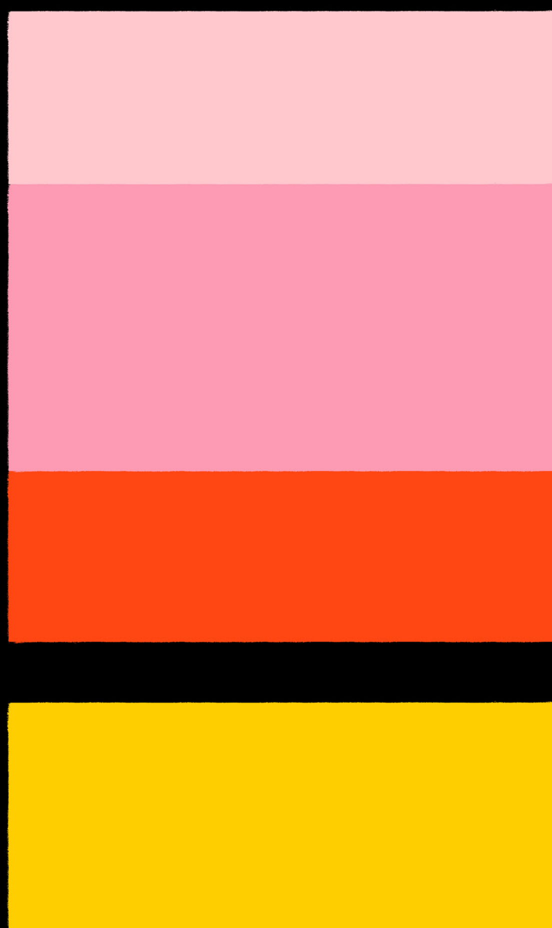

Boom or Bust? Managing Expectations for Concentrated Positions and Risk

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Abstract

We present a historical study that outlines the financial outcomes of holding concentrated public equity positions. Historically, holders of single stocks experienced a wide set of outcomes ranging from the rare potential to earn extreme positive returns to the more common occurrence of unrecovered catastrophic losses. Past winners generally did not continue to provide superior returns, and single-stock portfolios most often underperformed a broad stock market index. As in life, so in equities: extreme winners are rare, and the promise of a good thing can blind us to gathering risks associated with that promise.

Background

Whether an investor comes to hold a relatively large position in a single company by inheritance, as stock compensation, or because they bought a name that has bolted ahead over time, they can find themselves with a concentrated position that leaves their portfolio with an unwelcome level of risk. Exposure to company-specific risk can lead to devastating losses in the event of company failure, industry upheaval, or a bear market.

Even so, the investor might be reluctant to sell, wanting to maintain a position out of emotional attachment or an expectation of future strong performance. The decision to sell might also incur taxes on capital gains. Managing a concentrated position doesn't mean the client must make a binary choice between holding or selling, but any decision they make will be best informed by understanding the historical risks and rewards of large exposures, which requires examining how individual stocks have performed over time.

Toward this end, we looked at empirical returns of securities to capture the varying fates of single stocks in the Russell 3000® Index. Our data encompasses lifetime returns from our data provider, MSCI, Inc. of individual stocks that were members of the Russell 3000 Index at any point from December 31, 1986, to February 28, 2022. The index was selected for its size and scope, and the time period is driven by data availability at the time of the analysis.[1]

How have single stocks fared relative to the index?

Over the full period of our dataset, from December 31, 1986, to February 28, 2022, the Russell 3000 Total Return Index grew by more than 3,000%, as shown in Figure 1.

[1] Our data is necessarily incomplete and subject to certain limitations, as discussed in the Important Notes at the end of this paper. Security identifiers and return histories are subject to MSCI's handling of corporate actions. Security end dates may correspond to bankruptcy, termination, delisting, acquisitions/mergers, or the end of the study period and may not take account of the continuation through mergers and acquisitions that an investor might experience in practice.

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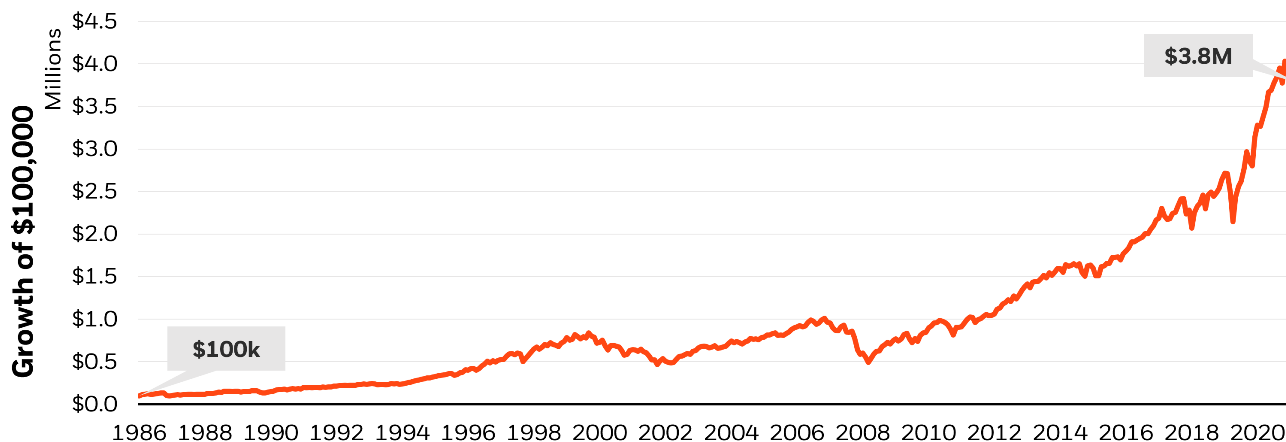

Figure 1: Historical growth of a sample $100,000 investment in the Russell 3000 Total Return Index using the published monthly index returns. December 31, 1986–February 28, 2022. Sources: Aperio Research and MSCI.

The first question we ask is, *how have single stocks fared relative to the index*? Our analysis includes securities with different lifetimes. As shown in Figure 2, within their respective lifetimes, only 34% of securities saw returns better than the index. Nearly one-third, 28%, made money but underperformed the index, while a full 37% of securities both underperformed and lost money. Further, we find that a single stock was most likely to have achieved returns underperforming the market.

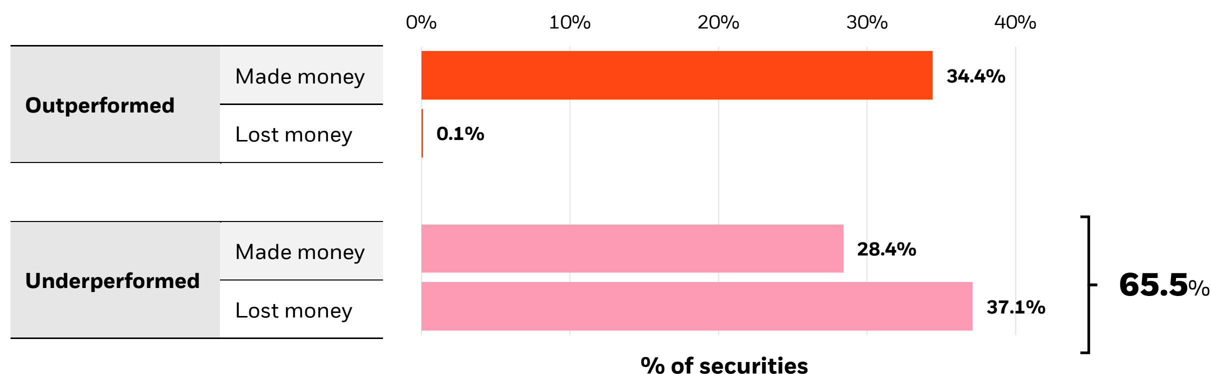

Figure 2: Breakdown of returns for individual stocks in the Russell 3000 Index. Each security return and excess return is measured over its own lifetime during the period from December 31, 1986 to February 28, 2022. Sources: Aperio Research and MSCI.

A small portion of securities exhibited extreme outperformance, offering the rare chance for a big payoff on a relatively small investment when the share price rose significantly, as reflected in Figure 3. To compare the best-performing stocks with the worst performers, we divided the dataset into deciles on the basis of cumulative excess return, the return difference between a single stock and the Russell 3000 Index. Decile 1 is the lowest-performing group and 10 is the highest. We then averaged each group's returns. Winners won big; otherwise, stocks were more likely to underperform, with the average excess return positive only in the top three deciles.

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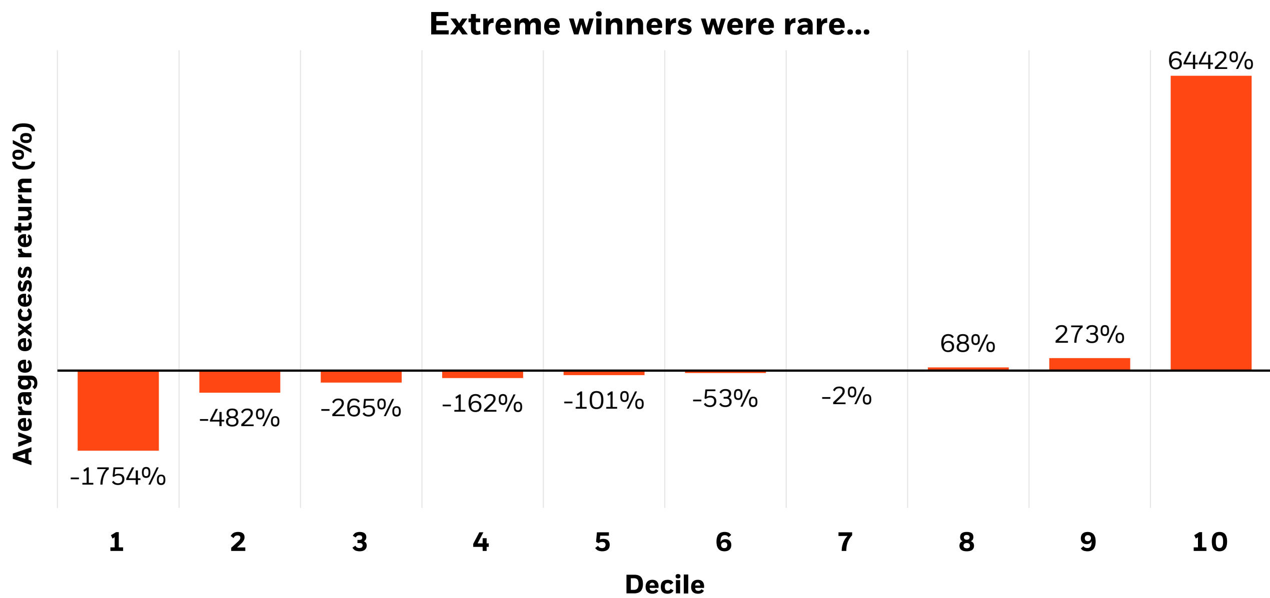

Figure 3: Average excess returns for stocks in the Russell 3000 Index, by decile. December 31, 1986–February 28, 2022. Sources: Aperio Research and MSCI.

Did winners keep winning?

For an investor who has seen a stock position become concentrated after a significant share price run-up, performance after that success is of particular interest. The question to ask then is, *did past winners keep winning?* To answer this, we analyzed past winners on a series of analysis dates. These are month end dates that are at least 10 years from the start of our data and 10 years from the end. On each analysis date, we identified the set of securities that were present in our dataset over the 20-year period beginning 10 years prior to the analysis date. From that pool, we selected the 25 securities that had the best performance over the initial 10-year period and tracked their performance over the subsequent 10-year period. Finally, we averaged the results over securities and analysis dates. Figure 4 shows that, for those securities with at least 20 years' performance data in the Russell 3000 Index, these top-performing securities underperformed the index on average over the second 10-year period.

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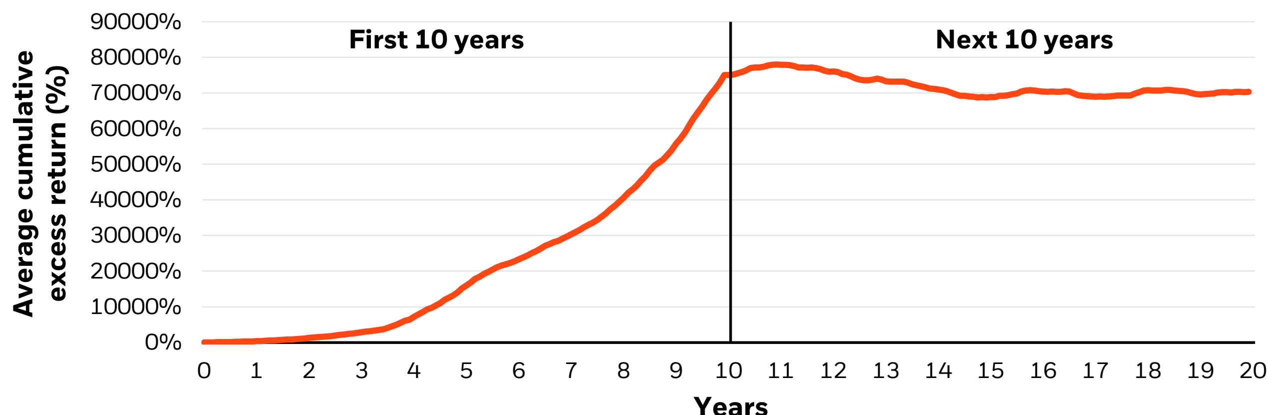

Figure 4: Average cumulative excess return path for top 25 performing stocks in the Russell 3000 Index, spanning 10 years before and 10 years after the analysis dates. Analysis dates are monthly from January 1997–February 2012. Includes all securities that had a complete 20-year history starting from 10 years before the analysis date. Sources: Aperio Research and MSCI.

What has become of some of those lottery winners?

Among the headline stocks that were once extreme winners are several of history's biggest losers: companies that once seemed to be the winning lottery ticket but were subsequently brought down by a variety of market forces. For example, a $100,000 investment in Internet pioneer Yahoo! at the end of 1986 was worth more than $9 million in early 2000, thanks to the dot-com boom (Figure 5). By the time the company was acquired in mid-2017, Yahoo!'s shares had joined the bust and were down by more than 50% from peak.

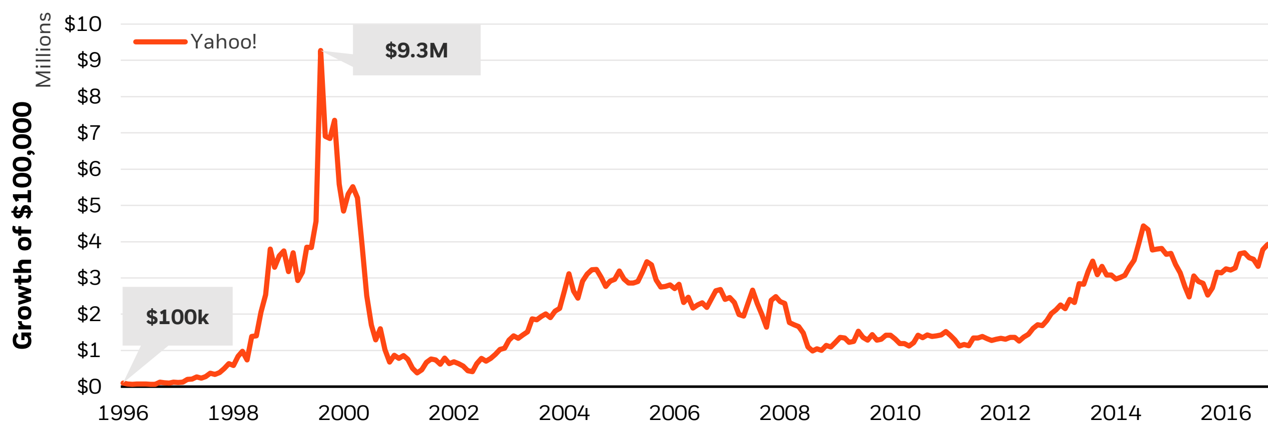

Figure 5: Historical growth of sample $100,000 investment in Yahoo!, May 31, 1996–May 31, 2017. Sources: Aperio Research and MSCI.

Another rider of the technology boom wave of the late 1990s, Sun Microsystems (Figure 6) likewise landed hard. The legendary Silicon Valley information technology company saw a $100,000 investment in late 1986 crest at about $17 million in mid-2000. Soon after, though, increasing competition in its software and enterprise systems segments caught Sun flat-footed, and its shares tumbled. The original investment was worth just $625,000 when the company was acquired at the end of 2009.

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Sun Microsystems was more than 95% off its peak value.

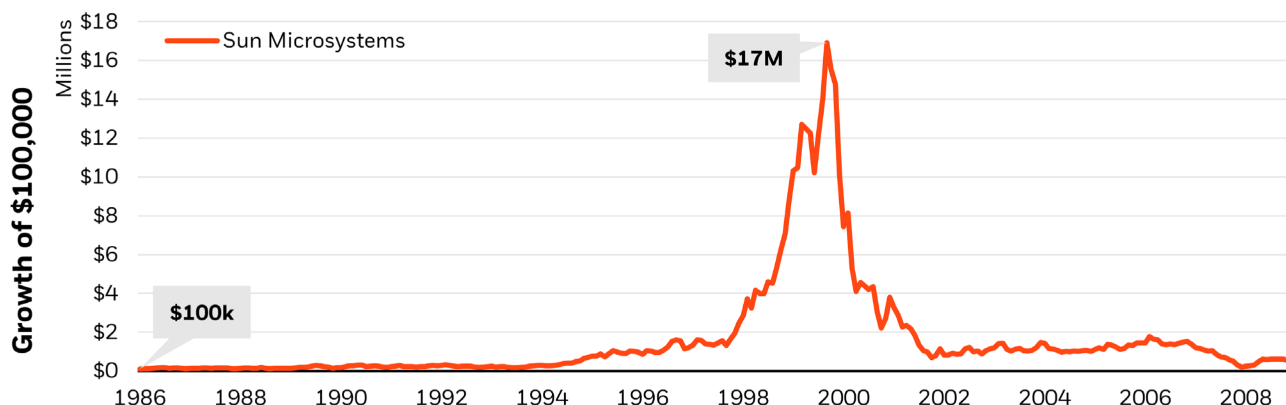

Figure 6: Historical growth of sample $100,000 investment in Sun Microsystems, December 31, 1986–December 31, 2009. Sources: Aperio Research and MSCI.

Among retail stocks, in the mid-2000s, department store mainstay Sears boomed on optimism around its merger with Kmart. An investment of $100,000 in mid-2003 had jumped to upwards of $1 million in the spring of 2007, only to collapse to less than $200 by early 2022 (Figure 7).

Sears lost nearly all its starting value.

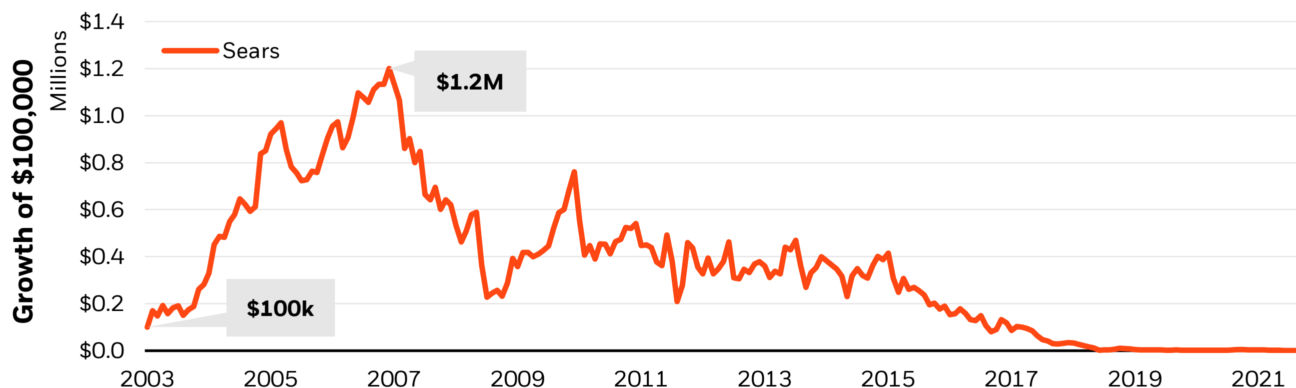

Figure 7: Historical growth of sample $100,000 investment in Sears, May 30, 2003–February 28, 2022. Sources: Aperio Research and MSCI.

Some stocks delivered a rollercoaster ride for investors, cycling through periods of outperformance and catastrophic losses. For example, General Electric (GE), once a blue-chip industrial icon, was in tatters after its transformation into a high-flying diversified conglomerate, coupled with costly scandals, deepened the company's vulnerability to economic and market downturns. Despite rallying repeatedly on the promise of restructuring and new leadership, GE's shares still finished in catastrophic territory. An investment of $100,000 in early 1987 was worth about $2.3 million in autumn of 2000, but subsequent gains weren't held, leaving the value at about $870,000 in early 2022.

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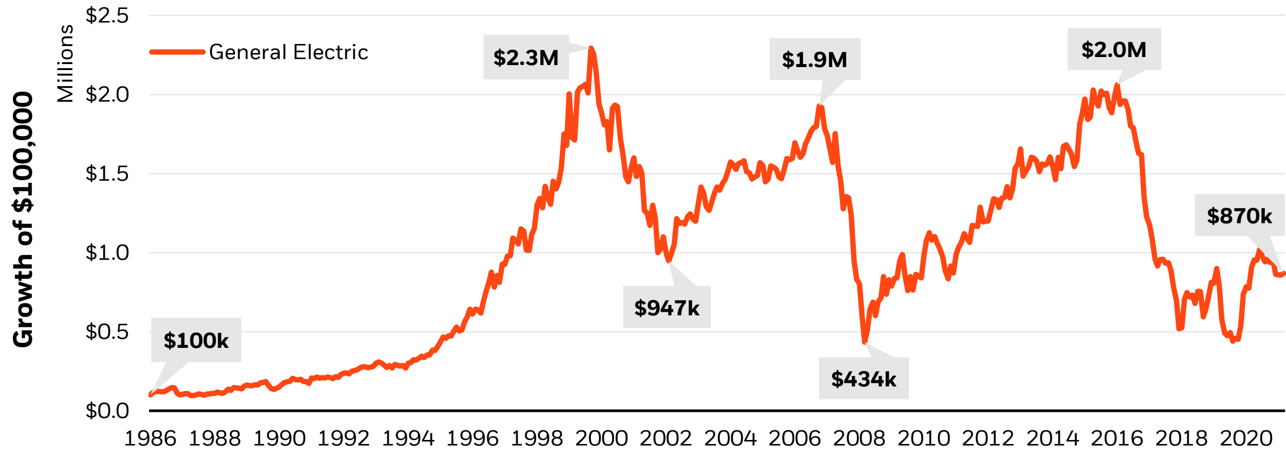

Figure 8: Historical growth of sample$100,000 investment in General Electric. December 31, 1986–February 28, 2022. Sources: Aperio Research and MSCI.

How deep was the catastrophic loss of a concentrated position?

Although the market has historically recovered from declines on its way to posting notable gains over the long term, the same cannot be said for a significant segment of individual companies. Of the 11,500-plus securities in our full dataset going back more than 35 years, more than one-third experienced a catastrophic loss. For the purposes of this exploration of empirical returns, we define a catastrophic loss as a drawdown of at least 50% from the stock's peak without recovery—meaning that half of that value is still gone at the earlier of the end of the security's life and our study period.

By sector

Breaking out catastrophic losses by sector, we note that at least 30% of stocks in most sectors within the Russell 3000 Index were likely to experience such a loss, as shown in Figure 9.

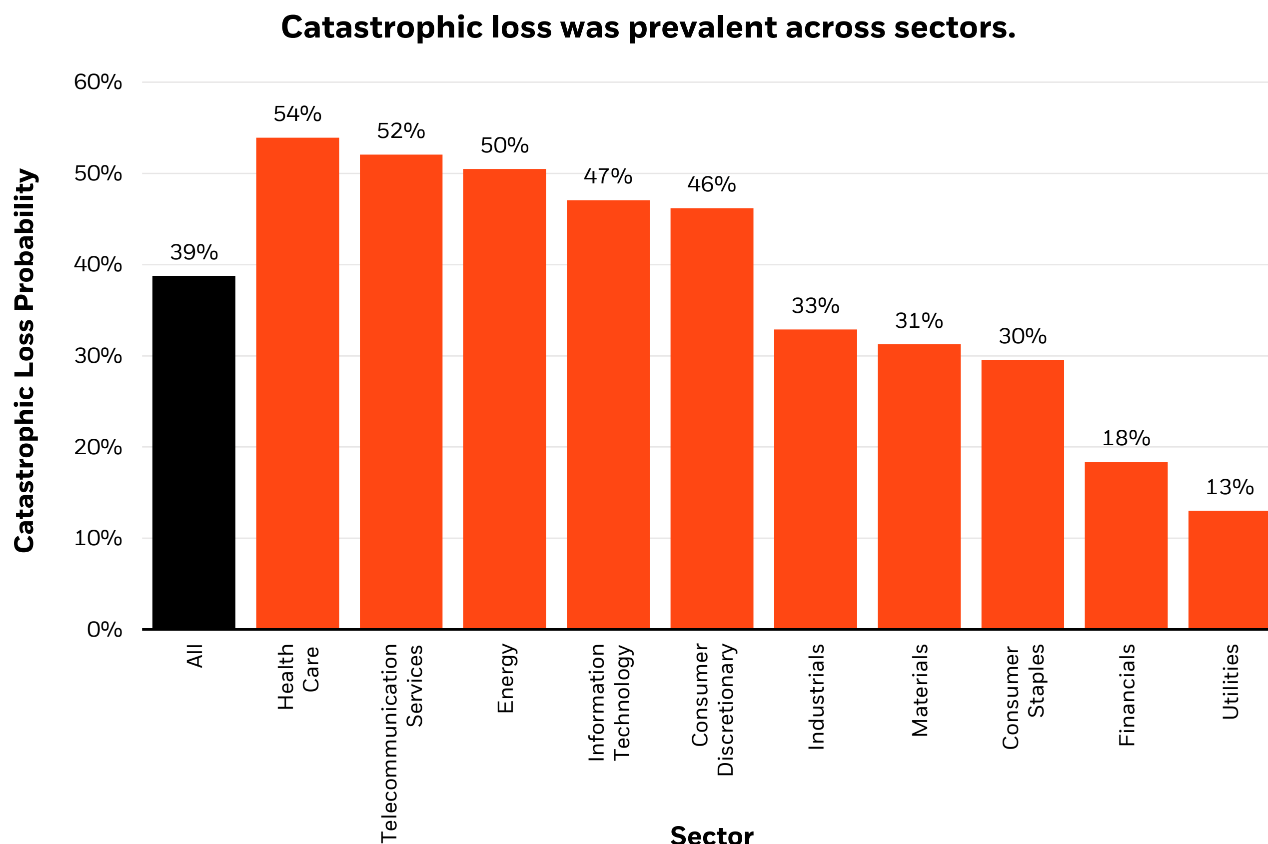

Figure 9: Catastrophic loss (a security's peak-to-end value decline of 50% or greater) probability decomposition into 10 sectors based on MSCI's classification. December 31, 1986–February 28, 2022. Sources: Aperio Research and MSCI.

By factor

Empirically, there is an association between the volatility of a security and its exposure to small size and high beta. Perhaps unsurprisingly, as shown in Figure 10, nearly half of the small companies in our dataset were likely to experience a catastrophic loss in their lifetimes, whereas less than one-third of large companies experienced such a loss.

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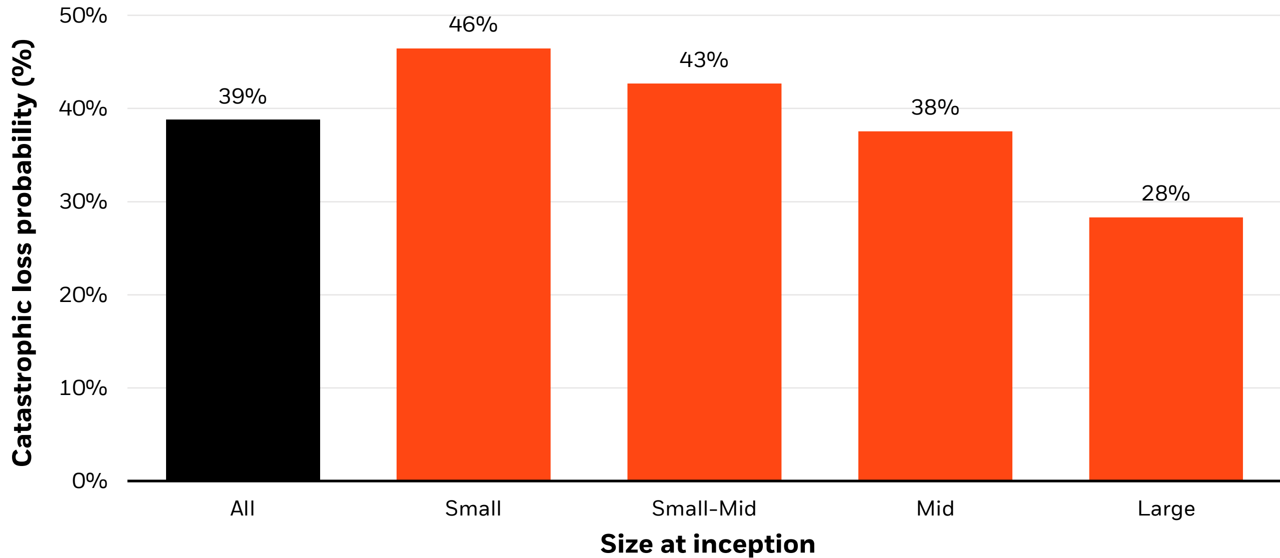

Figure 10: Catastrophic loss (a security's peak-to-end-value decline of 50% or greater) probability data by quartile, based on size at inception, or market capitalization, as indicated in MSCI Barra US Total Market Equity Model exposures. December 31, 1986–February 28, 2022. Sources: Aperio Research and MSCI.

Likewise, we find that higher-beta stocks had a greater chance of experiencing catastrophic losses. Specifically, nearly half of the high-beta companies in our dataset were likely to see unrecovered losses of at least 50% while less than one-third of low-beta companies experienced a catastrophic loss in their lifetimes, as shown in Figure 11.

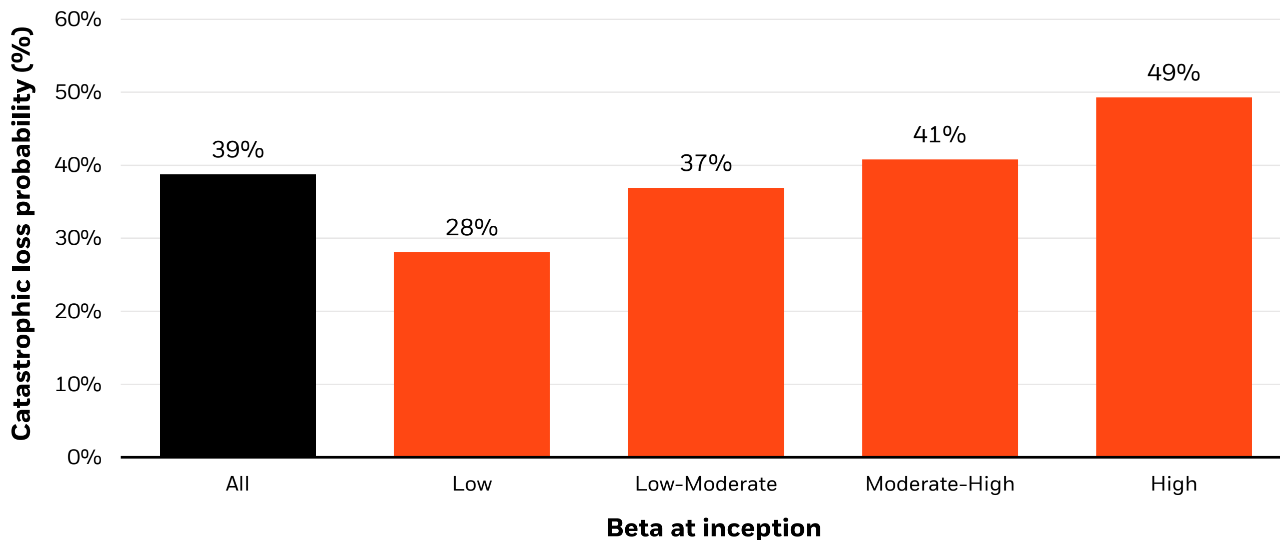

Figure 11: Catastrophic loss (a security's peak-to-end-value decline of 50% or greater) probability data by quartile, based on beta (a stock's sensitivity to the market) at inception, as indicated in MSCI Barra US Total Market Equity Model exposures. December 31, 1986–February 28, 2022. Sources: Aperio Research and MSCI.

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What are the options for mitigating the boom-or-bust dynamic?

Diversification

Although diversifying a portfolio may not protect against loss of capital, market risk, or volatility of returns, our analysis shows that reducing the level of single-stock concentration can lower the downside risk associated with the portfolio.

For each concentration level, we established a buy-and-hold sample portfolio of concentrated stock and index at each security's inception and followed the portfolio's performance over the security's lifetime without rebalancing. Figure 12 demonstrates the percentage of securities experiencing catastrophic losses at different concentrated weights. Given that individual securities typically underperformed the market, their relative weights in the portfolio declined and with that, the likelihood of a catastrophic loss for the portfolio.

Diversification of a concentrated position reduced catastrophic risk.

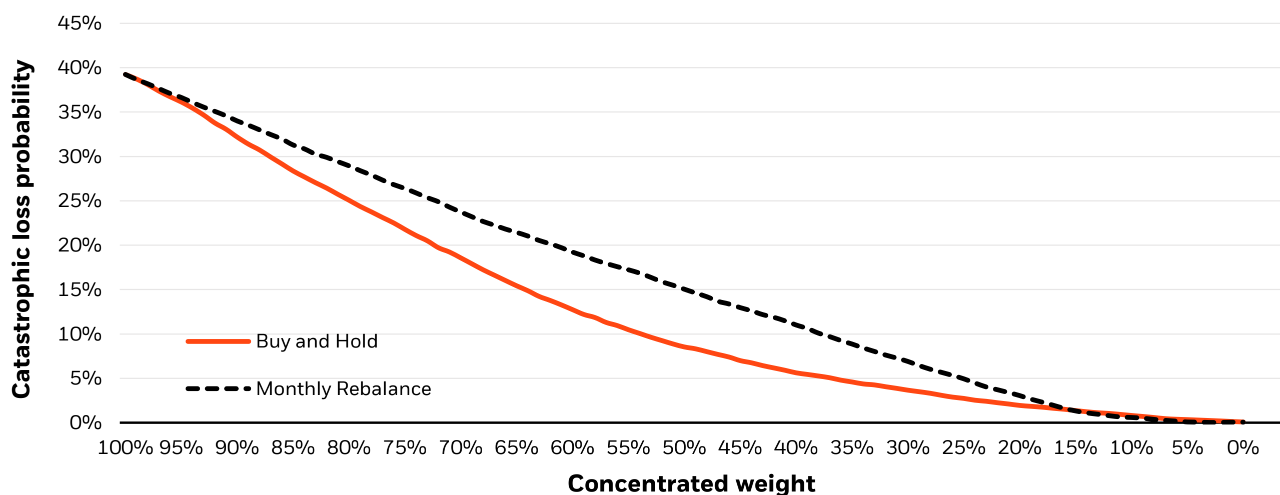

Figure 12: Catastrophic loss (a security's peak-to-end-value decline of 50% or greater) probability, Russell 3000 Index. December 31, 1986–February 28, 2022. Sources: Aperio Research and MSCI. In our study, we maintained the concentration position percentages through monthly rebalances. No fees or trading costs were applied. Diversification does not guarantee profit or protect against investment loss.

For an investor with a dangerously large holding in a single stock, maintaining the position is an option, but that choice should acknowledge the risks involved. Depending on the investor's priorities, reducing the downside exposure from a concentrated position might be accomplished through diversification. Any approach to diversifying a position is complex and should consider the investor's reasons for owning the stock, tolerance for risk, tax-management objectives, and overall wealth planning goals. Of these concerns, taxes are often a primary reason for reluctance among investors who might otherwise consider diversifying their positions. But for investors who hesitate to diversify their concentrated holdings for tax reasons, inaction can represent a missed opportunity to protect their wealth.

Tax cost breakeven

Liquidating a concentrated position has an up-front tax cost, but settling the tax bill is not the end of the story. After-tax wealth invested in a diversified index can continue to grow. Furthermore, if the index grows at a higher rate than the position that has been sold, the up-front tax cost can be offset by future excess gains. For example, based on the assumptions shown in Table 1, wealth over a 20-year time frame is the same for a security that underperforms the Russell 3000 by ~1.5% per year and an investment in the index using after-tax proceeds from liquidation. The median security lagged the

index by more than 5% per year during our study period, and based on that underperformance (and same assumptions as before), a typical investor would have offset the liquidation tax cost by investing in the index for six years. Figure 13 shows the hypothetical underperformance required to achieve the tax cost breakeven over different time frames using the following assumptions.

Cost basis	**$0**
Capital gains tax rate	**23.8%**
Index return (annualized)	**10.9%**

Table 1. Assumptions used to calculate sample annualized excess returns in Figure 13. Index return assumption is the annualized return of the Russell 3000 Index from December 31, 1986–February 28, 2022. Capital gains tax rate is the federal-only highest applicable long-term rate. The analysis assumes long-term capital gains tax on liquidations.

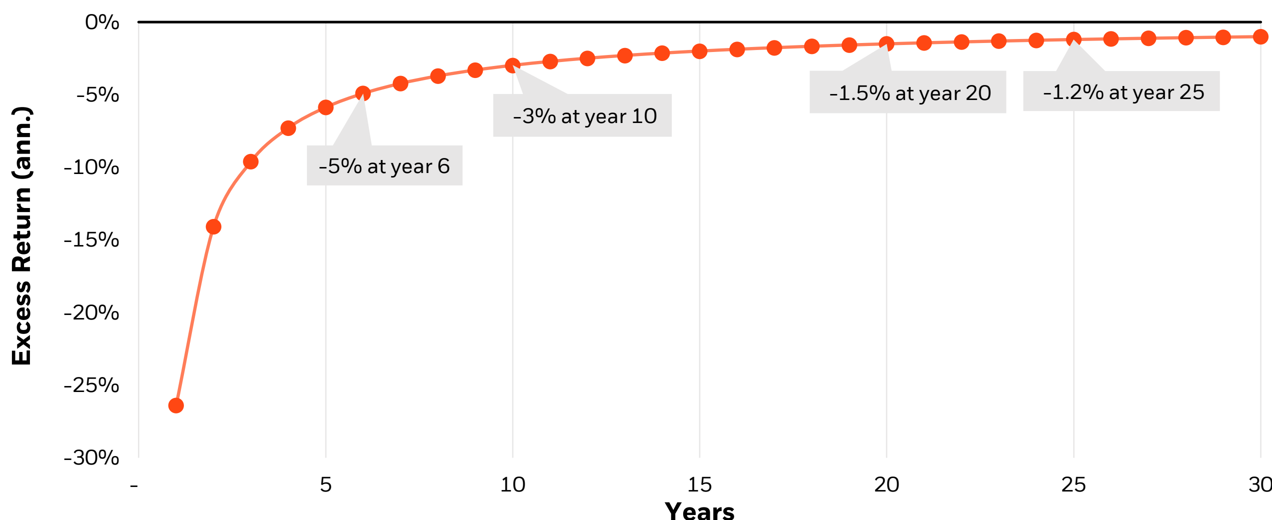

Figure 13: Sample annualized excess returns required for the tax cost breakeven over different time frames based on an estate/donation disposition assumption at the end of the time frame with additional assumptions shown in Table 1. No discount rate is applied; tax cost is up-front, while estimated future losses occur over time. No management fees or trading costs are deducted, which would affect results. The analysis assumes a long-term capital gains tax rate of 23.8% on liquidations. December 31, 1986–February 28, 2022. Sources: Aperio Research and MSCI.

Conclusion

Many investors underestimate the downside risk of concentrated positions. Historically, holders of single stocks experienced a wide set of outcomes ranging from the rare potential to earn extreme positive returns to the more common occurrence of unrecovered catastrophic losses. Past winners generally did not continue to provide superior returns, and single-stock portfolios most often underperformed a broad stock market index. An investor facing a concentration problem has most likely beaten the odds by experiencing outsized returns from that security. Given the general tendency of single stocks to underperform the market (or worse), the investor would be prudent to shift their focus to capital preservation and reduce stock-specific risks, which we show to be uncompensated in

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most cases. Managing the risks associated with concentrated stock exposure offers potential benefits far surpassing the possibility to keep winning with that position.

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