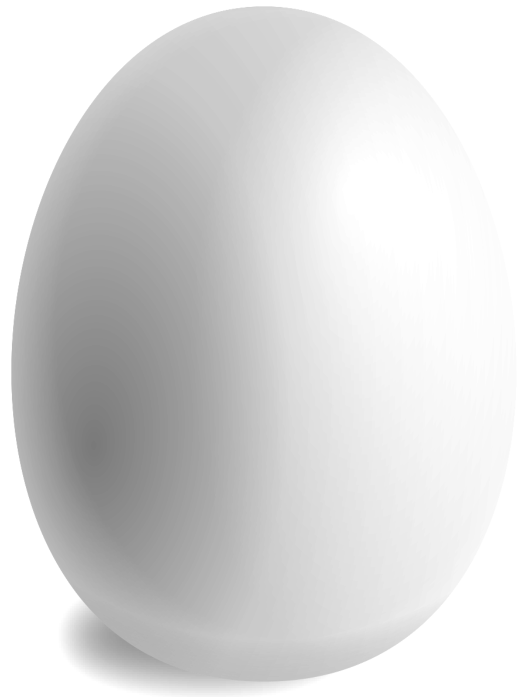
First Ascent Asset Management

UNDERSTANDING CONCENTRATION RISK



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firstascentam.com

Executive Summary

There are many ways an investor can end up holding a large, concentrated stock position. There are also many reasons why an investor may be reluctant to diversify away from that position. But holding a large, concentrated stock position comes with significant risks.

These risks include:

- A high likelihood that the concentrated position will be significantly more volatile than a broadly diversified portfolio.
- A high likelihood that the long-term return of the concentrated position will be lower than the return of a broadly diversified portfolio.
- A higher likelihood that the concentrated position will experience a very serious decline in value (-50% or more), or even a complete loss, than for a broadly diversified portfolio.

These risks are also associated with concentrated positions in a single industry, sector, or investment style. Broad diversification can reduce or eliminate these risks.

Therefore, unless an investor has compelling reasons to maintain their concentrated position, the investor should liquidate that position and reinvest in a broadly diversified portfolio.

Two Types of Risk

When investing in securities there are two types of risk, “idiosyncratic” and “systemic.”

Idiosyncratic risk is the risk associated with specific companies. For example, a firm may be subject to risks associated with regulatory changes, obsolete products, bad management decisions, weak financials, environmental disasters, fraud, or unforeseen events. These risks may cause a firm’s stock to decline in value even if the overall stock market is doing well.

Idiosyncratic risk can be diversified away. That is, as an investor adds more stocks to their portfolio, the company-specific risks associated with any one of them become less significant. Eventually, if an investor adds enough stocks to the portfolio, those risks disappear.

Systemic risk is different. It is the risk an investor assumes by investing in the stock market. Historically, the stock market rises and falls over time. Even the stocks of healthy, well-run companies rise and fall as these market cycles repeat.

There is no amount of diversification that can eliminate the impact of these up and down cycles. But over time, investors are compensated for the “risk” of having to experience these cycles because the stock market rises in value over the long-term.

Examining the Research

An investor with a concentrated position is likely to experience a significant amount of idiosyncratic risk. This is likely to result in increased volatility and lower returns. This idiosyncratic risk can be greatly reduced or eliminated through broad portfolio diversification.

Let's examine some examples.

Northern Trust

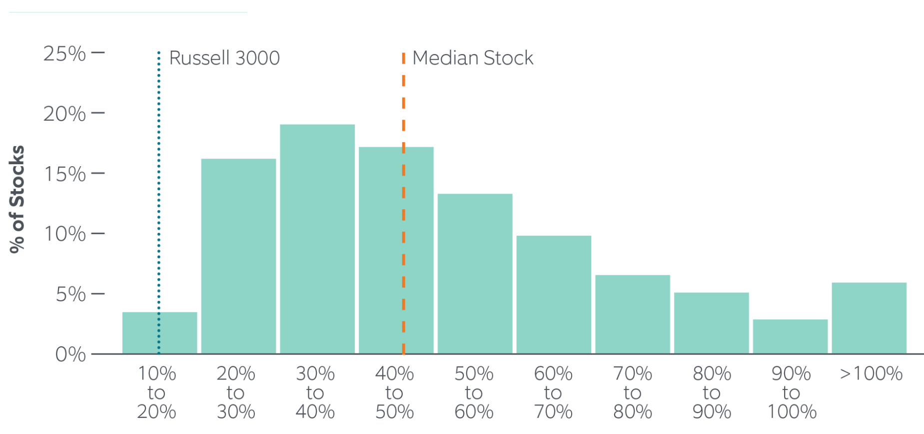
In July 2019, Northern Trust published research illustrating the potential risk of owning a single stock versus the Russell 3000 index. The Russell 3000 is a diversified stock index that includes the 3,000 largest publicly traded stocks, representing roughly 98% of the US stock market.

Northern Trust examined all stocks that were a part of the Russell 3000 at any time from January 1999 through December 2018[1]. First, they examined the volatility of those stocks.

Exhibit 1 below, shows that the median stock in the index had a volatility of 46.1%. This was three times higher than the 14.8% volatility of the index. Only 0.2% of the stocks in the index had a volatility that was lower than the volatility of the index itself. An investor holding almost any stock in the index could reduce volatility simply by investing in a Russell 3000 index fund.

Exhibit 1

Individual Stock Volatility



Source: Northern Trust Research, Morningstar, FactSet.

1. Only stocks with a minimum of 24 months of returns were included to compute the annualized standard deviation. 6,076 stocks that meet this 24-month minimum were listed in the Russell 3000 over this 20-year period.

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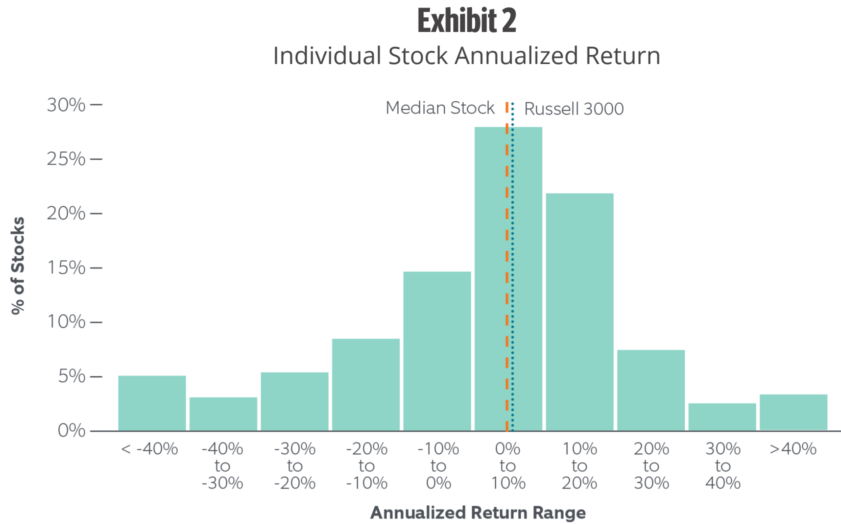
Then Northern Trust examined the annualized returns of the individual stocks versus the index. Exhibit 2 below, shows the distribution of annualized returns for the individual stocks.

Exhibit 2

Individual Stock Annualized Return



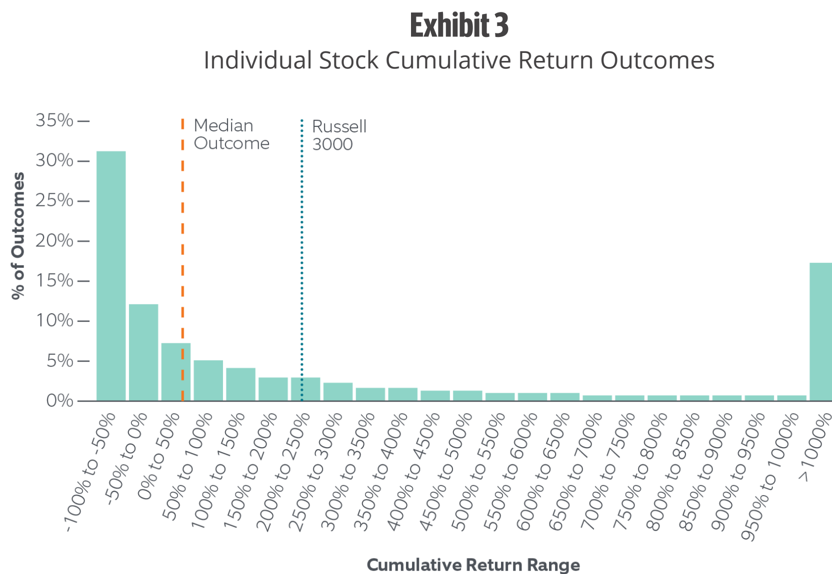
Source: Northern Trust Research, Morningstar, FactSet.

The annualized return for the Russell 3000 was 5.96%. That was 0.73% higher than the 5.23% return of the median stock in the index. Notice that well over 10% of the stocks had negative returns of -20% or more. About 5% had negative returns of -40% or more. Again, an investor holding one of these stocks could lock in the return of the index and avoid the possibility of one of these extreme negative events by selling the stock and investing in a Russell 3000 index fund.

Since many of the individual stocks in this sample were not part of the Russell 3000 for the full 20-year period, Northern Trust conducted Monte Carlo simulations to more precisely estimate the return possibilities of holding concentrated stock positions over the full 20-year period.

Exhibit 3

Individual Stock Cumulative Return Outcomes



Source: Northern Trust Research, Morningstar, FactSet.

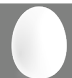


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Exhibit 3 (previous page) shows that two-thirds of the individual stocks in the simulations underperformed the 218.39% cumulative return (5.96% annualized) of the Russell 3000 index. The cumulative return of the median stock was only 44.39% (1.85% annualized). In nearly one-third of the simulations, the individual stocks experienced a severe loss of more than -50%.

Northern Trust performed another simulation to determine the impact that taxes might have on a decision to hold an individual stock (the Hold Scenario) versus sell the stock and diversify by investing in the Russell 3000 index (the Diversification Scenario).

For purposes of the simulations, they made the following assumptions:

- Both the stock and the index had the same return (the actual return of the Russell 3000 index from 1999 through 2018).
- The index had a volatility of 14.8% and the stock had a volatility of 46.1% (the actual volatility of the index and the median stock in the index from 1999 through 2018).
- The cost basis of the stock was $0.
- The seller paid a 20% capital gains tax upon sale of the stock.

They found that the median return for the Diversification Scenario was higher by the end of the fourth year than for the Hold Scenario. In other words, it paid to diversify, even after paying taxes. The improved performance made up for the taxes paid after a relatively short period.

It is also worth noting that in the worst 5% of the simulated outcomes, the Hold Scenario showed the value of the stock going to zero after four or five years. The Diversification Scenario eliminated the risk of the portfolio ever going to zero value. This suggests that in most cases, selling a concentrated stock position and diversifying makes sense. The exception might be if there would be significant taxes to pay on the sale of the stock and there is an expectation that the stock may be gifted or bequeathed in the near future.

Other studies on this topic reach similar conclusions.

Cambridge Associates

Cambridge Associates examined the annualized volatility and returns of the S&P 500 Index and its individual stock components for the 10 years ending June 30, 2013. They concluded:

"Single stocks, on average, are about 68% more volatile than a diversified portfolio…Only 8% of the individual stocks in the index had lower volatilities than the index itself."

Cambridge Associates also found that diversification reduces the risk of very poor returns. During a period when the index had a cumulative return of almost 100%, more than one in ten of the index components delivered a cumulative return of -50% or worse. Many more dropped more than 50% from their peak value at some point during the 10-year period.

Crittenden and Wilcox

In their book, The Capitalism Distribution, Eric Crittenden and Cole Wilcox explored the question of just how few individual stocks would be winners relative to a diversified index. They studied the Russell 3000 index for the period 1983 through 2006 and found:

- 39% of the individual stocks lost money
- 18.5% of the stocks lost at least 75% of their value
- 64% of the stocks underperformed the Russell 3000
- 25% of the stocks were responsible for all the gains of the index

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Bessembinder

Professor Hendrik Bessembinder's paper, Do Stocks Outperform Treasury Bills, documents that the best-performing 4% of stocks explain the entire net gain for the US stock market between 1926 and 2016. The other 96% of stocks collectively matched the performance of one-month Treasury bills and most of those lost money.

Morningstar

John Rekenthaler of Morningstar updated Bessembinder's findings by evaluating the performance of the individual components of the Morningstar U.S. Stock Index for the 10 years from 2011 through 2020. Over this period the index produced a 13.9% annualized gain.

Rekenthaler found:

- Only 42% of the stocks in the index posted *any* gain over the 10-year period
- Over one-third, 36%, posted a loss for the 10-year period
- The other 22% simply vanished from the index, being either acquired or delisted

Now You See It, Now You Don't

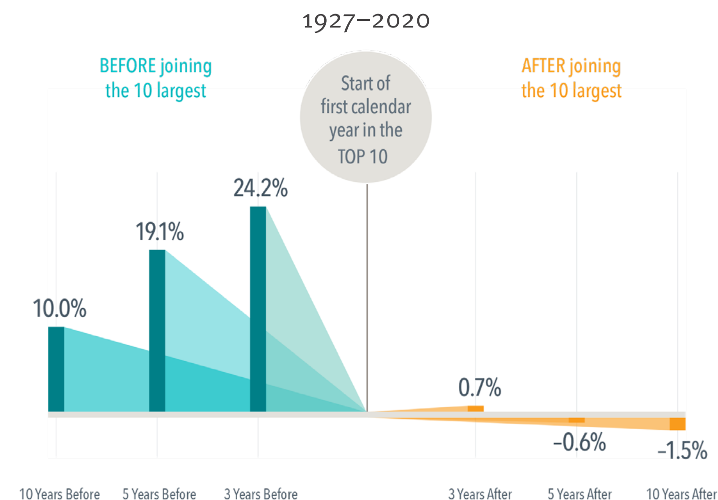
The research shows that relatively few stocks drive the performance of an index. Determining those that drove performance in the past is easy. Selecting those that will drive future performance is not. It is hard to foresee the forces that will impact today's high-flyers.

Of the top 10 stocks in the S&P 500 index today, only one—Microsoft—was in the top 10 in 2000. Of the top 10 in 2000, only three—Exxon, General Electric, and Walmart—were in the top 10 in 1990. Half the top 10 in 1980 were oil companies. In today's top 10 there are none.

Research done by Dimensional Fund Advisors, shown below, documents just how fleeting a stock's status as a high-flyer can be. From 1927 to 2020, the average annualized return for top-10 stocks over the three years before they became top-10 stocks was almost 25% higher than the return of the market itself. For the three years after joining the top-10, the edge was less than 1%. In the subsequent five years, on average, those stocks underperformed the market.

AVERAGE ANNUALIZED OUTPERFORMANCE OF COMPANIES BEFORE AND AFTER THE FIRST YEAR THEY BECAME ONE OF 10 LARGEST IN US

1927–2020



Source: Dimensional Fund Advisors

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Here is a sample of formerly top brands that went bankrupt and/or no longer exist:

Airlines: Pan Am, TWA, Braniff, Eastern, Midway, Swissair, Sabena
Automotive: Pontiac, Oldsmobile, DeLorean, American Motors, Chrysler
Electronics/Photography: Polaroid, Eastman Kodak, Minolta, Circuit City, Radio Shack
Energy: Enron, Texaco, Pacific Gas & Electric, Chesapeake Energy
Entertainment/Media: Borders Books, Blockbuster Video, Ringling Bros. Circus
Retail: Pier 1, Toys R Us, Woolworth's, JC Penney's, Sears, Brooks Bros., Nieman Marcus
Technology: Compaq, Magnavox, Palm, Napster, Wang Laboratories, Pets.com, Netscape

The S&P 500 index returned 18.4% in 2020 on a total return basis. Just three stocks—Apple, Amazon, and Microsoft—accounted for 53% of that return. If you took just the top 30 stocks by market cap out of the index, the S&P 500 would have fallen 0.03% for the year.

Anticipating the prospects of a stock and picking one of the handful that drives performance is very difficult. Staking one's financial future on one's ability to do so is imprudent. The risks associated with a concentrated portfolio can be reduced through proper diversification.

The Message is Clear

Investors who want to improve their odds of reducing volatility, increasing returns, and avoiding catastrophic loss should invest in a diversified portfolio, not a concentrated position.

The exceptions to this include:

- There are regulatory reasons why the investor must hold the position
- The investor must hold the position to maintain corporate control
- The investor has specific knowledge and is very certain the position will outperform
- The position has significant embedded capital gains, and the investor expects to dispose of the position in the very near future through gift or bequest.

Otherwise, it is advisable for an investor holding a concentrated position to sell it and reinvest the proceeds in a broadly diversified portfolio.