

LOW VOLATILITY EQUITIES

PORTFOLIO DESIGN MATTERS

June 2025

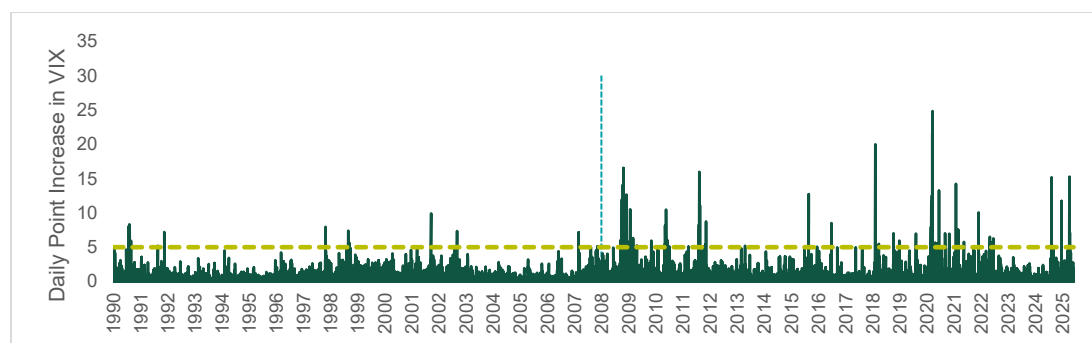
Low volatility equities have provided favorable risk-adjusted returns over the long-run and in 2025. But design decisions can lead to a range of outcomes.

INCREASING VOLATILITY SHOCKS BENEFIT LOW VOLATILITY STOCKS

Although the volatility of 2025 may feel unprecedented, it is best viewed as the continuation of a trend that started during the financial crisis. Since 2007, there has been a five-fold increase in volatility shocks compared to the prior two decades, defined as a 5-point single day increase in the CBOE Volatility Index, or VIX (**Exhibit 1**). The catalysts for these shocks range from geopolitics and a pandemic to more technical events like the yen carry unwind in 2024. Yet the other side of this trend has been resilient equity markets. Volatility shocks and drawdowns have been followed by recoveries – sometimes swift and sometimes lengthier. Over the long run and in 2025, these dynamics have favored low volatility equities due to their asymmetric return profile.¹

EXHIBIT 1: INCREASING VOLATILITY SHOCKS

The number of volatility shocks has increased dramatically since 2008 as markets have evolved.



Source: Northern Trust, CBOE, Bloomberg. From 12/31/1999 through 5/31/2025. **Past performance is no guarantee of future results.** Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

When volatile periods occur, equities with defensive characteristics – lower volatility, higher quality – have generally provided a cushion to the sell-off. However, helping play defense is not the only reason for holding defensive positions in equities. If lowering market exposure lowered return expectations proportionately, then investors would be somewhat indifferent to lowering risk through lowering beta, or simply allocating a portion of the investment to cash. But this is not the case.

There is a vast body of literature supporting the presence of a low volatility anomaly², which highlights that, contrary to portfolio theory about the positive relationship between risk and return, lower risk stocks actually *outperform* higher risk stocks over the long run and do so for significantly less risk. As shown in **Exhibit 2**, this dynamic has led to nearly three-fold improvement in return per unit of risk as we move from

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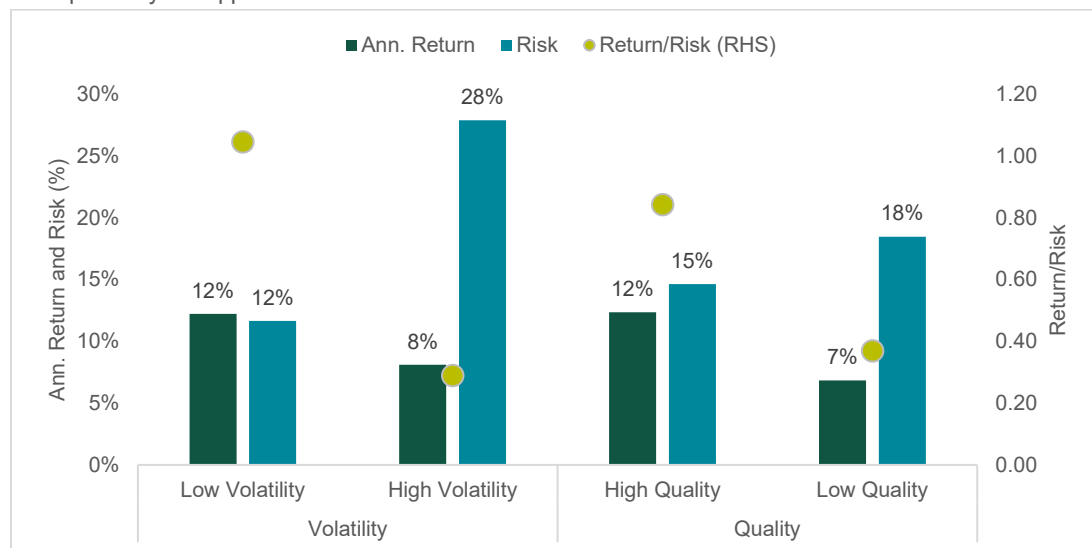
¹ See [Low Volatility Beta Asymmetry: A Closer Look](#) (2020) for a discussion of the underlying drivers of return asymmetry for low volatility stocks.

² See [Foundations in Factors](#) for an overview of the key literature in low volatility.

low to high volatility and similarly for high and low quality. This presents an opportunity for investors to use low volatility and high quality equities to participate in upward moving markets while mitigating losses on the downside over the long run. How can investors translate these observations into portfolio outcomes?

EXHIBIT 2: THEORY VS REALITY

Theoretically, risk and return should be related. Within equity markets, this relationship has historically been precisely the opposite.



Source: Northern Trust, FTSE-Russell, MSCI. From 12/31/1983 through 3/31/2025. Benchmark is the Russell 1000 Index. Bars represent top and bottom quintiles for Barra Low Volatility and Northern Trust Quality Factor and are cap-weighted and rebalanced monthly. For illustrative purposes only. **Past performance is no guarantee of future results.** Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

QUALITY LOW VOLATILITY: DESIGN MATTERS

Translating these results into portfolio outcomes requires design choices that can create wide differences in results. A focus on the least volatile market sectors such as utilities and consumer staples can lead to portfolios that may be overly defensive. These are also sectors with significant macroeconomic exposure, notably interest rates, that is present elsewhere in investor asset allocations. Further, some low volatility portfolios may focus solely on historical measures of volatility. These measures are a key input into any low volatility portfolio, but being solely reliant on historical volatility may miss an opportunity to enhance outcomes. There are a number of approaches to targeting a low volatility portfolio, but one that balances sector risk, considers both upside and downside capture, and avoids sole reliance on historical volatility measures is one that can help investors navigate the increasing number of volatility shocks and subsequent recoveries when they occur.

Below are some of the design principles we have deployed in our low volatility approach, known as Quality Low Volatility (QLV):

- **Control for uncompensated risks:** QLV controls for significant sector biases often present in low volatility strategies. These biases can act as a transmission mechanism for a lot of macroeconomic risk – notably interest rates.
- **Incorporate company fundamentals:** Through the integration of quality, QLV embeds a quantitative assessment of company fundamentals into the security selection process. High quality companies with conservative balance sheets, strong profitability and cash flow generation have been shown to help predict future volatility, thus providing a forward looking perspective of volatility and avoiding sole reliance on historical volatility measures.
- **Focus on up and down markets:** Markets go up more frequently than they go down. The previous two design principles help QLV avoid being overly defensive. This has resulted in meaningful up market capture while providing downside protection.

Since QLV launched almost 11 years ago in May 2014, it has captured 99% (96% net of fee) of the Russell 1000's 12.14% return. This is an impressive outcome for a portfolio that aims to lower risk. Meanwhile, QLV has a realized volatility of 13.25% relative to the 15.31% index volatility, reducing annualized risk by 2.06% (**Exhibit 3**).

EXHIBIT 3: QLV SELECTED RISK AND RETURN CHARACTERISTICS

QLV has historically provided investors with favorable risk-adjusted returns relative to Russell 1000

	1 Year	3 Year	5 Year	10 Year	Since Inception Return	Annualized Risk Since Inception	Return/Risk Since Inception
QLV U.S. (Gross of Fee)	11.98%	8.57%	15.82%	11.91%	12.07%	13.25%	0.91
QLV U.S. (Net of Fee)	11.42%	8.03%	15.28%	11.50%	11.66%	13.25%	0.88
Russell 1000	7.82%	8.65%	18.47%	12.18%	12.14%	15.31%	0.79

Source: Northern Trust, FTSE-Russell, MSCI. From 5/31/2014 through 3/31/2025. Net of fee results reduce gross of fee results by 0.50% annually. **Past performance is no guarantee of future results.** Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

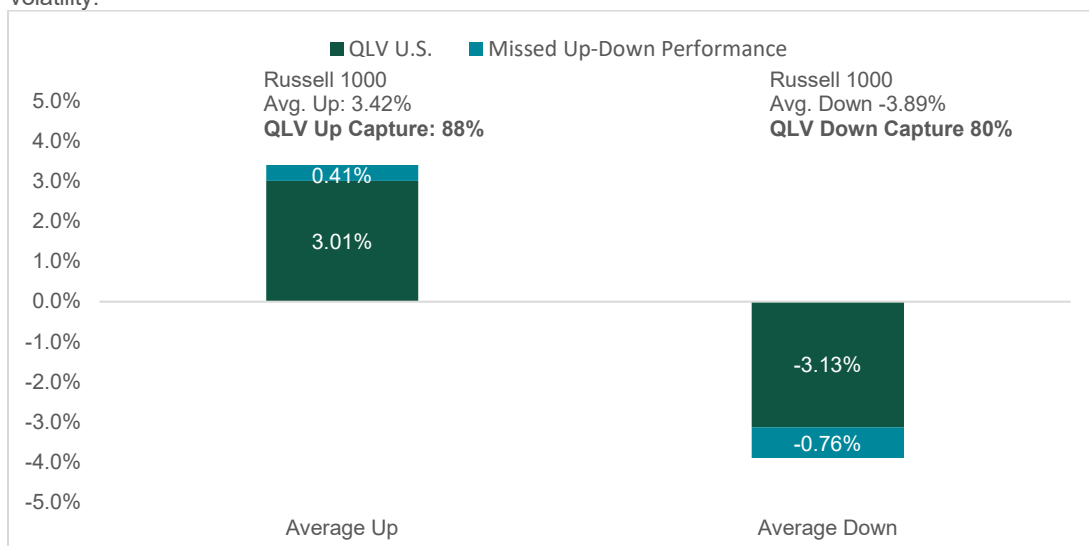
Refer to included GIPS Report at the end of this paper for more details.

PROTECTING THE DOWNSIDE WITH MEANINGFUL PARTICIPATION ON THE UPSIDE

While the overall results are informative, many investors do look to low volatility for protection on the downside, especially during steep market drawdowns. In **Exhibit 4**, we show how QLV has performed during up and down markets, on average. When the market was up in this period, on average, QLV captured 88% of the upside. However, when the market was down, QLV captured only 80% of the downside. Therefore, QLV has been able to take advantage of the benefits of the low volatility anomaly – defensive posture, return asymmetry – and turn them into real world outcomes.

EXHIBIT 4: QUALITY AND LOW VOLATILITY IN UP AND DOWN MARKETS

Quality complements a low volatility orientation, aiding in upside capture and helping predict future volatility.



Source: Northern Trust, FTSE-Russell. From 5/31/2014 through 3/31/2025. Returns for periods less than one year are annualized. Gross performance returns shown do not reflect the deduction of investment management/advisory fees, assume the reinvestment of dividends and capital gains, and are net of transaction costs and other expenses. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. **Past performance is not indicative of future results.**

CONCLUSION

The latest bout of market volatility is the continuation of a pattern that began during the 2008 financial crisis. After fairly calm waters in 2023 and the first half of 2024, volatility shocks have wreaked havoc on markets during the latter half of 2024 and in 2025. With many volatility catalysts remaining – tariff negotiations, geopolitics, and more – investors should expect this volatility dynamic to continue. Yet markets may remain resilient despite all of the potential looming risks.

For investors looking to navigate the new normal of frequent volatility shocks amidst elevated uncertainty, a portfolio like QLV that is both defensive and has provided an asymmetric return profile may be a good place to look.

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Northern Trust Asset Management GIPS Composite Report

Presentation and Disclosures

Quality Low Volatility U.S. Composite Vs Russell 1000 Index

December 31, 2024

<u>Annualized Total Returns (%) for Periods Indicated Ending</u> <u>December 31, 2024</u>				<u>Annual Returns (%) through Dec 31</u>			
<u>Period</u>	<u>Gross</u>	<u>Net</u>	<u>Primary Benchmark</u>	<u>Year</u>	<u>Gross</u>	<u>Net</u>	<u>Primary Benchmark</u>
1 Year	21.43	20.82	24.51	2024	21.43	20.82	24.51
2 Year	19.19	18.60	25.52	2023	16.99	16.41	26.53
3 Year	6.30	5.77	8.41	2022	-15.45	-15.87	-19.13
4 Year	11.31	10.75	12.66	2021	27.79	27.15	26.45
5 Year	11.06	10.56	14.28	2020	10.06	9.78	20.96
6 Year	14.16	13.68	16.97	2019	31.03	30.70	31.43
7 Year	12.24	11.79	13.58	2018	1.35	1.08	-4.78
8 Year	12.99	12.56	14.57	2017	18.45	18.12	21.69
9 Year	12.94	12.53	14.28	2016	12.54	12.26	12.05
10 Year	12.01	11.61	12.87	2015	3.96	3.62	0.92

<u>Gross of Fees Statistics As of Year-End</u>							
<u>Year</u>	<u># of Accounts</u>	<u>Composite Assets (MM)**</u>	<u>Firm Assets (MM)**</u>	<u>Comp % of Firm Assets</u>	<u>Comp 3 Year Std Dev</u>	<u>Primary Benchmark Std Dev</u>	<u>Internal Dispersion</u>
2024	18	3,252.6	1,263,688.9	0.3%	14.8%	17.4%	0.14
2023	15	3,040.0	1,117,554.2	0.3%	15.5%	17.4%	-
2022	9	2,431.1	981,781.9	0.2%	19.2%	21.3%	-
2021	10	3,461.1	1,281,192.6	0.3%	15.9%	17.7%	0.10
2020	10	781.4	1,104,195.4	0.1%	16.3%	19.1%	0.28
2019	9	696.7	959,631.4	0.1%	9.9%	12.0%	0.11
2018	10	400.4	835,371.6	0.0%	9.5%	11.0%	0.09
2017	8	281.6	916,501.7	0.0%	8.3%	10.0%	0.06
2016	1	42.7	774,896.4	0.0%	-	-	-
2015	2	63.2	729,688.2	0.0%	-	-	-

** Asset totals are in base currency US Dollar (USD)

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The annual fee schedule for standard institutional accounts is: First \$50 million = 0.30%, Next \$50 million = 0.25%, Balance = 0.20%. Customized accounts, including those with tax-management, may charge a fee up to 0.50%. This composite includes a common and collective (C&C) pooled fund. The highest investment management fee for the C&C fund is 0.27%, and the highest total fee including administrative expenses is 0.29%. Effective January 01, 2024, the model fee applied is 0.50%.

The Quality Low Volatility U.S. Composite consists of all fee-paying, fully discretionary portfolios that use a quantitative approach to actively seek stocks with favorable high quality and low volatility characteristics, capturing broad U.S. large cap equity exposure. The strategy is designed for investors seeking long-term capital appreciation at a lower risk profile than the market benchmark. This composite may include accounts that restrict the reinvestment of income. The primary benchmark for this composite is the Russell 1000® Index. The index is unmanaged and measures the performance of the 1,000 largest companies in the Russell 3000® Index, based on market capitalization. Prior to December 31, 2022, this composite was named Quality Low Volatility Russell 1000. Financial leverage is not employed as a part of the overall investment strategy of this composite. Financial derivatives, in the form of futures contracts, options and ETFs may be utilized for the purposes of liquidity, market exposure, or investment opportunity. The internal dispersion of annual gross returns is measured by the standard deviation across asset-weighted portfolio returns represented in the composite for the full year. The three-year annualized standard deviation is calculated using monthly gross returns. If the composite has been open for less than three years, the three-year annualized standard deviation is deemed not applicable. If fewer than 5 portfolios are in the composite for a full year, internal dispersion is deemed not applicable. The composite was created in October of 2014, and the inception date is June 01, 2014. The minimum asset size of a portfolio for initial inclusion in the composite is \$5 million.

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Northern Trust Asset Management GIPS Composite Report

Presentation and Disclosures

Quality Low Volatility World Composite Vs MSCI WORLD Index ND

December 31, 2024

<u>Annualized Total Returns (%) for Periods Indicated Ending</u> <u>December 31, 2024</u>				<u>Annual Returns (%) through Dec 31</u>			
<u>Period</u>	<u>Gross</u>	<u>Net</u>	<u>Primary Benchmark</u>	<u>Year</u>	<u>Gross</u>	<u>Net</u>	<u>Primary Benchmark</u>
1 Year	17.10	16.69	18.67	2024	17.10	16.69	18.67
2 Year	16.01	15.61	21.20	2023	14.94	14.53	23.79
3 Year	5.50	5.14	6.34	2022	-12.74	-13.05	-18.14
4 Year	8.67	8.29	10.01	2021	18.75	18.34	21.82
5 Year	8.39	8.03	11.17	2020	7.27	7.01	15.90
6 Year	11.00	10.63	13.76	2019	25.00	24.56	27.67
7 Year	8.75	8.38	10.24	2018	-3.81	-4.19	-8.71
8 Year	9.93	9.55	11.69	2017	18.57	18.10	22.40
9 Year	9.81	9.42	11.22	2016	8.88	8.44	7.51
10 Year	-	-	-	2015	-0.62*	-0.89*	-5.33*
ITD 05/01/15	9.04	8.65	9.78	* Partial Year Return			

<u>Gross of Fees Statistics As of Year-End</u>							
<u>Year</u>	<u># of Accounts</u>	<u>Composite Assets (MM)**</u>	<u>Firm Assets (MM)**</u>	<u>Comp % of Firm Assets</u>	<u>Comp 3 Year Std Dev</u>	<u>Primary Benchmark Std Dev</u>	<u>Internal Dispersion</u>
2024	4	463.1	1,263,688.9	0.0%	13.3%	16.6%	-
2023	4	347.1	1,117,554.2	0.0%	13.6%	16.7%	-
2022	4	360.4	981,781.9	0.0%	17.0%	20.4%	-
2021	4	476.2	1,281,192.6	0.0%	14.2%	17.1%	-
2020	4	778.0	1,104,195.4	0.1%	14.5%	18.3%	-
2019	3	426.0	959,631.4	0.0%	8.4%	11.1%	-
2018	1	34.6	835,371.6	0.0%	8.5%	10.4%	-
2017	1	38.0	916,501.7	0.0%	-	-	-
2016	1	32.2	774,896.4	0.0%	-	-	-
2015	1	29.7	729,688.2	0.0%	-	-	-

** Asset totals are in base currency US Dollar (USD)

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