

## 34. A Note On Asset Valuation

a. Define

- Valuation
- Intrinsic value

Possible sources of perceived mispricing

b. Contrast

- Going concern value
- Liquidation value

### c. Uses of equity valuation

- Stock selection
- Reading the market
- Projecting the value of corporate actions
- Fairness opinions
- Planning & consulting
- Communication with analysts and investors
- Valuation of private business
- Portfolio management
  - Planning
  - Executing the investment plan

## 35. Equity Valuation: Applications & Process

d.

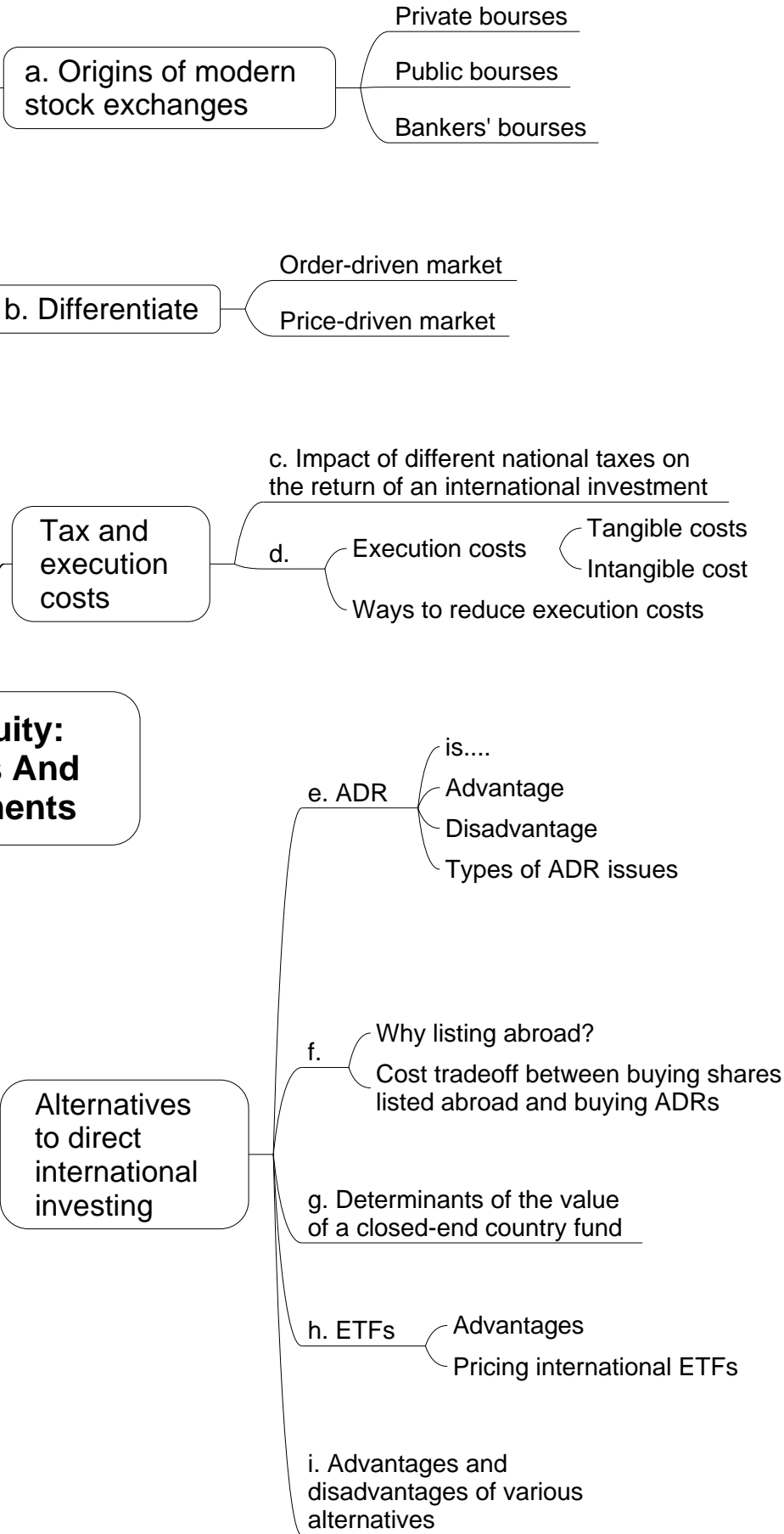
- 5 elements of industry structure
  - Threat of new entrants
  - Threat of substitutes
  - Bargaining power of buyers
  - Bargaining power of suppliers
  - Rivalry among existing competitors
- 3 generic strategies
  - Cost leadership
  - Product differentiation
  - Focus
- Quality of financial info.

e. Contrast

- Absolute valuation models
- Relative valuation models

f. Criteria for choosing an approach

# 36. Equity: Markets And Instruments



## Ways to reduce execution costs (LOS 36d)

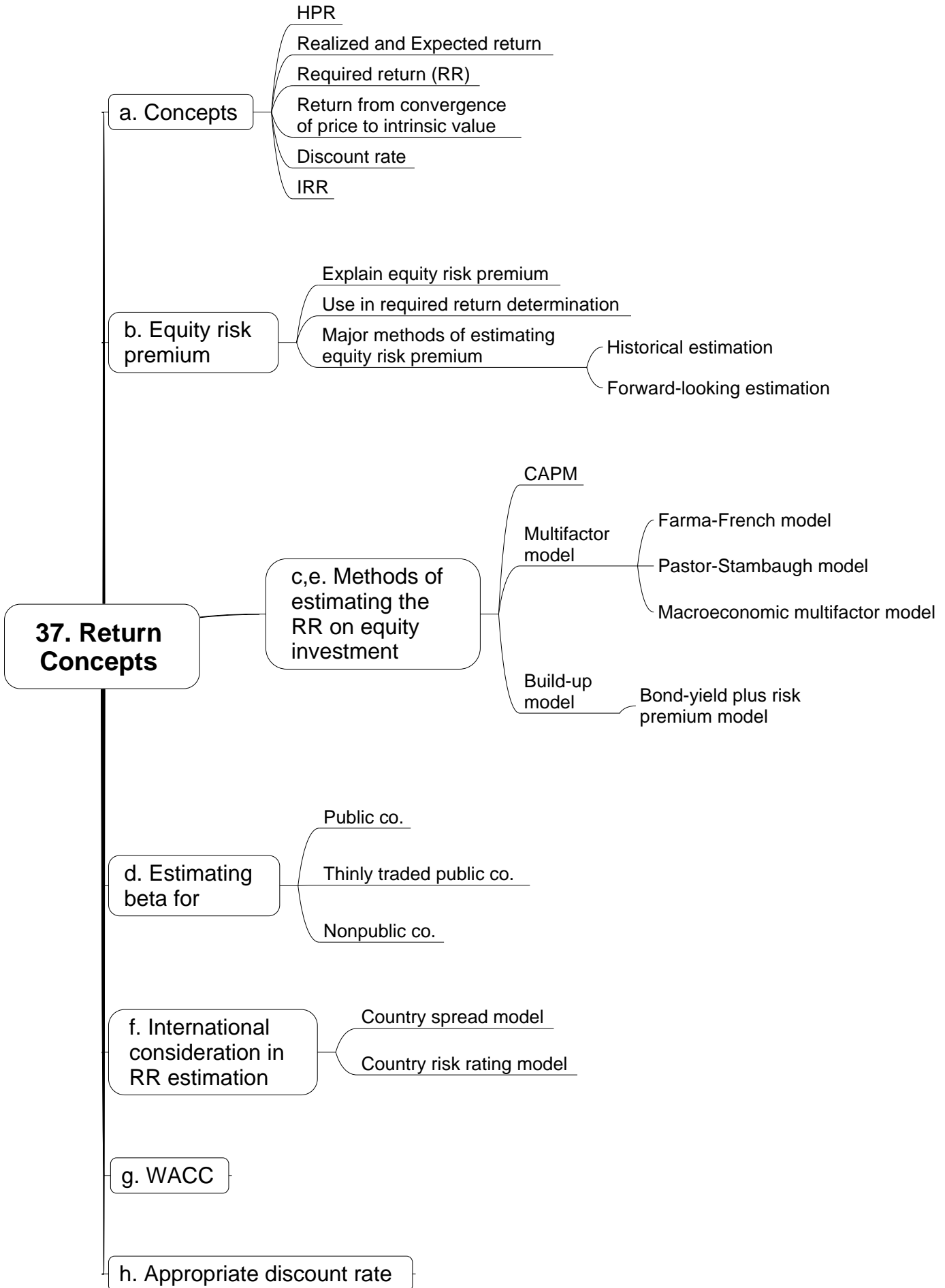
	Methods	What is it?	Advantages	Disadvantages
1	<b>Program trading</b>	Trade entire basket of securities rather than trade security by security	+ Avoid large execution cost + Diversification --> less risky	- Find a counterparty for a large basket --> costly & time-consuming
2	<b>Internal crossing</b>	Portfolio manager executes a buy order & a sell order (same security, at same time, different clients)	+ Minimize execution cost	- Rare opportunity - Difficult to set fair price - Usually applied for passive investment strategies only
3	<b>External crossing</b>	Use ECN (Electronic Crossing Network) --> match market orders	+ Low execution cost + Anonymous	- In ECN, many orders are not executed (no opposing orders) --> increase opportunity costs
4	<b>Principal trades</b>	A dealer (with inventory) guarantees full execution at a specified price	+ Liquidity is assured --> reduce opportunity cost	- High execution cost - Not anonymous
5	<b>Agency trades</b>	A broker (as agent) searches the market for best price	+ Minimize opportunity costs & price impact costs	- High commission
6	<b>Futures contracts</b>	Buy/sell futures contracts on index while sell/buy securities	+ Futures are highly liquid --> gain fast exposure --> reduce opportunity costs	- Basis risk (esp. when correlation # 1) --> not for single stock trades
7	<b>Indications of interest</b>	Search market (survey) for counterparties	+ Lower execution costs	- Less anonymity - Appropriate for passive strategies

## EQUITY INSTRUMENTS (LOS 36 e,f,g,h,i)

	Instruments	What is it?	Advantages	Disadvantages
	ADR (LOS 36e)	<p><b><u>Negotiable certificate:</u></b></p> <ul style="list-style-type: none"> <li>. Dollar-denominated</li> <li>. Issued by banks</li> <li>. Represent a specified number of shares in a foreign corporation (held in custody overseas)</li> <li>. Traded on NYSE, AMEX, NASDAQ like other shares</li> <li>. Can be cancelled and redeemed for underlying shares anytime</li> </ul>	<p><b><u>Advantages to US investors:</u></b></p> <ul style="list-style-type: none"> <li>+ Reduce admin &amp; duty costs (to retail investors)</li> <li>+ Obtain international diversification with relative ease</li> </ul> <p><b><u>Advantages to issuers to be listed abroad (LOS 36f):</u></b></p> <ul style="list-style-type: none"> <li>. Additional external financing</li> <li>. Diversification of capital sources</li> <li>. Concern about take-overs by domestic companies</li> <li>. Advertising</li> </ul>	<p><b><u>Disadvantages to US investors:</u></b></p> <ul style="list-style-type: none"> <li>- (LOS 36f) More costly for large investors to buy ADRs than to directly buy shares in local markets, b/c ADRs are less liquid than shares in the local market.</li> <li>- Do not eliminate currency &amp; economic risks</li> <li>- Few foreign companies have actively-traded ADRs (LOS 36i)</li> </ul>

## EQUITY INSTRUMENTS (LOS 36 e,f,g,h,i)

	Instruments	What is it?	Advantages	Disadvantages
	<b>ADR (cont.)</b>	3 types of ADR: * <b>Level 1</b> : OTC --> inexpensive, not required to comply with SEC registration & reporting requirements * <b>Level 2</b> : listed on exchanges or quoted on NASDAQ --> must adhere to SEC & reconcile FR to USGAAP, quarterly FR --> increase visibility & trading volume * <b>Level 3</b> : issuer floats a public offering of ADRs on US exchange to raise new equity --> same reporting requirement as level 2 --> visibility, prestige		
	<b>Closed-end country fund (LOS 34g)</b>	. Closed-end fund that invests in stocks from a single country . Market price = NAV + premium or - discount . NAV = Market value/number of shares	+ Simple way to access foreign markets + International diversification	- High volatility of NAV premium --> risk - High correlation with US markets --> reduce benefits of international diversification
	<b>Closed-end country fund (cont.)</b>	Premium/discount depends on: - Foreign investment restrictions --> premium - Management fees & lack of liquidity --> discount - Correlation with US markets: high but react slowly to NAV (mkt inefficiency)		
	<b>Open-end fund</b>	. Publicly traded mutual funds . Can be bought or redeemed at NAV	+ No premium/discount (Price = NAV) + Multitude of choices	- International market closing --> investors must redeem shares by noon EST. Time lag btw closings, redemptions & NAV determination - Large redemptions --> need several days to execute - Can't be sold short or margined
	<b>International ETF (LOS 36h)</b>	. Track an index . A special type of open-end fund . Exchange- traded . Exchange specialists act as market makers --> arbitrage to make sure price=NAV . Pricing and relation to NAV is influenced by time zones: if non-overlapping --> e/r changes & expectation changes --> stale price	+ Achieve international diversification with high liquidity & at minimal costs (do not have shareholder accounting expenses) + Low portfolio turnover --> tax efficiency + Can be shorted and margined + Pursue international investment strategy without buying securities directly + Utilized in active asset allocation	- Management fee --> prevent from achieving return higher than the index it tracks



# 38. Equity: Concepts And Techniques

## a. Analysis

### Country analysis

#### Short run

#### Business cycles

- Recovery
- Early upswing
- Late upswing
- Economy slows
- Recession

Business cycle synchronization

#### Long run

Sustainable economic growth

Economic growth theories and valuation implications

- Neoclassical growth theory
- Endogenous growth theory

### Industry analysis

#### Return analysis

- Global demand analysis
- Industry life cycle
- Competition structure analysis
- Value chain
- Degree of industry cooperation
- Competitive advantage
- Generic competitive strategies

#### Risk analysis

- Bargaining power of buyers
- Bargaining power of suppliers
- Competition within the industry
- Value chain competition
- Threat of new entrants
- Substitute products
- Govt intervention
- Overall risk

## b. Equity analysis

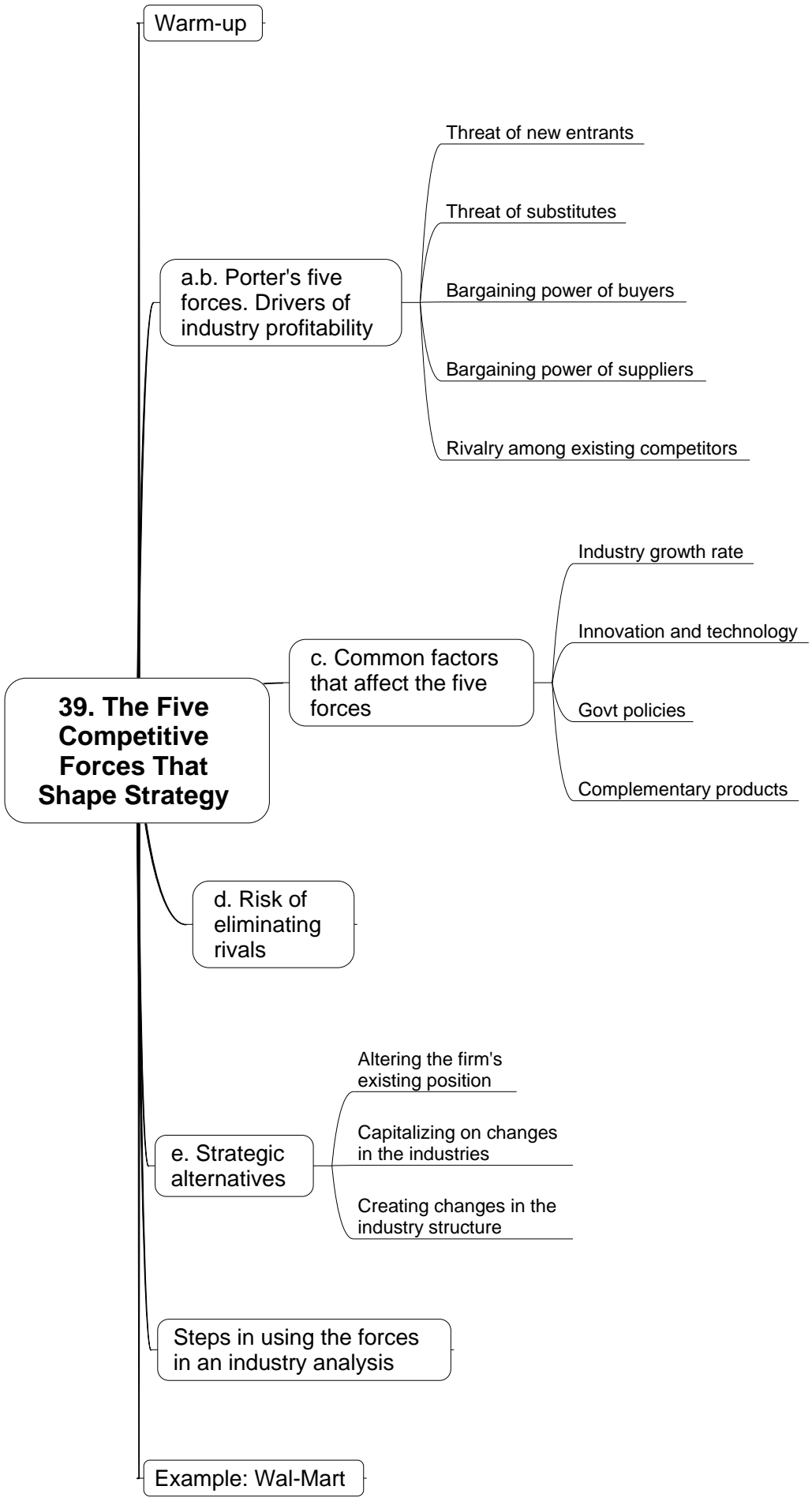
### Financial ratio analysis

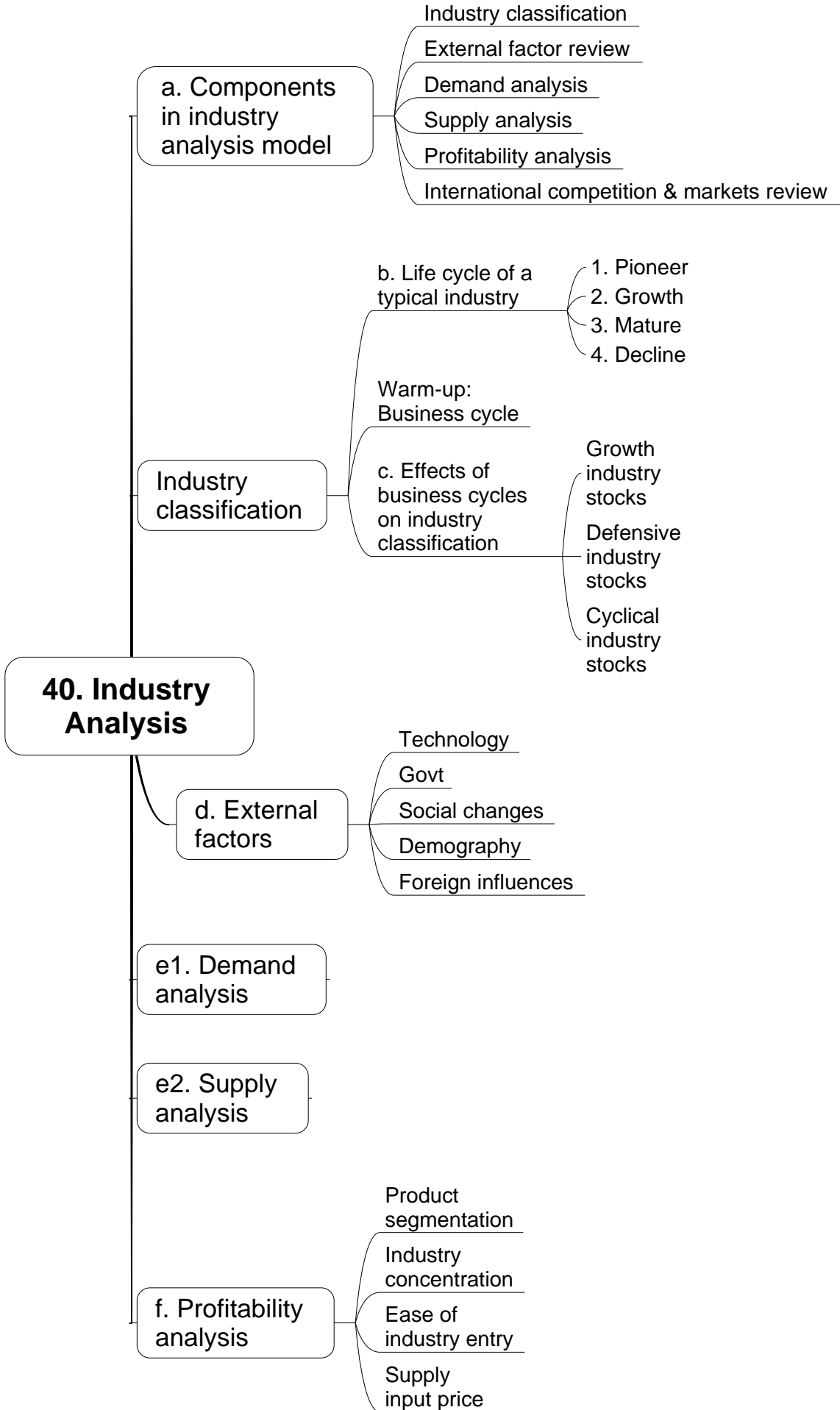
### Discounted CF models

- DDM
- Franchise value model

## c. Inflation effects on valuation

## d. Multifactor models in a global context





Warm-up: Real and nominal valuation

CF estimation

a. Effects of inflation

- Income taxes
- NWC
- Capital expenditures

b. Calculate nominal and real-term financial projections

5-step approach

1. Operating results- real
2. Operating results- nominal
3. NOPLAT- real
4. Free CF- real & nominal
5. Firm value- real & nominal

## 41. Valuation In Emerging Markets

c. Account for emerging market risks

Adjust CFs, b/c

- Country risks are diversifiable
- Companies respon differently to country risk
- Country risk is one-sided risk
- Identifying CF effects aids in risk management

Rather than adjusting r

d. Estimating cost of capital

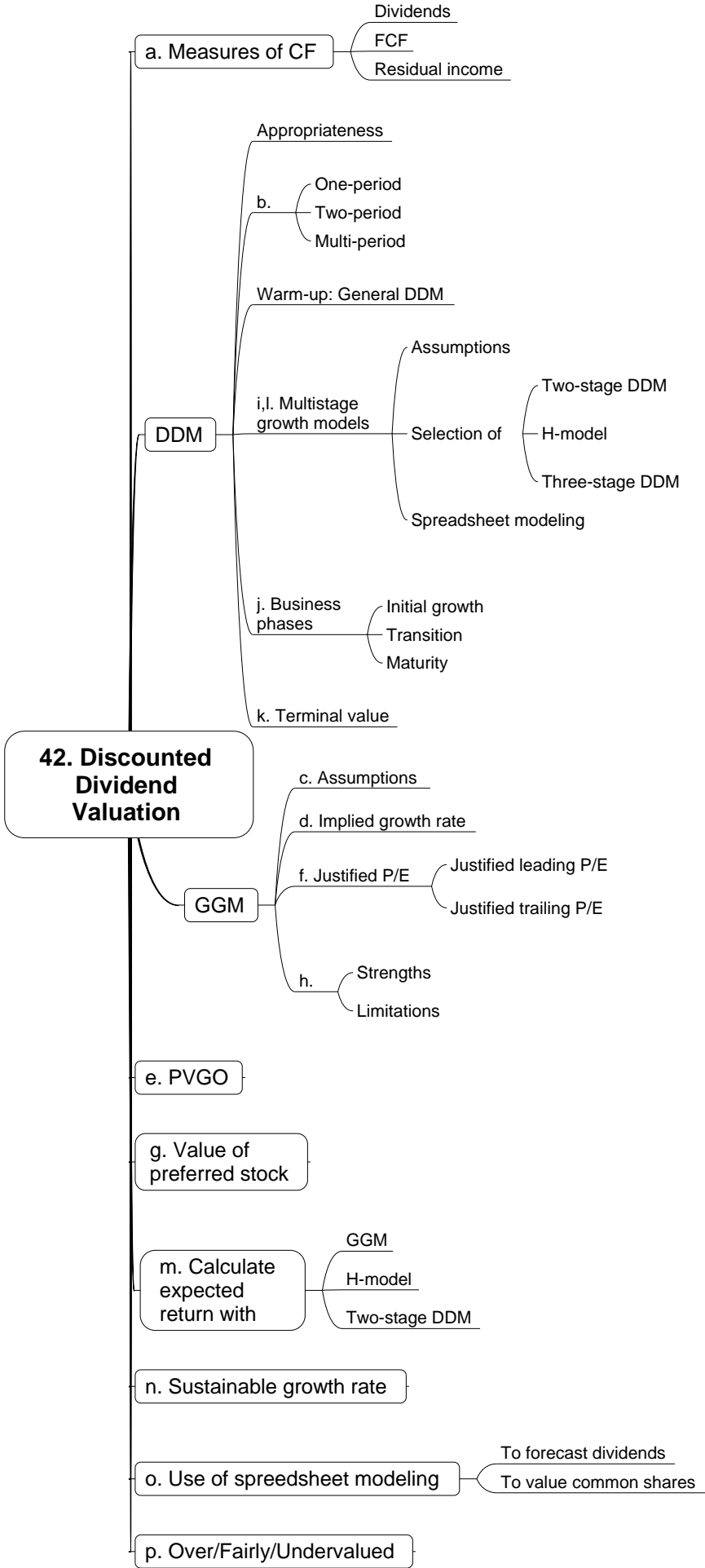
Ke

- Rf
- Beta
- Market risk premium

Kd (1-t)

- Kd
- t

Capital structure weights



a. Measures of CF

- Dividends
- FCF
- Residual income

DDM

- Appropriateness
- b.
  - One-period
  - Two-period
  - Multi-period
- Warm-up: General DDM
- i,j. Multistage growth models
  - Assumptions
  - Selection of
    - Two-stage DDM
    - H-model
    - Three-stage DDM
  - Spreadsheet modeling
- j. Business phases
  - Initial growth
  - Transition
  - Maturity
- k. Terminal value

**42. Discounted Dividend Valuation**

GGM

- c. Assumptions
- d. Implied growth rate
- f. Justified P/E
  - Justified leading P/E
  - Justified trailing P/E
- h.
  - Strengths
  - Limitations

e. PVGO

g. Value of preferred stock

m. Calculate expected return with

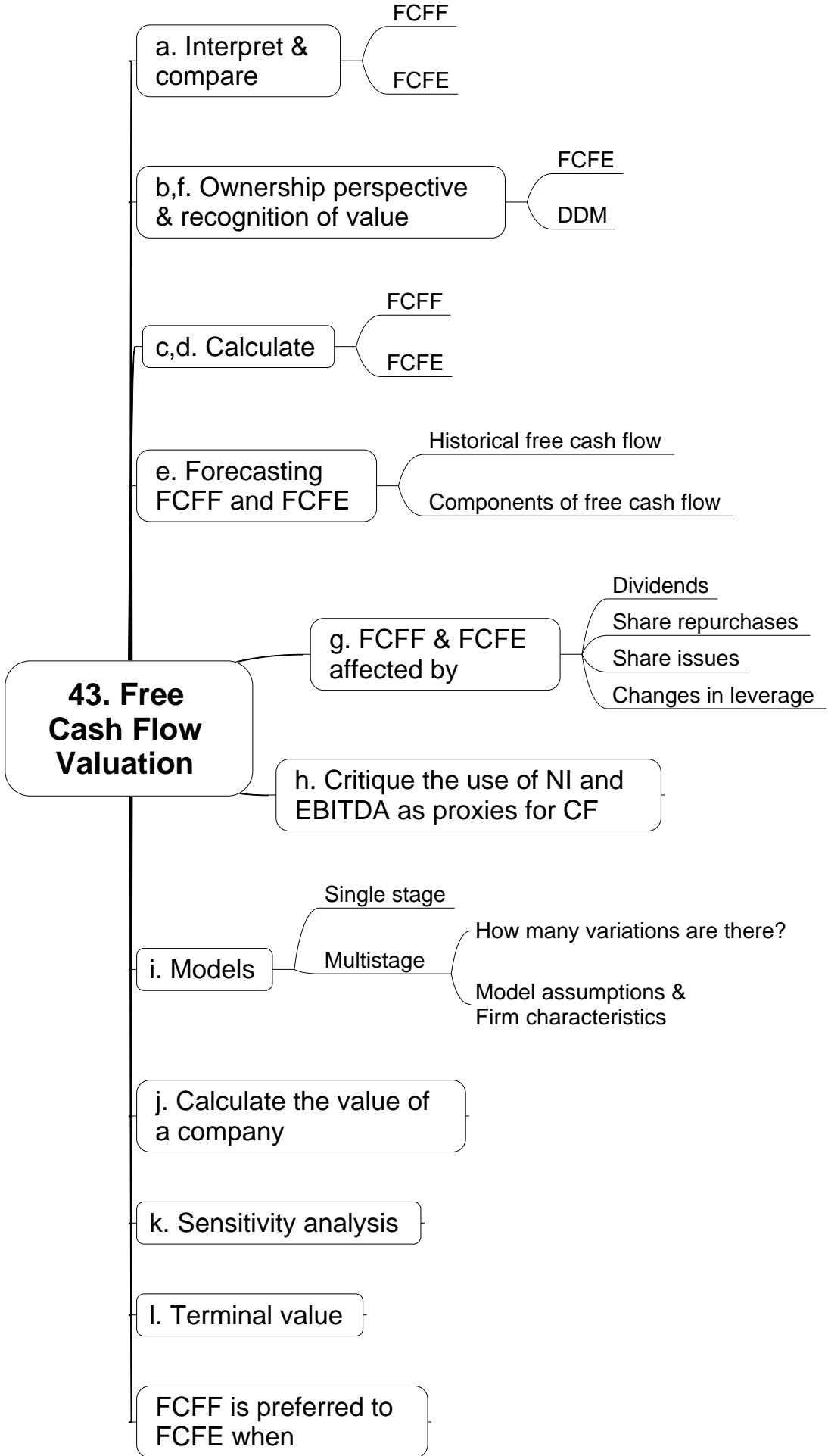
- GGM
- H-model
- Two-stage DDM

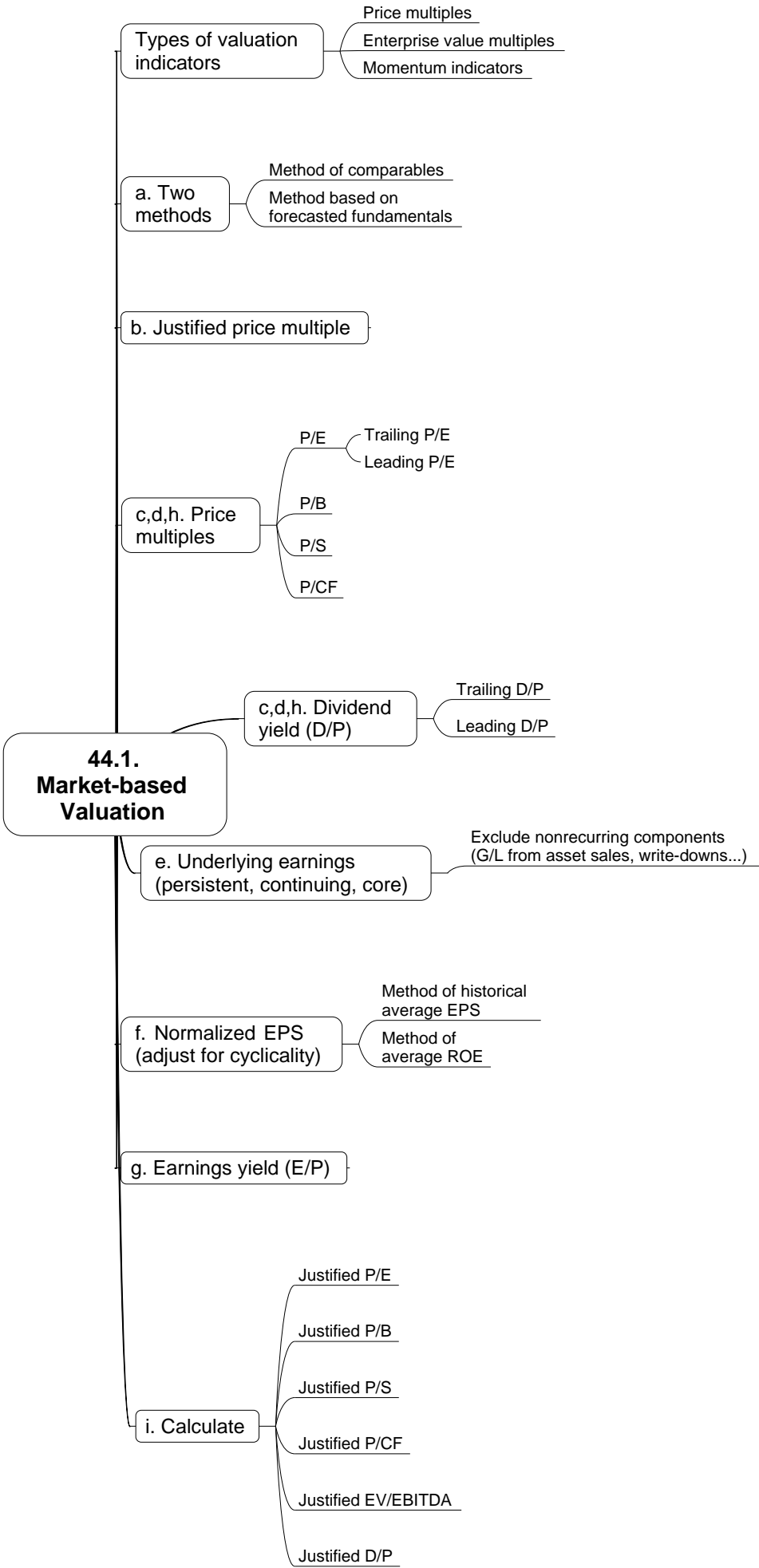
n. Sustainable growth rate

o. Use of spreadsheet modeling

- To forecast dividends
- To value common shares

p. Over/Fairly/Undervalued





Types of valuation indicators

- Price multiples
- Enterprise value multiples
- Momentum indicators

a. Two methods

- Method of comparables
- Method based on forecasted fundamentals

b. Justified price multiple

c,d,h. Price multiples

- P/E
  - Trailing P/E
  - Leading P/E
- P/B
- P/S
- P/CF

c,d,h. Dividend yield (D/P)

- Trailing D/P
- Leading D/P

**44.1. Market-based Valuation**

e. Underlying earnings (persistent, continuing, core)

Exclude nonrecurring components (G/L from asset sales, write-downs...)

f. Normalized EPS (adjust for cyclical)

- Method of historical average EPS
- Method of average ROE

g. Earnings yield (E/P)

i. Calculate

- Justified P/E
- Justified P/B
- Justified P/S
- Justified P/CF
- Justified EV/EBITDA
- Justified D/P

j. Predicted P/E ratio

k. Evaluate stock by method of comparables

l. PEG ratio

m. Use of price multiples in determining terminal value in a multistage DCF model

n. Alternative definitions of CF used in price multiples

## 44.2 Market-based Valuation (cont.)

o. EV/EBITDA

p. Sources of differences in cross-border valuation comparisons

q. Momentum indicators

r. Over/Fairly/Undervalued

s. Central tendency of a group of multiples

Arithmetic mean

Harmonic mean

Weighted harmonic mean

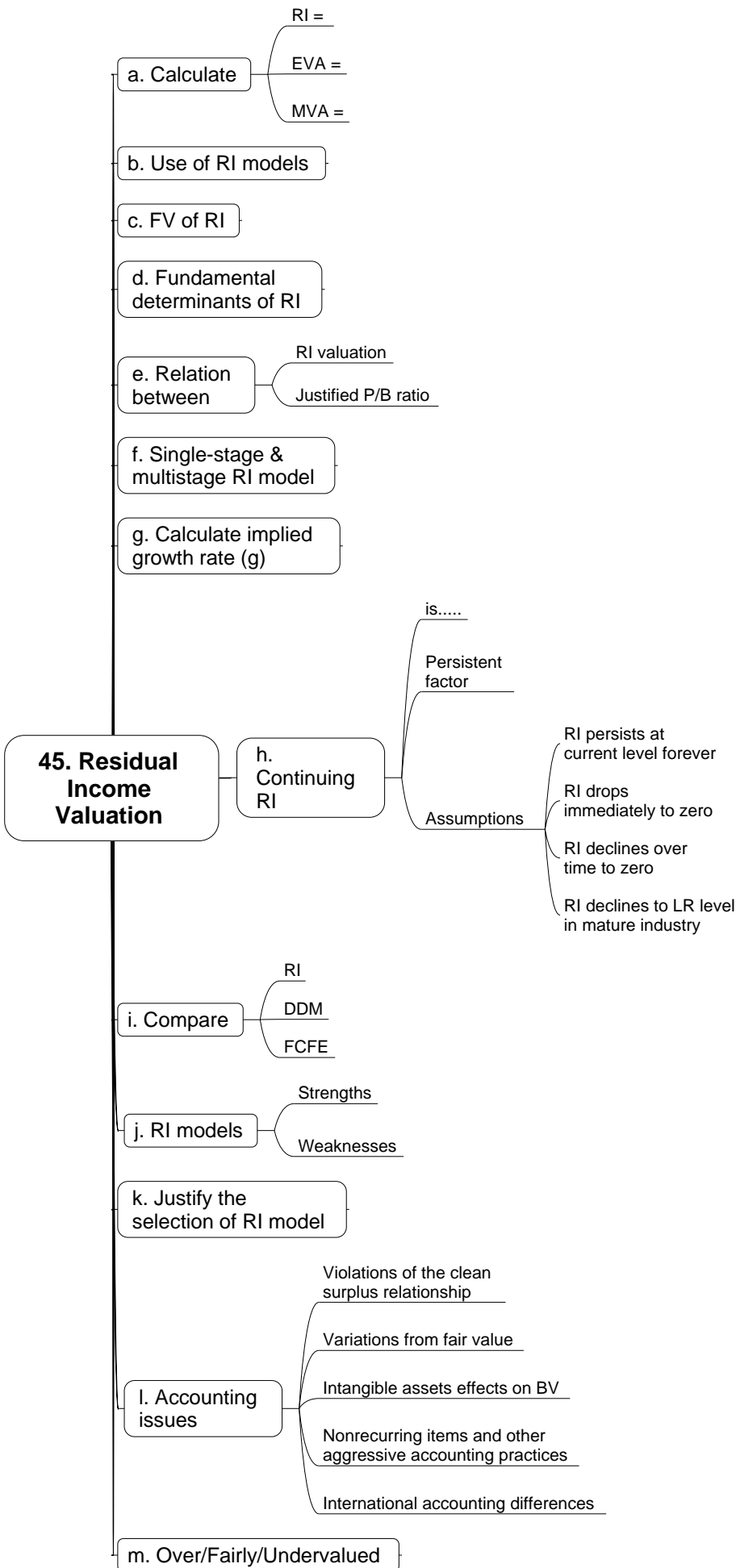
Median

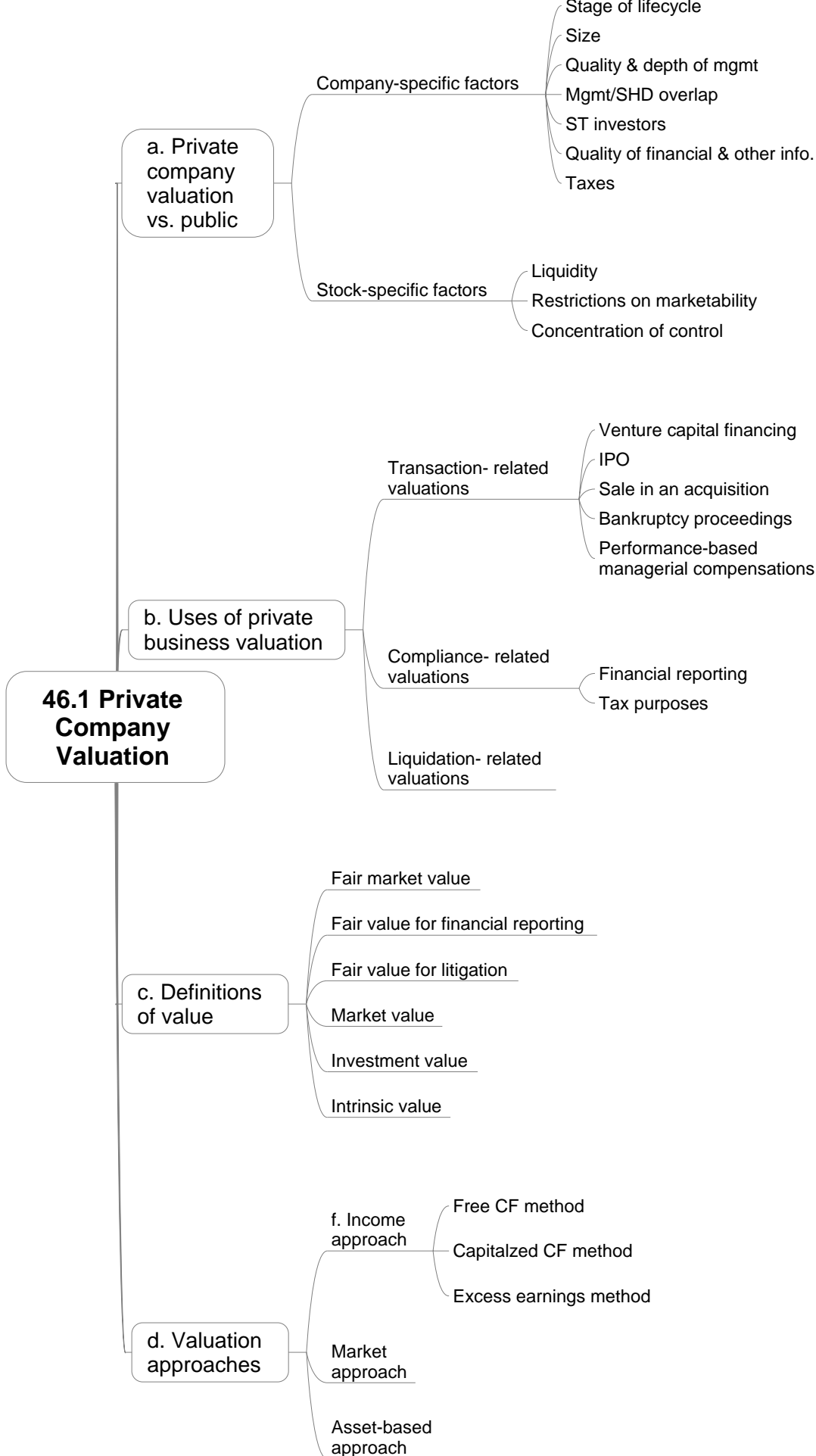
t. The use of stock screens in investment management

# EQUITY LEVEL 2, READING 44

44. c,d,i, o

Multiples (LOS c,d)	Advantages	Disadvantages	Notes	Justified (LOS i)
P/E	<ul style="list-style-type: none"> <li>+ Popular</li> <li>+ Earnings power (EPS) is the primary determinant of inv. Value</li> <li>+ Proved by empirical evidence</li> </ul>	<ul style="list-style-type: none"> <li>- EPS might be &lt;0 --&gt; P/E is meaningless</li> <li>- Earnings have 1 portion that is volatile &amp; transitory --&gt; difficult to interpret</li> <li>- Earnings can be distorted by mgmt --&gt; lower comparability</li> </ul>	<ul style="list-style-type: none"> <li>* Trailing P/E: not useful for forecastin &amp; valuation</li> <li>* Leading P/E: not relevant if earnings are too volatile</li> </ul>	
P/B	<ul style="list-style-type: none"> <li>+ Usually BV&gt;0, more stable</li> <li>+ Firms that primarily hold liquid assets --&gt; <math>BV \sim V_E</math></li> <li>+ Useful in valuing companies expected to go out of biz.</li> <li>+ Proved by empirical evidence</li> </ul>	<ul style="list-style-type: none"> <li>- Not reflect intangible assets (human capital)</li> <li>- Misleading due to differences in asset size (eg.: outsource vs. not outsource)</li> <li>- Different accounting standards --&gt; affect comparability (eg.: R&amp;D is expensed in US)</li> <li>- BV # MV b/c of inflation or technological change</li> </ul>	Adjustments to BV: <ul style="list-style-type: none"> <li>. Exclude intangible assets (GW, patent)</li> <li>. Adjust for OBS</li> <li>. Adjust to reflect fair value</li> <li>. Adjust for # accounting policies (eg.: LIFO vs. FIFO)</li> </ul>	
P/S	<ul style="list-style-type: none"> <li>+ S is always &gt;0, even when E,B&lt;0 --&gt; P/S meaningful for distressed firms</li> <li>+ Not as easy to manipulate/ distort</li> <li>+ Not as volatile --&gt; estimate is more reliable</li> <li>+ Appropriate for start-up companies, mature&amp;cyclical industries, investment mgmt companies</li> <li>+ Proved by empirical evidence</li> </ul>	<ul style="list-style-type: none"> <li>- High sales growth --&gt; not mean high operating profit --&gt; not as meaningful as P/E &amp; P/CF</li> <li>- Not capture cost differences</li> <li>- Can still be distorted (eg.: bill-and-hold)</li> </ul>		
P/CF	<ul style="list-style-type: none"> <li>+ CF is harder to manipulate</li> <li>+ P/CF is more stable than P/E</li> <li>+ Avoid "quality of earning" problem of P/E</li> <li>+ Proved by empirical evidence</li> </ul>	<ul style="list-style-type: none"> <li>- If <math>CF=NI+NCC</math> --&gt; ignore NCR<sub>ev.</sub> &amp; WC</li> <li>- FCFE is preferred to CFO but more volatile</li> </ul>		
D/P	<ul style="list-style-type: none"> <li>+ D/P (with capital gain) contributes to R investment</li> <li>+ Div less risky than capital gain</li> </ul>	<ul style="list-style-type: none"> <li>- Ignores capital appreciation --&gt; incomplete focus</li> <li>- "Div displacement of earnings" concept: trade-off btw div &amp; future earnings (current &amp; future CF)</li> </ul>	<ul style="list-style-type: none"> <li>. Used to value index</li> <li>. Distinguish: Trailing D/P=  Leading D/P=</li> </ul>	
EV/EBITDA (LOS o)	<ul style="list-style-type: none"> <li>+ Useful when comparing firms with different leverage and capital intensive (high DA)</li> <li>+ EBITDA usually &gt; 0</li> </ul>	<ul style="list-style-type: none"> <li>- When WC increases, EBITDA overstates CFO</li> <li>- Ignore how revenue recognition affects CFO</li> <li>- CAPEX # Depr -&gt; EBITDA not capture CAPEX --&gt; # FCFE --&gt; not linked with valuation theory</li> </ul>		





## 46.1 Private Company Valuation

a. Private company valuation vs. public

Company-specific factors

- Stage of lifecycle
- Size
- Quality & depth of mgmt
- Mgmt/SHD overlap
- ST investors
- Quality of financial & other info.
- Taxes

Stock-specific factors

- Liquidity
- Restrictions on marketability
- Concentration of control

b. Uses of private business valuation

Transaction-related valuations

- Venture capital financing
- IPO
- Sale in an acquisition
- Bankruptcy proceedings
- Performance-based managerial compensations

Compliance-related valuations

- Financial reporting
- Tax purposes

Liquidation-related valuations

c. Definitions of value

Fair market value

Fair value for financial reporting

Fair value for litigation

Market value

Investment value

Intrinsic value

d. Valuation approaches

f. Income approach

- Free CF method
- Capitalized CF method
- Excess earnings method

Market approach

Asset-based approach

