

Our Growth Equity Alpha Thesis:

SEEKING RISK-ADJUSTED EXCESS RETURNS

For investors, a major challenge is to identify those portfolio managers who are most likely to deliver superior risk-adjusted returns in the future.

Understanding how an investment philosophy informs a manager's decision-making can provide meaningful insights into how and why a particular manager generates alpha.

The search for alpha is the search for skill. The Growth Equity Strategies Team ("GES") believes our alpha thesis, and our ability to consistently implement its tenets, constitutes a differentiated approach. The deeply held beliefs and disciplined process described in this paper guide what we do every day.





Why Alpha Thesis?

A performance track record cannot readily explain the level of skill employed to achieve the results, or guarantee continued success. We believe a focus on the quality of a manager's investment philosophy, process and decision-making is essential for assessing the probability of future success.

Our alpha thesis encapsulates a deeply held system of persistent beliefs, a rigorous, repeatable investment process and substantive proof points.

Foundation of Investment Process: Philosophy & Pricing Anomalies

PHILOSOPHY: We are an active manager with a long-term, private equity approach to investing. Through our proprietary bottom-up research framework, we look to invest in those few high-quality businesses with sustainable competitive advantages and profitable growth when they trade at a discount to our estimate of intrinsic value.

PRICING ANOMALIES: At the heart of active management lies the belief that one can deliver returns in excess of benchmark returns. Over the long term, we believe that markets are efficient. Near term, however, we believe innate behavioral biases, such as herding, overconfidence or loss aversion, influence investment decisions and create asset pricing anomalies. These pricing inefficiencies converge toward intrinsic value over time. Market efficiency is thereby dynamic, existing along a continuum between fully efficient and inefficient pricing.

In our view, two important anomalies can best explain periodic mispricing: short-termism and allocative inefficiency. Short-termism is a behavioral bias inherited from our early human ancestors. Today, it causes a reflexive response to short-term market variables that, when viewed rationally, have no impact on long-term value. Allocative inefficiency, an example of herding, describes the breakdown in dynamic price discovery that results when widespread investment decision-making is driven by factors other than valuation.



Examples include index or momentum investing and technical trading. Overcoming these natural tendencies is difficult. Consequently, the resultant pricing anomalies persist, creating potential opportunities for active, long-term-oriented, valuation-driven managers like us. Capitalizing on these opportunities requires a disciplined process and a patient temperament.

Key Tenets of Our Alpha Thesis

Our investment philosophy represents our fundamental beliefs regarding the most effective way to generate alpha and leverages our understanding of persistent anomalies that create asset mispricing. These beliefs, or tenets, form the cornerstone of our investment decision-making process and can be linked to performance proof points, demonstrating continuity from belief to process to outcome. Collectively, this integrated system forms our alpha thesis.

| TENET | PROCESS | PROOF POINTS |
|--|--|--|
| Long-term investor in businesses | Time arbitrage | Low turnover |
| Develop deep understanding of each investment | 7-step bottom-up fundamental analysis (Quality-Growth-Valuation Framework) | High-conviction portfolio with relatively concentrated holdings |
| Selective investing focused on high-quality companies (Quality) | Starting point is quality of business, not weight of company in the benchmark; look for difficult-to-replicate business models | High active share* (typically 80% or higher) and high percentage of wide moat companies in the portfolio |
| Sustainability of profitable growth drives long-term value creation (Growth) | Identify long-term secular growth drivers; analyze cash flow return on investment | Strong up-market capture with low down-market capture; low turnover |
| Invest with a margin of safety** (Valuation) | Intrinsic value compared with implied expectations; invest at meaningful discount to our intrinsic value; contrarian | Strong up-market capture with low down-market capture; strong risk-adjusted returns |
| Define risk as a permanent loss of capital | Active risk management; absolute-return oriented | Low down-market capture; standard deviation at or below benchmark |
| We believe active investment management and active risk management are integral to alpha generation. | | |

**Active share indicates the proportion of the portfolio's holdings (by market value) that are different than the benchmark. A higher active share indicates a larger difference between the benchmark and the portfolio.*

***Holding all else equal, the larger the discount between market price of a particular security and our estimate of its intrinsic value, the greater we view our margin of safety. Margin of safety is not an indication of the strategy's safety as all investments carry risk, including risk of loss.*



We believe that for any alpha thesis to potentially meet its objective, it should be founded on an enduring philosophy and persistent pricing anomalies. We think our alpha thesis is unlikely to be eroded through arbitrage because it is tied to perennial behavioral biases, not specific market conditions.

Long-Term Investor in Businesses

Because we approach investing as if we are buying into a private business, a long investment horizon is central to our philosophy. In our view, a long investment horizon affords us the opportunity to capture value from secular growth as well as capitalize on the stock market's shortsightedness through a process called time arbitrage.

The long-term annualized turnover for our Large Cap Growth and All Cap Growth strategies implies average holding periods of seven and six years, respectively, since inception July 1, 2006.ⁱ Measuring name changes only, our turnover is even lower. We launched our Global Growth strategy on January 1, 2016 and our International Growth strategy on January 1, 2020. Our low turnover stands in contrast to a widespread escalation in the average manager's portfolio turnover. In his book Common Sense on Mutual Funds, John Bogle documented that from the 1940s to the 1960s, annual turnover for the typical general equity fund averaged just 17%. By 1997, average annual turnover had risen to 85%, and by 2009, it had increased to 105%—a staggering six-fold increase. Bogle stated, "The industry has abandoned the wisdom of long-term investing in favor of the folly of short-term speculation."ⁱⁱ We could not agree more.

LOW TURNOVER

As this table shows, low turnover is a hallmark of the GES team's strategies. Measuring name changes only, our portfolio turnover is even lower than shown here.

| GES STRATEGY | TURNOVER |
|----------------------|----------|
| LARGE CAP GROWTH | 12.2% |
| ALL CAP GROWTH | 14.3% |
| GLOBAL GROWTH | 10.0% |
| INTERNATIONAL GROWTH | 6.9% |

Annualized turnover since inception through 31 December 2023.

In addition to the speculative risks, the trading costs of high portfolio turnover can negatively impact portfolio performance. A 1997 study looking at growth fund returns over 32 years (1962-1993) suggests that for every 100-basis-point increase in turnover, annual return drops by 95 basis points, a figure closely aligned with the net cost of trading.ⁱⁱⁱ A 2007 study updated the analysis and also confirmed that the cost of turnover negatively impacted performance. The table below shows the findings for 990 large cap equity funds from 2001-2006.^{iv}

| TURNOVER (%) | 7.11 | 18.31 | 27.91 | 38.31 | 51.31 | 63.93 | 80.24 | 100.44 | 133.45 | 356.26 |
|--------------------|------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| OUTPERFORMANCE (%) | 0.59 | 0.20 | 0.22 | 0.24 | -0.12 | 0.01 | -0.21 | -0.24 | -0.46 | -0.29 |



What fuels the culture of short-termism so prevalent today? This innate behavioral bias is exacerbated by the constant, ubiquitous stream of financial "news." Investors too focused on the short term end up overreacting to company and economic information that we do not believe impacts long-term intrinsic value. Fisher Black calls this activity "noise" trading and posits that it obscures the value estimate of near-term stock prices.^{vi} This is an example of how the widespread use of non-value-focused decision-making can compromise near-term price discovery. We believe that noisy stock prices will converge toward fundamentally driven intrinsic value over time. Therefore, we attempt to identify intrinsic value and through time arbitrage exploit the long-term differential between this value and the market's current perception.

Develop a Deep Understanding of Each Investment

"...risk varies inversely with knowledge."^{vi}

-David F. Swensen, Yale University Chief Investment Officer

Our proprietary seven-step research framework is the cornerstone of our investment decision-making process and drives our security selection. The research framework represents our long-standing insights about investing and is structured around three key criteria: Quality-Growth-Valuation. Through our disciplined and thorough implementation of bottom-up fundamental analysis, we seek to understand the drivers, opportunities and limits of each business.

Our valuation analysis, which is at the heart of our research and decision-making, is only as good as our ability to understand and identify high-quality companies and evaluate the sustainability of profitable growth. Actively managed portfolios differ from their benchmarks and reflect expectations that diverge from consensus. Importantly, our research framework helps us determine whether our view differs from the consensus, and if so, why. Our contrarian posture requires the ability to act counter to potentially irrational, herd-like and reflexive behavior in the marketplace triggered by emotions like fear and greed. Overcoming these instincts demands a resolve engendered by experience, a disciplined decision-making process, and the temperament to maintain positions that are at odds with popular opinion.

Our investment team culture promotes intellectual honesty, curiosity and independent thinking. An environment in which all assumptions can be challenged by any member of our team can improve our understanding of each investment idea. All research work is vetted through team discussions and includes attempts to disprove the investment thesis as a way to test its validity. This practice helps us overcome the bias in human behavior toward overconfidence that could lead us to overstate the investment's potential. It is crucial to clearly grasp what could go wrong with a company, not just what can go right, in order to minimize downside risk.



All aspects of our investment thesis must be present simultaneously for us to make an investment. Often our research is completed well in advance of the opportunity to invest. We are patient investors and maintain our analysis of high-quality businesses in order to take advantage of meaningful price dislocations if and when they occur. In a typical year we may analyze 30 companies and invest in only a select few. As a result of this rigorous approach, ours are selective, high-conviction portfolios.

We agree with Warren Buffett's assertion that risk comes from not knowing what you're doing.^{vii} In part because we focus on fewer companies and make even fewer decisions, we believe we enjoy an analytical edge.

Seven-Step Research Framework

THE CORNERSTONE OF OUR INVESTMENT DECISION-MAKING PROCESS

1 **QUALITY** Sustainable Competitive Advantage

- Identify unique elements of a company's business model (e.g., network effect, low cost advantage, strong brand awareness and high switching costs).
- Can this company defend and sustain its competitive advantage over the long term?

2 **QUALITY** Competitive Analysis

- Assess barriers to entry, industry rivalry, power of buyers versus suppliers and substitution threats.
- Evaluate the entire value chain and profit pool to discern the structural winners in the long term.

3 **QUALITY** Financial Analysis

- Assess balance sheet health (low or no debt is ideal), capital intensity, business mix and margin structure.
- Require sustainable free cash flow growth, an ability to meet reinvestment needs and cash flow return on investment above the cost of capital.

4 **QUALITY** Management

- Partner with management teams who share our long-term perspective, manage the business with vision and integrity, and whose incentive is aligned with long-term shareholder interests.
- Evaluate management's ability to allocate capital to investments creating long-term value.

5 **GROWTH** Growth Drivers

- Evaluate sources and sustainability of profitable growth.
- Focus on long-term secular and structural growth drivers—dynamics that are not likely to change in five years or more.
- Forecast the growth rate independent of company guidance or Street expectations.

6 **VALUATION** Intrinsic Value Ranges

- A company's value depends on its long-term ability to generate profitable free cash flow growth.
- The present value of future free cash flows is our core methodology for estimating intrinsic value.
- Conduct sensitivity analysis of key variables to assess downside risk and focus on high-impact drivers of value.
- Best-, base-, bear- and worst-case valuation scenarios guide the timing of buy/sell decisions and help guard against decision-making pitfalls.

7 **VALUATION** Expectations Analysis

- Assess the valuation assumptions implied by the current stock price to differentiate fundamental drivers of value from market sentiment drivers of price. Understand where and how our perspective diverges from that of the market.

"High-quality businesses are rare. We believe less than one percent of all businesses are able to sustain their competitive advantages beyond a decade. We also believe less than one percent of businesses can generate durable and profitable long-term growth. Demanding these two characteristics means we must be very selective and patient investors."

- Aziz V. Hamzaogullari



Anyone could follow our seven-step process. Yet, each person will very likely produce different outcomes. Why? Because we believe that investing is ultimately an art. While a disciplined research framework is foundational to a successful investment strategy, our process does not mechanically supply “the” answer. Rather, it leads us to ask a set of questions that help us discern, through our insights, whether a business meets our key investment criteria. Developing a deep understanding of each investment can also help us manage risk through knowledge.

NUMBER OF COMPANIES PURCHASED IN A YEAR

| STRATEGY | 2023 | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | TYPICAL # HOLDINGS |
|----------------------|------|------|------|------|------|------|------|------|------|--------------------|
| LARGE CAP GROWTH | 1 | 5 | 1 | 6 | 2 | 2 | 0 | 3 | 1 | 30-40 |
| ALL CAP GROWTH | 1 | 9 | 2 | 6 | 2 | 3 | 1 | 3 | 2 | 35-45 |
| GLOBAL GROWTH | 1 | 5 | 3 | 6 | 1 | 3 | 2 | 0 | N/A | 30-45 |
| INTERNATIONAL GROWTH | 1 | 4 | 1 | 2 | N/A | N/A | N/A | N/A | N/A | 30-45 |

Selective Investing Focused on High-quality Businesses

Our Quality-Growth-Valuation investment process begins with the art of trying to identify high-quality companies—those with unique, difficult-to-replicate business models and sustainable competitive advantages. A successful business will attract competition and capital, which over time could shrink profit margins and lower returns on invested capital for the business. We evaluate the entire global value chain and profit pool to help discern the companies we believe will be structural winners and losers over the long term. A quality business—one with a wide economic moat—can sustain and even extend its competitive advantages so that its profitable growth opportunities are not eroded by the competition. Quality companies also tend to exhibit sound balance sheets, strong returns on invested capital, healthy cash flow growth and highly capable management teams who can efficiently allocate capital.

A focus on investing in high-quality companies not only helps capture upside potential, but can help manage downside risk as well. This is important given the number of negative return periods the Russell 3000® Index experienced over a 37-year study period, shown in the table below:

| 37 YEARS ENDING 2023 RUSSELL 3000 INDEX Percent of Time <i>Source: FactSet. The Russell 3000 is a cap-weighted index. Data through 12/31/2023.</i> | NEGATIVE MONTHLY RETURN | NEGATIVE QUARTERLY RETURN | NEGATIVE YEARLY RETURN |
|---|----------------------------|------------------------------|---------------------------|
| | 35% | 26% | 18% |



Looking at high-quality and low-quality stocks as defined by Standard & Poor's (S&P),^{viii} we examined the annual return for each group and compared it to the returns of the Russell 3000. Our analysis shows that the high-quality group of companies' limited participation in down markets was a significant differentiating factor for superior risk-adjusted returns.

REWARD-TO-RISK ANALYSIS: 1986 - 2023

*Past performance is no
guarantee of future results.*

*Annualized total period return
and annualized period standard
deviation are based on quarterly
returns.*

| QUALITY LEVEL | ANNUALIZED TOTAL PERIOD RETURN | ANNUALIZED PERIOD STANDARD DEVIATION | RETURN-TO-RISK |
|---------------------|-----------------------------------|--|----------------|
| High-Quality Stocks | 11.72% | 16.14% | 72.62% |
| Low-Quality Stocks | 10.81% | 23.74% | 45.54% |

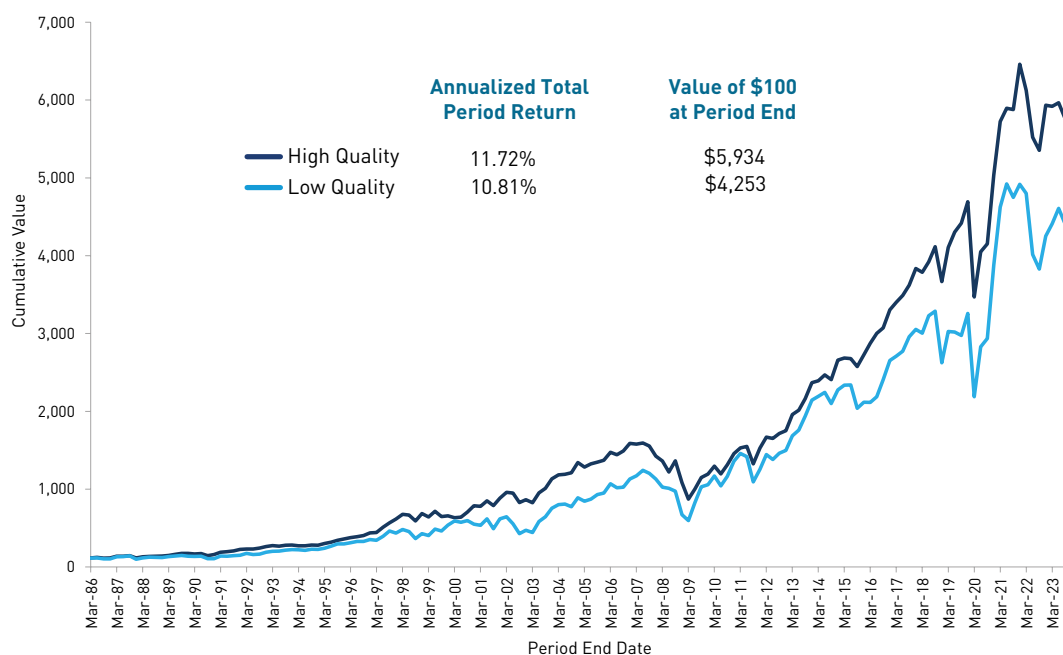
Source: Russell Analytics, Standard & Poor's, Loomis Sayles. Data from 1/1/1986 - 12/31/2023.

As shown above, while annualized performance of the two baskets was comparable after 37 years, the return-to-risk ratio of the high-quality group of stocks was 72.62%, compared to just 45.54% return-to-risk ratio of the low-quality basket. The chart below provides a long-term cumulative perspective of the two groups' performance.

PERFORMANCE OF QUALITY BASKETS BASED ON S&P QUALITY RANKINGS

*Sources: Russell Analytics,
Standard & Poor's, Loomis Sayles.
Total returns used. Data through
12/31/2023.*

*Past performance is no
guarantee of future results.*





While S&P's quality rankings can provide an interesting overview of how a "quality" universe has performed historically, we do not rely on a third-party methodology to define quality. The companies we invest in must first meet a number of demanding quality standards. At the end of the day, our job is to allocate investment capital to what we believe to be the best high-quality, long-term opportunities. Our approach is different from benchmark-centric portfolios that tend to begin their investment process by considering the influence of the benchmark's top holdings and sector positioning on relative performance. Because our philosophy and process often result in positions and position sizes that differ from the benchmark, our portfolio typically has an active share measure of 80% or greater.

ACTIVE SHARE

It stands to reason that only portfolios that differ from the benchmark could produce superior returns versus the benchmark.

Why is active share important? In their 2009 paper, "How Active is Your Manager?," Antti Petajisto and Martijn Cremers found that high active share correlates well with excess returns and that the most active managers, those with active share of 80%-100%, persistently generated excess returns above their benchmarks even after subtracting management fees.^{ix} It stands to reason that only portfolios that differ from the benchmark could produce superior returns versus the benchmark. While high active share does not ensure outperformance, we believe it is a necessary condition for generating alpha and outperforming one's benchmark net of fees over the long term. Ultimately, of course, the stocks we select for our portfolio are the sources of any outperformance.

Sustainability of Profitable Growth Drives Long-Term Value Creation

Growth is the next component we consider in our Quality-Growth-Valuation investment process. We are looking not only for above-average growth, but sustainable and profitable growth. Easier said than done, as empirical evidence shows only 10% of companies can sustain above-average growth rates over a four-year period.^x Our systematic approach to measuring a company's growth prospects begins with quantifying the total size of the market into which they can sell their goods and services as well as their current market share. An evaluation of the profit pool allows us to identify those businesses we believe are best positioned to capture and retain a larger share. We then assess the company's pricing power, if any, their margin expansion potential, capital requirements and operating leverage.



Our objective is to define the company's competitive advantage period in order to determine how long into the future we will estimate the key variables for the business. Our proprietary models are built through bottom-up fundamental analysis. It is important to note that we develop our growth estimate independent of company guidance or Street expectations. To assess the sustainability of the company's growth rate, we evaluate the drivers of that growth. We are looking for long-term secular and structural growth drivers—dynamics that are not likely to change for five years or longer. The transition of consumer shopping from in-store to online—still only at low-teens penetration rates in the global consumer market—is an example of a long-term secular driver of growth. Developing insights about a company's growth potential is essential to measuring its future cash flows, its profitability and, ultimately, its intrinsic value.

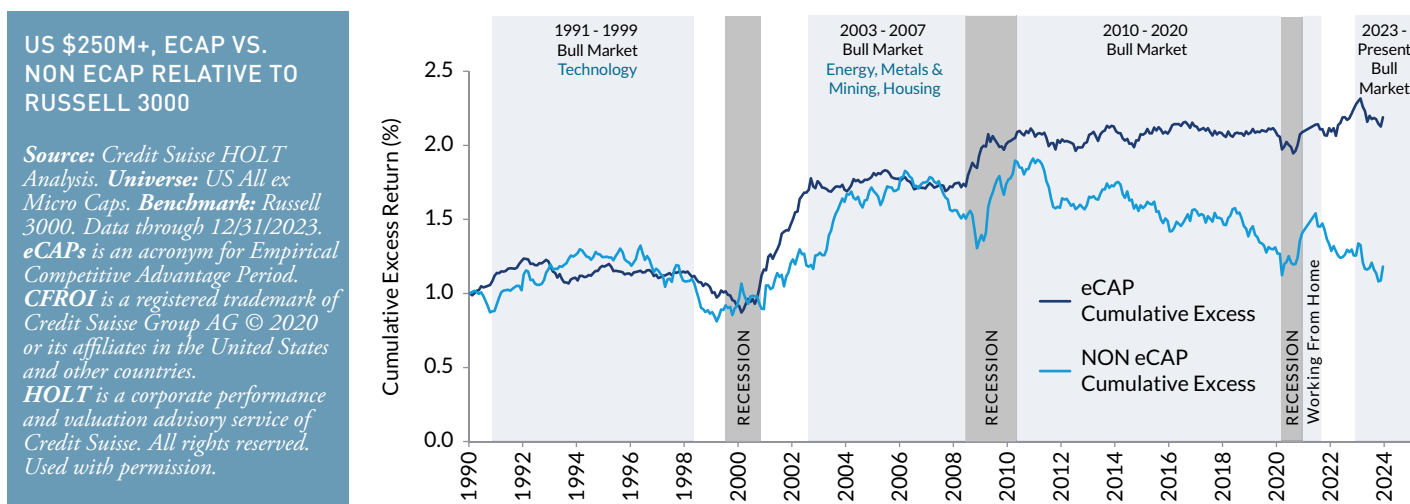
SUSTAINABLE GROWTH

Even when we believe we have identified a quality company with high, sustainable cash flow growth rates, we are not yet satisfied: we also require profitable growth.

Even when we believe we have identified a quality company with high, sustainable growth rates, we are not yet satisfied: we also require profitable growth. Just because a company can demonstrate growth in revenues, for example, does not mean it is generating profitable growth. Without profitable growth, there may be no increase in shareholder value and therefore no investment opportunity. The underlying question is whether the cash flow returns generated by management's investments in the business are greater than or less than the cost of the capital spent on those investments. Therefore, we believe cash flow returns on invested capital (CFROI^{®xi}) is a superior measure of economic performance and seek to invest in those companies with strong CFROI. Many other investors rely on earnings-per-share (EPS) and price-to-earnings (P/E) multiples to understand a company's growth rate, recognize investment opportunities and predict a stock's future price. Both of these metrics are earnings-based accounting ratios, which, in our opinion, limit their reliability since earnings can be different from economic performance and actual cash flows. What's more, reported earnings can be easily manipulated to the company's short-term advantage and, given Wall Street's obsession with quarterly earnings, company managements have been known to do so.



Credit Suisse Holt captured this notion of sustainable and profitable returns by applying its proprietary measures of quality to identify companies that were able to earn superior CFROI over a longer-than-anticipated period. They found that such companies (“eCap” companies) significantly outperformed the market during downturns while keeping pace during up markets, as illustrated in the chart below.



Invest with a Margin of Safety

Valuation analysis is the final component in our Quality-Growth-Valuation investment process. Growth is important, but not growth at any price. And for us, not even growth at a reasonable price will do. We are seeking companies that can generate sustainable and profitable growth and invest only when they are selling at a significant discount to our estimate of intrinsic value. Investing with a margin of safety requires not only a disciplined understanding of a company’s intrinsic value, but a clear recognition of what the market price implies about consensus expectations for that company’s value. Comparing our estimate of intrinsic value with the market price helps expose pricing inefficiencies. We seek to create a margin of safety by investing at a purchase price that is at a meaningful discount to our estimate of a company’s intrinsic value. When buying a business, we require at least a 2:1 anticipated upside-to-downside, reward-to-risk opportunity, and typically more. Holding all else equal, the larger the discount between market price and our estimate of intrinsic value, the greater we view our margin of safety.



Counter to the buy discipline of many growth equity managers, we believe the risk of investing in a great company is actually lower after its stock price has fallen, assuming our long-term investment thesis remains intact. Over time, if the market price increases (consensus expectations change) and converges with our estimate of intrinsic value, positive returns are generated. In this way, adhering to this tenet helps us manage downside risk and could increase upside potential.

We believe the discounted net present value of future cash flows is the best estimate of a company's intrinsic value. Because humans tend to anchor too readily to a single outcome or frame decisions too narrowly, we not only forecast our most likely intrinsic value scenario, our base-case price, we also test our assumptions. Through sensitivity analysis on the key variables appropriate to each business, we seek to determine which can drive the largest changes in valuation. We thereby establish a range of outcomes, or scenarios, that we label best case, base case, bear case and worst case. The best-case price represents the scenario in which the company executes successfully on all opportunities for growth. The bear-case price represents the scenario of what could likely go wrong with our base case. Our worst-case price represents the scenario when all goes wrong for the company. By linking our scenario analysis to key business drivers such as market penetration rates or profit margins, we hope to better understand the sources of both value creation and downside risks so that we may make better-informed, more objective decisions.

Our next step is to develop an understanding of the consensus expectations about a company's future cash flows implied by its current stock price. We call this expectations analysis, which reverse engineers the net present value cash flow calculation. That is, we start with the current stock price and solve for implied drivers of cash flow growth and profitability. Recognizing the consensus expectations reflected in the current stock price is crucial because generating alpha is not solely about absolute price-to-value differences. Understanding how our analysis of key variables differs from the price-implied consensus helps us understand how and why the market price, over time, converges toward, or deviates from, our intrinsic value.

With our range of intrinsic value price scenarios and our understanding of price-implied consensus expectations, we have the information we need to make investment decisions. When investing in a company, we look for the most attractive reward-to-risk opportunities. This can occur when the stock price falls into our bear- and worst-case valuation scenarios due to a short-term market inefficiency caused by temporary factors that do not negatively impact our long-term investment thesis. In most cases, we gradually scale into a position, taking advantage of stock price volatility.



Conversely, as the price of a company converges toward our base-case price—when the reward-to-risk opportunity becomes less attractive—we typically begin to reduce our weight in the company and eventually sell the position altogether when the stock price approaches our estimate of intrinsic value. In short, valuation drives the timing of our investment decisions.

Ultimately, our job as an investment manager is to allocate capital to the most compelling reward-to-risk opportunities. Therefore, the more attractive we view the reward-to-risk opportunity, the larger our capital allocation and position weight. In comparison, we have observed that the largest positions of a cap-weighted benchmark may have the least margin of safety—or worse, market prices above intrinsic value—yet are given the largest capital allocations in many benchmark-centric portfolios.

There is one last essential component to successfully implementing this tenet: it demands the temperament—and concomitant discipline—to be a contrarian who can buy into fear and sell into greed. It is not easy to stand alone, apart from the crowd. As Ben Graham said, “Have the courage of your knowledge and experience. If you have formed a conclusion from the facts and if you know your judgment is sound, act on it—even though others may hesitate or differ.”^{xii}



ACTIVE RISK MANAGEMENT

We believe defining risk in relative terms obfuscates the fact that the benchmark itself is a risky asset.

Define Risk as a Permanent Loss of Capital

Because we define risk as a permanent loss of capital, we take an absolute-return approach to investing and seek to actively manage our downside risk. More commonly, risk is framed in terms of relative returns and tracking error versus a particular benchmark. While benchmarking investment performance to a specific index began as a tool to help understand and judge portfolio manager performance, this relative-return orientation has morphed into the baseline for acceptable risk and return. Measuring risk, however, must not be confused with managing risk. What’s more, we believe defining risk in relative terms obfuscates the fact that the benchmark itself is a risky asset.



This is particularly true with cap-weighted indices because downside risk increases significantly when the stocks of a particular sector experience a run-up in prices that are above (in the case of a bubble, far above) their fundamental intrinsic value. If portfolio managers tie investment decisions to benchmark holdings and risk factors, they must necessarily take on this additional downside risk. Because our strategy is to invest in a stock only when its market price is at a significant discount to our estimate of a company's intrinsic value, we actively pursue both greater upside potential and the possibility of lower downside risk.

Diversification is another important tool in managing portfolio risk or volatility. However, we do not think diversification is the simple notion of more is better. Many investors wonder whether a 30-40 stock long portfolio can be sufficiently diversified. Studies dating back to the 1960s have sought to determine how many stocks a portfolio must hold to maximize the benefits of diversification. Results have ranged from 18-30 stocks.^{xiii} A 2010 study by Citigroup demonstrated that a portfolio of 30 stocks was able to diversify more than 85% of the diversifiable risk. The diversification benefit of adding more stocks to the portfolio declined significantly as the number of stocks increased. For example, adding 70 more stocks to a 30-stock portfolio improved diversification benefits by just 9%.^{xiv} Legendary growth investor Phil Fisher notes, "Too few people, however, give sufficient thought to the evils of the other extreme (over-diversification). This is the disadvantage of having eggs in so many baskets that a lot of the eggs do not end up in really attractive baskets, and it is impossible to keep watching all the baskets after the eggs get put into them."^{xv}

Cognizant of this risk, we instead seek to enhance risk management by diversifying the business drivers to which our holdings are exposed. We identify the primary business driver through our bottom-up valuation analysis for each company as the growth driver that has the largest impact on our estimate of its intrinsic value. Examples include growth in e-commerce, increased consumer spending in emerging markets, the shift to outsourcing and the ageing population. We seek to invest in business drivers that are imperfectly correlated because the positive impact of one may offset the negative impact of another. We believe this fosters more efficient diversification of risk and helps us keep our attention focused on searching for those few businesses that meet our disciplined criteria.

An analysis of portfolio sources of risk across all of our strategies reveals that security selection is our primary source of risk, while the effect of factor risk is minimal. We believe this is an outcome of our disciplined bottom-up stock selection underpinned by adherence to our Quality-Growth-Valuation investment process.

We believe that we cannot truly manage risk at the portfolio level if we do not first manage risk at the individual security level. We take a long-term structural and permanent approach to risk management. Therefore, our risk management is an integral part of our investment process, not a separate overlay or optimization process. We agree with Warren Buffett that one of the riskiest things investors can do is to invest in a business they do not thoroughly understand. As a bottom-up fundamental investor, risk



management is therefore integrated with our analysis of business models, competitive advantages, operating efficiency, corporate management integrity, profitable growth and valuation. In short, our active risk management process is an integral part of our active investment process.

Conclusion

For any investor, the goal is to identify those portfolio managers who are most likely to deliver superior risk-adjusted returns in the future. In our view, a performance track record cannot readily explain the level of skill employed to achieve the results, or guarantee continued success. We believe a focus on the quality of a manager's investment philosophy, process and decision-making offers a better method for evaluating the probability of future success. Our alpha thesis encapsulates a deeply held system of persistent beliefs, a rigorous, repeatable investment process and substantive proof points. For alpha generation, the pursuit of greater upside potential and managing absolute levels of risk are inextricable goals. Each tenet of our alpha thesis is designed—individually and collectively—to promote this dual objective for our investors.

This report was originally published in December 2012. We have updated the content as necessary and otherwise believe the information is current and relevant.

Endnotes

- ⁱ *The manager for the Large Cap Growth and All Cap Growth Composites joined Loomis Sayles on May 19, 2010, and performance prior to that date was achieved at his prior firm.*
- ⁱⁱ John Bogle, *Common Sense on Mutual Funds*, (New Jersey: John Wiley & Sons, Inc., 2010), p. 34.
- ⁱⁱⁱ Mark Carhart, "On the Persistence in Mutual Fund Performance," *The Journal of Finance*, Vol. LII, No. 1, March 1997.
- ^{iv} David Blanchett, "The Pre-Tax Costs of Portfolio Turnover," *Journal of Indexes* May/June 2007.
- ^v Fischer Black, "Noise," *The Journal of Finance*, Vol. 41, No. 3, *Papers and Proceedings of the 44th Annual Meeting of the American Finance Association*, New York, New York, December 28-30, 1985, p. 534.
- ^{vi} David F. Swensen, *Pioneering Portfolio Management*, (New York: Free Press, 2009), p. 252.
- ^{vii} 2007 Berkshire Hathaway Annual Meeting Top 20 Questions.
- ^{viii} Standard & Poor's Quality Rankings of common stocks "attempt to capture the long-term growth and stability of earnings and dividends." High quality: companies rated A-minus or better by S&P; Average: Companies rated B+; Low quality: rated B to D & Liquidation.
- ^{ix} Martijn Cremers and Antti Petajisto, "How Active is Your Fund Manager?," *International Center for Finance, Yale School of Management*, 2009.
- ^x Chan, Karceski & Lakonishok, "The Level and Persistence of Growth Rates," *The Journal of Finance*, Volume LVIII, No. 2, April 2003.
- ^{xi} CFROI is a registered trademark of Credit Suisse Group AG © 2020 or its affiliates in the United States and other countries.
- ^{xii} Benjamin Graham, *The Intelligent Investor: A Book of Practical Counsel*, Fourth Revised Edition (New York: Harper & Row, 1973), p. 287.
- ^{xiii} Frank K. Reilly and Keith C. Brown, *Investment Analysis and Portfolio Management* (United States: Thomson Learning, 2000), p. 292-293.
- ^{xiv} Citigroup as of 12/31/2010. The R-squared of a portfolio of stocks as a function of the number of stocks in the portfolio, i.e., how much of the portfolio risk is explained by the systemic factors as portfolio size increases. For each value of N (number of stocks), Citigroup randomly simulated 100 portfolios using the S&P 1500 as the starting universe and measured the R-squared of each portfolio. The R-squared value for a given value of N is the average of those 100 values.
- ^{xv} Philip A. Fisher, *Common Stocks and Uncommon Profits and Other Writings* (New Jersey: John Wiley & Sons, 1996), p. 135.

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