MODEL SELECTION AND FOOTBALL FIELD CHART

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KEY CONCEPTS

1. Absolute(Intrinsic Valuation) vs Relative Valuation
    - Pros and Cons
    - How and When to use
2. Football Field Chart
3. Making Investment Decision/Recommendation

VALUATION AND FINANCIAL MODELING

- In a science, if you get the inputs right, you should get the output right. The laws of physics and mathematics are universal and there are no exceptions. *Valuation is not a science.*
- In an art, there are elements that can be taught but there is also a magic that you either have or you do not. The essence of an art is that you are either a great artist or you are not. *Valuation is not an art.*
- A craft is a skill that you learn by doing. The more you do it, the better you get at it. *Valuation is a craft.*

Taken from: http://people.stern.nyu.edu/adamodar/pdfiles/eqnotes/eqsyllspr19.pdf

INTRINSIC VALUATION

Valuing an asset using the cash flows generated by that asset and the growth and risk of those assets.

- Estimate cash flows for forecast period
- Estimate Terminal Value
- Estimate Cost of Capital
- Discount Cash flows and terminal value
- Adjust for leverage and divide by appropriate shares outstanding
- Make any adjustments for value included or not included above

INTRINSIC VALUATION MARKET ASSUMPTION

Markets are efficient in the long run but make mistakes in pricing assets that eventually get corrected with new information over time.

VALUATION MYTHS

1. A valuation is a search for the "true" value
2. A good valuation provides a precise estimate of value
3. The more quantitative a model, the better the valuation

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These are NOT true

VALUATION TRUTHS

1. All valuations are biased. The only questions are "how much" and in which direction.
2. There are no precise valuations. The payoff to valuation is greatest when valuation is least precise.
3. One's understanding of a valuation model is inversely proportional to the number of inputs required for the model. Simpler valuation models do much better than complex ones.

INTRINSIC VALUATION PROS

- Very little influence from temperamental market conditions (Market Moods and Perception)
- Measure of what you are getting in return (for buying an asset)
- Focuses on underlying characteristics
  - Forces you to think about the business and assumptions
- Eventually you will get cash flows (immunized from market perception)

INTRINSIC VALUATION CONS

- Requires far more inputs and information
- Present value is sensitive to key assumptions
- Inputs and assumptions are noisy and can easily be manipulated (Biases!)
- No guarantee any asset will be undervalued or overvalued
  - Who is this a problem for?

INTRINSIC VALUATION VALUE DRIVERS

- Cash flows from existing assets
- Value added by growth of assets
- Risk of cash flows from both existing assets and growth
- When will the firm become a mature firm

WHEN TO USE DCF

For assets that derive their value from their capacity to generate cash flows

- Best for investors with long-term horizon, ability to move price, not swayed by market
- Easier for stable, predictable firms. Bigger payoff in the "dark"

RELATIVE VALUATION

Value of an asset is derived from the market value placed on similar assets

- Identify comparables and get market values
- Standardize market value (create multiples)
- Compare standardize value to firm (or use to calculate implied price of firm)

RELATIVE VALUATION MARKET ASSUMPTION

Markets are efficient on average but can be wrong on individual assets. Those errors are easier to spot and quicker to correct.

RELATIVE VALUATION PROS

- Reflects market perception and moods.
- Will always have overvalued and undervalued assets
  - Helps if performance is relative
- Fewer assumptions and inputs (explicit)
- Easy to implement

RELATIVE VALUATION CONS

- Undervalued can still be overvalued (just less so)
- Fails if markets can be over/under valued in the aggregate
- Still making implicit assumptions (value drivers)
- Hard to find true comparables

RELATIVE VALUATION VALUE DRIVERS

- Similar to DCF (cash flows, growth, risk)
- Making very similar implicit assumptions

WHEN TO USE MULTIPLES

- Large set of potential comparables that are priced with available common variable
- Best for investors with short-term horizon (incremental game), judged on relative benchmark.
- Can take advantage of both sides (buy undervalued, sell(short) overvalued i.e., hedge fund

PRICING

What makes up a stock price?

- Mood and momentum (including behavioral factors)
- Incremental information and deviation from expectation (news, rumors, gossip)
- Liquidity (Ease of trading)
- Group think

GAP BETWEEN PRICE AND YOUR VALUE

1. Efficient Marketer: gap is random buy low cost index funds
2. Value Extremist: Eventually price moves to value therefore buy and hold undervalued stocks
3. Pricing Extremist: Price may never converge to value, no such thing as intrinsic value. Look for market mispricing and get ahead of shifts in momentum

PRICER DILEMMA

- No anchor
- Reactive
- Must be able to read the crowd/mood and detect shifts to move early

VALUER DILEMMA

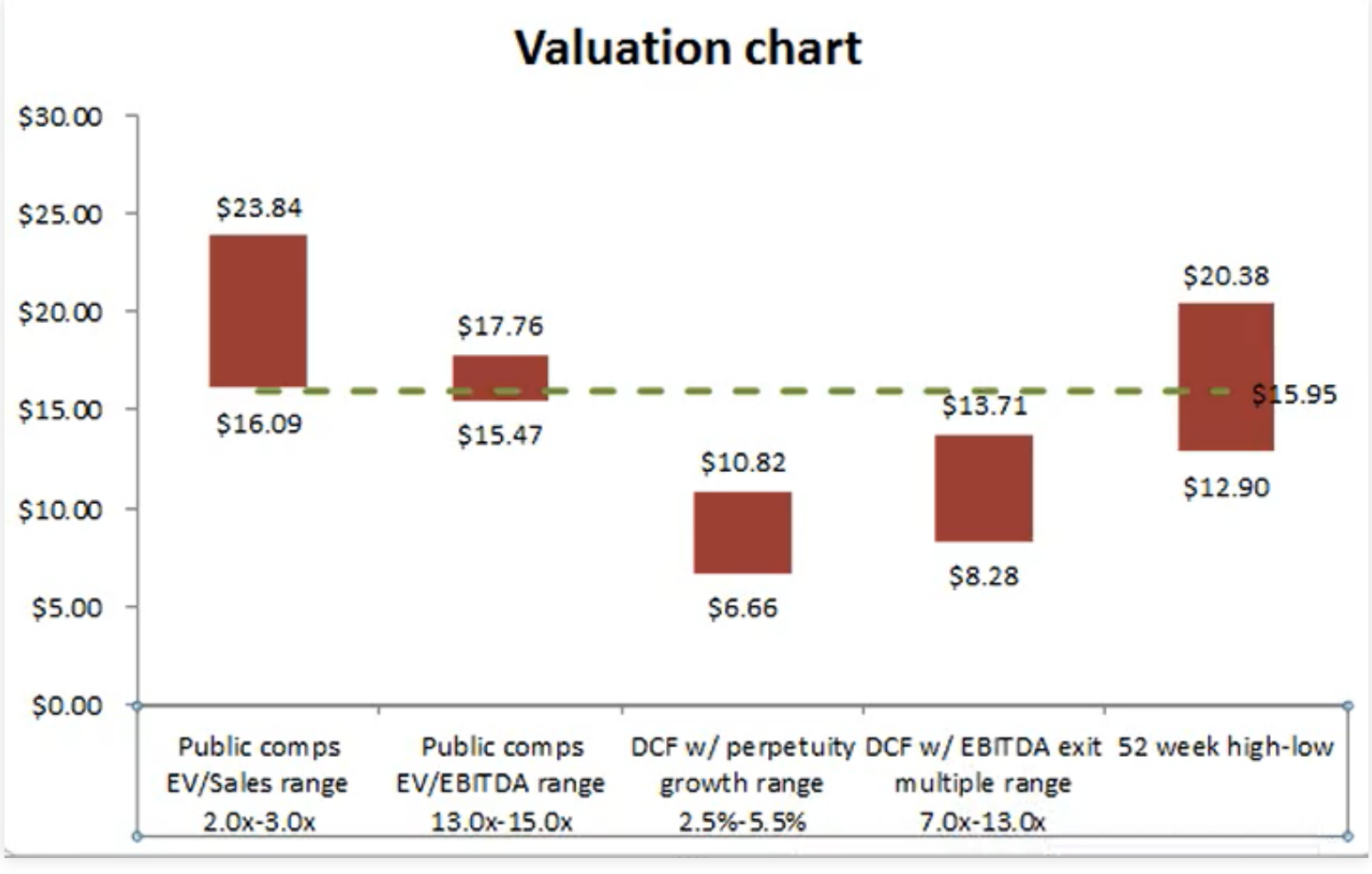
- Uncertainty about magnitude of gap
- Uncertainty about the gap closing
  - Karmic vs Catalyst approach

WHAT NOW? RELATIVE OR ABSOLUTE

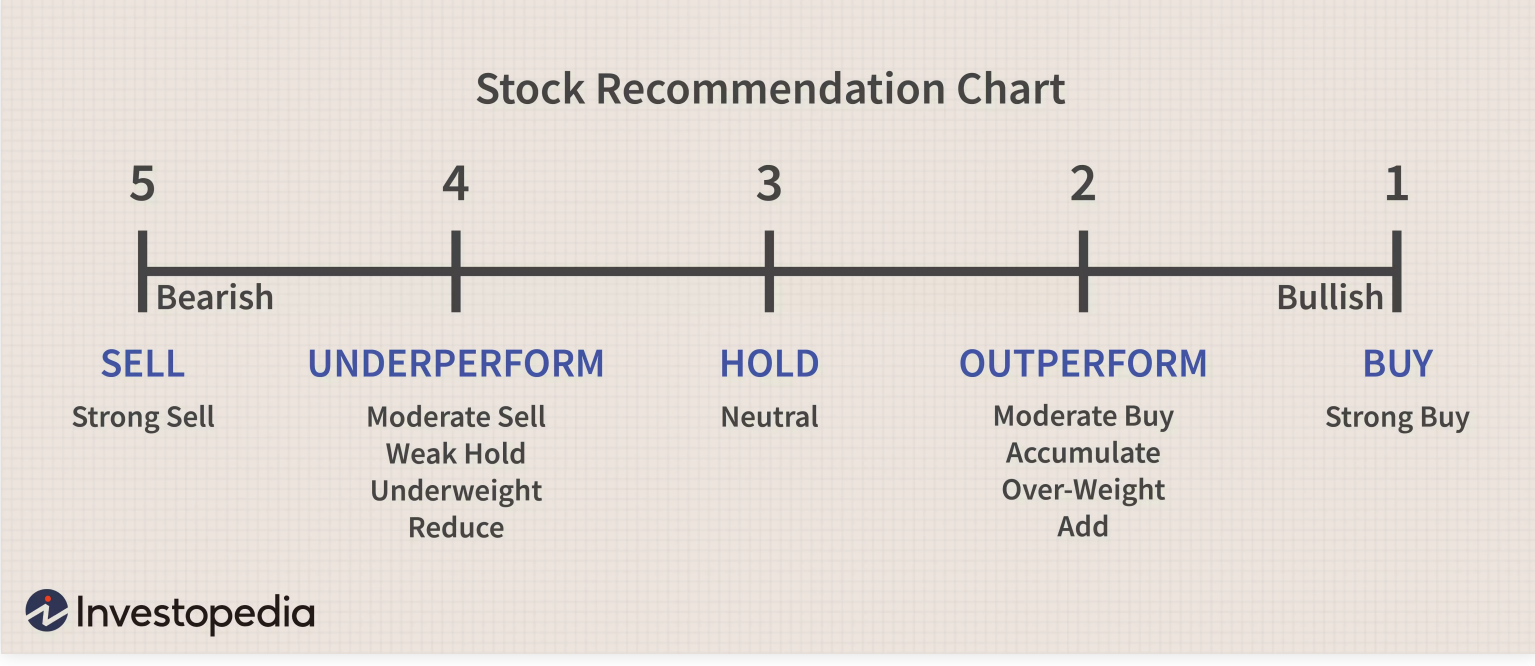
- Two different questions: Price vs Value
- Under certain scenarios can get similar answers
- Buying an asset:
  - What are you giving up(Price)
  - What are you getting in return(Value)
- Personal investment philosophy/strategy dictates approach
- Can be used as complements
- Common to use results from both methods to produce a range

FOOTBALL FIELD CHART

Value/Price range of an asset using different models and assumptions



MAKING INVESTMENT RECOMMENDATION



Example: Apple

Example: Silk Road Medical

NEXT TIME

Advanced Excel