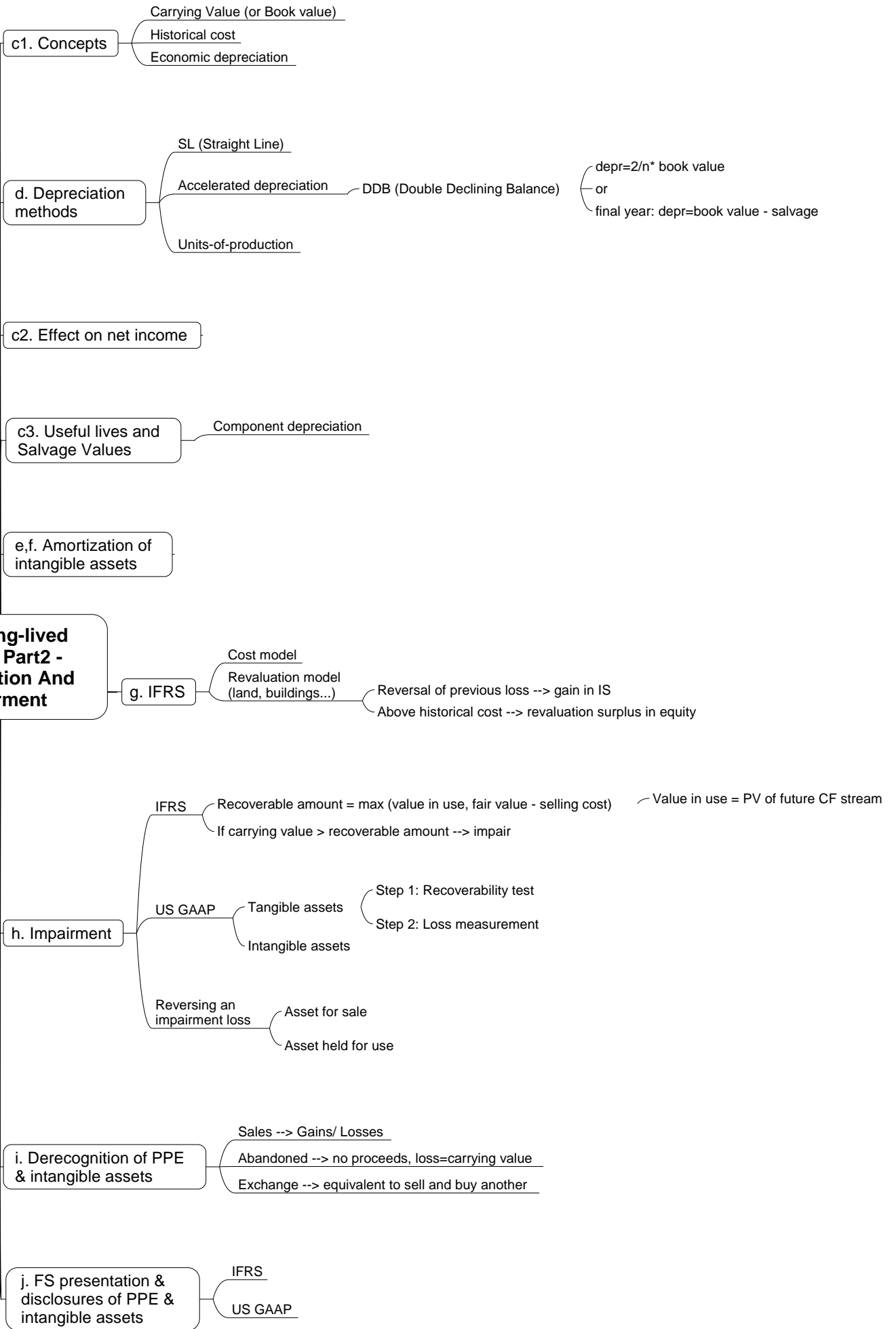
# 35. Financial Analysis Techniques





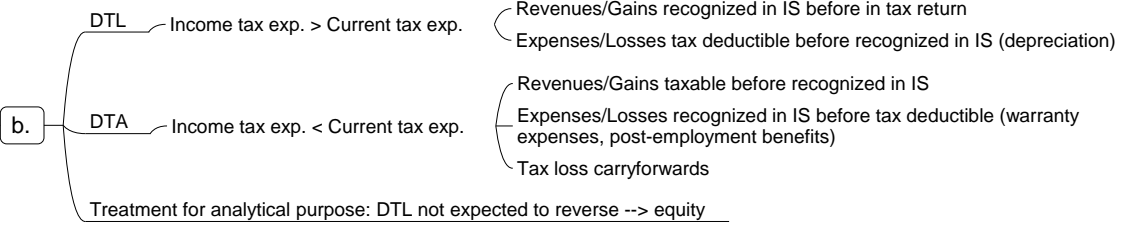
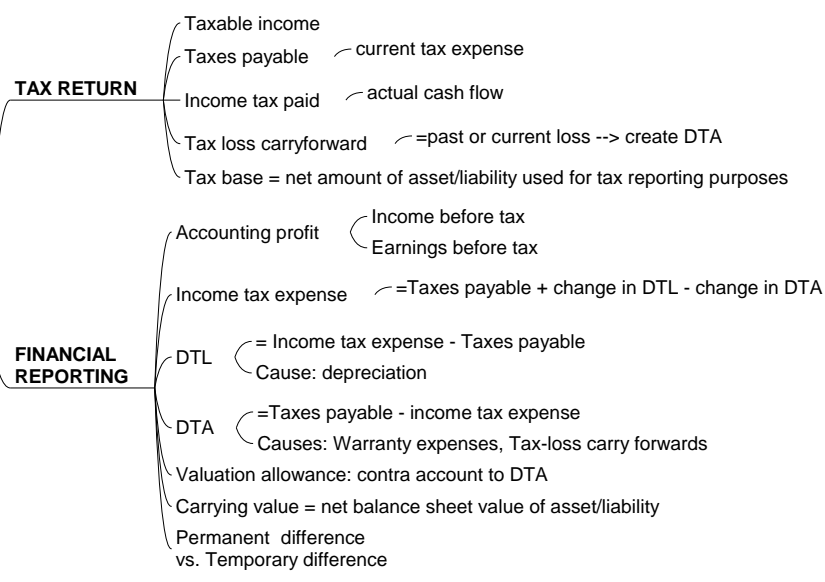


# 37.2. Long-lived Assets- Part2 - Depreciation And Impairment

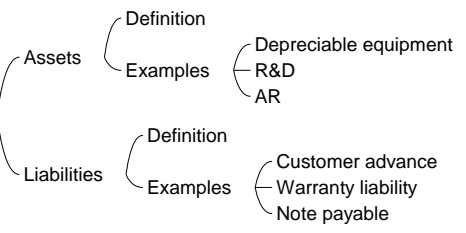


# 38. Income Taxes

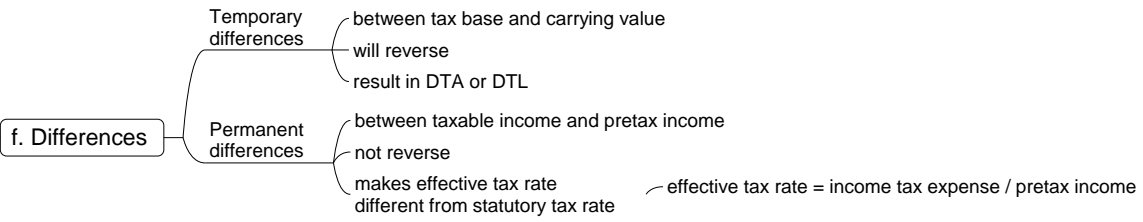
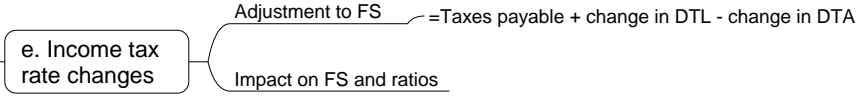
## a. Terminology



## c. Tax base of



## d. Calculation

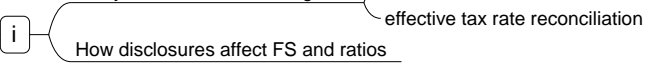


## g. Valuation allowance for DTA

>50% probability

## h. Deferred tax items

- Depreciation --> DTL (if reserve, if not --> equity)
- Impairments --> DTA
- Restructuring --> DTA
- LIFO, FIFO
- Post-employment benefits and deferred compensation --> DTA
- Unrealized gains/losses on available-for-sale marketable securities



## j. IFRS vs. US GAAP (see table in Schweser)

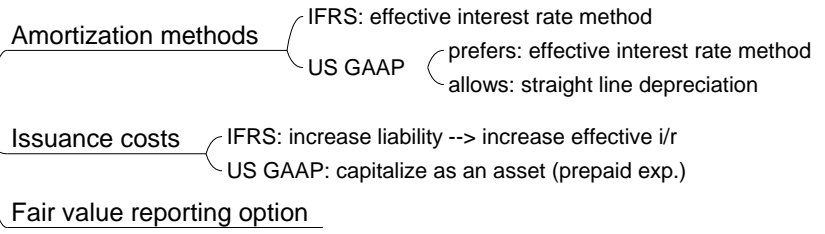
Bond terminology

a,b.  
Recognition  
&  
measurement



**39.1.  
Long-term  
Liabilities-  
Part1-  
Financing  
Liabilities**

b.

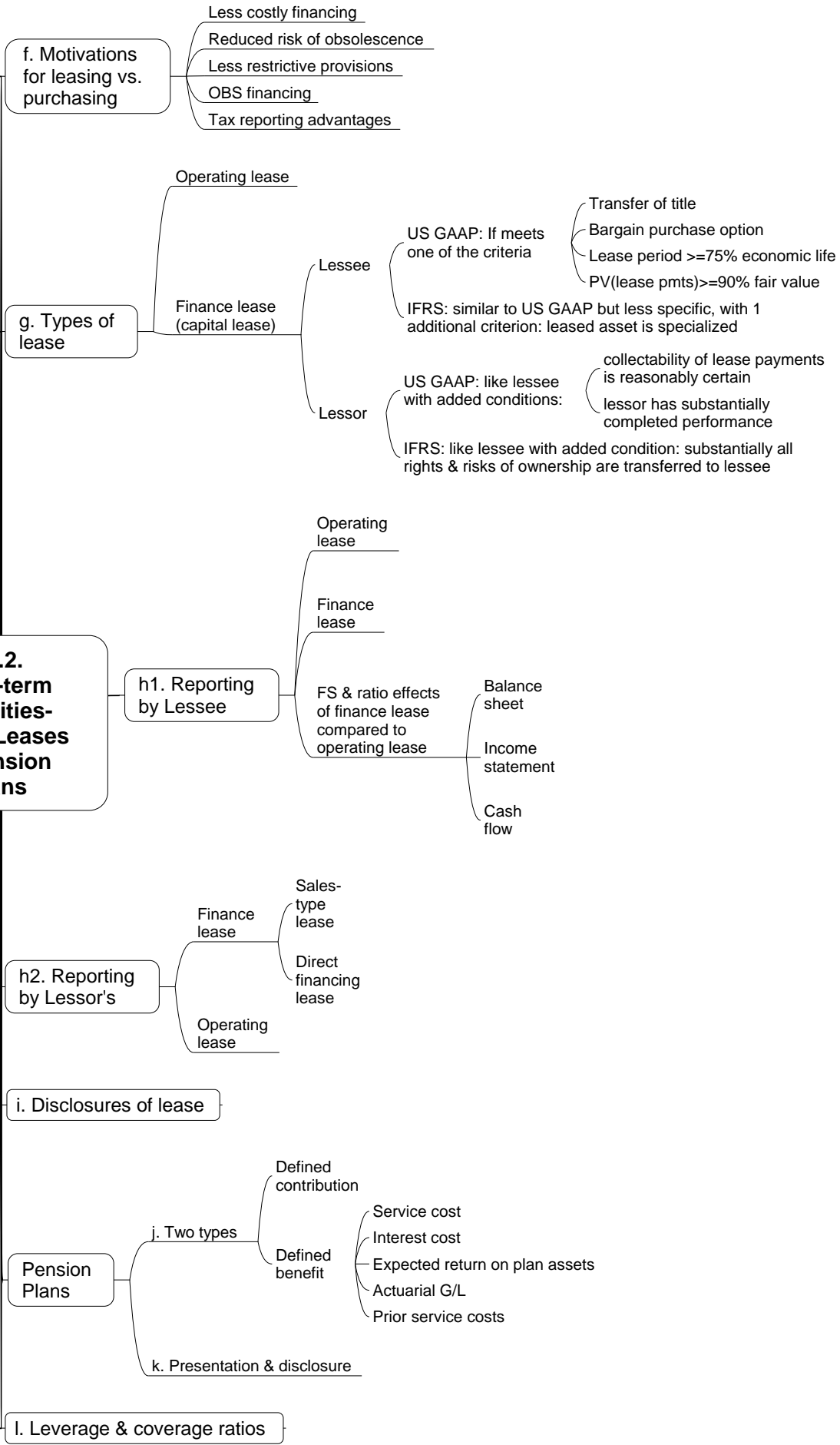


c. Derecognition of debt

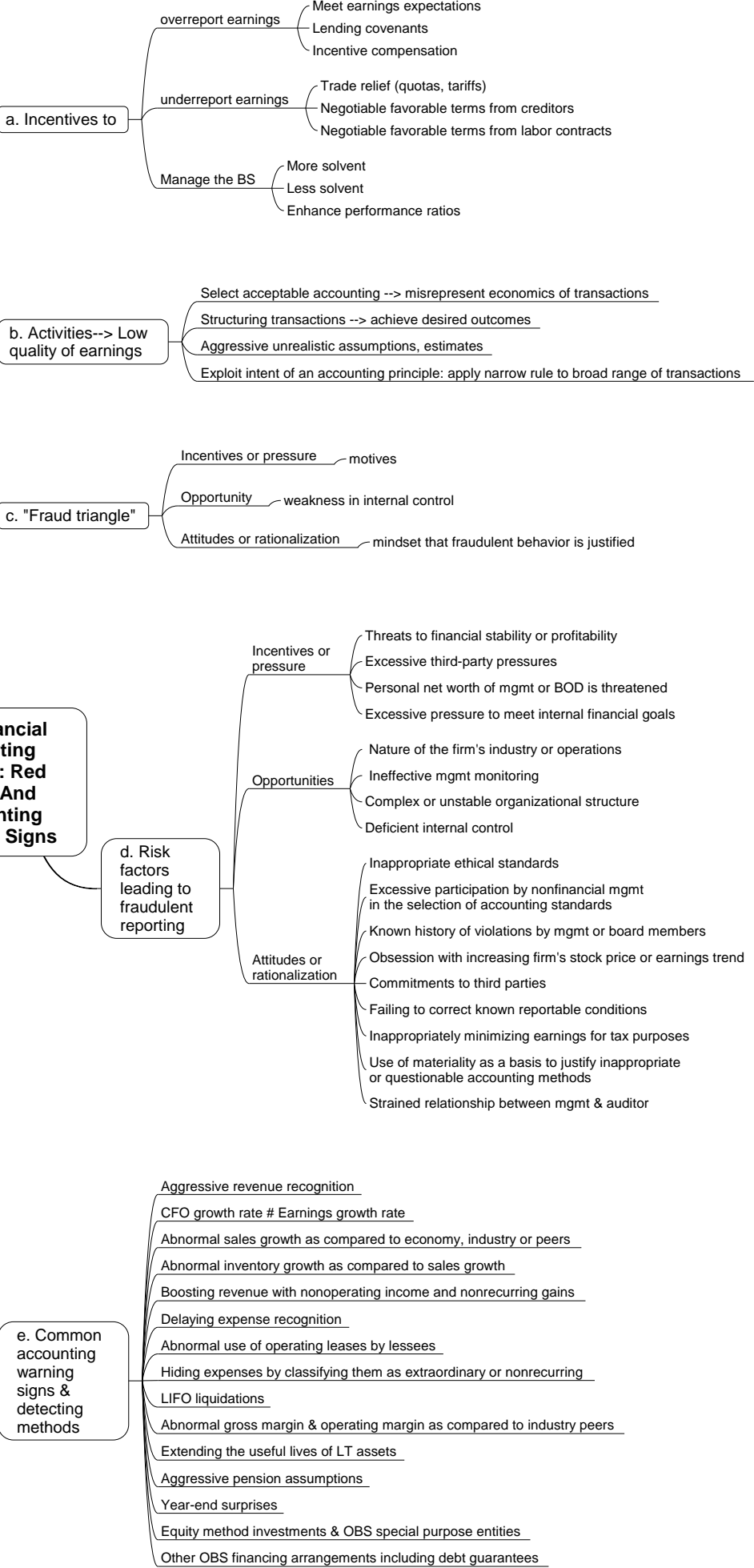
d. Debt covenants

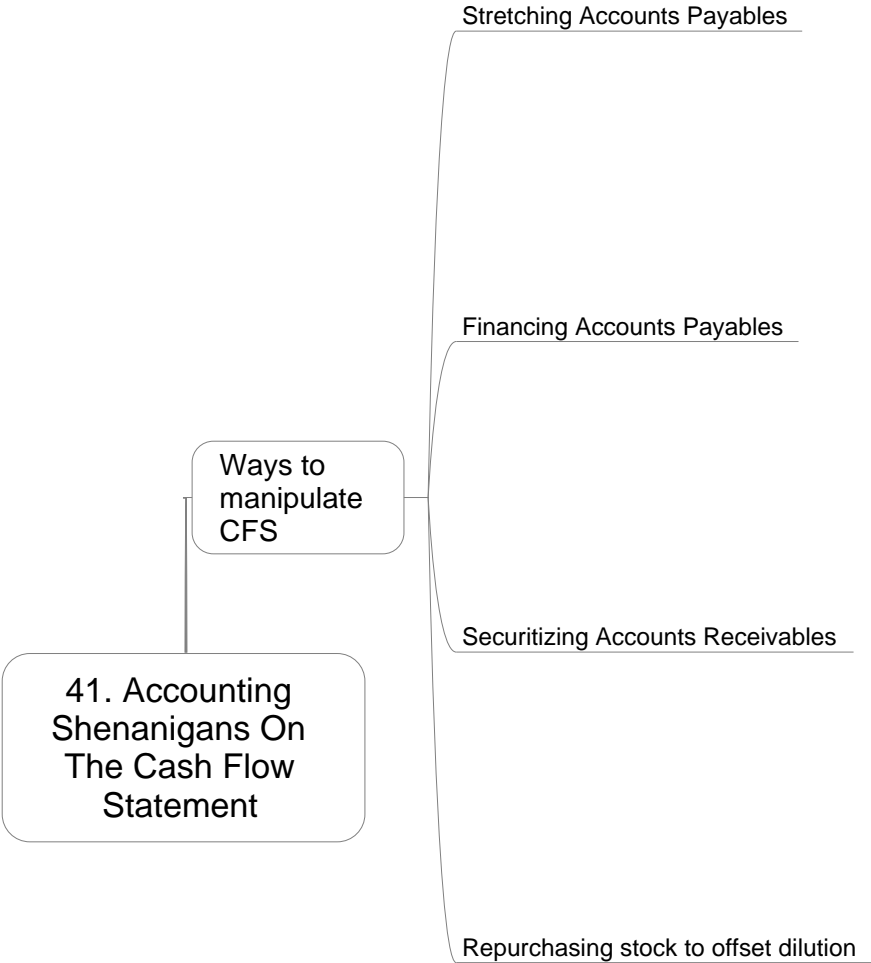
e. Presentation and disclosures

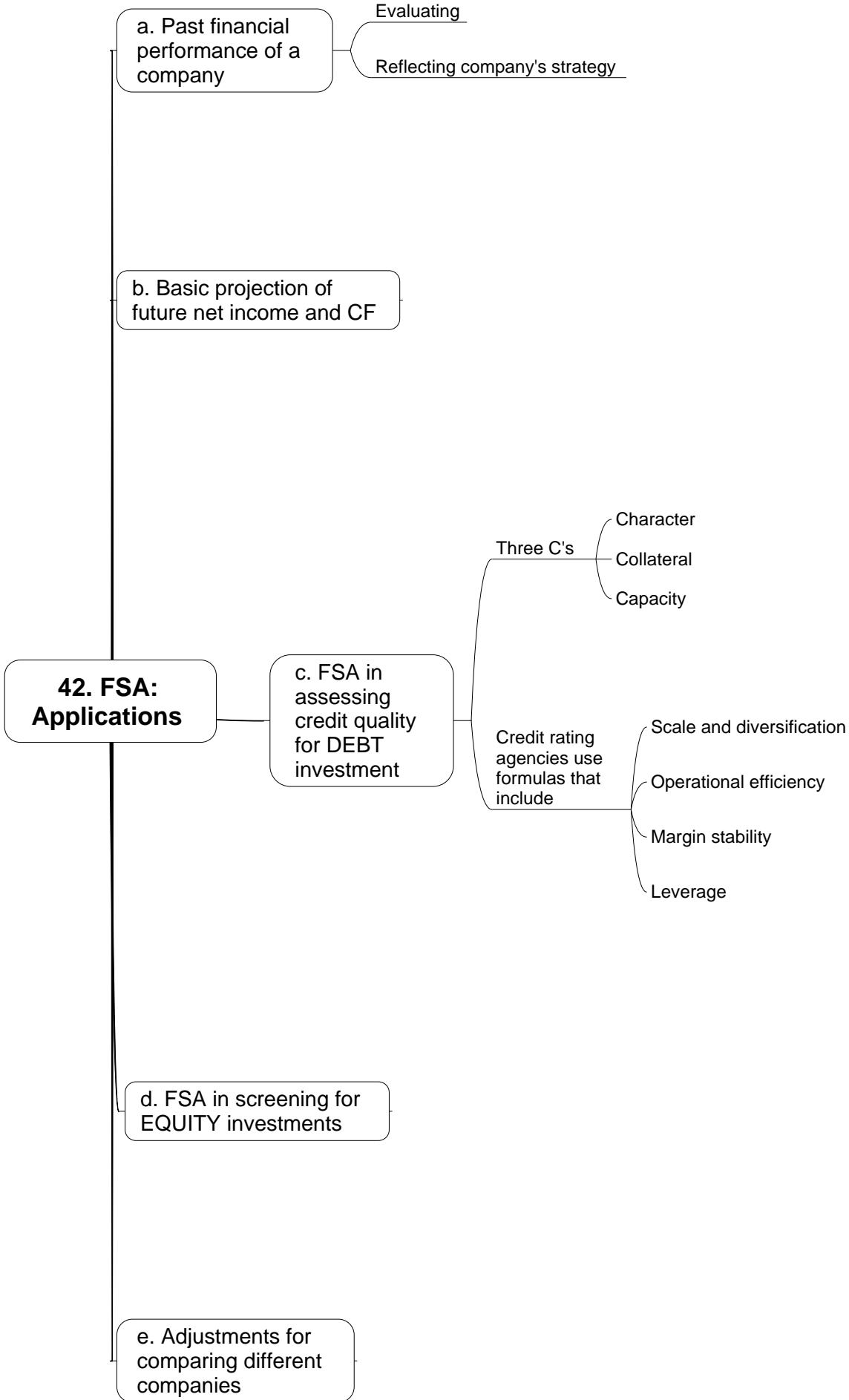
**39.2. Long-term Liabilities- Part2- Leases & Pension Plans**



# 40. Financial Reporting Quality: Red Flags And Accounting Warning Signs







# 43. International Standards Convergence

## a. Standards for **Asset** and **Liability** in Balance sheet

- Marketable investment securities
  - Held-to-maturity
  - Trading (IFRS: "held-for-trading")
  - Available-for-sale
- Inventory
- Property and Equipment
- Intercorporate investments
- Goodwill
- Identifiable intangible assets
- Provisions

## b. Standards for **Revenue** and **Expense** in Income statement

- Construction contracts
- COGS
- Operating expenses
- Depreciation
- Interest expense
- Income taxes
- Nonrecurring items

## c. Standards for **Interest** and **Dividends** on CF statement

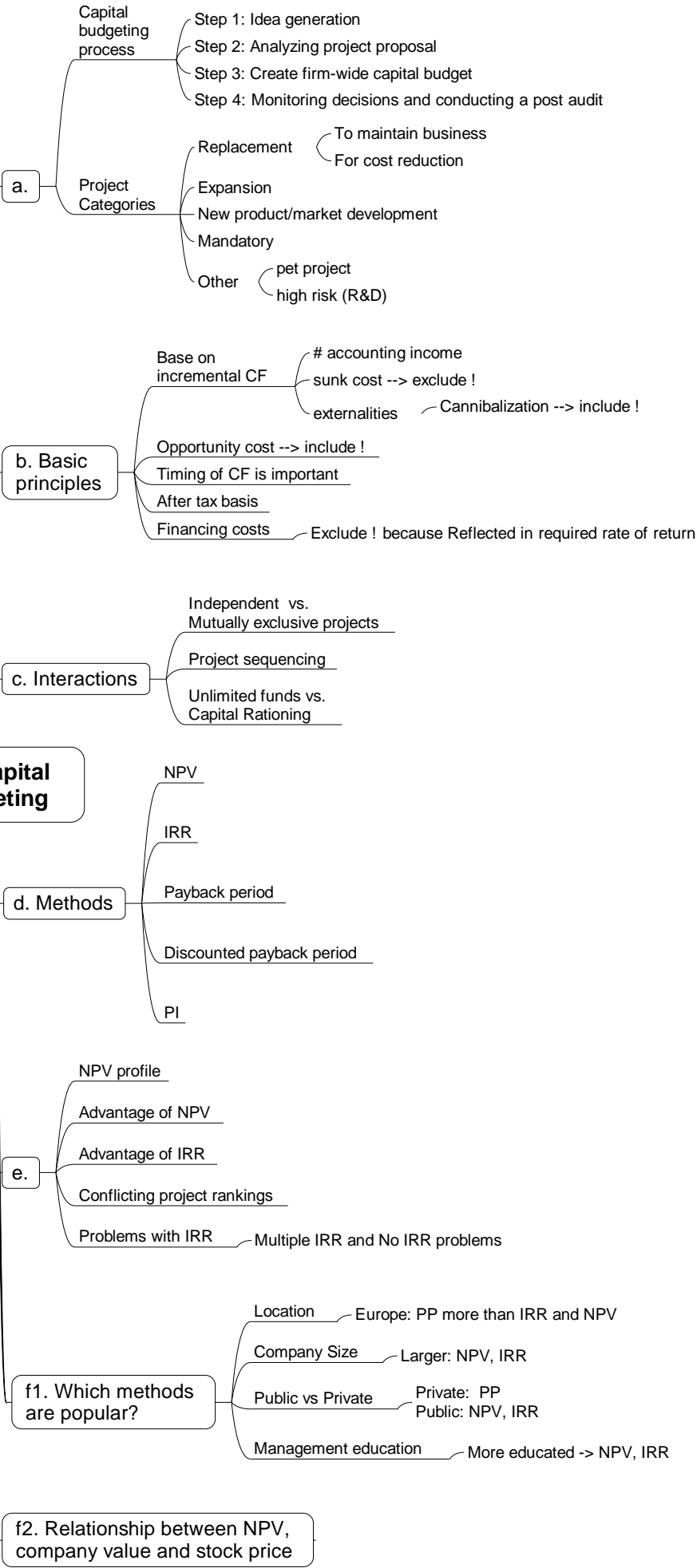
## d. Effects of differences

CFA LEVEL 1

STUDY SESSION 11

**CORPORATE  
FINANCE**

# 44. Capital Budgeting



f2. Relationship between NPV, company value and stock price

# 45. Cost Of Capital

## WACC

a,b. Formula & tax effects:

c. Weights = Target capital structure (Market values)

If lack information -->

use Current capital structure + Trend or use Industry average

f. Cost of fixed rate debt

Yield to maturity approach  
Debt rating approach

g. Cost of preferred stocks (noncallable, non convertible)

h. Cost of equity capital --> 3 approaches

### CAPM

Formula:

i. Pure-play method to calculate beta of a project

j. Country equity risk premium  
CRP =

$$\text{Sovereign yield spread} \times (\text{stddev equity} / \text{stddev bond})$$

Dividend Discount Model

$$g = \text{retention rate} \times \text{ROE}$$

Bond yield plus risk premium approach

## MCC

e. Role of MCC in NPV

Discount rate

=WACC if project same risk level

Assumption: same capital structure over the life of project

k. MCC schedule

Upward sloping with additional capital

Breakpoints

d. Optimal capital budget

MCC & Investment opportunity schedule

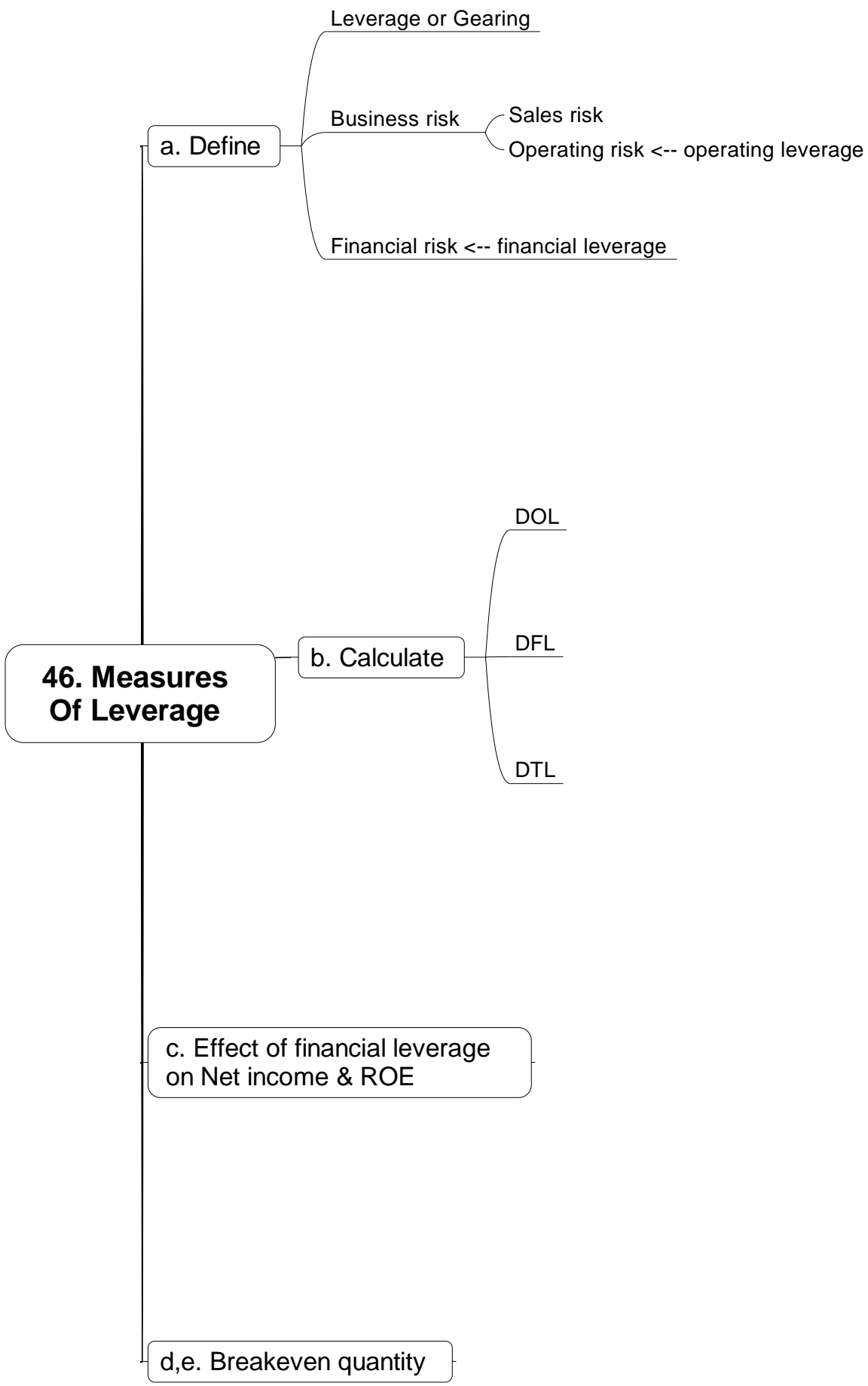
l. Treatment of Flotation cost

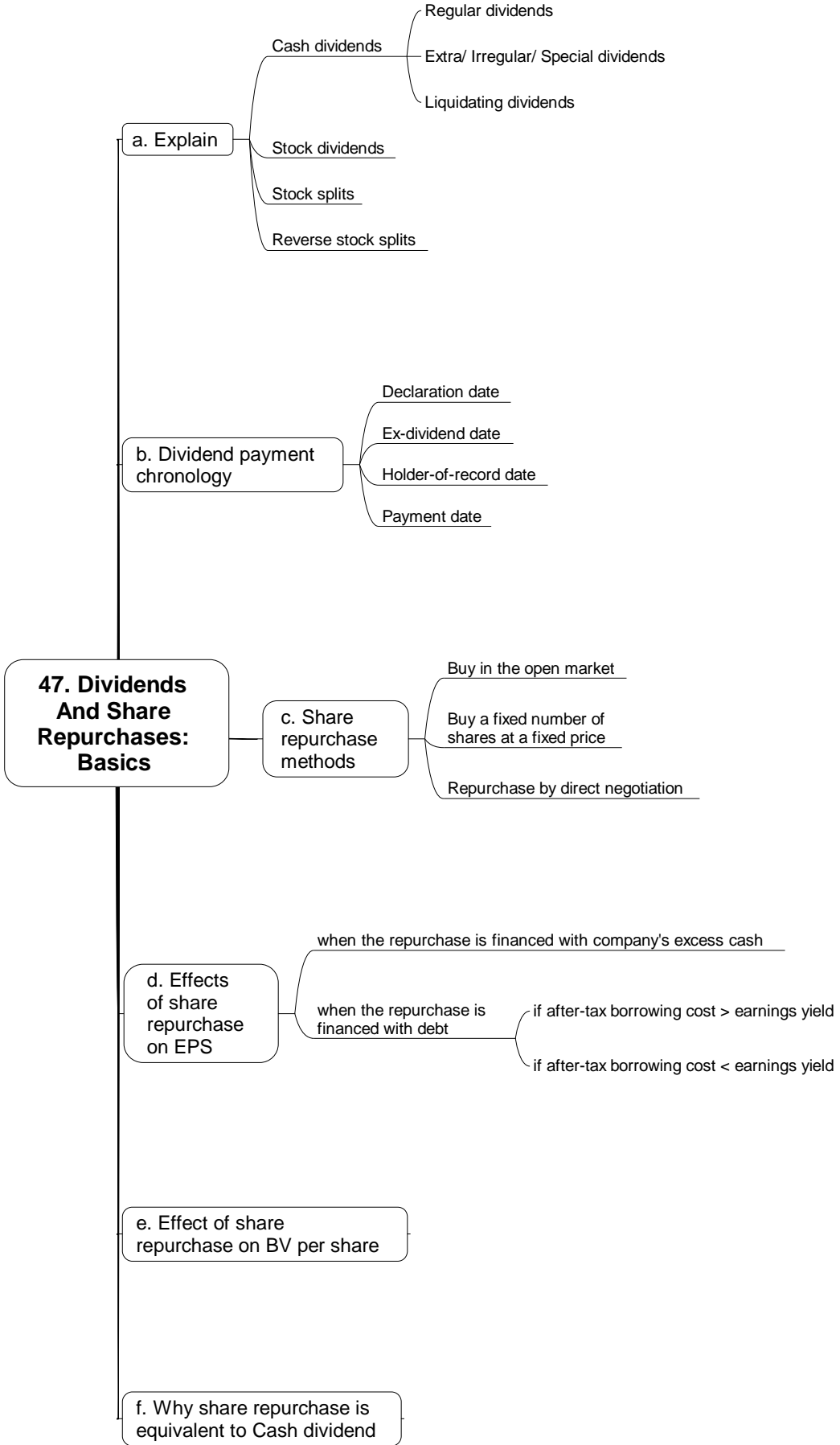
Incorrect

adjust cost of equity

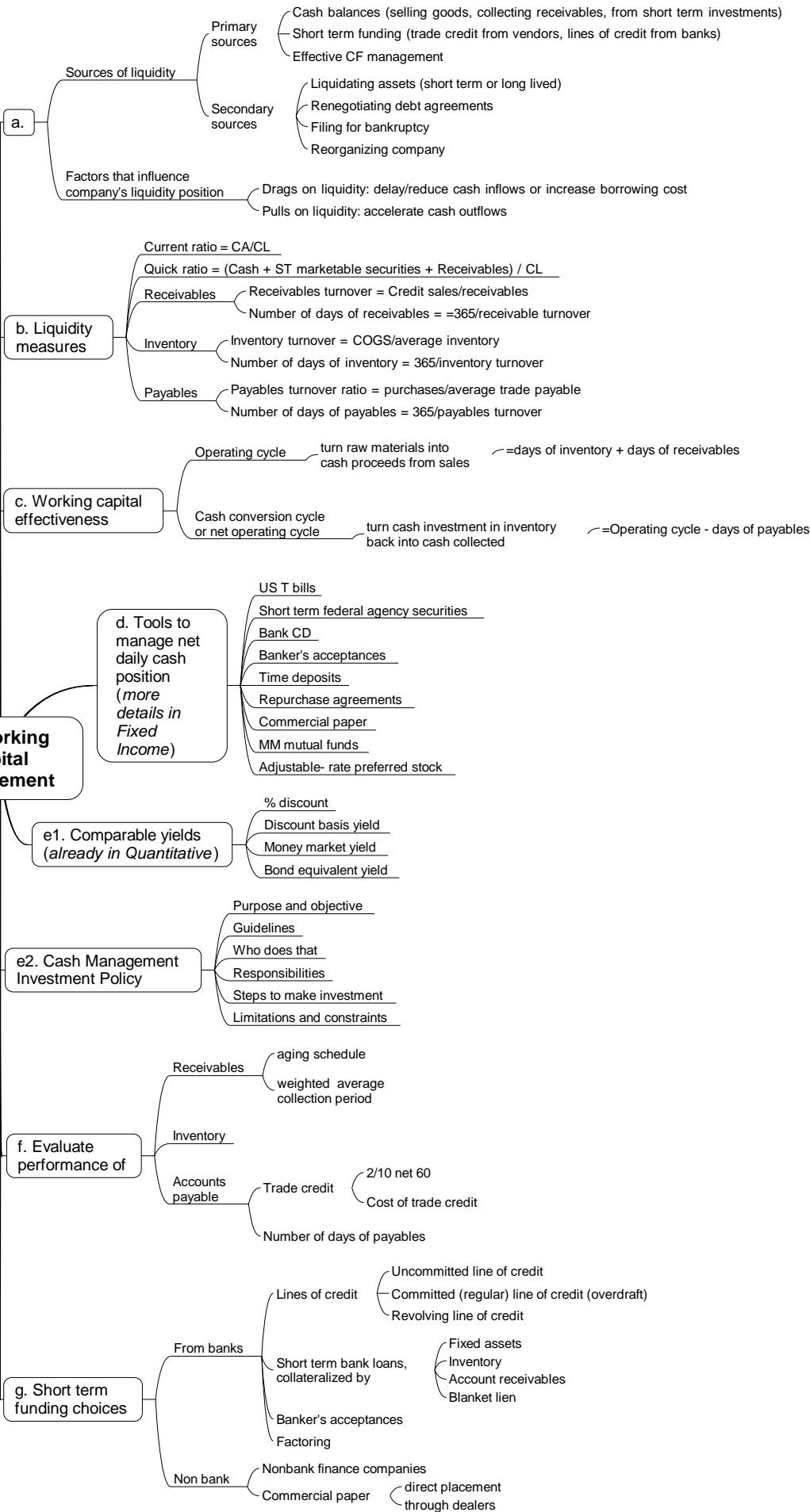
Correct

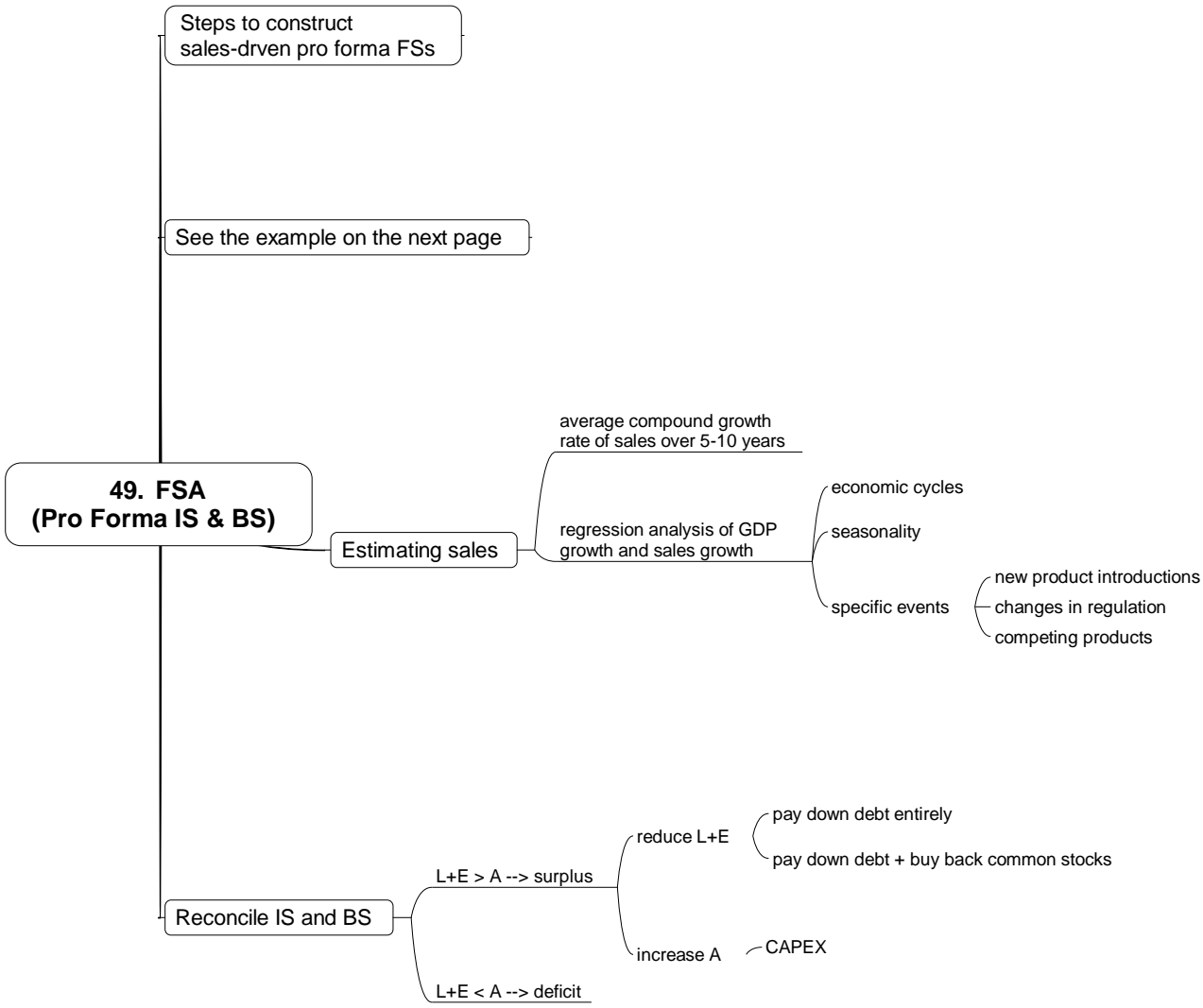
adjust initial project cost





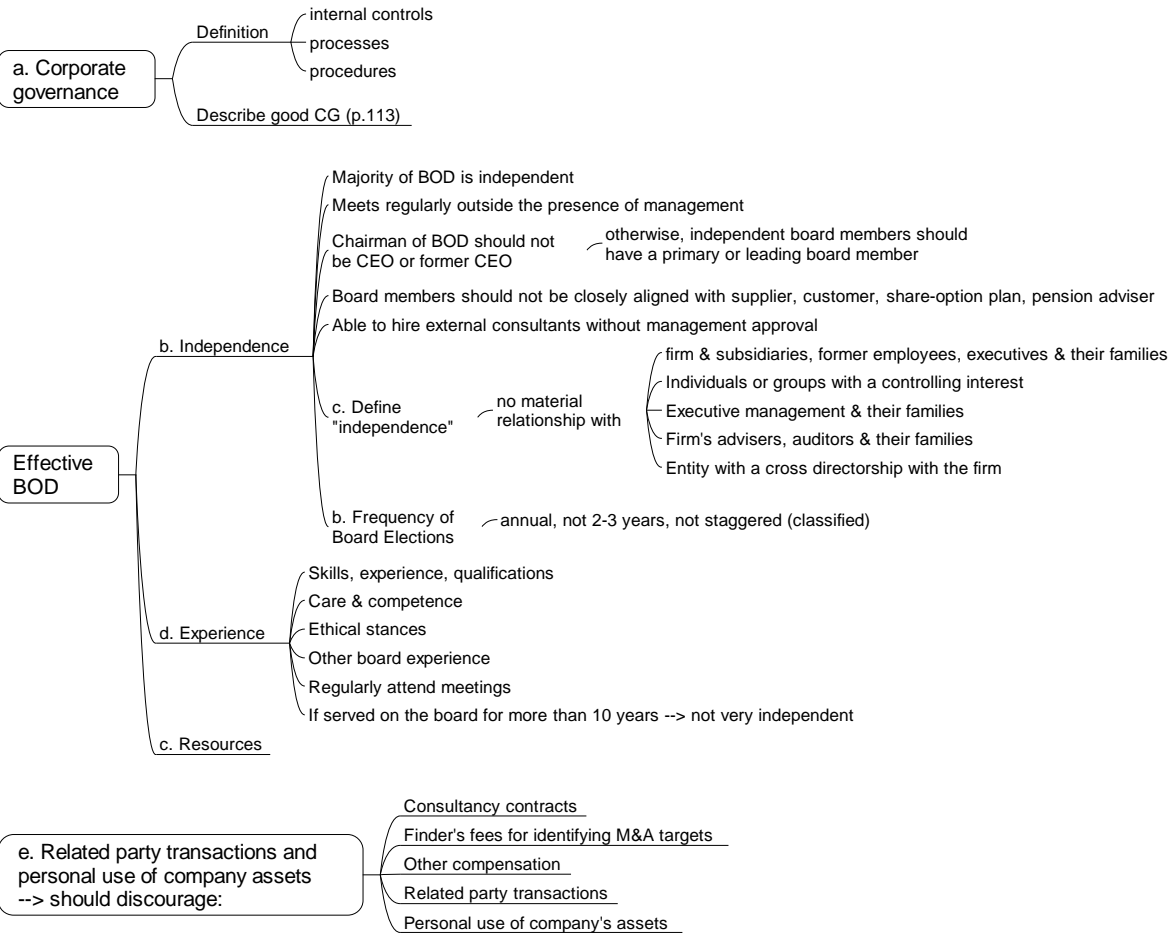
# 48. Working Capital Management



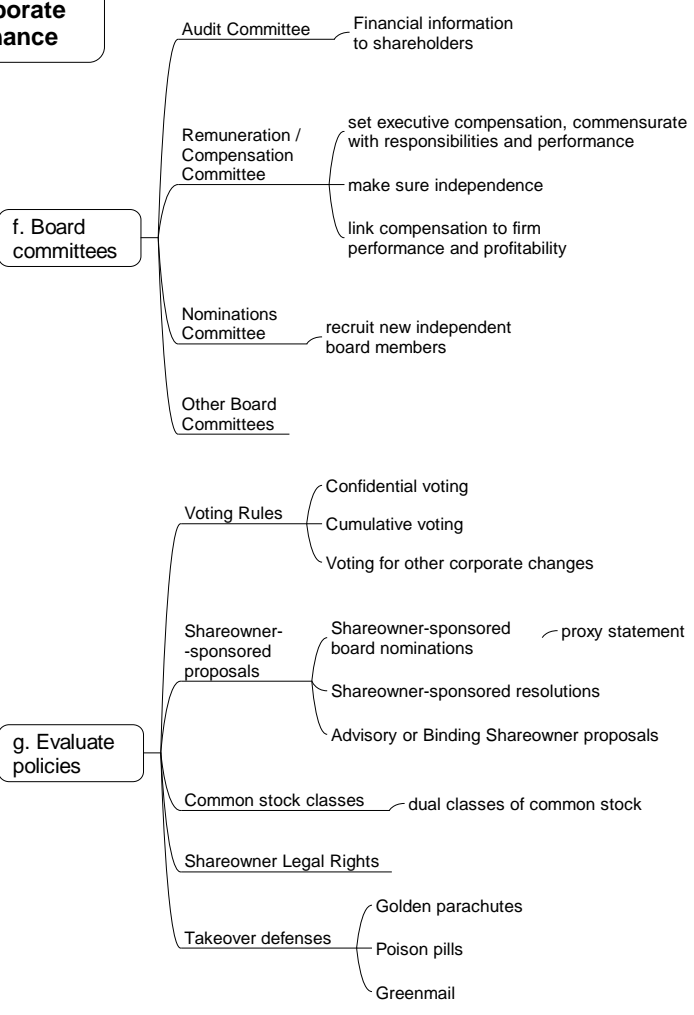


## 49. CONSTRUCTING PRO-FORMA FINANCIAL STATEMENTS

(\$ thousands)	Yr 2010	Proportional to sales	Yr 2011
<b>INCOME STATEMENT</b>			
Sales	23,405.0		sales projected to increase 5%
Cost of goods sold	9,876.9	42.2%	
SG&A	6,857.7	29.3%	
Interest expense (7%)	1,008.0		
Nonoperating income	93.6	0.4%	
<b>Earnings before tax</b>	<b>5,756.0</b>		
Income tax (31.4%)	1,807.4		
<b>Net income</b>	<b>3,948.6</b>		
Dividends (30%)	1,184.6		
Retained earnings	2,764.1		
<b>BALANCE SHEET</b>			
Current assets	9,362.0	40.0%	
Net PPE	25,745.5	110.0%	
<b>Total assets</b>	<b>35,107.5</b>		
Current liabilities	3,978.9	17.0%	
Long-term debt	14,400.0		
Common stock	3,000.0		
Retained earnings	13,728.7		
<b>Total liabilities+equity</b>	<b>35,107.5</b>		



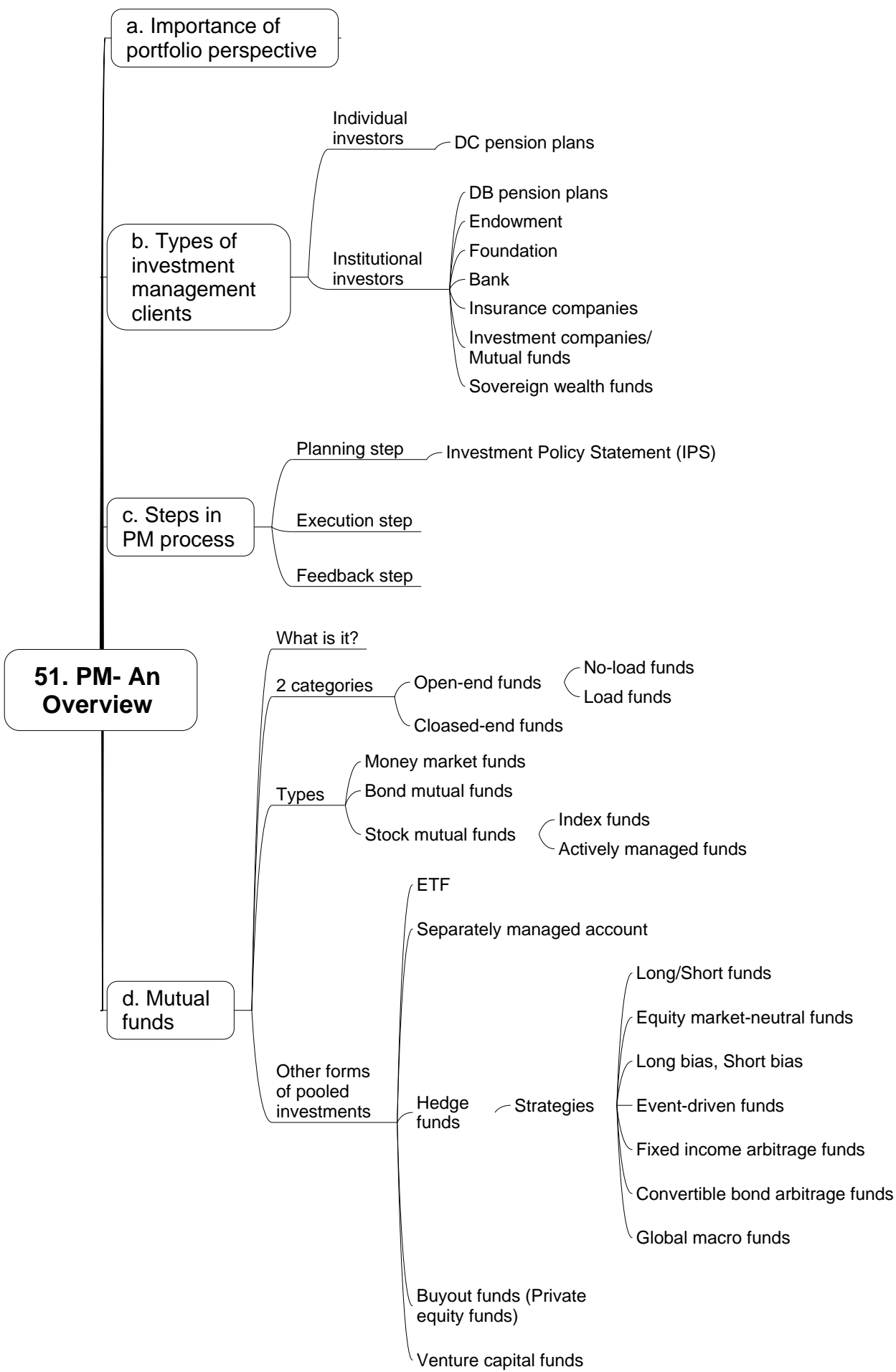
**50. Corporate Governance**



CFA LEVEL 1

STUDY SESSION 12

**PORTFOLIO  
MANAGEMENT**



a. Importance of portfolio perspective

b. Types of investment management clients

- Individual investors
  - DC pension plans
- Institutional investors
  - DB pension plans
  - Endowment
  - Foundation
  - Bank
  - Insurance companies
  - Investment companies/Mutual funds
  - Sovereign wealth funds

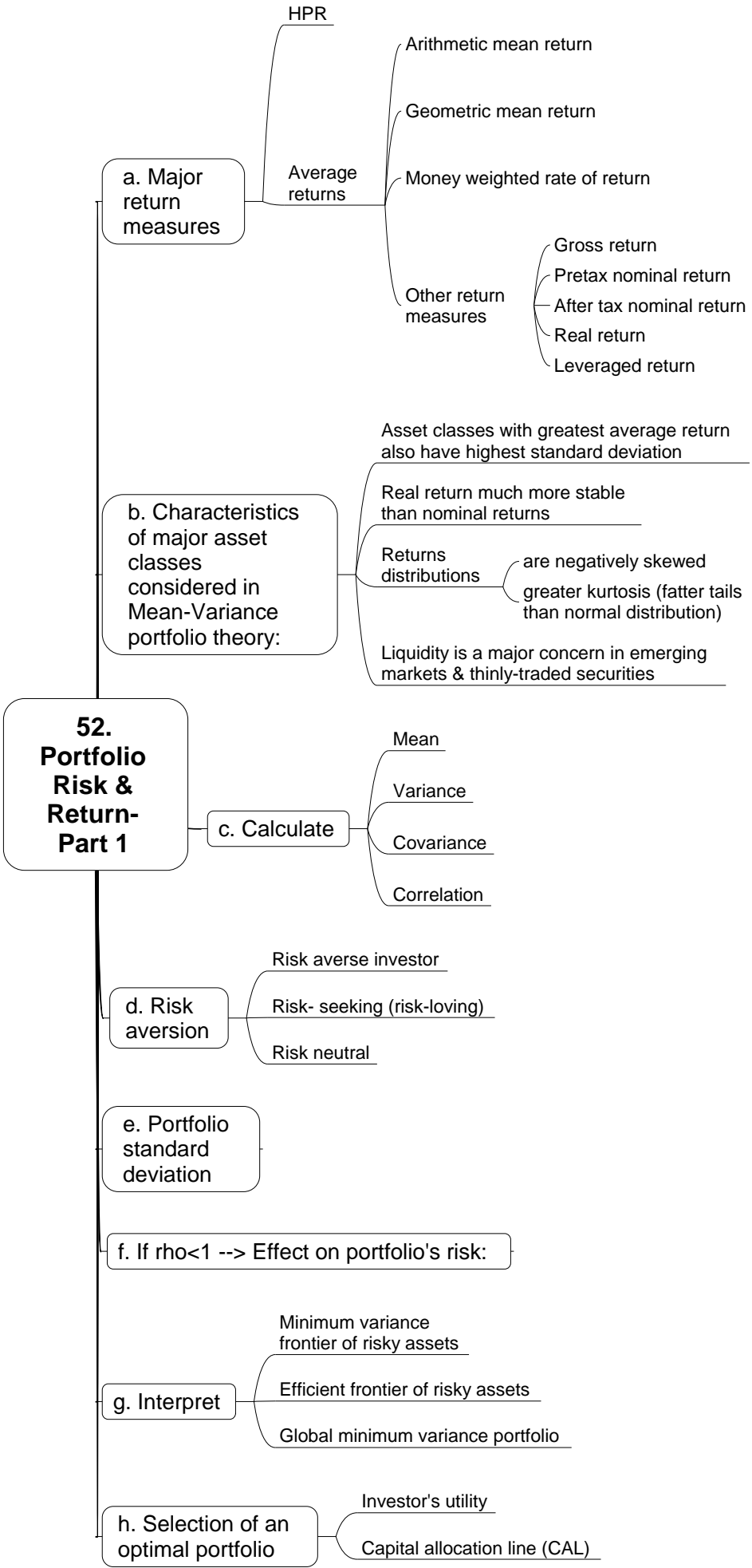
c. Steps in PM process

- Planning step
  - Investment Policy Statement (IPS)
- Execution step
- Feedback step

**51. PM- An Overview**

d. Mutual funds

- What is it?
- 2 categories
  - Open-end funds
    - No-load funds
    - Load funds
  - Closed-end funds
- Types
  - Money market funds
  - Bond mutual funds
  - Stock mutual funds
    - Index funds
    - Actively managed funds
- Other forms of pooled investments
  - ETF
  - Separately managed account
  - Hedge funds
    - Strategies
      - Long/Short funds
      - Equity market-neutral funds
      - Long bias, Short bias
      - Event-driven funds
      - Fixed income arbitrage funds
      - Convertible bond arbitrage funds
      - Global macro funds
  - Buyout funds (Private equity funds)
  - Venture capital funds



a. Major return measures

HPR

Average returns

Arithmetic mean return

Geometric mean return

Money weighted rate of return

Other return measures

Gross return

Pretax nominal return

After tax nominal return

Real return

Leveraged return

b. Characteristics of major asset classes considered in Mean-Variance portfolio theory:

Asset classes with greatest average return also have highest standard deviation

Real return much more stable than nominal returns

Returns distributions

are negatively skewed

greater kurtosis (fatter tails than normal distribution)

Liquidity is a major concern in emerging markets & thinly-traded securities

**52. Portfolio Risk & Return- Part 1**

c. Calculate

Mean

Variance

Covariance

Correlation

d. Risk aversion

Risk averse investor

Risk- seeking (risk-loving)

Risk neutral

e. Portfolio standard deviation

f. If  $\rho < 1$  --> Effect on portfolio's risk:

g. Interpret

Minimum variance frontier of risky assets

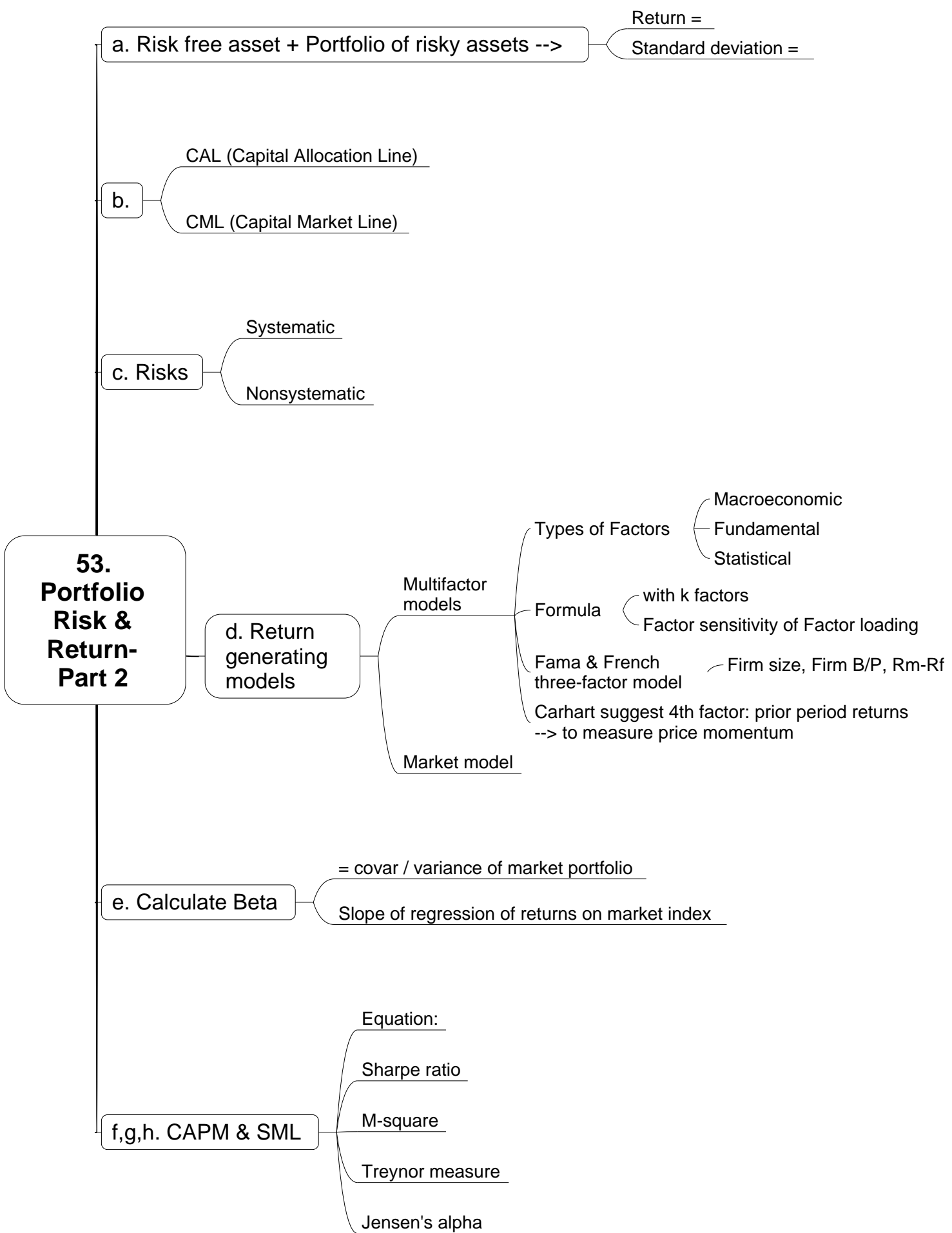
Efficient frontier of risky assets

Global minimum variance portfolio

h. Selection of an optimal portfolio

Investor's utility

Capital allocation line (CAL)



**53. Portfolio Risk & Return- Part 2**

a. Risk free asset + Portfolio of risky assets -->

Return =  
Standard deviation =

b.

CAL (Capital Allocation Line)  
CML (Capital Market Line)

c. Risks

Systematic  
Nonsystematic

d. Return generating models

Multifactor models  
Market model

Types of Factors

Macroeconomic  
Fundamental  
Statistical

Formula

with k factors  
Factor sensitivity of Factor loading

Fama & French three-factor model

Firm size, Firm B/P, Rm-Rf

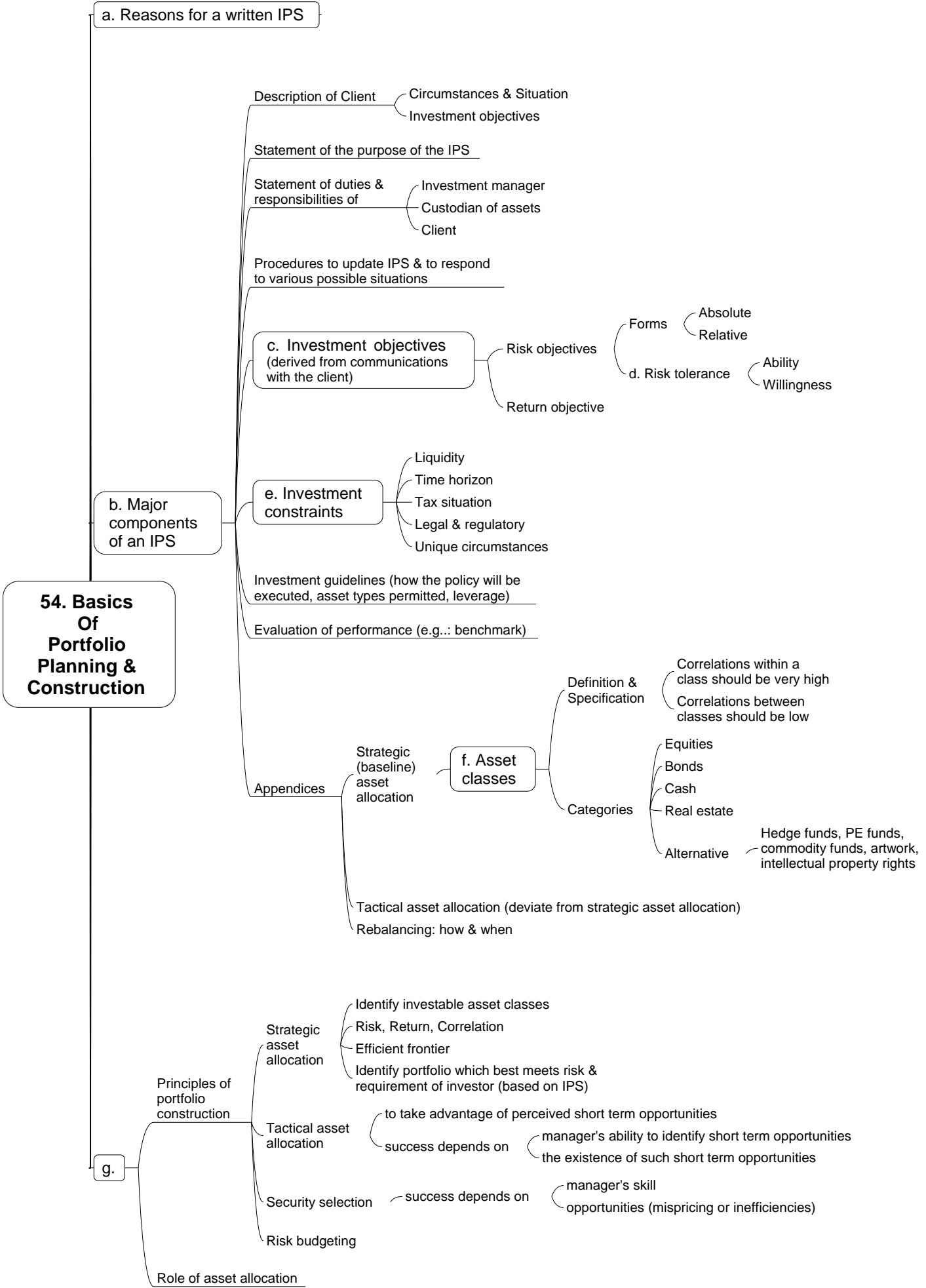
Carhart suggest 4th factor: prior period returns --> to measure price momentum

e. Calculate Beta

= covar / variance of market portfolio  
Slope of regression of returns on market index

f,g,h. CAPM & SML

Equation:  
Sharpe ratio  
M-square  
Treydor measure  
Jensen's alpha



**54. Basics Of Portfolio Planning & Construction**

a. Reasons for a written IPS

b. Major components of an IPS

c. Investment objectives (derived from communications with the client)

f. Asset classes

g.

Principles of portfolio construction

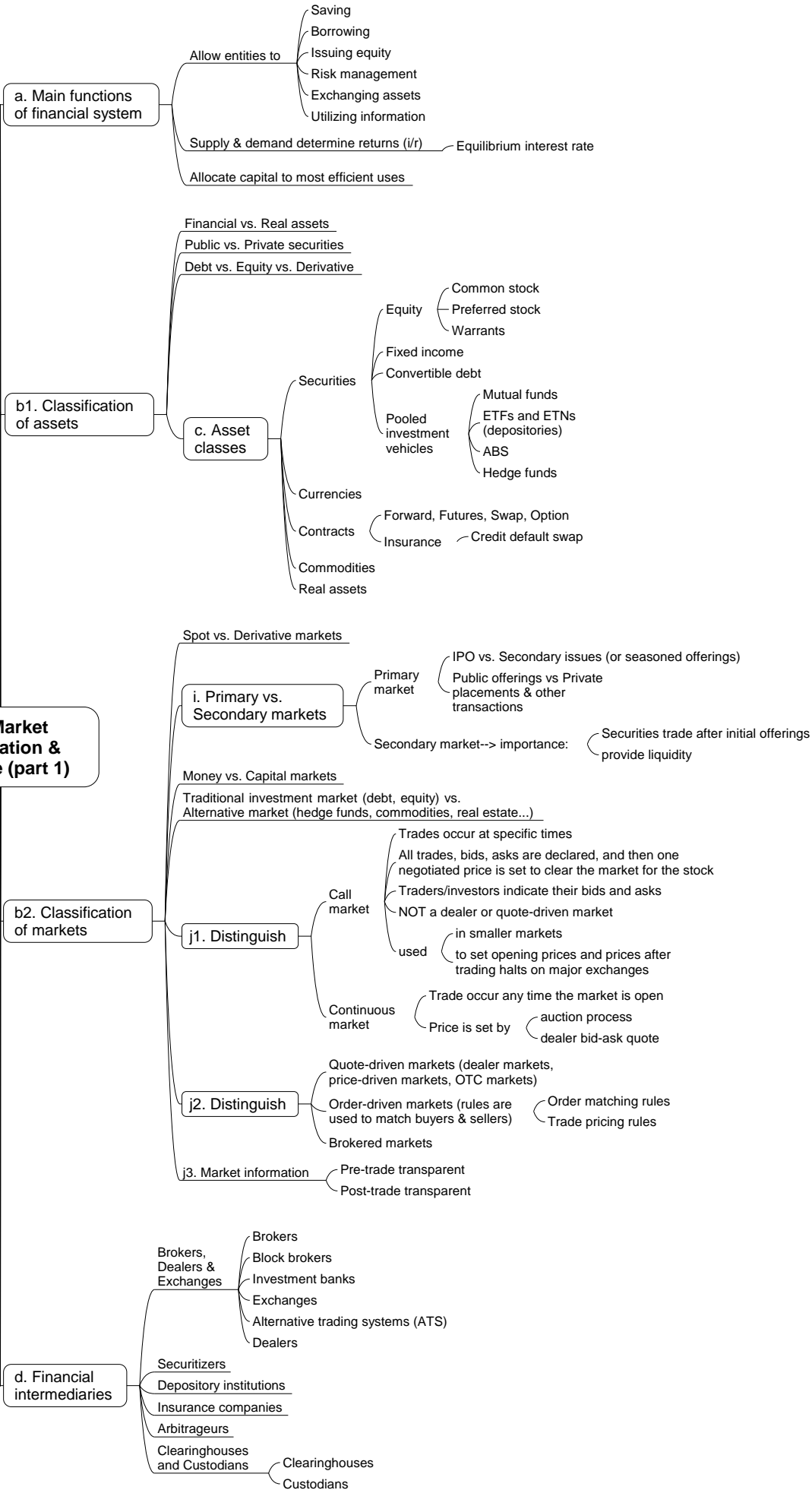
Role of asset allocation

**CFA LEVEL 1**

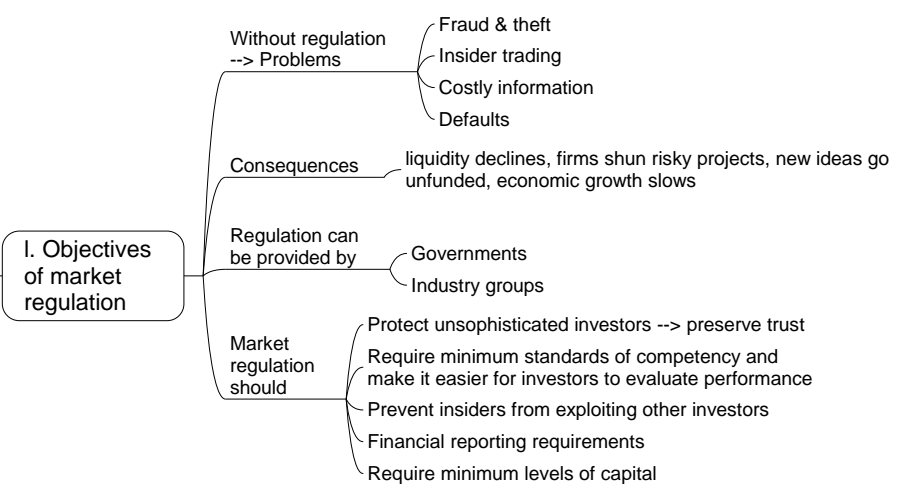
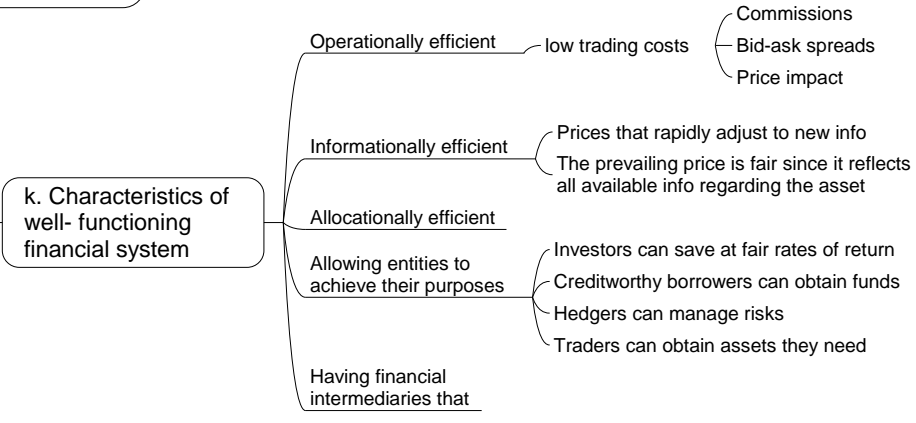
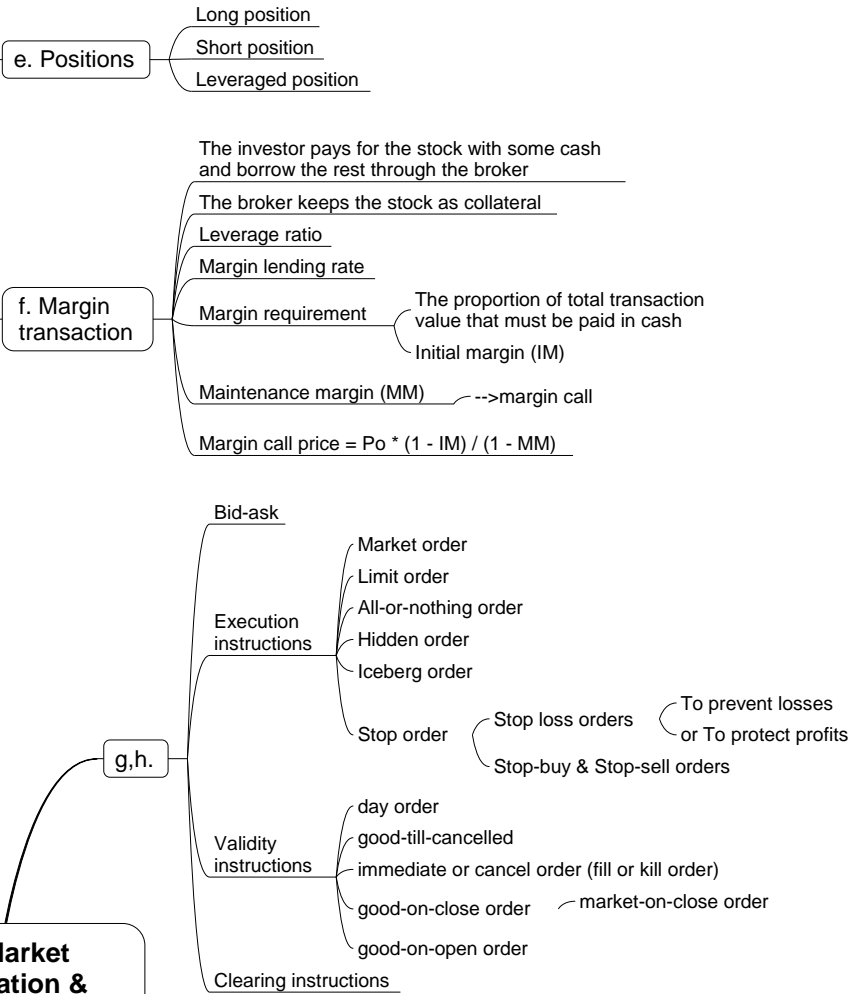
**STUDY SESSION 13 & 14**

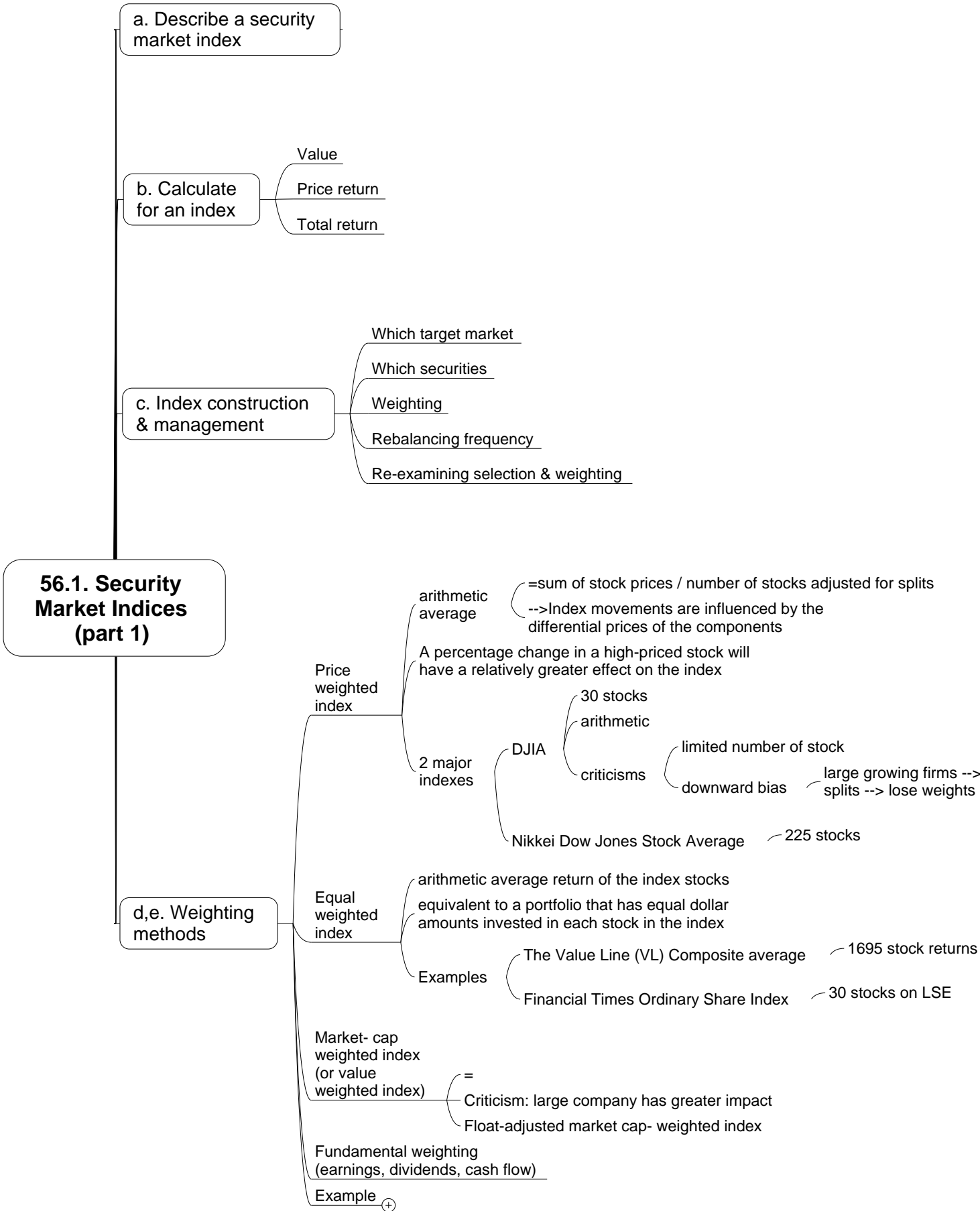
**EQUITY**

**55.1. Market Organization & Structure (part 1)**



# 55.2. Market Organization & Structure (part 2)





**56.1. Security Market Indices (part 1)**

a. Describe a security market index

b. Calculate for an index

Value

Price return

Total return

c. Index construction & management

Which target market

Which securities

Weighting

Rebalancing frequency

Re-examining selection & weighting

d,e. Weighting methods

Price weighted index

arithmetic average

=sum of stock prices / number of stocks adjusted for splits  
-->Index movements are influenced by the differential prices of the components

A percentage change in a high-priced stock will have a relatively greater effect on the index

2 major indexes

DJIA

30 stocks

arithmetic

criticisms

limited number of stock

downward bias

large growing firms --> splits --> lose weights

Nikkei Dow Jones Stock Average

225 stocks

Equal weighted index

arithmetic average return of the index stocks

equivalent to a portfolio that has equal dollar amounts invested in each stock in the index

Examples

The Value Line (VL) Composite average

1695 stock returns

Financial Times Ordinary Share Index

30 stocks on LSE

Market-cap weighted index (or value weighted index)

=

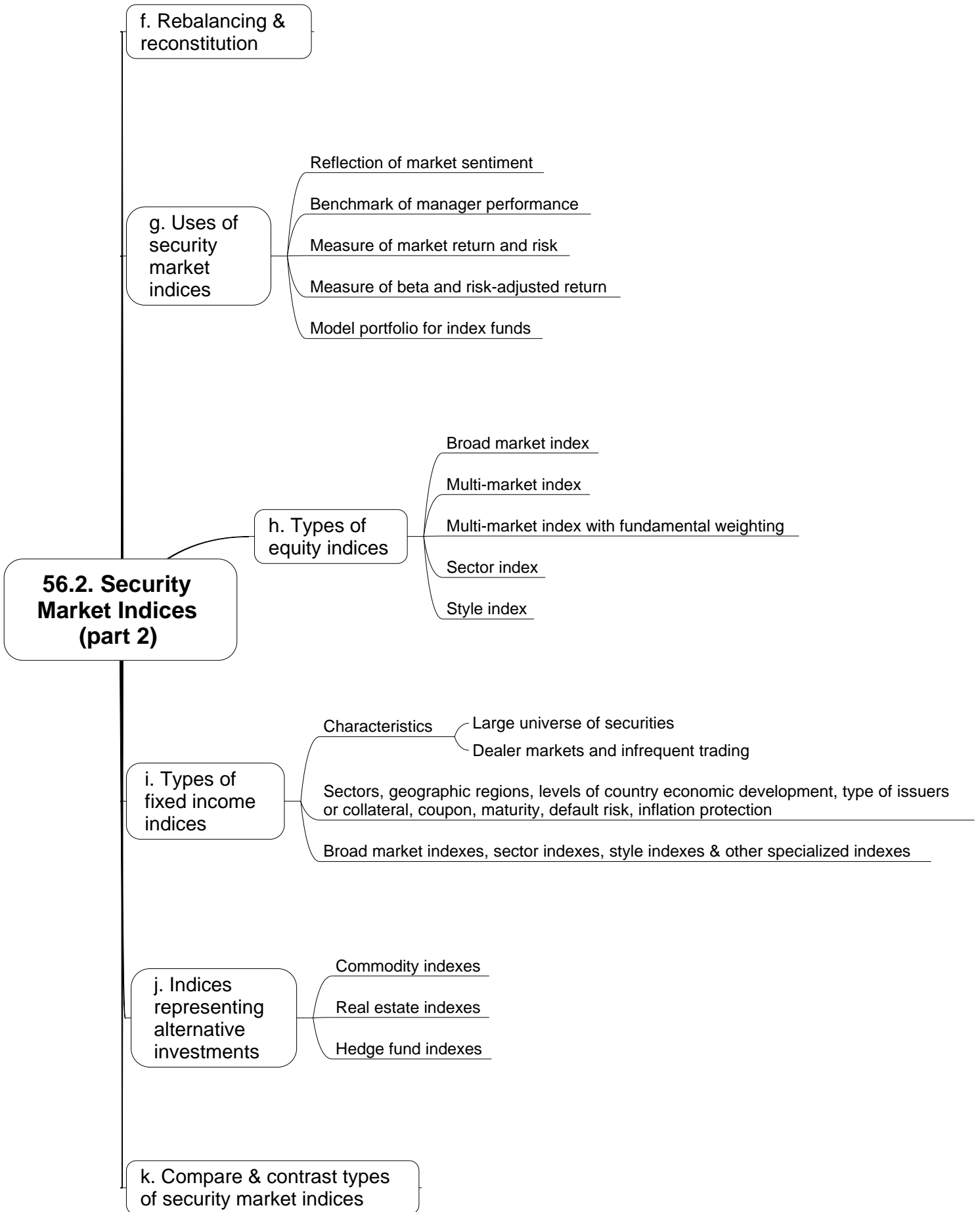
Criticism: large company has greater impact

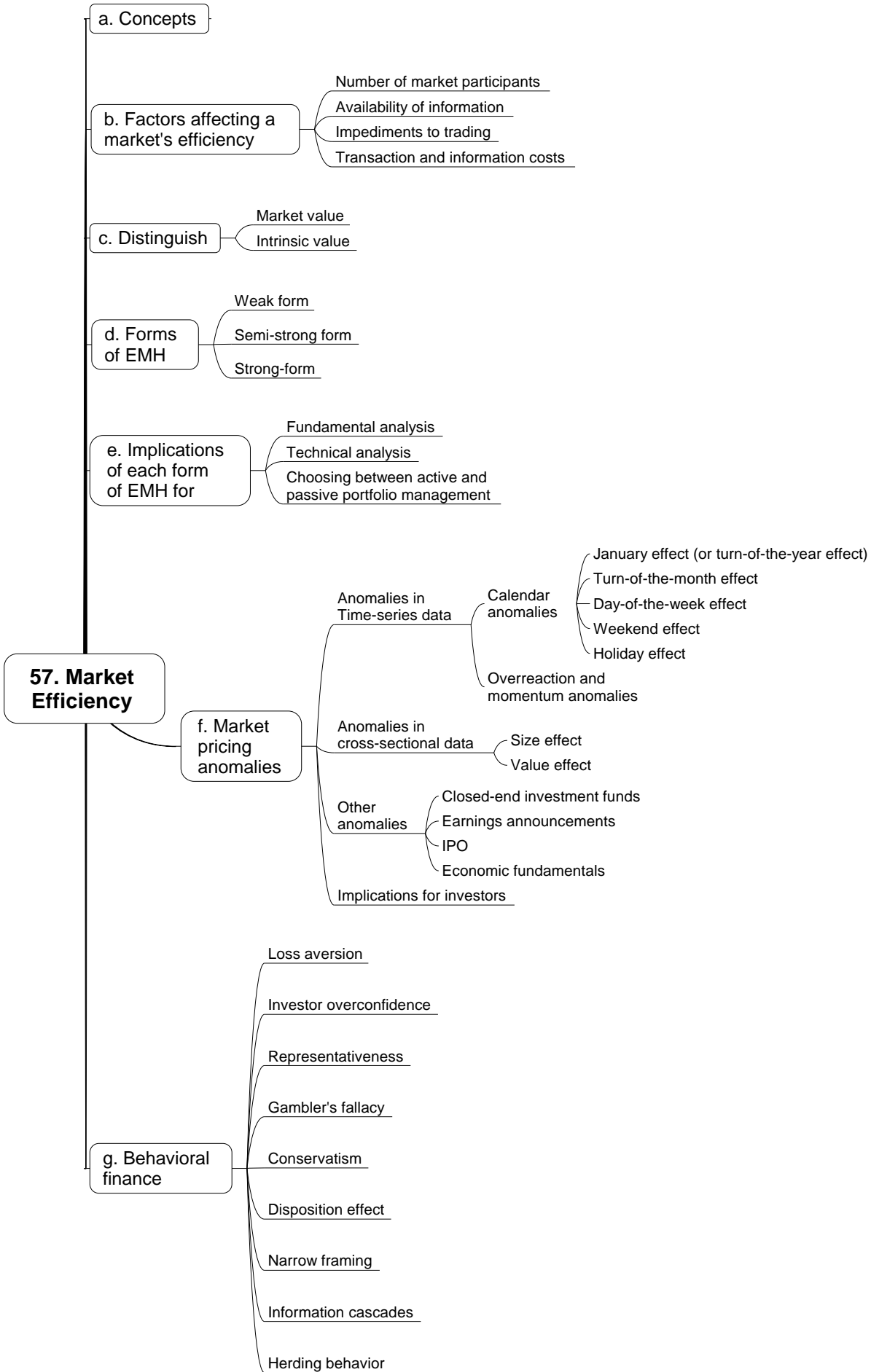
Float-adjusted market cap- weighted index

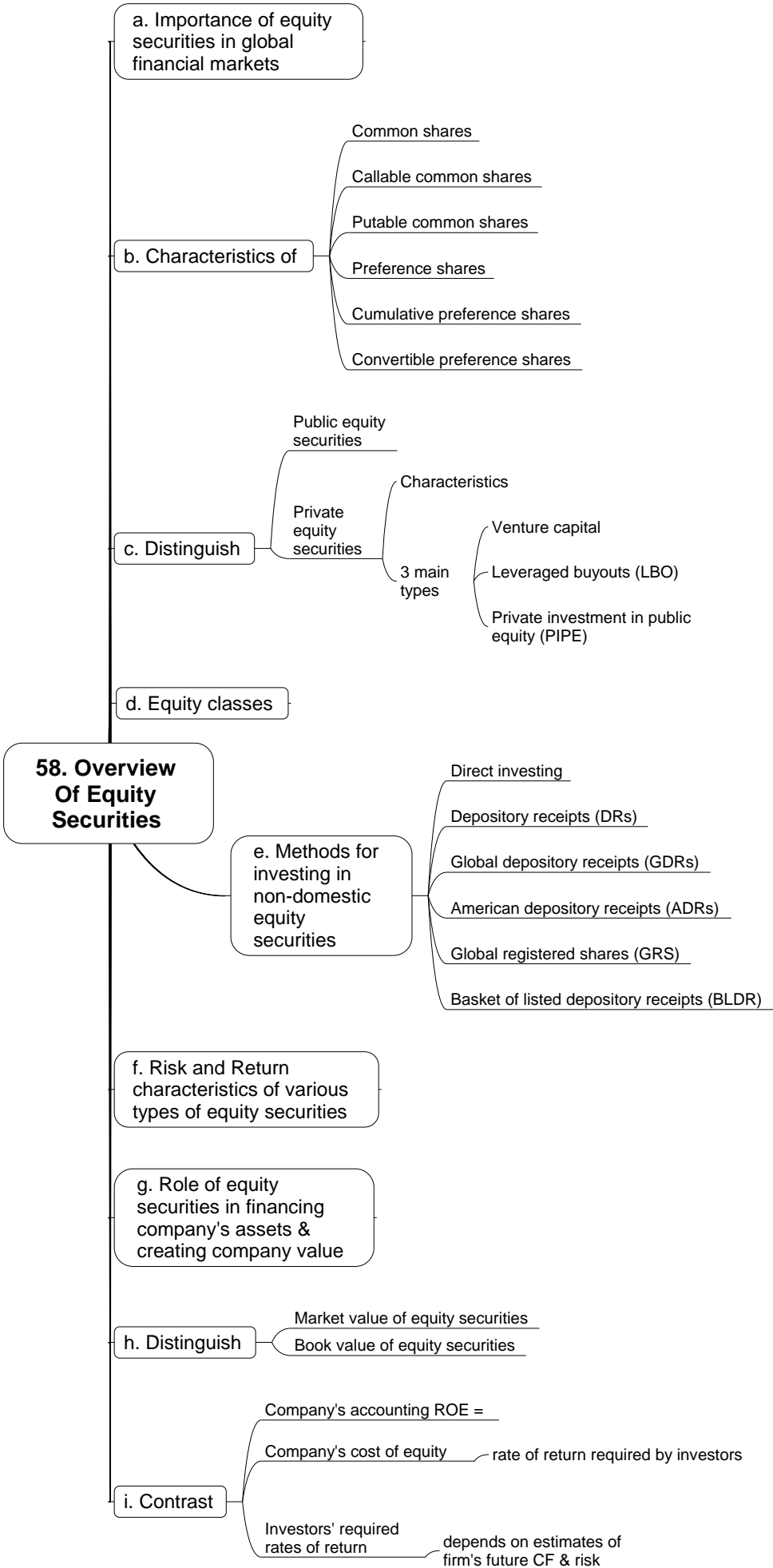
Fundamental weighting

(earnings, dividends, cash flow)

Example ⊕







a. Importance of equity securities in global financial markets

b. Characteristics of

- Common shares
- Callable common shares
- Puttable common shares
- Preference shares
- Cumulative preference shares
- Convertible preference shares

c. Distinguish

- Public equity securities
- Private equity securities
  - Characteristics
  - 3 main types
    - Venture capital
    - Leveraged buyouts (LBO)
    - Private investment in public equity (PIPE)

d. Equity classes

**58. Overview Of Equity Securities**

e. Methods for investing in non-domestic equity securities

- Direct investing
- Depository receipts (DRs)
- Global depository receipts (GDRs)
- American depository receipts (ADRs)
- Global registered shares (GRS)
- Basket of listed depository receipts (BLDR)

f. Risk and Return characteristics of various types of equity securities

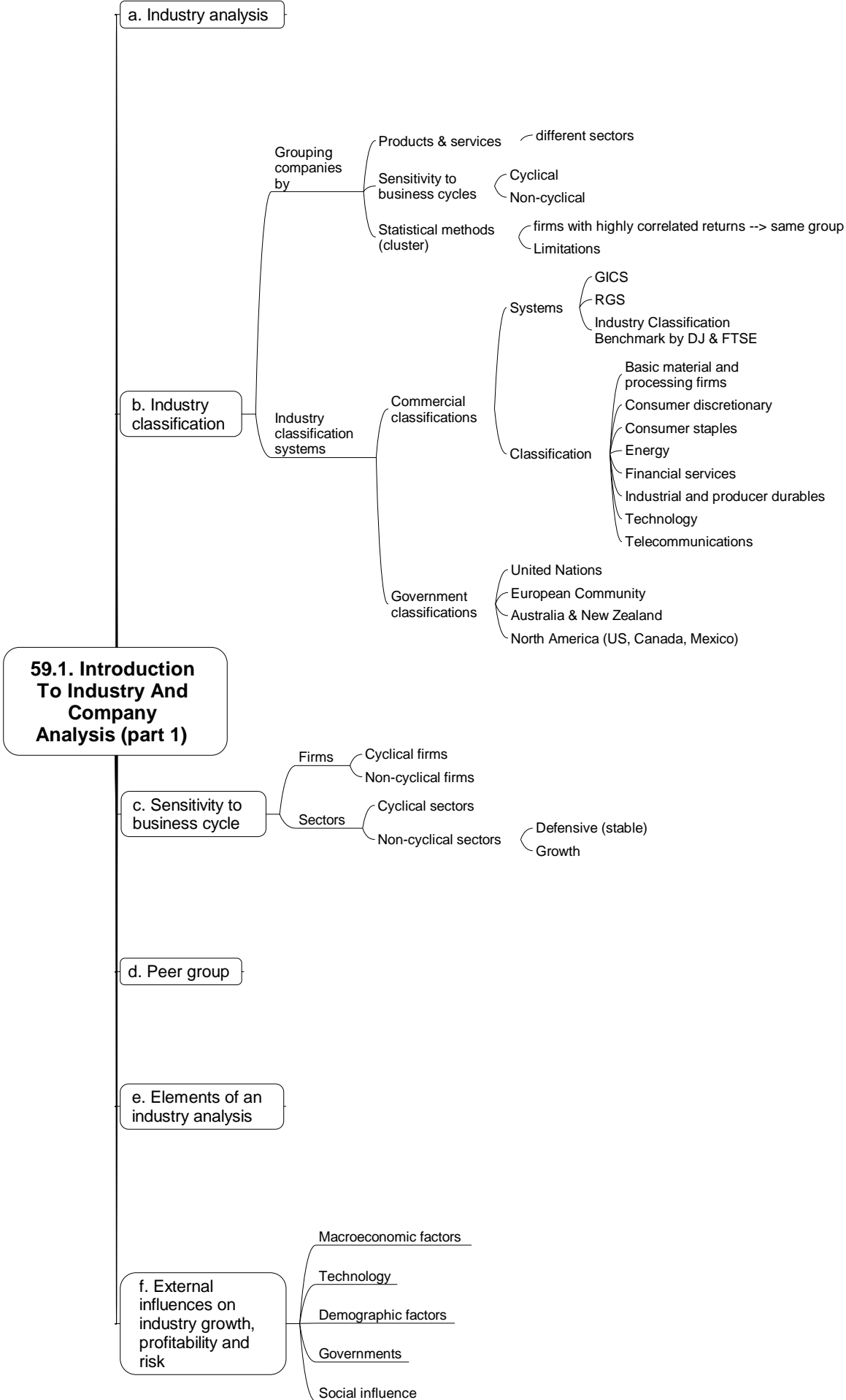
g. Role of equity securities in financing company's assets & creating company value

h. Distinguish

- Market value of equity securities
- Book value of equity securities

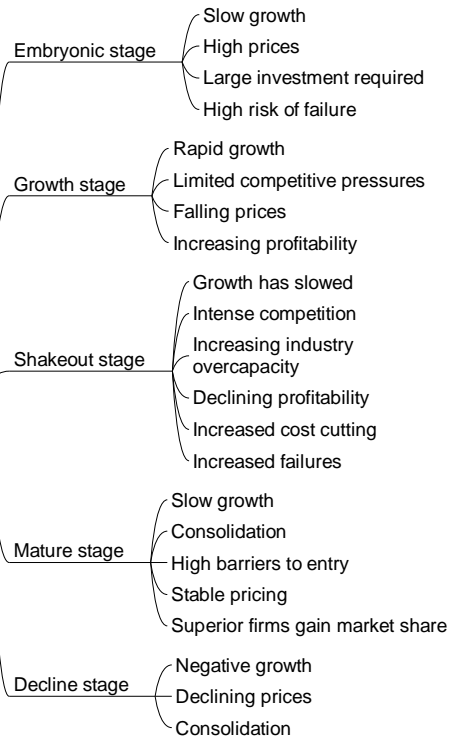
i. Contrast

- Company's accounting ROE =
- Company's cost of equity — rate of return required by investors
- Investors' required rates of return — depends on estimates of firm's future CF & risk

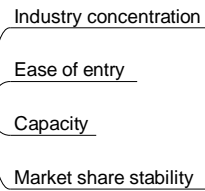


## 59.2. Introduction To Industry And Company Analysis (part 2)

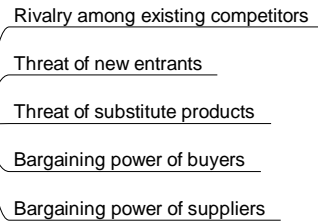
### g. Product & industry life cycle



### h. Effects on return on invested capital and pricing power of

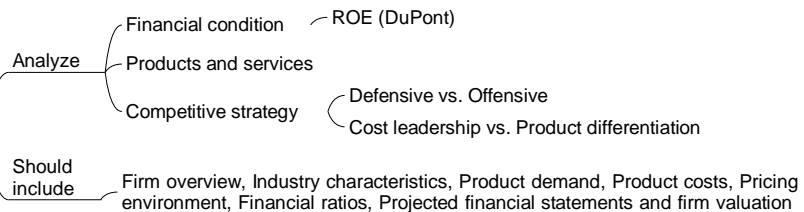


### i. Principles of strategic industry analysis- Michael Porter's five forces



### j. Example of the candy/confections industry

### k. Elements of a company analysis



# 60. Equity Valuation: Concepts And Basic Tools

a. Factors to consider when exploiting mispricing

- Size of differences between market price and intrinsic value
- Confidence about valuation model
- Confidence about the inputs
- Why stock is mispriced
- If market price will move toward intrinsic value

b. Equity valuation models

Discounted cash flow models

c. Rationale

Types of models

Dividend discount models

d. Preferred stock

e. Common stock

f. Appropriate for companies that are

- Stable & mature
- Non-cyclical
- Dividend-paying

Free cash flow to equity models

k. Advantages  
Disadvantages

Multiplier models (or market multiple models)

g. Rationale

Types of models

h. Stock price / fundamentals

e. Enterprise value / EBITDA or revenue

k. Advantages  
Disadvantages

j. Asset-based models

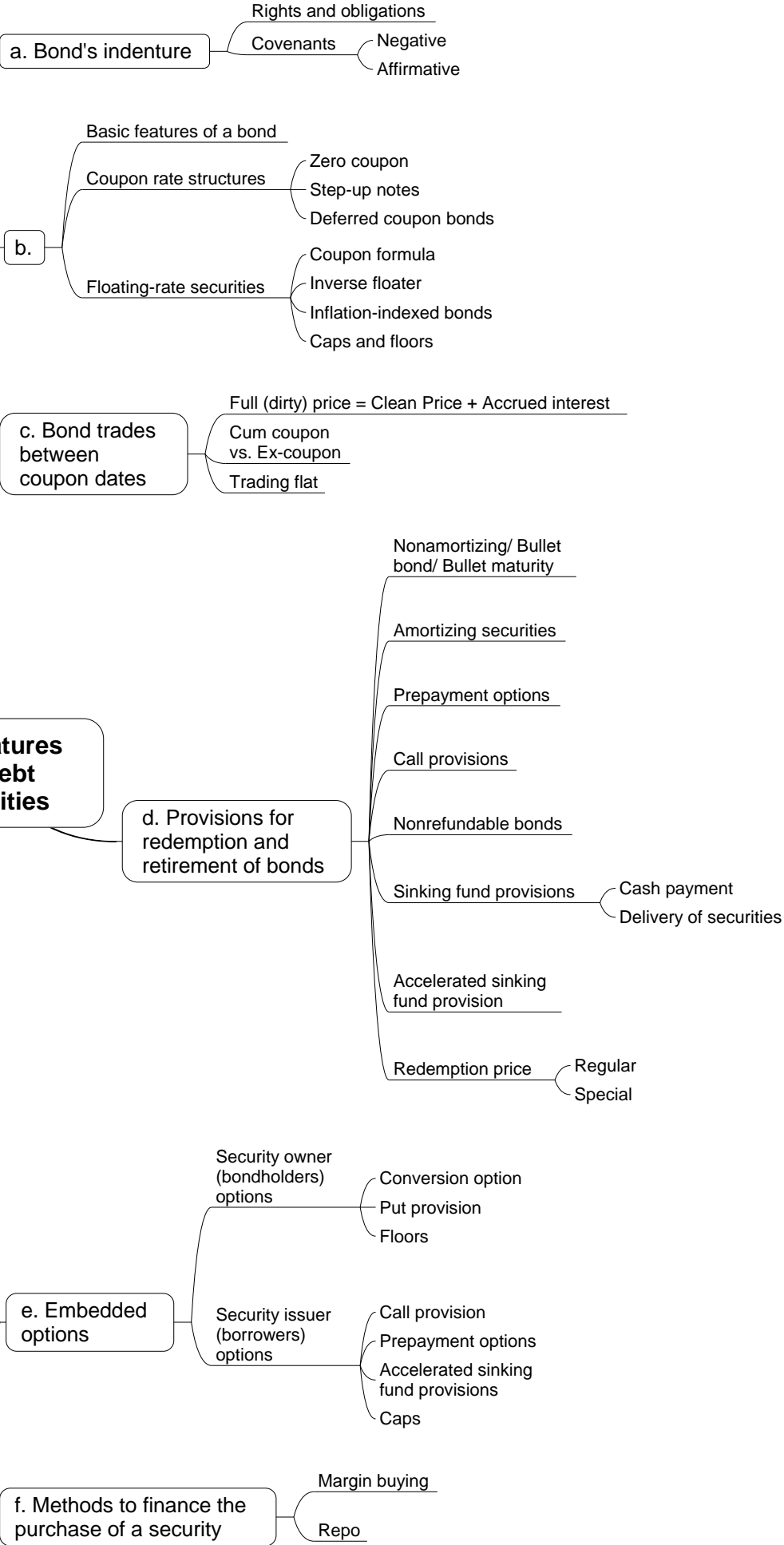
Explain  
k. Advantages  
Disadvantages

**CFA LEVEL 1**

**STUDY SESSION 15 & 16**

**FIXED INCOME**

# 61. Features Of Debt Securities



# 62. Risks Associated With Investing In Bonds

## a, i, j, k, l, m, n, o. Risks

- Interest rate risk
- Yield curve risk
- Call risk
- Prepayment risk
- Reinvestment risk
  - i. Factors affecting reinvestment risk
    - Coupon
    - Call feature
    - Amortizing
    - Prepayment option
- Credit risk
  - j. Forms
    - Default risk
    - Credit spread risk
    - Downgrade risk
  - j. Meaning and role of credit rating
- Liquidity risk
  - k. why important even hold to maturity
- l. Exchange-rate risk
- m. Inflation risk
- n. Volatility risk
- o. Event risk
  - Disaster
  - Corporate restructuring
  - Regulatory issues
- Sovereign risk

## b. Relations among

- Coupon rate
- Market yield
- Bond's price relative to par value
  - Discount
  - Premium
  - Equal to par

## c. Effect on interest rate risk of

- Maturity
- Coupon
- Embedded options
  - Call
  - Put
- Yield

## d, h. Callable bond

- Value =
  - value of option-free bond
  - minus
  - value of embedded call
- h. Disadvantages of a callable or prepayable security to investors
  - Less certain CF- call risk/prepayment risk
  - Reinvestment risk
  - Potential price appreciation < option free securities

## e. Floating rate security

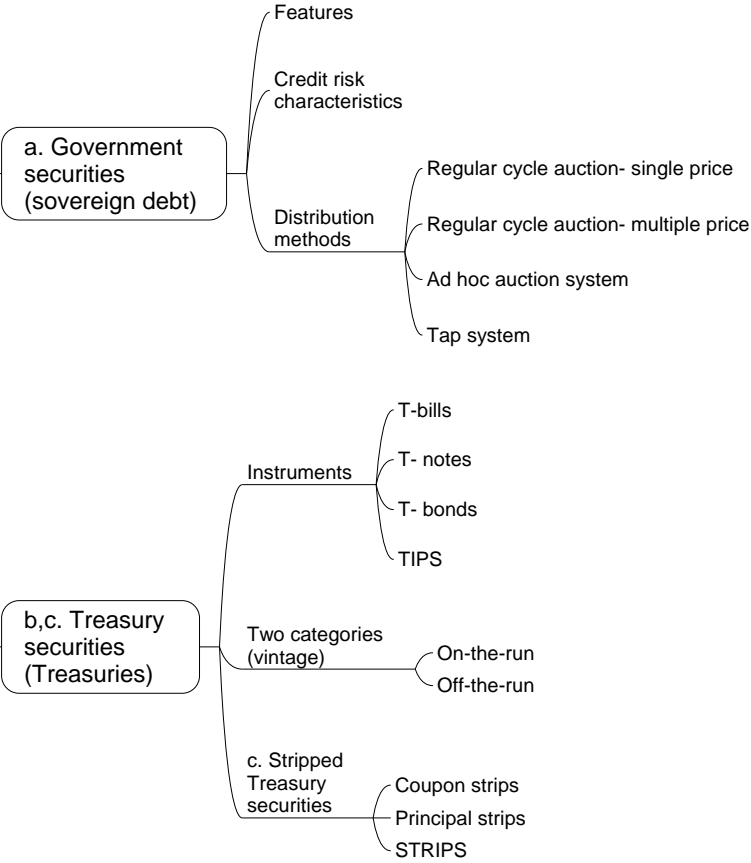
- Interest rate risk
- Reasons Price ≠ Par
  - Cap risk
  - Margin

## f, g. Duration

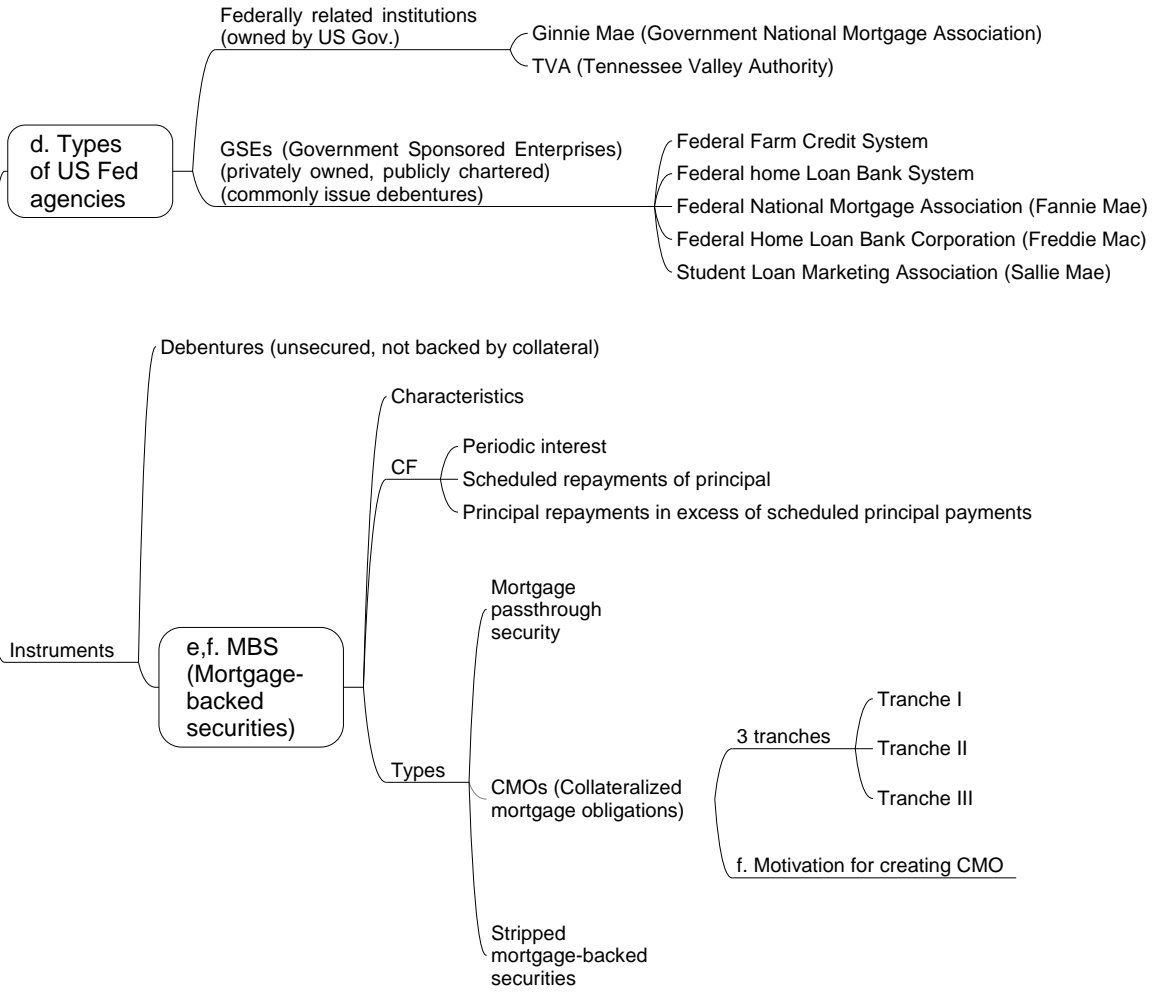
- Duration =
- Dollar duration =
- g. Duration and Yield curve risk for a portfolio of bonds

**63.1 Overview Of Bond Sectors And Instruments**

**TREASURIES**



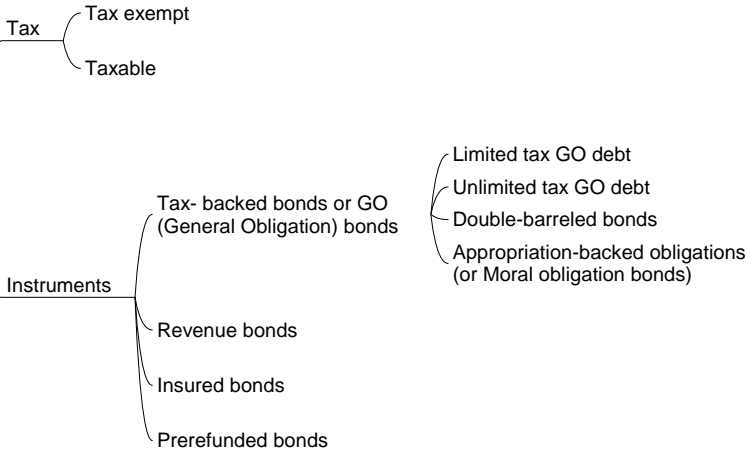
**AGENCY BONDS**



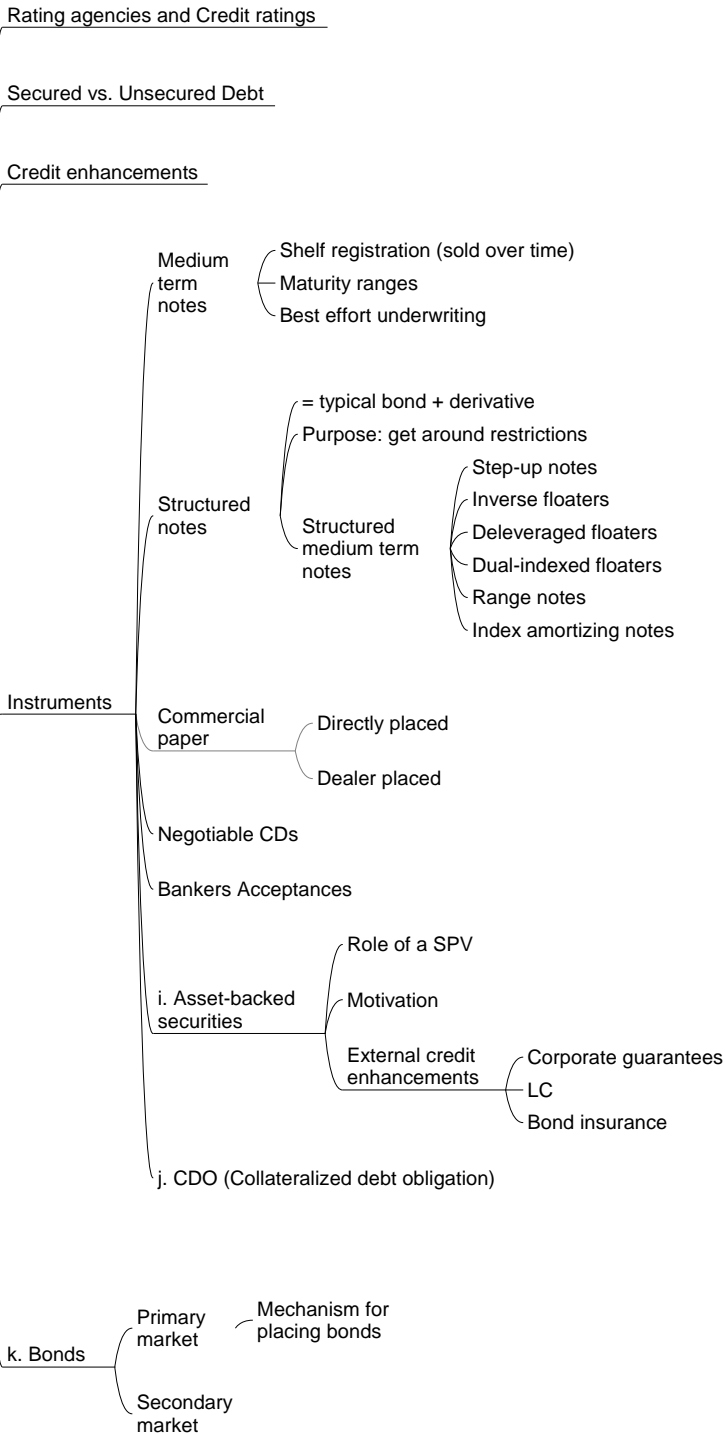
f. Motivation for creating CMO

**63.2 Overview Of Bond Sectors And Instruments (cont.)**

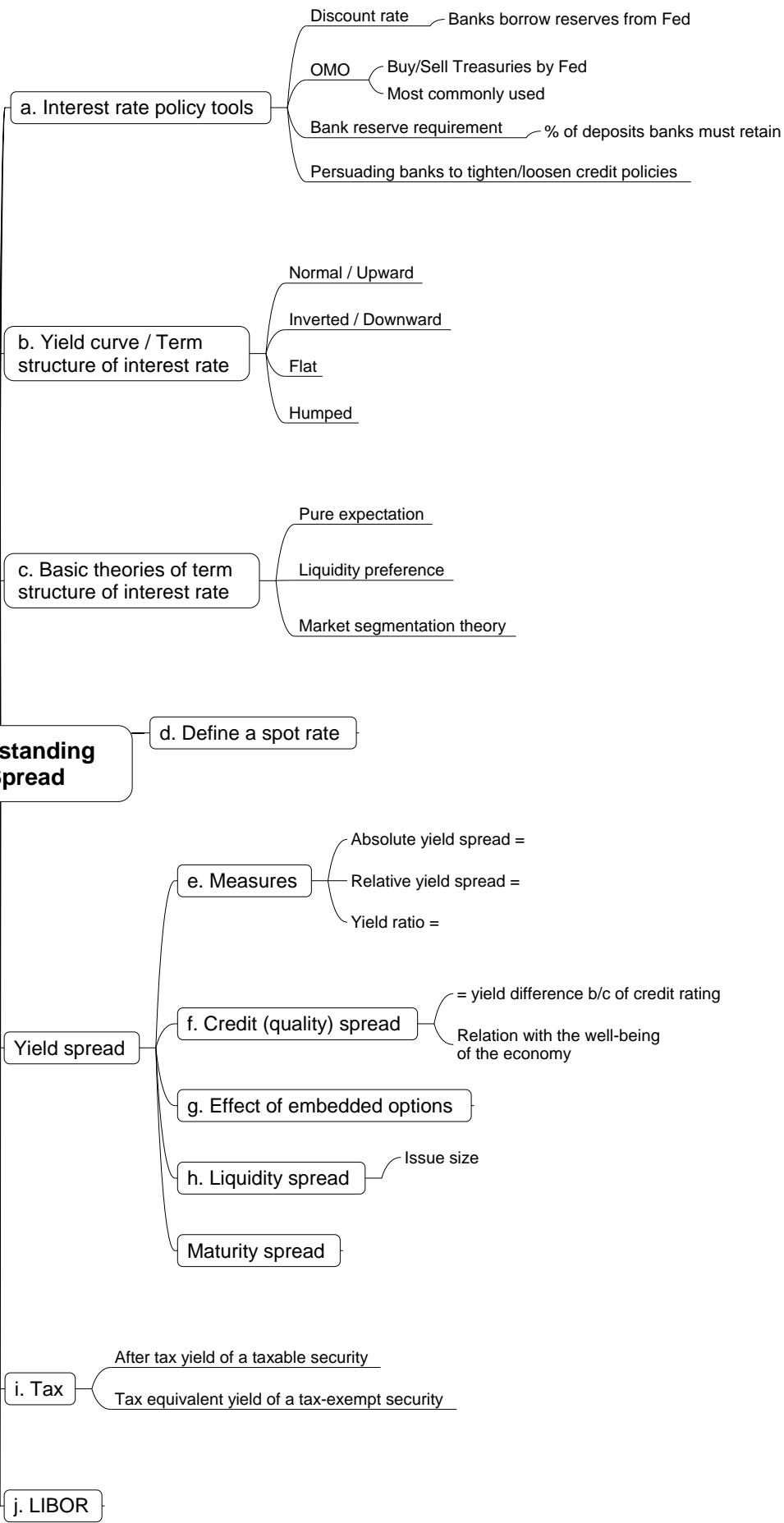
**g. MUNIS (Municipal securities)**

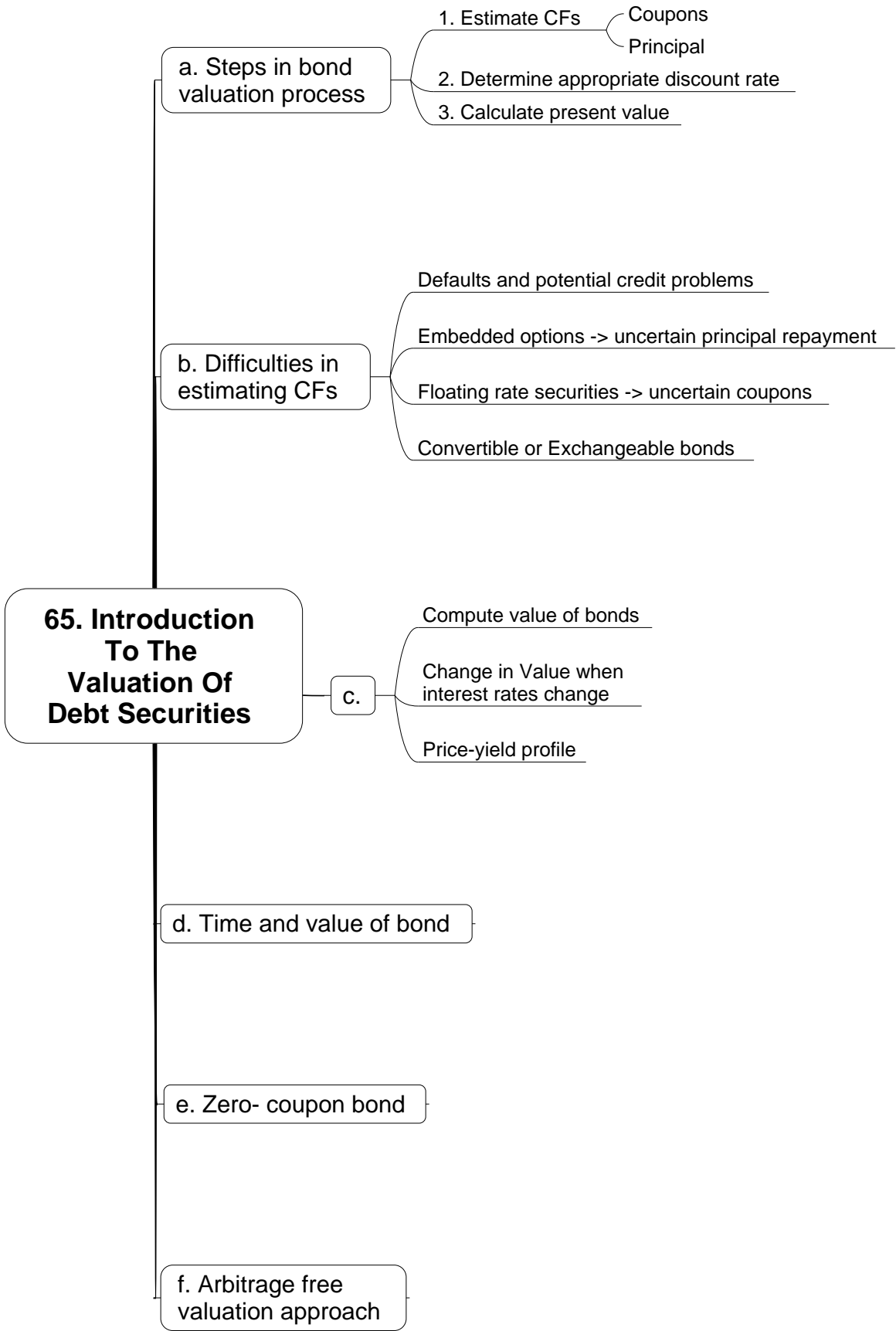


**h,i,j,k. CORPORATE ISSUES**

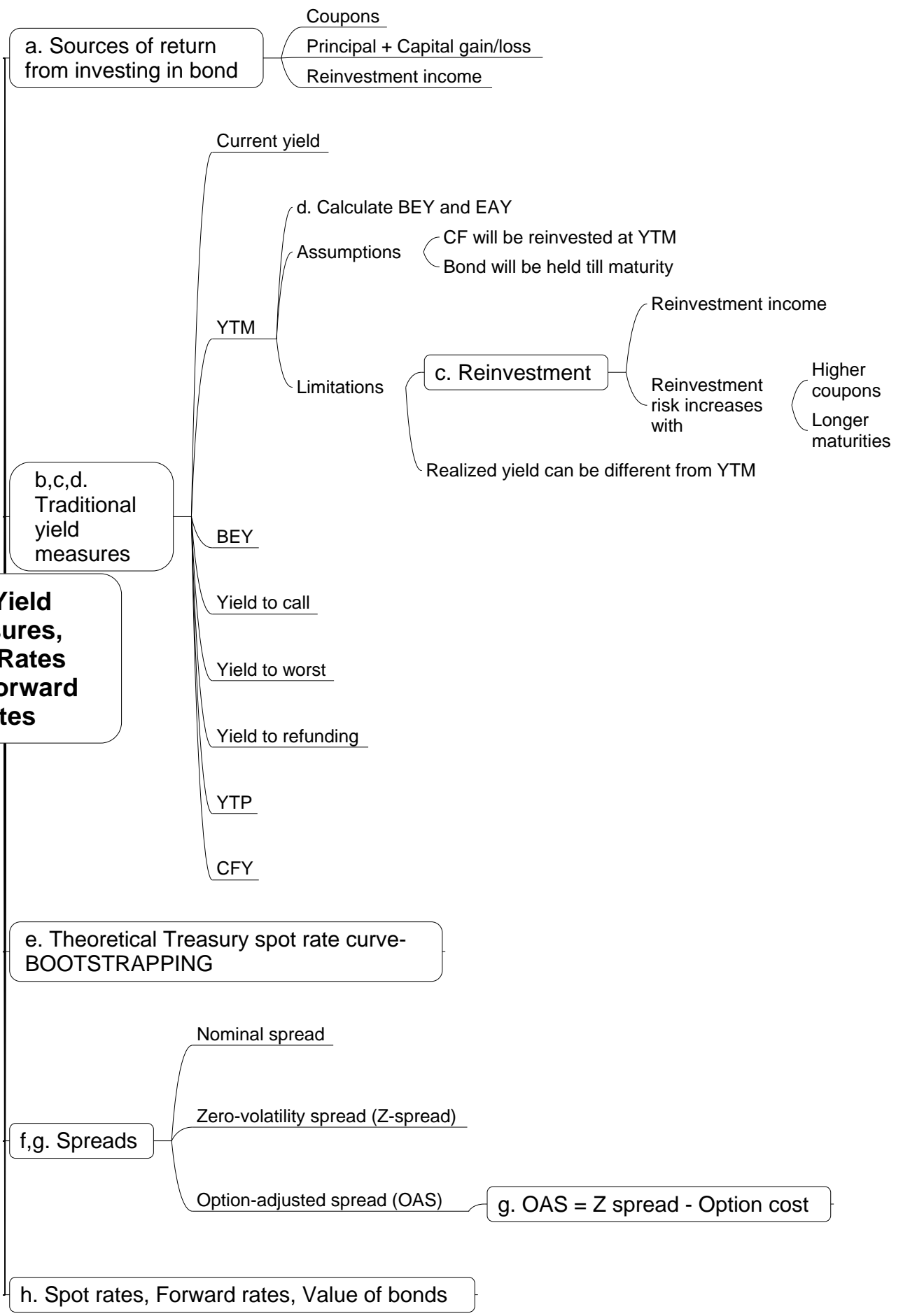


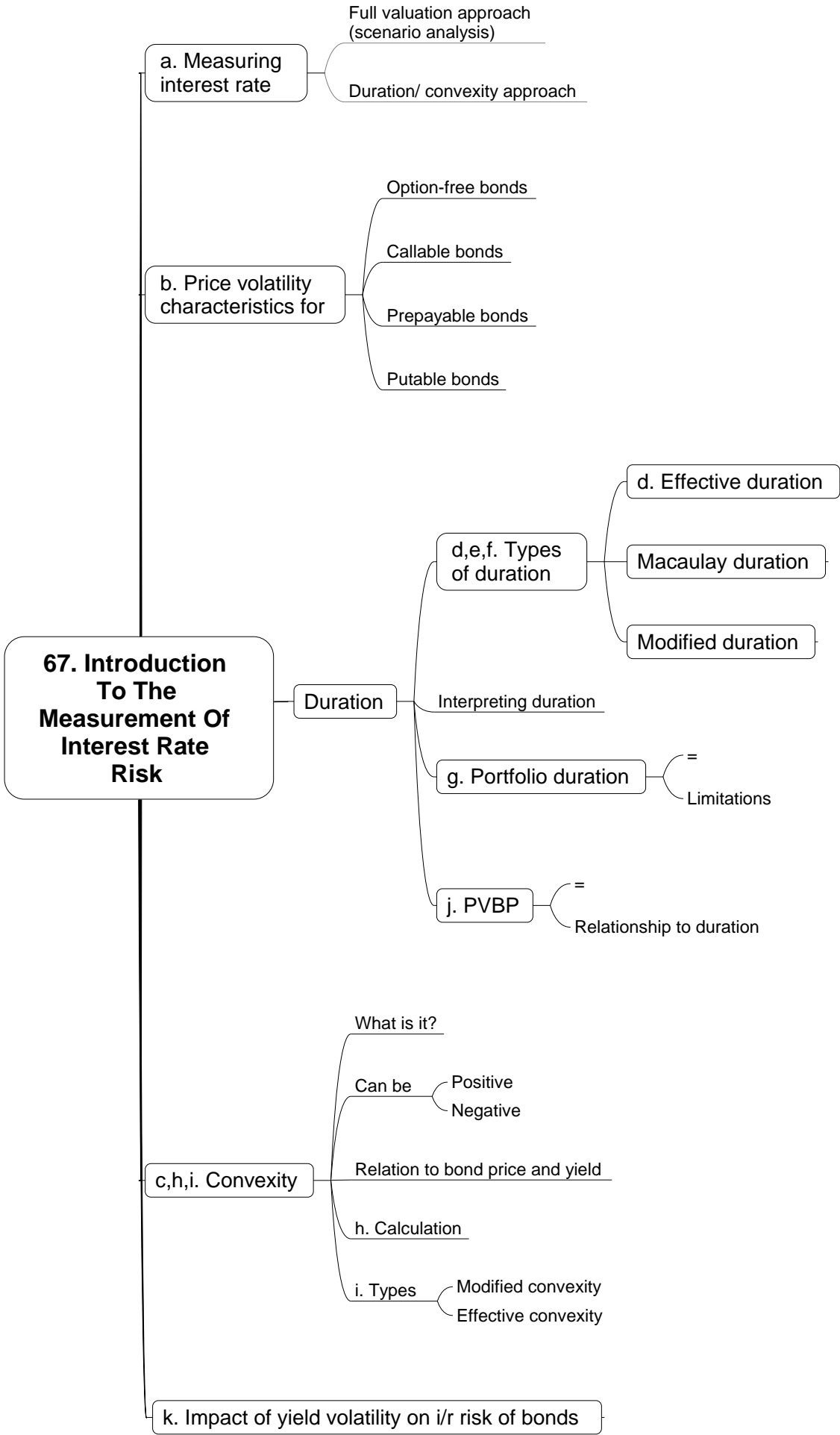
# 64. Understanding Yield Spread





# 66. Yield Measures, Spot Rates And Forward Rates





**67. Introduction To The Measurement Of Interest Rate Risk**

a. Measuring interest rate

- Full valuation approach (scenario analysis)
- Duration/ convexity approach

b. Price volatility characteristics for

- Option-free bonds
- Callable bonds
- Prepayable bonds
- Puttable bonds

Duration

d,e,f. Types of duration

- d. Effective duration
- Macaulay duration
- Modified duration

Interpreting duration

g. Portfolio duration

- Limitations

j. PVBP

- Relationship to duration

c,h,i. Convexity

- What is it?
- Can be
  - Positive
  - Negative
- Relation to bond price and yield
- h. Calculation
- i. Types
  - Modified convexity
  - Effective convexity

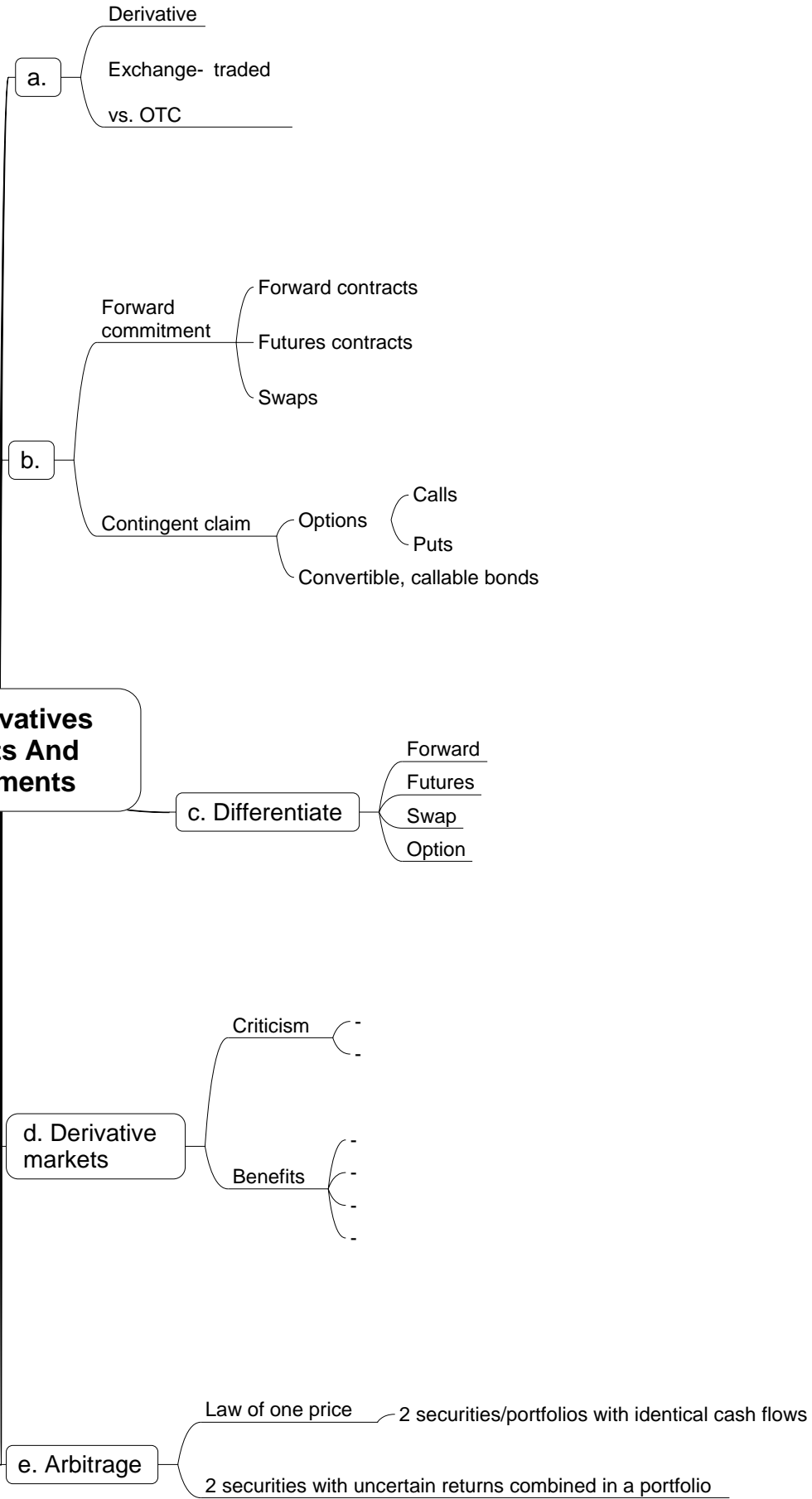
k. Impact of yield volatility on i/r risk of bonds

CFA LEVEL 1

STUDY SESSION 17

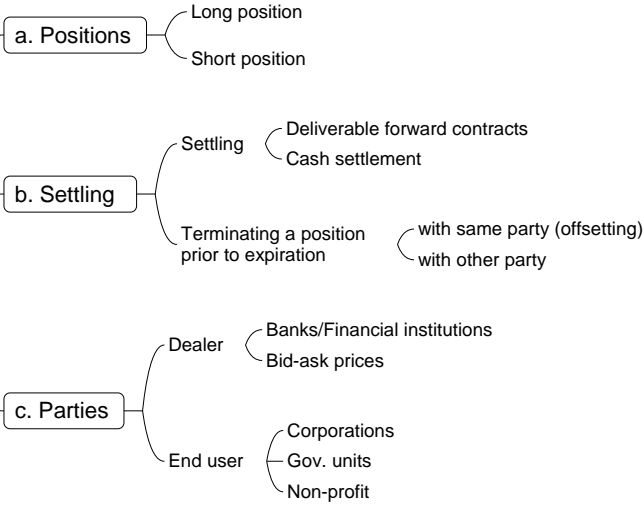
**DERIVATIVES**

# 68. Derivatives Markets And Instruments

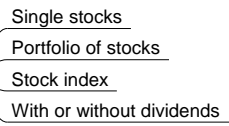


# 69. Forward

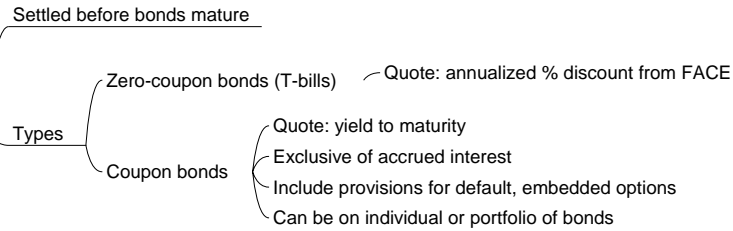
## Basics



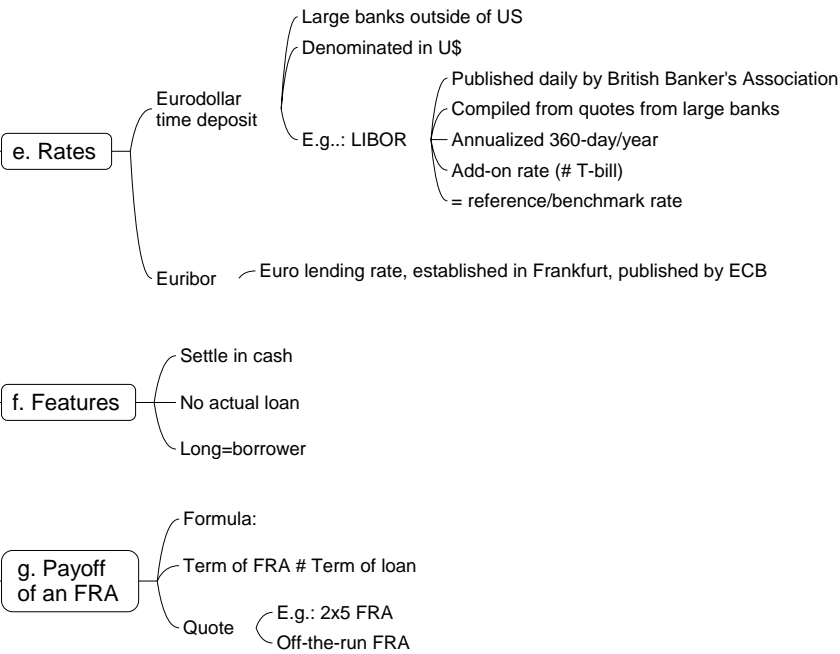
## 1. Equity forward (LOS d)



## 2. Bond Forward (LOS d)



## 3. Loan forward (FRA)



## 4. Currency Forward (LOS h)

# 70. Futures

## a,b. Characteristics of futures (vs. Forward)

- Similar to forward
  - Deliverable or cash settlement
  - Zero value at beginning
- Differ from forward
  - Futures : exchange- traded >< Forwards are private, do NOT trade
  - Futures are highly standardized >< Forwards are customized
  - Futures: clearinghouse as counterparty --> reduce credit risk
  - Futures market regulated by government
- Standardization
  - Quality, Quantity, Delivery time, manner, minimum price fluctuation
  - Uniformity promotes market liquidity
- Long vs. Short
- Hedger vs. Speculator

## c. Margins

- # margins in securities markets
- Types of margins
  - Initial margin
  - Maintenance margin
  - Variation margin
- Settlement price
- How a futures trade takes place

## d.

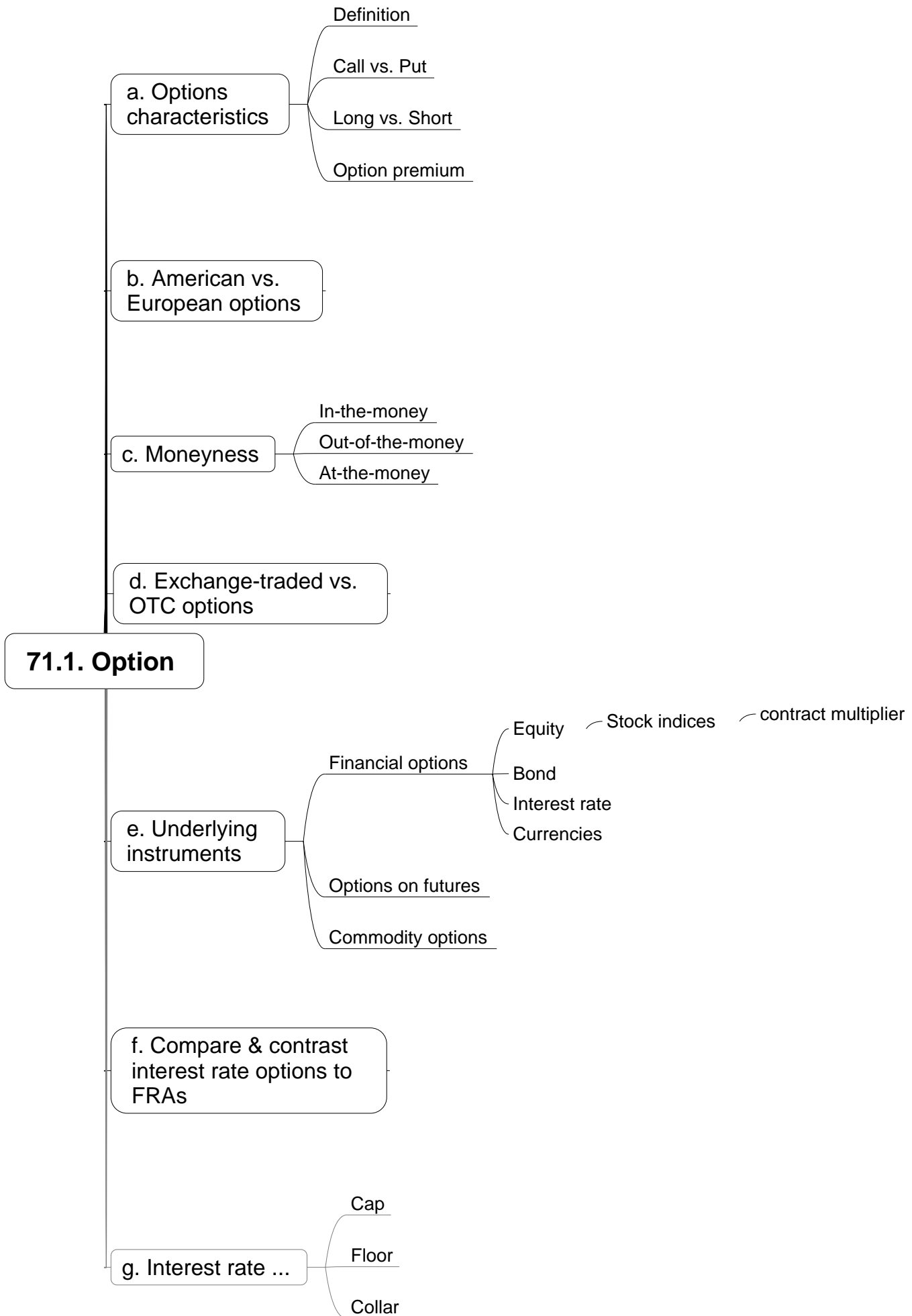
- Price limits
  - Limit move
    - Limit up
    - Limit down
  - Locked limit
- Marking to market
  - adjust margin balance
  - on daily basis (or more frequent in chaotic situations)

## e. Terminate a futures

- 4 ways
  - Delivery
  - Cash settlement
  - Reverse/ Offsetting/ Closing out
  - Ex-pit transactions
- Delivery options in futures contracts
  - For short position
  - What (T-bonds), where (gold, corn), when to deliver

## f.

- T-bill futures
- Eurodollar futures
- T-bond futures
- Stock Index futures
- Currency futures



## 71.2. Option (cont.)

h. Option payoffs

- for a stock option
- for interest rate options

i. Option value =

- Intrinsic value
- +
- Time value

j,k. Rules for minimum values and lower bounds

- European call
- European put
- American call
- American put

l,p. Option price affected by

- Exercise price
- Time to expiration
- Interest rate
- Volatility

m. Put- Call parity

n. Contrast American with European options

- Lower bounds
- Possibility of early exercise

o. CF on the underlying asset affect

- Put-Call parity
- Lower bounds

**72. Swap**

a.

Characteristics

How swaps are terminated

- Mutual termination
- Offsetting contract
- Resale
- Swaption

b.

Currency swaps

Plain vanilla interest rate swaps

Equity swaps

**73. Risk Management Applications Of OPTION Strategies**

a. Simple Call & Put

Value at expiration

Profit

Maximum profit/loss

Breakeven underlying price

General shape of the graph

Market outlook of investors

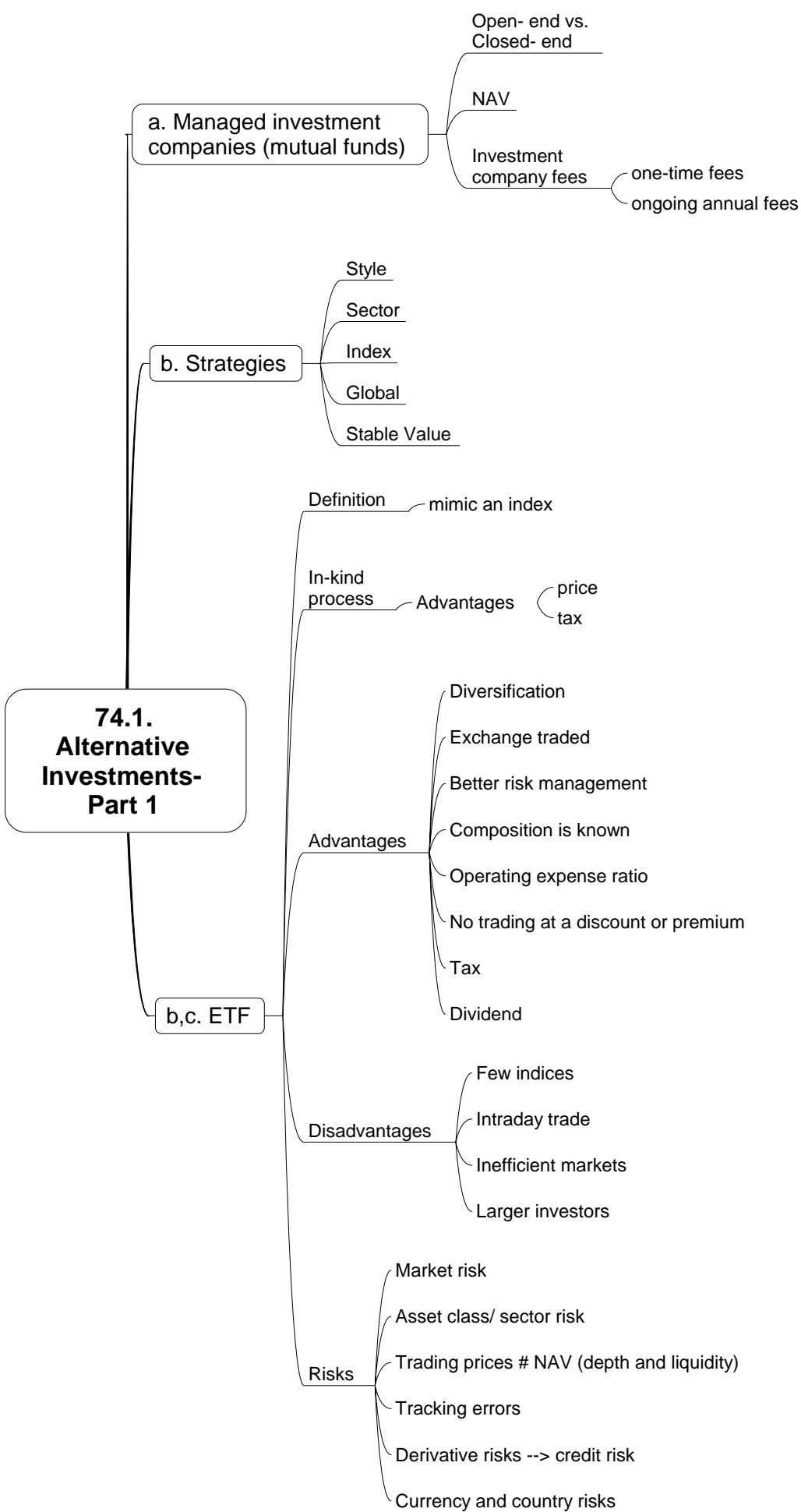
b1. Covered call

b2. Protective put

CFA LEVEL 1

STUDY SESSION 18

**ALTERNATIVE  
INVESTMENTS**



**74.2. Alternative Investments- Part 2**

**d,e,f. Real Estate Investment**

- Types
  - Outright ownership
  - Leveraged equity position
  - Mortgages
  - Aggregation vehicles
- Characteristics
- e,f. Approaches to the valuation of real estate
  - Cost method
  - Sales comparison method
  - Income method
  - Discounted after tax cash flow model

**g,h. Venture capital investing**

- Stages
  - Balanced stage
  - Formative stage
    - Seed stage (R&D)
    - Early stage
      - Start-up financing (Initial marketing)
      - First stage financing (Commercial production)
  - Later stage
    - Expansion stage financing
      - Second stage investing (Producing and selling products, Not yet generating income)
      - Third stage financing (Major expansion)
    - Mezzanine (bridge financing) (IPO)
- Characteristics
  - Illiquidity
  - Long term horizon
  - Difficulty in valuation
  - Limited data
  - Entrepreneurial / Management mismatches
  - Fund Manager incentive mistakes
  - Timing in the business cycle
  - Requirement for extensive operations analysis
- h. NPV of a venture capital project

