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100% Equities

Too Much of a Good Thing

By Michael Crook, Chief Investment Officer

Executive Summary

- Although stocks have outperformed over the long term, 100% stock portfolios experience severe declines and decade-long periods of underperformance.
- Private assets can offer diversification and attractive returns, making them a valuable tool for aggressive investors.
- A balanced mix of stocks, bonds, and private assets can deliver comparable returns to stocks alone, with less volatility, less significant drawdowns, and steadier growth.

On occasion, we're asked if a 100% stock portfolio is appropriate for a long-term investor, as stock markets have historically generated better returns than bonds, commodities, real estate, or any other major asset class over long horizons. Our answer is generally a qualified no. It is our belief that stocks serve as the growth engine of investment portfolios and we believe that successful investing without stocks is unlikely for any investor, but:

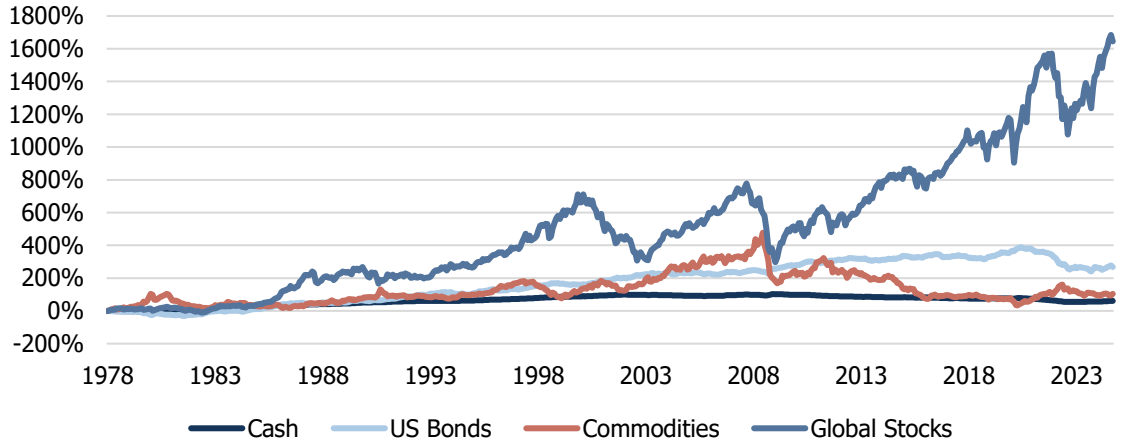
- Stock markets are very volatile and subject to significant, sharp declines,
- Stock markets can experience decade-long periods of zero growth,
- Stock markets can experience multi-decade periods of underperformance versus bonds or other assets.

Even if an investor is behaviorally capable of the fortitude necessary to hold all of their assets in stocks, we believe a diversified multi-asset class portfolio can produce similar wealth gains as equities with lower drawdowns, less volatility, and fewer lost decades.

Stocks for the long run

Stocks have historically produced higher long-run returns than nearly any other asset class. For example, over the last 46 years,[1] cash, US bonds, commodities, and global equities have returned 1%, 2.7%, 1.5%, and 6.1% on an annualized inflation-adjusted basis. Nominal returns were 4.6%, 6.4%, 5.1%, and 9.9%, respectively, for cash, US bonds, commodities, and global equities. Inflation averaged 3.5% per year over the full horizon.

Fig. 1: Long-term cumulative return for cash, bonds, commodities, and stocks



Source: Bloomberg, Mill Creek.

The difference between a 6.1% annualized return on stocks and a 2.7% annualized return on bonds is substantial when compounded over four decades. An all-equity investor would have ended up with 4.5x the wealth of an all-bond investor, while cash and commodities barely produced returns above inflation.

The price of admission

The late Charlie Munger is credited with saying that drawdowns of 40–50% are "the price of admission" for being an investor in the equity market. Fig.1 makes it easy to look past the admission price and just see the party.

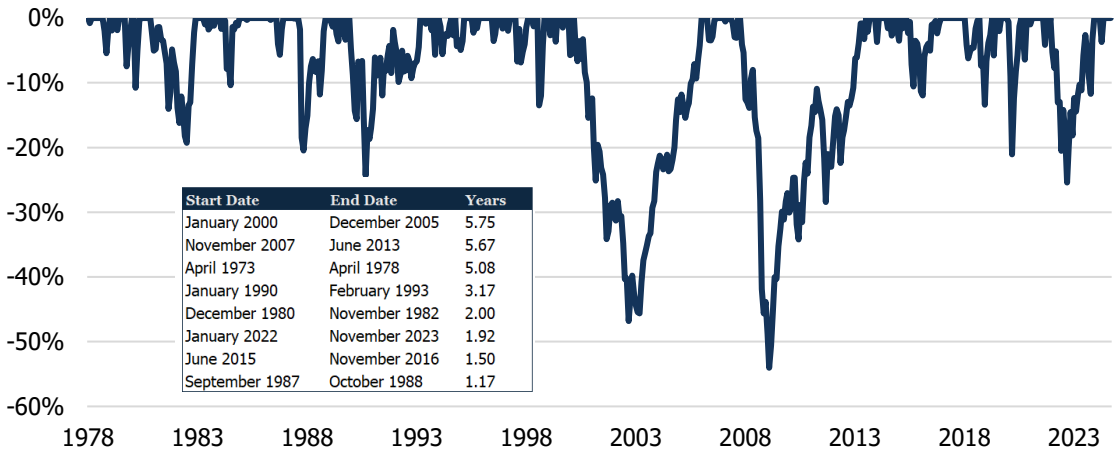
Equity market corrections and bear markets are commonplace (Fig. 2, next page). Since 1970, the global equity market has experienced eight drawdowns of 20% or more and, depending on how

[1] 46 years represents the longest history available for these asset classes in Bloomberg.

one counts them, 15–20 drawdowns of 10% or more.

Investors who hold equities must psychologically survive these corrections without jumping in and out of the market, which is almost always detrimental to overall returns. 100% equity investors must be ready to watch 20%, 30%, or 40% of their investment portfolios evaporate over the course of a few months and then wait five years or more for a full recovery — a gut-wrenching proposition for nearly anyone.

Fig. 2: Equity market peak-to-trough drawdowns



Start Date	End Date	Years
January 2000	December 2005	5.75
November 2007	June 2013	5.67
April 1973	April 1978	5.08
January 1990	February 1993	3.17
December 1980	November 1982	2.00
January 2022	November 2023	1.92
June 2015	November 2016	1.50
September 1987	October 1988	1.17

Source: Bloomberg, Mill Creek. "Years" refers to the full drawdown and recovery cycle.

Lost decades (or worse)

Stock markets routinely experience decade-plus periods of negative returns. During the 1970s, Australia, the UK, and Norway all incurred a 10–15-year period of flat returns. Japan only recently regained the highs they last saw in 1989. The US experienced a 16-year period of 0% return during the Great Depression and again following the dot-com bust. Sometimes, the outcome is even worse — it took 47 years for the German stock market to recover from World War I and Russia's market (then the sixth largest economy in the world) never did.

Global diversification has helped mitigate country-specific risk, but global stock portfolios still experience lost decades. The last such occurrence started in 1999 and extended through 2013 (Fig. 3, next page).

Fig. 3: Global equity markets can exhibit sustained periods of flat performance (growth of $100)

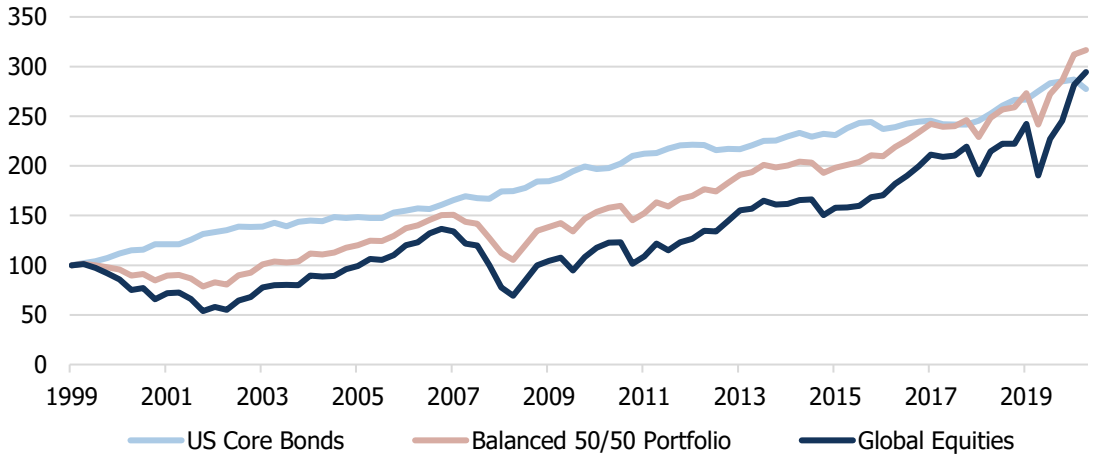
Source: Bloomberg, Mill Creek.

How long is long-term?

As we stated at the beginning of this article, equity markets have generally outperformed other assets over long horizons. But how long does one need to wait for the long term? One year clearly isn't long-term. Neither is five years. Realistically, investors might have to wait 20 years or longer and sit with significant and sustained relative underperformance to achieve their desired performance.

For example, global stocks underperformed bonds between 1999 and 2021 (Fig. 1). The long-term wasn't 5 or 10 years, but it finally arrived after 20-some years of underperformance. Furthermore, it turns out that neither stocks nor bonds were the "best" long-term asset over this admittedly unique but not unprecedented period; a portfolio comprised of 50% equities and 50% bonds outperformed both stocks and bonds.

Fig. 4: Stocks can experience sustained periods of underperformance



Source: Bloomberg, Mill Creek.

The observation that a portfolio comprised of half equities and half bonds outperformed both equities and bonds might come as a surprise to some readers. How can the whole be more than the sum of the parts? Here's another data point that might surprise you — over the period we're discussing, the average monthly return for the bond, equity, and 50/50 portfolios were 0.2%, 0.6%, and 0.4%. The balanced portfolio outperformed with a lower average monthly return.

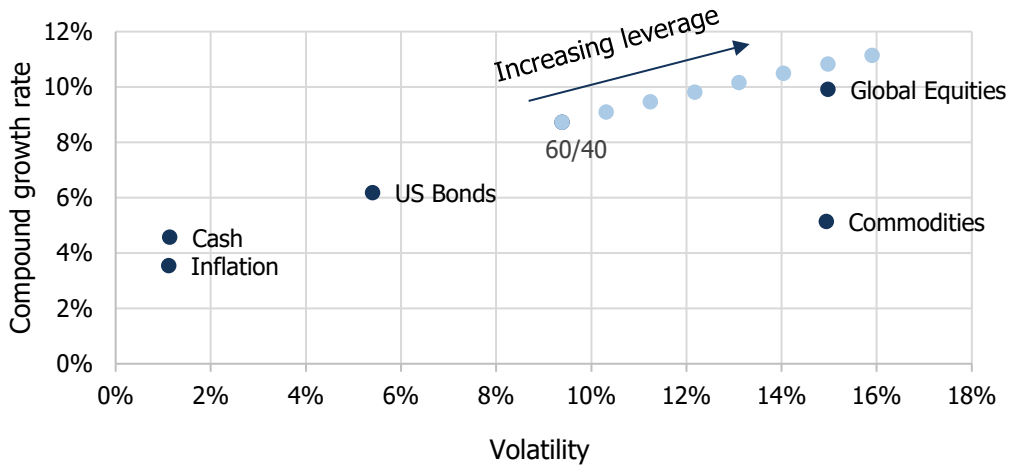
The answer: volatility is a tax on compounding. A portfolio that declines 50% has to gain 100% just to get back to even. Between 1999 and 2021, equity volatility created a large enough headwind that it more than offset all of the gains from higher average monthly performance relative to a 50/50 portfolio.

Portfolio Theory: Diversification plus leverage

At the risk of getting slightly technical, portfolio theory suggests an investor should build the most efficient portfolio possible (as defined by risk-adjusted return, or Sharpe ratio) and then adjust the overall risk of the portfolio by either holding cash (to reduce risk) or adding leverage (to increase risk). For the same level of volatility, a portfolio with a higher risk-adjusted return will exhibit a higher potential growth rate and lower drawdowns than a portfolio with a lower risk-adjusted return.

The 1978–2023 period provides a good historical example of this theory in practice. A 60/40 stock bond portfolio that was leveraged 60% (resulting in an overall allocation of 96% equity, 64% bonds, and -60% leverage) produced a higher compounded return than a 100% equity portfolio with the same volatility (Fig. 5, next page). The compounding benefit of a more efficient portfolio was substantial (Fig. 6, next page) over the full horizon.

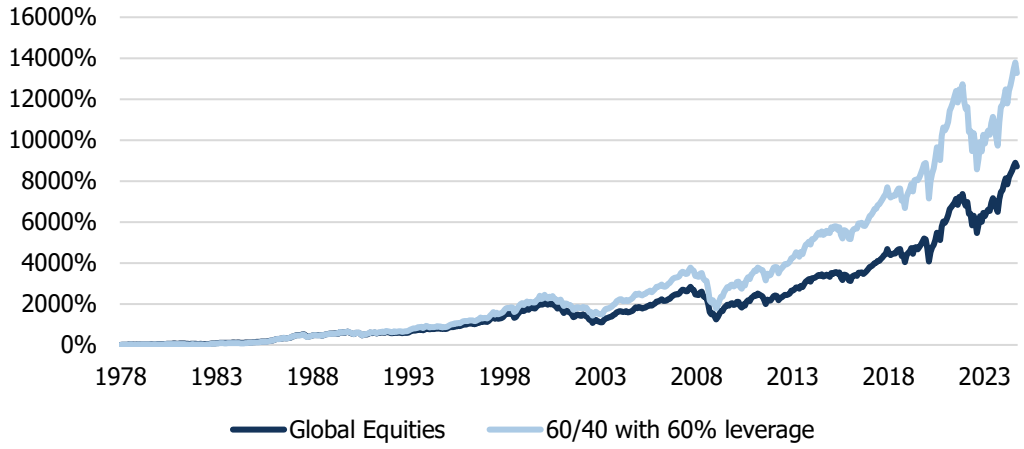
Fig. 5: Sensible leverage led to more efficient portfolios (1978–2023)



Source: Bloomberg, Mill Creek. Data as of 09/30/2024. "Increasing leverage" dots represent successive 10% increases in portfolio leverage.

At the current time, we don't recommend direct leverage within investment portfolios, but it is worth noting that there are historical examples of investors using leverage as a tool to improve outcomes. A meaningful portion of Warren Buffett's outperformance, for example, has come from him keeping Berkshire Hathaway leveraged 1.6x for the last 40-odd years.[2]

Fig. 6: A leveraged 60/40 outperformed equities between 1978 and 2024



Source: Bloomberg, Mill Creek. As of 09/30/2024.

[2] A portfolio manager would be unlikely to borrow directly through the use of a margin loan to achieve this leverage. The practical way to gain this exposure would be: for every $100 invested, purchase $90 of equities and use the remaining $10 to gain $60 of US Treasury exposure in the futures market.

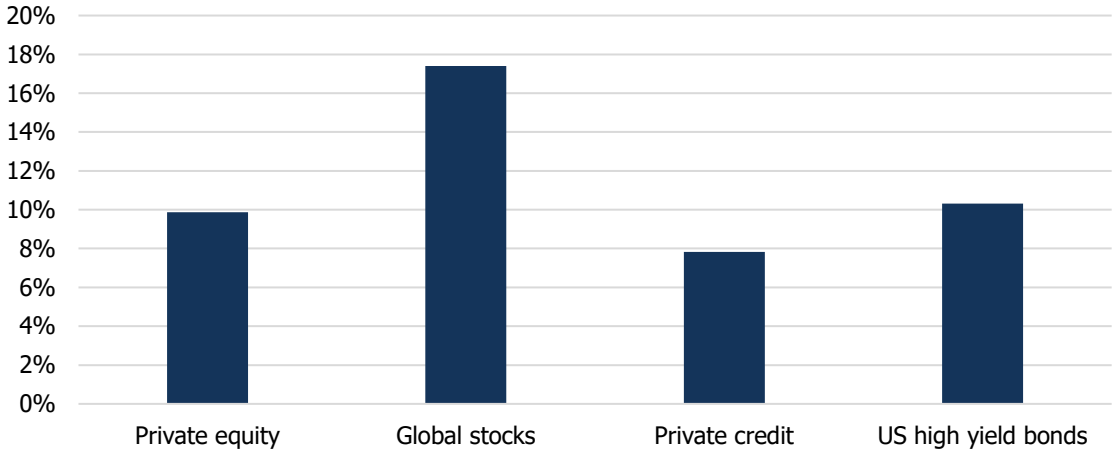
Private Assets

In 2007, the NACUBO survey of college endowments found that the average endowment had allocated just 8.3% of their portfolio to private assets. By 2023, that number had jumped to just over 40% of their allocations. One reason for the shift toward private assets was that they were increasingly perceived as a "better form of capitalism" than public markets, as Yale's famed endowment CIO David Swensen put it in a 2017 interview.[3] The other reason pertinent to this paper is that well-diversified portfolios of private assets exhibit lower volatility and higher embedded leverage than their public counterparts.

What does "exhibit lower volatility" actually mean? We're not making a claim that private equity is less risky than public equity or that private debt is less risky than corporate bonds. Private assets have simply exhibited lower month-to-month or quarter-to-quarter pricing volatility than their public counterparts (Fig. 7), which helps to reduce the volatility tax discussed earlier.

Privates are also more heavily leveraged than public assets (Fig. 8, next page). Whether or not the leverage applied to private assets is valueless financial engineering or balance sheet optimization remains a topic of debate, but to the extent an investor expects at least an equal return between public and private assets the leverage gained by allocating to private assets serves to provide leverage to the overall portfolio.

Fig. 7: Realized volatility, 2000–2023

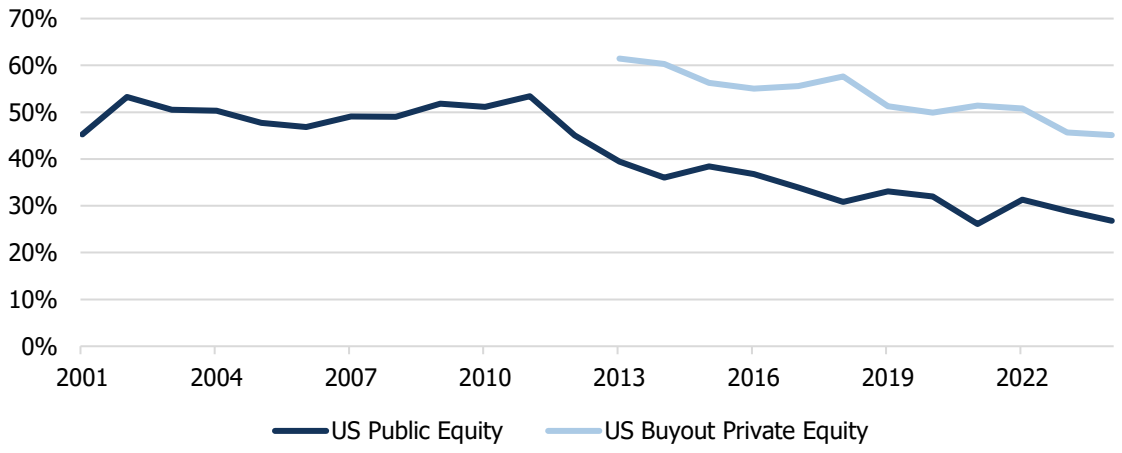


Source: Bloomberg. PitchBook, Mill Creek.

[3] https://www.cfr.org/event/conversation-david-swensen

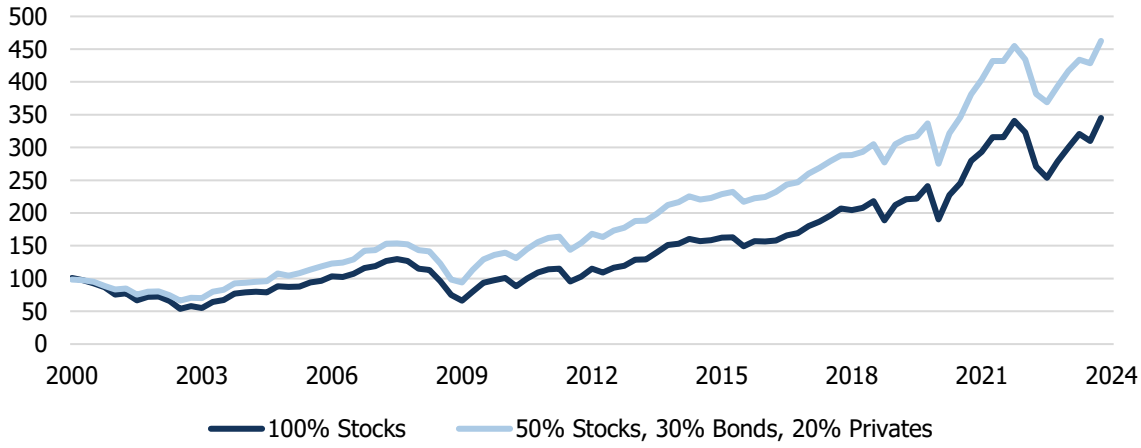
By lowering realized volatility and embedding additional leverage within the investments themselves, private assets enable endowment managers to pursue equity-like returns with diversified portfolios. Even "average" returns in private assets, as represented by benchmark returns, would have resulted in a superior outcome compared to an all-equity portfolio (Fig. 9).

Fig 8: Public vs Private Equity Leverage (Debt/Enterprise Value)



Source: Bloomberg, PitchBook, Mill Creek. As of 12/31/2023. Pitchbook leverage data for US buyout private equity begins in 2013.

Fig. 9: Private asset exposure has led to outperformance



Source: Bloomberg, Pitchbook, Mill Creek. As of 12/31/2023. The term "Privates" refers to the PitchBook Private Capital Index.

Portfolio Construction

We'll begin with the supposition that an investor considering a 100% stock allocation is:

1. Seeking high returns,
2. Highly tolerant of day-to-day volatility, and
3. Behaviorally capable of surviving significant drawdowns.

The question is, therefore, whether we can build a portfolio that achieves equity-like returns with better risk characteristics (lower volatility, fewer and less severe drawdowns, and/or a lower likelihood of a lost decade) to lower the *volatility tax*. If we can improve the risk characteristics, we can potentially build a diversified portfolio that will prospectively perform in line with equities.

We believe aggressive investors can achieve equity-like returns over the course of a market cycle by investing in a risky but diversified portfolio that includes stocks, bonds, and private assets (Fig. 10). On a forward-looking basis, our capital market assumptions imply that such a portfolio would experience less-significant drawdowns, a higher Sharpe ratio (risk-adjusted return), and compound at a higher rate than the 100% equity portfolio (**C**ompounded **A**nnual **G**rowth **R**ate, or CAGR) due to the lower volatility tax.

Fig. 10: A diversified portfolio can grow at a similar pace to equities

	100% Equity	Diversified Aggressive
Fixed Income	0%	20%
Global Equities	100%	50%
Private Credit	0%	15%
Private Equity	0%	15%
Estimated Average Annual Return	8.7%	8.6%
Estimated Volatility	13.3%	7.2%
Estimated Sharpe Ratio	0.43	0.77
Estimated CAGR	7.8%	8.3%

Source: Bloomberg, PitchBook, Mill Creek.

In Conclusion

While 100% equity portfolios might seem tempting due to the potential for higher returns, the historical data and theory suggest that such a strategy comes with significant risks and periods of underperformance. The allure of equities is undeniable; they have historically outpaced other major asset classes over extended periods. However, the volatility inherent in the stock market, along with the possibility of enduring extended periods of stagnation or even loss, makes a compelling case for diversification.

Diversified portfolios, especially those that include a mix of equities, bonds, and, increasingly, private assets, have shown to reduce the severity of drawdowns and the "volatility tax," thus preserving capital and offering smoother compounding over time. Moreover, the integration of private assets into portfolios reflects a strategic evolution in institutional asset management, enhancing potential returns while managing exposure to abrupt market movements.

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