Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Best Practices for Making Accurate Stock Recommendations Using the TIER™ System:

Target realistic price(s)

When forecast is reliable (discussed in preceding framework), derive a range of price targets by applying an objective and defendable valuation multiple(s) and method(s) (using our SHARE™ framework)

Identify & forecast catalyst(s)

If price target differs materially from current stock price, identify and forecast catalyst(s) most likely to lead to convergence

Ensure ideal entry point

Make stock recommendation, if:

- The out-of-consensus element (FaVeS™) is well-researched; and
- The catalyst is likely to occur during the investment time horizon; and
- The risk-adjusted return to the price target is better than alternative investments; and
- There are no clear near-term risks that will offer a better execution point

Review performance & thesis

Remove stock recommendation if:

- The risk-adjusted return to price target is below alternative investments; or
- Out-of-consensus view or catalyst is not likely to occur during investment time horizon

***Perspectives* for G̲enerating Informed Insights (these fall under the "G" of our GAMMA PI™ framework, and are critical *before* starting TIER™)**

Perspectives for:

Generating Informed Insights

Accuracy vs. Speed: Successful research balances the need to collect enough insights to be reasonably accurate, without spending so much time that the new insights are ultimately discovered by the broader markets

Be unique: The key to developing unique insights is to have unique information sources (relying heavily on widely-available data will not lead to alpha-generating stock calls)

Focus on critical factors: Successful analysts narrow their research focus to a few (usually 2-4) critical factors per stock in an effort to develop uniquely *differentiated* insights not found in consensus (we recommend using AnalystSolutions' 4-step process for identifying and monitoring a stock's critical factors)

Don't drown: Some analysts are asked to cover too many stocks, which prevents them from developing *differentiated* insights required for successful stock calls

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

***Perspectives* for <u>A</u>ccurately Forecast (these fall under the first "A" of our GAMMA PI™ framework, and are critical *<u>before</u>* starting TIER™)**

Don't look for precision if it doesn't add value:

Minimal research time should be dedicated to forecasting:

- Required rate of return for equity or the risk-free rate. Nobody has the perfect number. There are experts who can provide great precision, but even these come with a list of caveats. Great stock picks come from identifying a critical factor missed by the market -- not from computing a DCF variable
- Factors that cannot be forecast with accuracy (e.g. commodity prices, the next recession, political unrest)

Analyze analysts: Buy-side analysts, who use sell-side analysts for financial forecasting, should check with third-party services to ensure that the ones they use have a good track record of high forecast accuracy

Perspectives for:

<u>A</u>ccurately Forecast

Avoid blind faith: Analysts should avoid the common rookie mistake of having forecasts higher than consensus, simply based on greater faith in an unproven or weak management team

Assume you're wrong: When analysts' financial forecasts differ materially from consensus, they should assume their forecasts are wrong until they can substantiate otherwise (the collective wisdom of consensus is often correct). Steps to find the most valid "consensus" estimate:

- If there is a material difference between the most accurate sell-side analysts ("informed" consensus) and the overall consensus number, put more weight on the accurate forecasters
- Ensure the published consensus estimate includes many estimates, and is not isolated to just a few who happen to have forecasts for the time period being reviewed (such as 2 or 3 years out)
- Ensure the individual estimates are not stale, and that there is no disagreement in terms of special items that may be in the number

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Procedures **for Target Realistic Price(s) (Step 1 of TIER™ which includes the SHARE™ framework):**

Create an accurate financial forecast(s)	Conduct research to develop informed insights about the few critical factors most likely to move a stock, following the ENTER™ quality framework (discussed in Chapters 8 and 23 of *Best Practices for Equity Research Analysts*), to derive a base-case financial forecast more accurate than consensus. Create plausible upside and downside forecasts to stress test the base-case scenario.
Select valuation method(s)	Identify the most common valuation method used for valuing the stock and potential new methods likely to be used at time of price target (driven by company or sector changes). Consider using an alternative valuation method only if it will help in identifying a mis-priced stock.
Historical & current sentiment	Identify if a stock's current valuation is 1) on trend compared to past; and 2) in line with stocks that have similar characteristics
Adjust for future time period	Adjust the current multiple for the future price target by assessing: 1) The future direction of strongly-correlated company-specific and macro variables; and 2) Comparisons with other stocks that have similar prospects
Range of multiples and price targets	Apply the appropriate valuation multiple(s) to the financial forecasts to derive a range of price targets, which provides an objective risk/return profile: • Rather than set a single-point price target, set a range of targets, based on upside, downside and base-case scenarios above • In advance of making a stock recommendation, set a range of exit thresholds (they may be within the "upside" and "downside" scenarios), which will reduce biases from creeping into decisions at a later date • Help reduce anxiety by rigorously developing a "worst-case" scenario before recommending the stock (which may be worse than the "downside" scenario)
Evaluate as circumstances change	Update price target when: • There is a new financial forecast, including as time passes, leading to new forward forecast period (e.g. "next 12 months" changes each month) • There is a justifiable cause to revise the multiple (not just reverse engineering) • There is a justifiable cause to revise the method (use this sparingly)

Utilize the framework on this page in our workshop: Apply Practical Valuation Techniques for More Accurate Price Targets

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

***Perspectives* for Target Realistic Price(s) (Step 1 of TIER™)**

Momentum stocks can defy rational valuations: Rapidly growing stocks (e.g. technology) are often owned by momentum players, and can defy rational valuation levels until approaching more average growth levels

Avoid "incrementalism": Avoid raising your price targets in small, incremental steps while waiting for "further clarification" because it prevents others from seeing the true upside in your call

Perspectives for:

TARGET REALISTIC PRICE(S)

Beware of the temptation to use unproven valuation methods: Avoid new valuation methods, because it's not clear they are necessary. The "price-to-eyeballs" method used to justify valuations at the peak of the dot-com era is noteworthy.

Avoid hitching your recommendation to simplistic valuation arguments: Stock recommendations based solely on the expectation that a stock's valuation multiple will be re-rated (void of an impending financial forecast change), or that the market will change its preferred valuation methodology, are rarely successful. (Sell-side analysts may lose client trust and respect from buy-side clients when these calls lack support.) Major changes to valuation methodologies or multiples tend to occur only when companies or sectors are:

- At the peak or trough inflection points of the business cycle
- Moving from one phase to another of a company's or industry's life cycle (e.g. growth to maturity)
- Going through a major secular transformation or restructuring

Utilize the framework on this page in our workshop: Apply Practical Valuation Techniques for More Accurate Price Targets

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

***Procedures* for Identify & Forecast Catalyst(s) (Step 2 of TIER™):**

Identify & forecast potential catalyst(s)

For stocks being recommended (buy or sell), identify and forecast potential catalysts that would need to occur in order for the market to accept your out-of-consensus thesis. Be specific by estimating the future earnings or cash flow impact in areas such as:

- Pricing
- Volume
- Costs
- Margins
- Free cash flow
- Returns
- EPS growth rate

Focus on catalysts that meet the optimal criteria

Narrow down to the optimal catalyst(s) and ensure it meets all of these criteria:

- Pertains to a critical factor that is material enough to move the stock
- Likely to occur during the investment time horizon
- Not currently appreciated by the market
- Can be forecast with some level of certainty

Proactively prepare for next catalyst

For recommended stocks, proactively put dates in a calendar for the following types of events, with the expectation that information pertaining to a catalyst will emerge and move the stock:

- Outcome of your proprietary research (field trip, survey, etc.)
- Company-sponsored analyst meetings and calls
- Earnings releases
- The company's annual pricing, volume, or earnings guidance or projection
- Deadlines for new legislation, regulations, or court case outcomes
- Prescheduled announcements by the company's customers, competitors, or suppliers (sometimes announced at major industry conferences)
- New product releases or significant product extensions
- Interim sales data for the company or the sector
- Non-deal investor roadshows

Utilize the framework on this page in our workshop: Master the Stock Call Techniques of Highly Experienced Analysts

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Perspectives **for Identify & Forecast Catalyst(s) (Step 2 of TIER™):**

Perspectives for step:

IDENTIFY & FORECAST CATALYST(S)

Ensure your catalyst has a defined timetable:

Predict the catalyst before recommending a stock, or suffer the risk noted by John Maynard Keynes when he said, "Markets can remain irrational a lot longer than you and I can remain solvent."

Don't equate a "cheap stock" to a "good idea": Avoid recommending low-valuation stocks simply because they are "cheap" – often stocks are cheap for a reason, otherwise known as a value trap. Identify a reliable and likely catalyst that will make them "less cheap."

Review "value" stock calls that no longer screen as "value":

If a stock experiences a strong move and no longer looks cheap, identify a major catalyst that will justify higher valuations or attract a new class of investors (e.g., GARP or growth) before assuming the stock will move any higher.

Use "change in valuation" sparingly: Stock recommendations tend to fail when they are based solely on the analyst's expectations that: the stock's valuation multiple will be re-rated (void of an impending financial forecast change); or the market will change its preferred valuation methodology

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Procedures for Ensure Ideal Entry Point (Step 3A of TIER™), Validate Your View

Avoid costly psychological shortcuts

Avoid the mind traps we've identified as "costly psychological shortcuts" that tend to appear early in the process, including familiarity, availability, and recency biases as well as over-reliance on heuristics.

Ensure call is differentiated (FaVeS™)

Ensure the stock recommendation is differentiated from the consensus thinking in at least one of the areas below (the FaVeS™ framework discussed in Chapter 20 of *Best Practices for Equity Research Analysts*):

Forecast of financial results, such as EPS or cash flow

Valuation multiple or methodology

Sentiment of the market toward the stock (void of an impending change to the forecast or valuation multiple/method)

Avoid Pollyannaish or hopeful thinking

Avoid the mind traps we've identified as "Pollyannaish or hopeful thinking" which include confirmation, over-confidence, self-attribution and optimism biases

Weigh risk as well a return

Among the universe of available stocks to recommend, ensure factors beyond just absolute return are given priority as part of the pending recommendation (i.e. risks). These often include:

- Predictability of earnings or cash flow forecasts that drive thesis
- Conviction in the catalyst occurring and moving the stock to the price target
- Reliability that management will deliver on its goals
- Timing for when the catalyst will occur (e.g. next month or 2 years from now?)

Ensure no imminent danger

Ensure there are no clear near-term risks that will offer a better execution point, such as the company falling short of current quarter expectations. This may seem like common sense, but too often an analyst will recommend a stock based on a long-term thesis and fail to appreciate that the stock will remain weighed down in the near-term. Examples include:

- Current quarter's consensus expectations are opposite your long-term view
- A large class of investors are still exiting (growth investors selling after a stock appears to be moving into the maturity phase)
- The current economic cycle appears to be reaching its peak
- A large management lock-up is about to expire

Document thesis

Avoid the "loss-aversion" mind trap by documenting the thesis and the price target specifics before making the recommendation. Also establish a stop-loss price to reduce the downside risk and as a place to re-evaluate if the unique insight isn't playing out as expected.

Sleep on it

Before changing a rating, reduce anxiety and the overreaction bias by contemplating it overnight (assuming time allows). "Sleeping on it" usually provides more objectivity than making a quick decision during a workday.

Utilize the framework on this page in our workshop: Master the Stock Call Techniques of Highly Experienced Analysts

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Procedures for Ensure Ideal Entry Point (Step 3B of TIER™), Assess and Influence the Market's View

Monitor trading data

Monitor trading data to understand the motivations of the current stock holders

- Changes in the types of investors who own the stock (e.g. value, GARP, growth, momentum). This can be done with Bloomberg's HDSM function. and FactSet's "Comprehensive Ownership Detail Report")
- Short interest
- Company insider buying and selling
- Movement of stock compared to company's debt yield or CDS spreads

Know consensus

Analyze the consensus estimate, specifically determining:

- How many analysts comprise "consensus" (more than 1 or 2 in outer years?)
- Are their estimates disparate or similar?
- Are any estimates stale?
- Does the consensus of the most accurate analysts differ from the overall consensus?

Survey market sentiment

Assess market sentiment about the stock and sector (which is done by the best buy-side and sell-side analysts) by surveying experienced buy-side and sell-side analysts, sell-side salespeople, traders, and investor relations contacts. Investigate:

- Biggest investor concerns (may or may not be a critical factor)
- Expectations that are above or below the published consensus
- The names and types of stocks receiving the most/least attention (where is everyone spending their time and what's being ignored?)
- General view toward the market (bullish or bearish) and risk (risk-on or risk-off)

Avoid following the herd

Avoid the mind traps we've identified as "Following the herd" which include overreaction and momentum biases

Monitor technical indicators

Monitor technical indicators to the extent they provide a better understanding of a stock's momentum (beware they will not predict inflection points).

Influence the market

In order to get the consensus' thinking to come around to the analyst's out-of-consensus view:

- Sell-side analysts should publish their view and influence key market participants
- If allowed by their firm, buy-side analysts should inform the most influential sell-side analysts of their thesis, but only after the buy-side analyst's firm has built a position in the stock

Utilize the framework on this page in our workshop: Master the Stock Call Techniques of Highly Experienced Analysts

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Perspectives **for Ensure Ideal Entry Point (Step 3 of TIER™), Part 1: General**

General perspectives for: **ENSURE IDEAL ENTRY POINT**

Keep it simple: the more complex the investment thesis, the more things can go wrong or be misunderstood by the market.

Don't be a contrarian just to be a contrarian – the market tends to be right more than it's wrong. But when individual stocks or sectors appear to be moving too far too fast for irrational reasons (not based on fundamentals), consider the contrarian view.

Understand that shorting stocks has unique challenges: Shorting stocks (without a corresponding long) is a challenge because equities, as an asset class, rise over time.

Spending time to avoid the blow-up is useful: Don't waste time researching non-critical factors, but also understand conducting research on critical factors and then deciding not to recommend the stock can be very valuable. Namely, avoiding the blow-ups is often one of the best contributors to a successful stock picking record.

Understand that the "right time and place" for a stock call can be determined by the market's risk appetite: Avoid making individual stock calls in isolation of the market's appetite for risk (i.e. resist recommending weaker companies when the market's risk appetite is waning, such as near the end of an economic cycle). The market's relative appetite for risk can be gauged by monitoring:

- Treasury yields
- VIX
- The size of the deal calendar
- Recent stock performance of:
  - Weak companies versus stable companies
  - Emerging markets versus developed markets
  - Small cap versus large cap

Be adaptable to different investment styles: No single investing style will be successful over every time, period. Analysts should have a toolbox containing different approaches and know when to use them.

Know why you differ: If the upside to your price target is materially different than the expected upside in the broader market, determine which of your areas disagrees with consensus:

Financial forecast?

Valuation multiple?

Utilize the framework on this page in our workshop: Master the Stock Call Techniques of Highly Experienced Analysts

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Perspectives for Ensure Ideal Entry Point (Step 3 of TIER™), Part 2: Avoid Psychological Pitfalls

"Avoid Psychological Pitfalls" perspectives for:

ENSURE IDEAL ENTRY POINT

- Avoid "over-confidence" biases by remaining humble and realizing that no professional investor is right 100% of the time
- Avoid the "familiarity" and "availability" biases by not recommending one stock over another simply because it's the one most researched
- Don't force a rating: There may not be any substantially under- or over-valued stocks within an analyst's universe at a given point in time and so don't force a buy or sell rating just because you've sunk time into your research (Sunk Cost pitfall)
- Avoid following the herd (see next page dedicated to this)
- Avoid "recency" bias by not making recommendations where the stimulus is primarily based on a recent meeting or call with company management, especially if the contact was initiated by the company
- When there's hesitation to change a rating for reasons other than maximizing alpha, there may be emotions clouding the decision
- Avoid the sunk-cost pitfall bias by being willing to reverse a recommendation if a mistake has been made, or a thesis failed to play out

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Perspectives **for Ensure Ideal Entry Point (Step 3 of TIER™), Part 3: Avoid Following the Herd**

"Avoid Following the Herd" perspectives for:

ENSURE IDEAL ENTRY POINT

Increase the urge to sell when everyone loves a sector or stock, and buy when no one wants to own it. Be especially cautious when a stock or sector has had strong relative performance for multiple quarters, by asking, "Who is left to buy?" A few telltale signs to sell are when:

- Valuation is reaching or exceeding peak levels
- All or almost all sell-side analysts have buys on a stock
- The general view in sell-side reports and the financial press is, "It's different this time," or, "Nothing can go wrong."
- The stock no longer reacts positively to good news

Observe when bad news no longer makes stocks go down, or when good news no longer makes them go up; it's a sign that market psychology is shifting

Observe when a stock continually overreacts in one direction to news flow during a relatively short period of time, because it could be a sign of irrational buying or selling.

To be successful in deep value investing, watch for investors to capitulate before building a position

Use a short squeeze as a short-term selling opportunity, due to the panic buying (these tend to be short lived, and as such, shouldn't be used as the rationale for setting a price target.)

If long a stock, avoid panicking when other investors who are short the stock attempt to over-blow the impact of negative news flow.

Before making a recommendation, determine where your psyche is on the "greed vs. fear" spectrum compared with consensus. If it's in the same place as consensus, the trade may simply be following the herd.

When a stock appears to have dropped too much due to new concerns, avoid waiting for the market to get "greater clarity" about the risk, because it will be too late. **The lack of clarity creates an opportunity to exploit!**

If a substantial move in a stock was missed, be hesitant to chase it such as jumping on the bandwagon. Making the same trade as everyone else begs the question, "Who's going to take the other side of the trade when you want to get out?"

Making impulsive stock calls usually leads to problems

Understand that human emotions cause markets to always overreact on the upside and downside – nimble investors can exploit this

Utilize the framework on this page in our workshop: Master the Stock Call Techniques of Highly Experienced Analysts

Perspectives for Ensure Ideal Entry Point (Step 3 of TIER™), Part 4: Factors Influenced by Company Management

“Factors impacted by company management” perspectives for:

ENSURE IDEAL ENTRY POINT

The "cockroach theory" is not just theory: Don’t under-appreciate something otherwise deemed a “minor” issue with a company, that could foretell of bigger problems

Are you being objective or courting favor?: If there is concern about upsetting company management (or clients) based on a rating change, there’s likely a bias negatively influencing objectivity about the change

Be aware of companies that attack: Be leery of companies that ridicule sell recommendations or short-sellers, because they often have something to hide. (If the concerns were baseless, the company should remain quiet and prove the market wrong with impressive performance.)

Does management have enough skin in the game: To have a high conviction about a buy recommendation, the stock should be a large portion of top management’s net worth (or management is acquiring more stock). Conversely, question a high conviction buy-rating if management has been selling stock.

Management should focus on execution: Be cautious of management when it spends more time talking about its stock price or stock performance than running its business

Question management guidance when:

- Always bullish
- Product order lead times are coming down
- It says "It's different this time"
- It says higher revenue growth will offset declining margins
- It looks to cost cutting or assets sales to drive most of its earnings growth

Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

Procedures **for Review Performance and Thesis (Step 4 of TIER™)**

Dynamically rank and review

Review your comparison ("comp") table regularly (i.e. daily or a few times each week). To provide the best analysis, the table should:

- Update stock prices automatically
- Update your EPS (or CFPS) and consensus' forecasts automatically
- Include for each stock:
  - Valuation relative to an index
  - Valuation relative to stocks in other sectors with similar growth and return characteristics
  - Historical relative valuation parameters (on a forward-looking basis)
  - The upside/downside to price target, adjusted for risk
- Allow for quick sorting based on the metrics above

Avoid "fear of failure"

Avoid the mind traps we've identified as "Fear of failure" which include sunk cost fallacy, loss-aversion, anxiety and snakebite effect

Review original documentation

Periodically review your original thesis (as documented at the time of the original recommendation, such as in your model, report or presentation) for these reasons:

- When a stock call is going well, avoid the over-confidence and self-attribution biases by reviewing if the thesis is truly playing out or if it is more luck
- When a stock goes poorly, be disciplined about using the stop-loss thresholds created at the time of the original recommendation. Due to the "loss aversion" psychological pitfall, it's much more difficult to create objective stop-loss points when a stock has not played out as expected.

Re-think recommendation if thesis wanes

If new, reliable information comes to light that derails the basis of the stock call, do an about-face on the rating as quickly as possible. It will be painful, but not as bad as living with a stock thesis that's never going to play out.

Re-think recommendation if catalyst is ineffective

If the key catalyst for the stock recommendation occurs and the stock doesn't move to the price target, strongly re-think the recommendation and avoid the temptation to find another catalyst to justify the recommendation.

Review unbiased comparisons

Avoid sunk-cost, loss-aversion and other biases by periodically (once a month or quarter):

- Masking the company names/tickers within the comp table, looking only at the numbers to see if the ratings appear correct relative to potential risk-adjusted returns
- Ask, "If I switched firms tomorrow, would my stock recommendations at the new firm match my current ones?" If not, investigate why

Avoid placing blame or denying responsibility

When a stock call goes poorly, avoid placing blame on others for a bad stock call, or saying, "The surprise couldn't have been foreseen." Instead, ask yourself these questions:

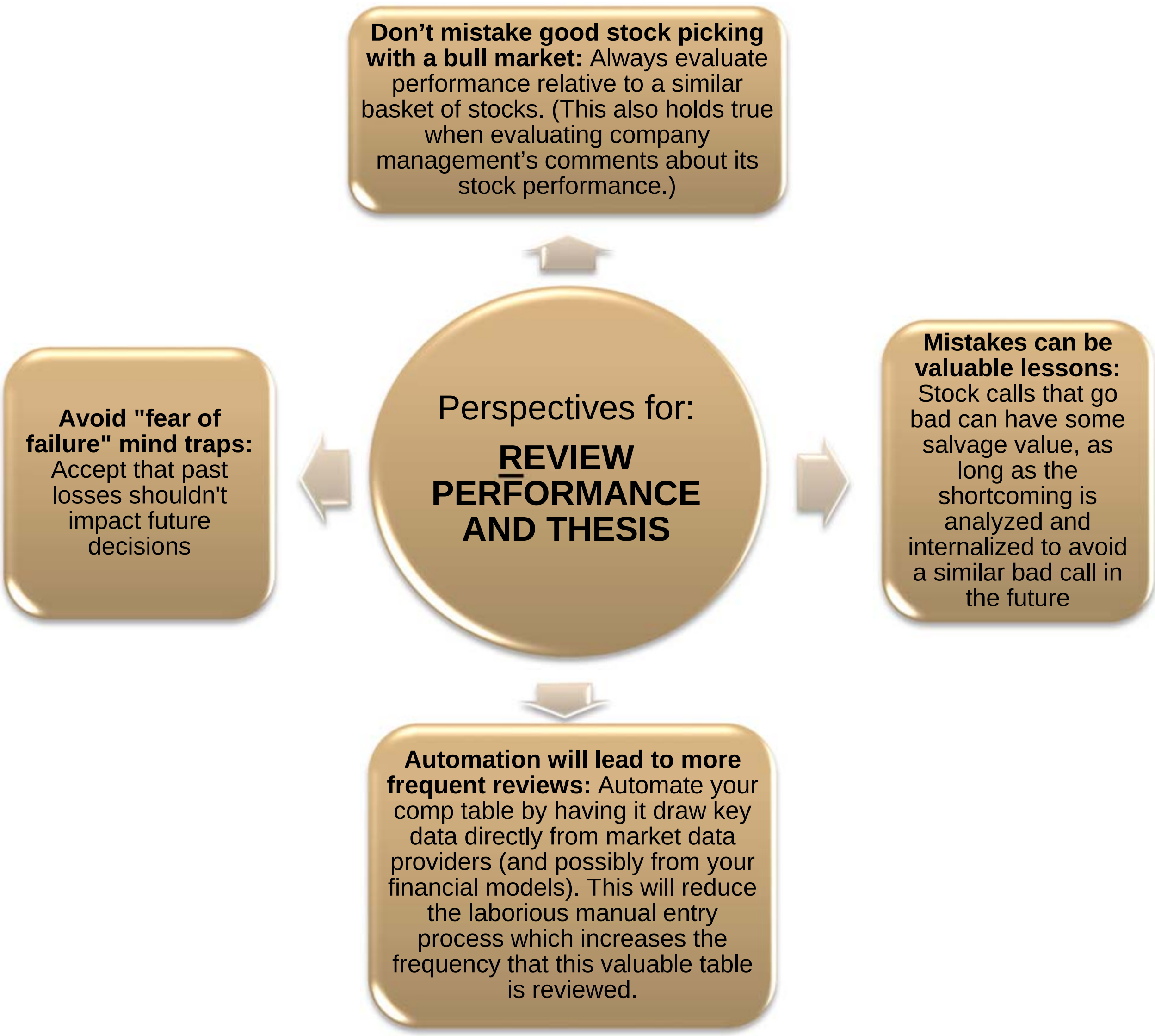
- What could have been done to know about this surprise earlier?
- Did anyone else see this coming (sell-side or buy-side)?

Utilize the framework on this page in our workshop: Master the Stock Call Techniques of Highly Experienced Analysts

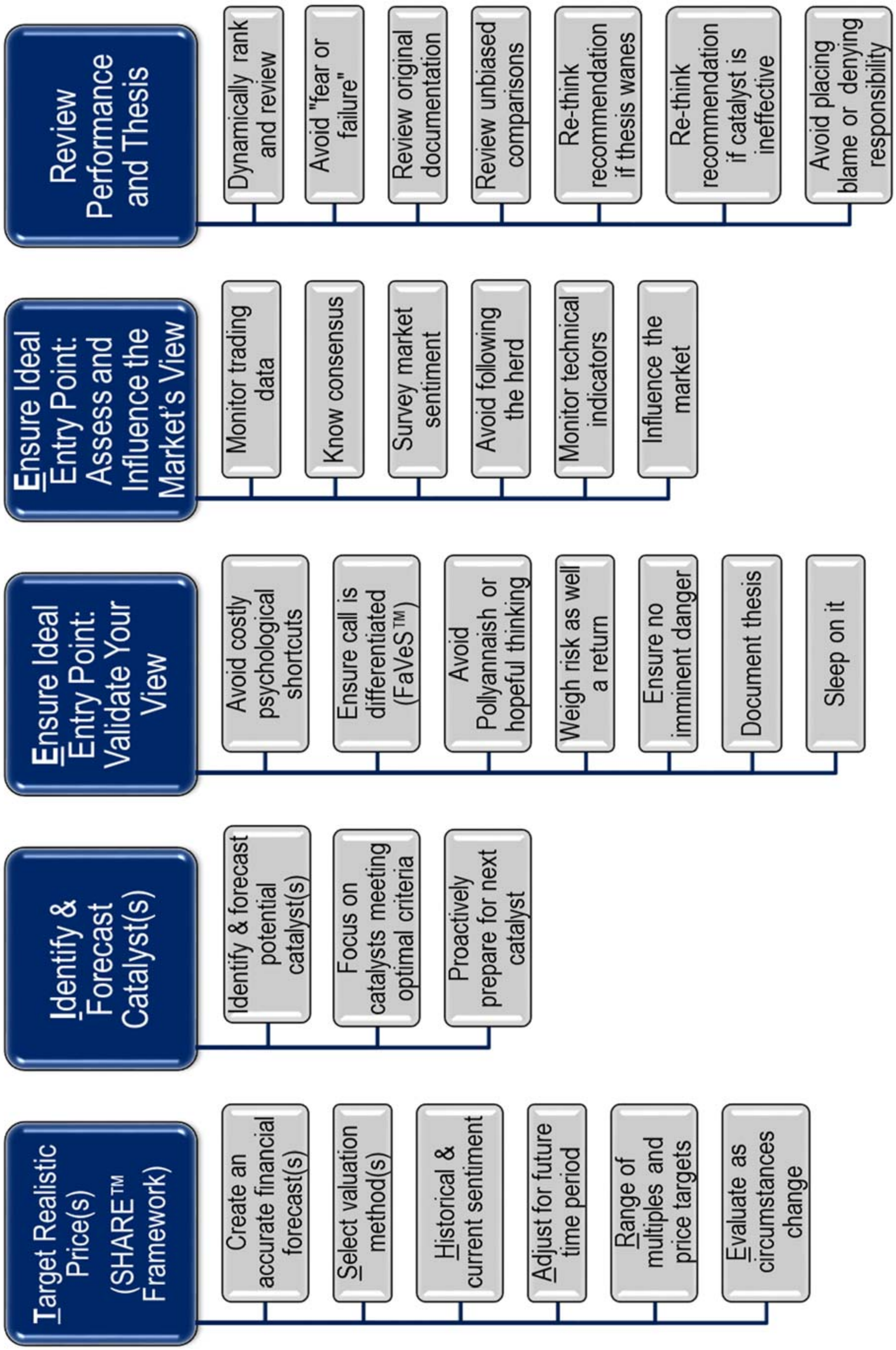
Detailed Reference Card (DRC)

Best Practices for Making Accurate Stock Recommendations

***Perspectives* for Review Performance and Thesis (Step 4 of TIER™)**



Overview of TIER™ Framework for Making Accurate Stock Recommendations



Detailed Reference Card (DRC)

Stock Recommendation Checklist Using the TIER™ System

Step	Question to ask yourself
1. STEP 1 of TIER™: TARGET REALISTIC PRICES	
1.1. Create an accurate financial forecast(s)	• Have you followed the principles of the ENTER™ quality framework (expectational, novel, thorough, examinable and revealing) in deriving a base-case financial forecast more accurate than consensus? • Have you created plausible upside and downside forecasts to stress test the base-case scenario?
1.2. Select optimal valuation method(s) (this step begins the SHARE™ framework)	• Have you identified the valuation method(s) currently being used for the stock and sector as well as any other methods used in the past? • If there was more than one, have you identified: o The catalyst(s) that caused it to change? o Similar catalysts that could cause investors to look at a new valuation method over your investment time horizon? • Have you considered other valuation methods that will better measure the company's free cash flow growth (good or bad)? (Use alternative methods only if they help identify mis-priced stocks)
1.3. Historical and current data review	• Have you reviewed the stock's current valuation to ensure it is: o On trend compared to its past?; and o In-line with stocks that have similar characteristics? • If the valuation does not meet the criteria above, do you understand why the current market psychology is causing this anomaly?
1.4. Adjust multiple for the future price target	Have you forecast a future valuation multiple by making adjustments to the current multiple, specifically assessing: • The future direction of strongly-correlated company-specific and macro variables • Comparisons with other stocks that have similar prospects
1.5. Range of multiples and price targets	• Have you applied the appropriate valuation multiple(s) to your financial forecast scenarios to derive a range of price targets (upside, downside and base-case), to illustrate an objective risk/return profile? • Are the differences among the financial forecast scenarios based primarily on changes to the 1-4 critical factors? • Have you set exit thresholds, which may or may not be the same as your upside and downside scenarios?
1.6. Evaluate as circumstances change	Do you update your price target when: • There is a new financial forecast, including as time passes, leading to new forward forecast period (e.g. "next 12 months" changes each month) • There is a justifiable cause to revise the multiple (not just reverse engineering) • There is a justifiable cause to revise the method (use this sparingly
1.7. Philosophical considerations for "Target Realistic Prices" step	• Are you wasting time developing precision where it's not required: such as forecasting immaterial factors not likely to move the stock, or computing a risk-free rate or discount rate to the tenth decimal point? • Are you avoiding unproven or overly simplistic valuation methods? • Are you avoiding raising price targets in small increments in favor of one or two substantial changes (avoiding "incrementalism")?
2. STEP 2 of TIER™: IDENTIFY AND FORECAST CATALYSTS	
2.1. Identify potential catalyst	For stocks you are recommending, have you identified and forecast potential catalysts that would need to occur in order for the market to accept your out-of-consensus thesis? Have you specifically identified where it will appear in the financial statements such as from changes in pricing, volume, cost, margins, free cash flow, returns, EPS growth rate, etc.?
2.2. Focus on catalysts meeting optimal criteria	• Have you narrowed down the list of potential catalysts to focus on just a few that meet this criteria: o Pertains to a critical factor that is material enough to move the stock? o Likely to occur during the investment time horizon? o Not currently appreciated by the market? o Can be forecast with some level of certainty? • Do you avoid being distracted by catalysts that fall short of the criteria above?

Detailed Reference Card (DRC)

Stock Recommendation Checklist Using the TIER™ System

Step	Question to ask yourself
2.3. Proactively prepare for next catalyst	For those stocks you are recommending, have you proactively put dates in a calendar for the following types of events, with the expectation that information pertaining to a catalyst will emerge and move the stock? • Company-sponsored analyst meetings and calls • Earnings releases • The company's annual pricing, volume, or earnings guidance or projection • Deadlines for new legislation, regulations, or court case outcomes • Prescheduled announcements by the company's customers, competitors, or suppliers (sometimes announced at major industry conferences) • New product releases or significant product extensions • Interim sales data for the company or the sector • Non-deal investor roadshows
3. STEP 3 of TIER™: ENSURE IDEAL ENTRY POINT	
3.1. Avoid costly psychological shortcuts	Have you reviewed the "Costly psychological shortcuts" mind traps found in the QRC "*Best Practices for Eliminating Psychological Biases*?"
3.2. Ensure call is differentiated (FaVeS)	Is your stock recommendation differentiated from the consensus thinking in at least one of the areas below: • Forecast of financial results, such as EPS or cash flow • Valuation multiple or methodology • Sentiment of the market toward the stock (void of an impending change to the forecast or valuation multiple/method)
3.3. Avoid Pollyannaish or hopeful thinking	Have you reviewed the "Pollyannaish or hopeful thinking" mind traps found in the QRC "*Best Practices for Eliminating Psychological Biases*?"
3.4. Weigh risk as well a return	When evaluating which stock(s) to recommend within your assigned universe, do you evaluate *risk* as well as return? Do you consider the following: • Predictability of earnings or cash flow forecasts that drive thesis? • Conviction in the catalyst occurring and moving the stock to the price target? • Reliability that management will deliver on its goals? • Timing for when the catalyst will occur (e.g. next month or 2 years from now?)?
3.5. Ensure no imminent danger	Have you checked to ensure there are no clear near-term risks that will offer a better execution point, such as the company falling short of current quarter expectations? Examples include: • Current quarter's consensus expectations are opposite your long-term view • A large class of investors are still exiting (growth investors selling after a stock appears to be moving into the maturity phase) • The current economic cycle appears to be reaching its peak • A large management lock-up is about to expire
3.6. Document thesis	• Have you documented your thesis and the price target specifics before making the recommendation (such as in a report, presentation or simply in a few lines in your model)? • Have you also established a stop-loss price to reduce the downside risk and as a place to re-evaluate if the unique insight isn't playing out as expected?
3.7. Sleep on it	Are you avoiding making a rash ratings change, potentially based on emotions, which would be more objective if you waited overnight? (What will happen in the next 24 hours if you waited?)
3.8. Monitor trading data	Do you monitor trading data to understand the motivations of the current stock holders? These could include: • Changes in the types of investors who own the stock (e.g. value, GARP, growth, momentum) • Short interest • Company insider buying and selling • Movement of stock compared to company's debt yield or CDS spreads
3.9. Know consensus	Have you analyzed the quality of the "consensus" estimate? • How many analysts comprise "consensus" (more than 1 or 2 in outer years)? • Are their estimates disparate or similar? • Are any estimates stale? • Does the consensus of the most accurate analysts differ from the overall consensus? • Is there a "whisper" number, and if so, do you know when it differs from the published consensus estimate and why?

Detailed Reference Card (DRC)

Stock Recommendation Checklist Using the TIER™ System

Step	Question to ask yourself
3.10. Survey market sentiment	Have you assessed market sentiment about the stock and sector by surveying experienced buy-side and sell-side analysts, sell-side salespeople, traders, and investor relations contacts to ask about: • Biggest investor concerns? (May or may not be a critical factor) • Expectations that are above or below the published consensus? • The names and types of stocks receiving the most/least attention? (Where is everyone spending their time and what's being ignored?) • General view toward the market (bullish or bearish) and risk (risk-on or risk-off)?
3.11. Avoid following the herd	Have you reviewed the "Following the herd" mind traps found in the QRC "*Best Practices for Eliminating Psychological Biases*?"
3.12. Monitor technical indicators	To the extent, it's not prohibited by your firm or boss, do you monitor technical indicators to the extent they provide a better understanding of a stock's momentum? (Beware they will not predict inflection points.)
3.13. Influence the market	In order to get the consensus' thinking to come around to your out-of-consensus view: • For sell-side analysts, do you proactively reach out to influence key market participants? • For buy-side analysts, if allowed by your firm, do you inform the most influential sell-side analysts of your thesis, after your firm has built a position in the stock?
3.14. Philosophical considerations for "Ensure Ideal Entry Point" step	• Do you avoid forcing a rating among your universe of stocks, where one may not exist? (Within an assigned universe of stocks, there's not always a stock ready to substantially outperform the market and its peers.) • Do you avoiding ratings changes based solely on a major change in the stock's valuation method or multiple? (These are rare.) • Do you avoid making overly complex stock recommendations? • Do you avoid being contrarian just to be a contrarian? • Are you continually aware of the market's appetite for risk? • Are you willing to reverse your rating if your thesis fails to play out or catalyst fails to move the stock? • Do you avoid making recommendations when the stimulus is primarily based on a recent meeting or call with the company management (especially if the contact was initiated by the company)? • Do you avoid the "familiarity" and "availability" biases by not recommending one stock over another, simply because it's the one most researched? • Do you increase the urge to sell when everyone loves a sector or stock, and buy when no one wants to own it? • Do you observe when bad news no longer makes stocks go down, or when good news no longer makes them go up? (It's a sign that market psychology may be shifting) • When you are long a stock, do you resist panicking when other investors who are short the stock attempt to over-blow the impact of negative news flow? • When a stock appears to have dropped too much due to new concerns, do you avoid waiting for the market to get "greater clarity" about the risk, knowing the lack of clarity creates an opportunity to exploit? • If you miss a substantial move in a stock, do you avoid chasing it by jumping on the bandwagon? • Do you avoid making impulsive stock calls? • Do you avoid downplaying a "minor" issue with a company, which could foretell of bigger problems? • Are you leery of companies that ridicule sell recommendations or short-sellers? • Do you research to see if company management has enough skin in the game? • Are you leery of management teams that spend more time talking about their stock price or stock performance than running their business?

Detailed Reference Card (DRC)

Stock Recommendation Checklist Using the TIER™ System

Step	Question to ask yourself
4. STEP 4 of TIER™: REVIEW PERFORMANCE	
4.1. Dynamically rank and review	• Do you review your comparison ("comp") table regularly (i.e. daily or a few times each week)? • Is your comp table built in a manner so that it: o Updates stock prices automatically (via a feed to third-party service) o Updates your forecast estimates (e.g. EPS, CFPS, BV, etc.) automatically from your models o Includes consensus estimates which are automatically updated (via a feed to third-party service) o Highlights when your financial forecasts differ materially from consensus o For stocks you're recommending ▪ Shows how much future valuation multiple differs from the current multiple ▪ Includes upside/downside returns to your target prices ▪ Includes a column for you to adjust upside/downside for risk/probability o Includes the current and historical ranges of forward relative valuation (e.g. relative P/E) for each stock o Includes how your recommendations have performed since the last rating change relative to your universe of stocks and the overall market
4.2. Avoid "Fear of failure"	Have you reviewed the "Fear of failure" mind traps found in the QRC "*Best Practices for Eliminating Psychological Biases*?"
4.3. Review original documentation	Do you periodically review your original thesis (as documented at the time of the original recommendation, such as in your model, report or presentation) for these reasons: • When a stock call is going well, do you avoid the over-confidence and self-attribution biases by reviewing if the thesis is truly playing out or if it is more luck? • When a stock goes poorly, are you disciplined about using the stop-loss thresholds created at the time of the original recommendation?
4.4. Review unbiased comparisons	Do you avoid sunk-cost, loss-aversion and other biases by periodically (once a month or quarter): • Masking the company names/tickers within your comp table, looking only at the numbers to see if the ratings appear correct relative to potential risk-adjusted returns? • Asking, "If I switched firms tomorrow, would my stock recommendations at the new firm match my current ones?"
4.5. Re-think recommendation if thesis wanes	If new information comes to light that derails the key catalyst of your stock call, and it's likely to hold the stock back, do you reverse your rating as quickly as possible?
4.6. Re-think recommendation if catalyst is ineffective	If the key catalyst for the stock recommendation occurs and the stock doesn't move to the price target, do you re-think your recommendation and avoid the temptation to find another catalyst to justify the recommendation?
4.7. Avoid placing blame or denying responsibility	• When a stock call goes poorly, do you avoid placing blame on others for a bad stock call, or saying, "The surprise couldn't have been foreseen?" • Do you ask yourself these questions: o What could have been done to know about this surprise earlier? o Did anyone else see this coming (sell-side or buy-side)?
4.8. Philosophical considerations for "Review Performance and Thesis" step	• Do you evaluate your performance relative to a similar basket of stocks or benchmark, rather than just absolute performance? • Do you reflect on your bad stock calls to avoid a similar call in the future?

Quick Reference Card (QRC)

Information Sources Pros and Cons

Individual Conversation

Source for Information	Pros	Cons	Confirm or Refute Historical Factors*	Assess New or Emerging Critical Factors	Assess Market Psych.
Buy-side analyst or portfolio manager (as source for buy-side or sell-side)	Best place to gauge investor expectations	May not be representative of the larger investor base	□		■
Company's competitor (publically-traded or privately-held)	Knows the sector and the competitive dynamics	May not be familiar enough with other company's factors to speak with authority. May try to bash the competition	■	■	
Company's executives (including investor relations)	Usually forthcoming about opportunistic factors	Usually downplay or ignore potentially negative factors	□	□	□
Conference speaker or author of book/academic paper	Usually willing to speak with others	May not fully understand implications for company or stock	■	■	
Consultant, expert, or company retiree	Very close to the issue	Can be difficult to find	■	■	
Customer of, or supplier to, the company (publically-traded or privately-held)	First-hand knowledge of the company's value proposition	Contact may not be representative of the larger customer base	□	□	
Government officials or staffers	Often the closest to regulatory or legislative changes	Often won't speak on the topic. If so, may not provide accurate forecast	□	□	
Industry association or forecasting service representative	Understands complex industry issues	May be biased in the sector's favor and may not fully understand implications for company or stock	□	□	
Industry journalist/blogger	May understand complex issues and provide direction to other sources of information	May not fully understand implications for company or stock	■	■	
Sell-side analyst (for the buy-side) considered among top 3 in sector	May be the only place to gauge consensus thinking and to obtain proprietary research	Subjectivity or low-quality work can result in incorrect output	■	■	■
Sell-side salesperson (with deep knowledge of specific stock)	Close to many buy-side investors	Generalist salespeople may not have full understanding of any single stock	□		□
Trader of stock (with deep knowledge of specific stock)	Usually familiar with short-term psychology of stock	May not fully understand company or long-term issues	□		□

Legend: ■ = best first source, □ = good source

* Source must have been active with the stock/company at time of historical anomaly

Continue to the next page

Information Sources Pros and Cons

Read Only

Source for Information	Pros	Cons
Company press releases and regulatory filings	Free. May be only source for certain information	Tends to be biased positively
Data service	Often the best at providing granular product or sector data	Not always provided in a timely manner. Can be expensive. Not proprietary
Economic data	Often reliable and relatively objective	Not company-specific. Past trends don't forecast the future
Financial press	Low cost and somewhat objective	May not fully understand implications for company or stock
Forecasting service	Often the best at forecasting trends for the factor	Not always provided in a timely manner. Can be expensive. Not proprietary
Industry trade journal, website, or blog	Low cost. Somewhat objective. Understands complex issues	May be biased in the sector's favor. May not fully understand implications for company or stock
Proprietary survey	Output is proprietary	Expensive and can take a significant amount of time
Sell-side report (for buy-side analysts)	Easy to access and search (if client)	May be biased by analyst's rating
Third-party research firm	The study answers your specific questions and you own the data	Expensive and can take a significant amount of time

A View from Dilbert…

Quick Reference Card (QRC)

Best Practices for Building a Comp Table

Comparison "comp" tables are a critical tool for analyzing existing and potential stock recommendations. They can be built and stored within a number of market data providers' applications, but these often offer less flexibility for data availability and manipulation than creating a table in Excel, where data can be pulled from multiple sources. In addition, online applications can be more difficult to integrate into presentations. For this reason, the following best practice assumes the table is being created in Excel, but other reasonable options are available.

1. **Automate as much of the data collection as possible** by setting up formulas that will pull in information from third-party vendors (such as the stock price) and your individual models (such as earnings and free cash flow per share) because you will use this table hundreds, if not thousands of times during your career.
2. In most instances, it will be helpful to display valuation multiples using your expectations as well as those of consensus. Exceptions include some valuation methods where there may not be a consensus, or situations where you do not have your own estimates
3. It's important to create valuation multiple columns based on this year's forecast as well as next year's forecast (possibly the year after if critical to understanding the stocks)
4. At a minimum, the following sections should be included in the comp table for each company in the universe:
    a. Financial forecast data used for valuation such as EPS, FCF, or book value. Include and clearly identify the analyst's *and* consensus' forecasts.
    b. The difference between the analyst's forecast and consensus'
    c. Forward valuation multiples as computed using the analyst's and consensus' expectations.
    d. Historical forward-looking average multiples, adjusted for anomalies (high, low and average are ideal).
    e. Other financial metrics that influence valuation for the sector
    f. Rating or view
    g. Price target or range of targets (expressed as percent upside or downside from current levels).
    h. Market capitalization.
5. Include the following information, possibly in hidden columns if not for use by others:
    a. The analyst's conviction level
    b. Exit thresholds
6. Set up formulas to automatically roll over to the next forward period as time progresses
    a. For example, if the P/E ratio is based on the next four quarters of earnings, it should be relatively easy to move to the next period after the current quarter's results are reported
    b. Avoid creating a system that makes an arbitrary cutover, such as moving from this year's numbers to next year's numbers midyear, because it causes an abrupt change to valuation levels
    c. Ideally use the next four quarters, because it will have no past results to contaminate earnings expectations.
7. The "other financial metrics that influence valuation" section should update automatically, and include factors such as ROIC, the past five-year EPS growth rate, and consensus' forward two-year growth rate. Many analysts don't develop thoughtful earnings forecasts beyond two years, which is why any analysis based on "consensus" over a longer time horizon should be scrutinized.)
8. In selecting a list of comparable companies, group companies that:
    a. Are in the same or similar sector or sub-sector
    b. Have growth and risk characteristics similar to the company being valued
9. For each group of companies, it may be helpful to create a mean and median for each metric on an equally weighted basis. If necessary, also create a mean and median for large-cap stocks separate from small-cap stocks
10. Use Excel's conditional formatting to highlight:
    a. Stocks with the most upside and downside, adjusted for risk
    b. When the analyst's financial forecast differs from consensus by a predefined threshold (e.g., 5 percent).
    c. When the current valuation multiple for a company differs from its historical levels by a predefined threshold (e.g., 5 percent).
    d. When the median average valuation multiple for a group of companies differs from the mean by a predefined threshold (e.g., 5 percent). Investigate anomalies, because there may be a reason to use one average over the other.
11. Ensure that each group of comparable companies can be sorted by the amount of upside or downside to the price target, adjusted for risk

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Quick Reference Card (QRC)

Best Practices for Eliminating Psychological Biases

Bias	Manifestation	Example	Increasing Self-Awareness Tactic
Fear of Failure			
Sunk Cost Fallacy	Investing considerable time or capital into a given stock prevents you from looking at it objectively	When analysts initiate coverage on an entire sector, they may mistakenly recommend many of the names, when in reality only one or two are likely to substantially outperform the market	• When conducting extensive research on a topic, periodically ask, "What will I do if I discover nothing new?" It reduces the amount of time sunk into any one effort • Resist the temptation to make changes to your financial forecasts or valuation multiples to "make it work," in an effort to show more upside/downside than you previously expected • Be willing to reverse your recommendation when you've made a mistake, or your thesis failed to play out • Set aside time (once a month or quarter), and ask yourself, "If I switched firms tomorrow, would my initial stock recommendations at the new firm match my current ones?" If not, understand why.
Loss-Aversion	Avoiding selling a stock at a loss	An analyst finds a new rationale to keep recommending a stock that hasn't been performing as well as originally expected	• Document your thesis for recommending a stock and the price target specifics before you make your recommendation. If key tenets to the thesis fail to play out, strongly consider reversing recommendation. • When faced with an underperforming stock, ask yourself, "If I switched firms tomorrow, would my initial stock recommendations at the new firm match my current ones?" If not, understand why. • After beating yourself up over a mistake, embrace it as a valuable lesson learned that will make you a better analyst
Anxiety	Allowing high levels of anxiety to lead to investment decisions that are not based on sound analysis and research	Feeling the need to change your view toward a stock on a weekly or monthly basis, even though fundamentals haven't changed	• It's important to watch the daily movements in your stocks to understand investor sentiment, but don't let stock price movements alter your view about the fundamentals • When uncertainty arises around a key stock call, do more work to either reduce anxiety or lead to a better decision • Conduct scenario analysis to put limitations around the "worst-case" • When considering a recommendation change, if possible, think about it overnight
Snakebite Effect	Categorically dismissing a stock as a bad investment due to bad performance in the past	Telling someone, "I can never own that stock"	• Resist drawing quick, sweeping generalizations about a troubled company's past, and instead research if their problems were: o Within or outside of management's control; o Industrywide or company-specific • Utilize the company's weakness as providing tremendous upside potential in its stock if you can identify and forecast the catalyst for change (e.g. examine changes in management or management's behavior)
Costly Psychological Shortcuts			
Familiarity or Availability Bias	Preferring stocks you're familiar with over those you're less familiar with	When asked for your favorite stock, you reply with the one you're most familiar with rather than the one that may have the most upside	• Don't make recommendations of stocks you're unfamiliar with, but conversely don't make a suboptimal recommendation, just because you know the stock better than the proposed alternatives • Ensure there are no "forgotten" stocks in your assigned universe, by setting aside time to ensure you are well-versed on all of them (even the more complicated ones)

Quick Reference Card (QRC)

Best Practices for Eliminating Psychological Biases

Bias	Manifestation	Example	Increasing Self-Awareness Tactic
Recency Bias (related to Familiarity/ Availability Bias)	Over-emphasizing recent information, with little regard for older information	Having a more positive bias toward a company you've recently met with, compared to one you haven't seen for months	• Avoid making recommendations where the stimulus is primarily based on a recent meeting or call with company management, especially if it's initiated by the company • Don't ignore (or fail to research) a stock's critical factors of the past as they often come back and become the critical factors that move the stock in the future
Rules of Thumb (Heuristics)	Blindly relying on or over-using mental shortcuts or heuristics to make investment decisions without checking to ensure they are reliably accurate	Recommending a stock or a sector every time its P/E ratio drops below 12x forward earnings, and selling every time it moves above 15x	• Ensure heuristics are derived from facts or historical trends that can be substantiated. When a heuristic is key to your investment recommendation, ensure its backed up with sound logic (and evidence, if applicable) • When someone tells you to follow a "simple rule" in forecasting or valuation, validate it with historical analysis before using (if the rule always works, a computer would likely have arbitraged it away)
Following the Herd (social psychology)			
Overreaction	Selling or buying at irrational prices with the herd, which in hindsight, was among the worst possible times	An analyst downgrades a stock in response to bad news even though his research suggests the concern is being overblown	• Before making a recommendation, document your thesis, price target and exit thresholds in an effort to remain disciplined in the face of market hype • If the media or sell-side appear to be overreacting, update your scenario analysis to identify realistic worst-case and best-case scenarios • Resist changing a stock recommendation mid-day or immediately after a company reports results (always try to "sleep on it" when it comes to major recommendation changes)
Momentum Bias	Assuming recent trends will continue, even if historical evidence and metrics suggest they are unsustainable	After a recommended stock has rallied to a realistic price target, the analyst raises the valuation multiple or financial forecast to unrealistic levels to justify an even higher price target that ultimately isn't achieved	• If you've missed a substantial move in a stock, be hesitant to chase it such as jumping on the bandwagon. If you're in the same trade as everyone else, ask "Who's going to take the other side of the trade when I want to get out?" • Research history for your companies and industries, specifically, the growth rates and valuation multiples. If your price target relies on one or both being well outside historical trends, make sure you have a sound reason for doing so. • When making a change to your thesis, ask where you are in the "greed vs. fear" spectrum compared with consensus. If you're in the same place, you may be following the herd. • When markets appear to be moving too far too fast for irrational reasons (not based on fundamentals), consider the contrarian view

Best Practices for Eliminating Psychological Biases

Bias	Manifestation	Example	Increasing Self-Awareness Tactic
Pollyannaish or Hopeful Thinking			
Confirmation Bias	Seeking out information that supports your view and rejecting, distorting, or ignoring information that conflicts with it	While conducting research on a stock you're recommending, you come across a new competitive threat but choose to downplay it as insignificant	• In making recommendations, wait until you've done all of the research before considering the rating. Deciding your rating early in the process will bias you toward finding insights that support your view and rejecting those that conflict with it. • Approach all new information with an open mind, regardless of your current view toward the stock • Build your upside and downside scenarios while conducting the research, documenting as you go along, which should be reviewed before changing a recommendation • If you're serious about making a recommendation, ensure that you know the opposing view
Over-confidence	Assuming you're smarter than everyone else, which prevents you from exploring the real risks or reasons that a stock is not currently at your price target	After a few good stock calls, you begin to let down your guard in terms of assessing risks for future recommendations	• Be humble by realizing that no professional investor is right 100% of the time • Fully understand the "other side of the trade" before making a recommendation • Ask a trusted colleague or investment committee to put your thesis under scrutiny • Any time you think *"I can't lose",* think through the downside or risks of the investment

Self-Attribution Bias	Taking full credit for wins and placing blame on others for losses	After a recommended stock goes the wrong way, blaming a colleague (or the sell-side) for conducting shoddy research. (Remember, part of your job is to validate your information sources.)	• When you have a big win, go back to the documents you wrote when you recommend the stock, and see if your thesis really played out. (Or was it some other factor?)
			• Before placing blame on others, or saying, "The surprise couldn't have been foreseen," ask yourself these questions:
			  o Did anyone else see this coming (sell-side or buy-side)?
			  o What could have been done to know about this surprise earlier?
			• Examine constructive or negative feedback provided by others. (Don't just internalize the positive praise.)

Optimism Bias	Being too optimistic about your stock's valuation and future earnings potential	Modeling a company's EPS growth at a 12% CAGR over the next 2 years, even though it has grown EPS at an 8% CAGR for the past 10 years	• Research history for your companies and industries, specifically the growth rates and valuation multiples. If you settle on a price target based on factors running well outside historical trends, make sure you have a sound reason for doing so. • Spend as much time identifying risks as catalysts • Ask a trusted colleague or investment committee to put your thesis under scrutiny

Best Practices for Eliminating Psychological Biases

Bias	Manifestation	Example	Increasing Self-Awareness Tactic
Falling in Love With a Stock	Becoming so emotionally attached to a stock that it can't be analyzed objectively	An analyst is hesitant to downgrade a stock that's hit its price target because it's a franchise name that the analyst is associated with	• Periodically review your universe of stocks to ask if you're less likely to change the status of any stock recommendation other than for risk and return considerations (such as concern over upsetting company management or disappointing those who rely on your research) • When reviewing your comp table, hide the company names and tickers and look only at only the numbers to see if you have the same view when the names are revealed