



LOWERING EQUITY VOLATILITY IN A PENSION PORTFOLIO

“How can our pension plan stay allocated to equities while reducing volatility and improving our funded status over time?”

The Client

A diversified global manufacturer with a \$500 million fully funded defined benefit (DB) plan.

The Challenge

Reduce equity portfolio volatility.

Our Approach

We recommended that allocating more assets to fixed income or investing in passive equities would be insufficient.

Managing DB plan risk

Risk management is paramount in pension portfolios, particularly in fully funded plans. Our client has a conservative asset mix, with almost two thirds (64%) of the plan allocated to fixed income. Of the balance, 31% was allocated to equities, and 5% to real estate. The global equity portfolio included active and passive allocations to U.S. and international equities.

Seeking to dampen volatility yet maintain returns

After the pandemic initially sparked significant falls in equity markets, many DB pension plans became painfully aware of their vulnerability to volatility. The manufacturer was conservative by nature and had a specific goal: to maintain its equity allocation, yet dampen potential volatility.

With an eye to the future, the plan wanted to suppress the volatility of its portfolio in order to safeguard its 100% funded status, yet also have the flexibility to maintain or even raise the equity allocation in order to fuel future capital growth. Finding the balance between risk and return was critical for the manufacturer.

A low-volatility equity strategy

Our team was tasked with maintaining the outlook for returns, yet reducing the volatility, or risk. Turning to a traditional solution would not suffice.

While passive equity strategies should deliver future capital growth, for instance, they would also expose the plan to 100% of the market's downside during any future correction or bear market. Such declines are often sudden and pronounced, resulting in material pension fund costs. Alternatively, simply de-risking the portfolio by raising the fixed income allocation would result in lower expected future returns, triggering higher pension costs.

Against this background, we explored the likely risk reduction benefits from using a low-volatility equity strategy. Using risk estimates from our 2017 Capital Markets Assumptions, the team calculated forward estimates of absolute risk (measured by standard deviation) for global equities and global low-volatility equities to model allocation scenarios. This analysis estimated that a systematic global equity low-volatility strategy would be over 30% less volatile.

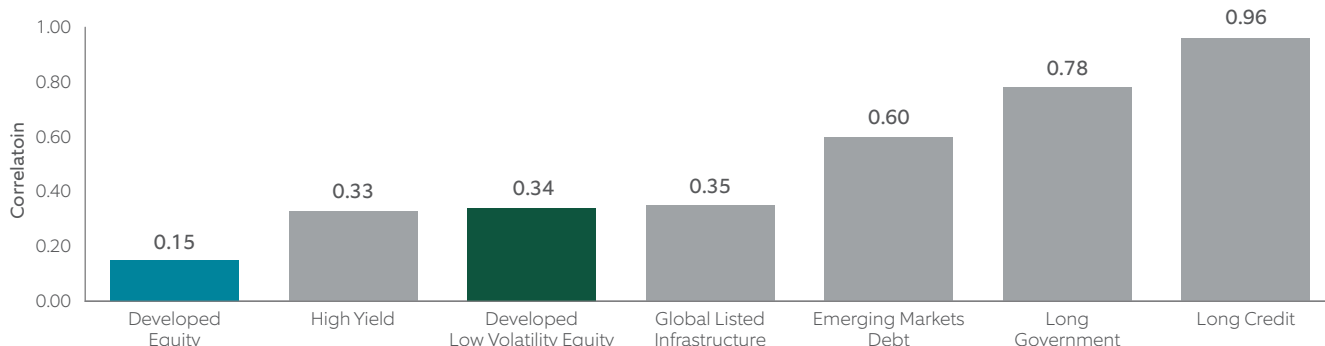
CASE STUDY: LOWERING EQUITY VOLATILITY IN A PENSION PORTFOLIO

What’s more, low volatility equities have an additional potential benefit for corporate pension plans. Research shows that they have had a higher correlation to pension liabilities than traditional equities, and have outperformed in falling yield environments.

Simply put, when interest rates are declining, low volatility equities tend to outperform: this can offset the lower yields/income on the fixed income allocation within the total portfolio.

Low volatility equities have a higher correlation with pension liabilities

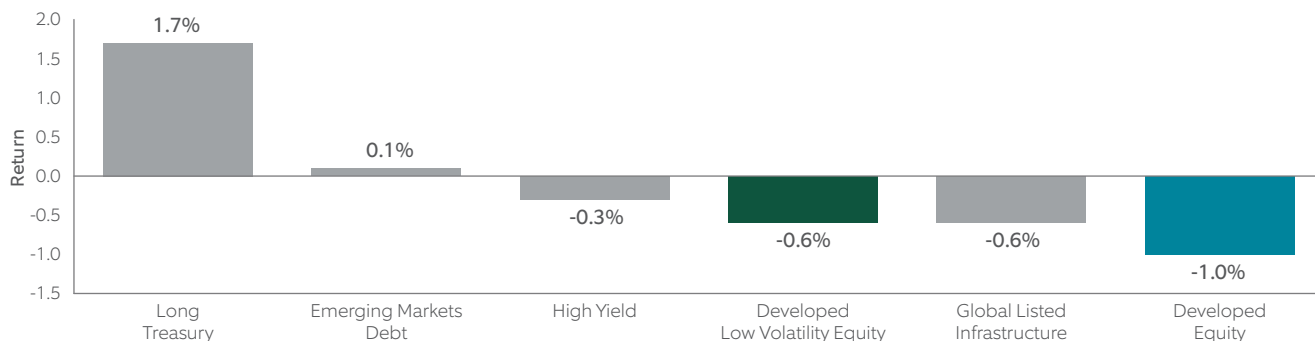
CORRELATION ASSUMPTION TO AVERAGE PENSION LIABILITY



Source: Northern Trust Asset Management using 2017 Capital Market Assumptions.

STRESS TEST — 10 BPS DECREASE IN U.S. TREASURY YIELDS

Low volatility equity can provide downside protection.



Source: Northern Trust Asset Management using 2017 Capital Market Assumptions. The Portfolio Construction Desk within Multi-Manager Investments supplies the stress test results. Stress Testing is a risk management process of applying historical or Northern Trust defined scenarios to a current portfolio to determine how the portfolio might react if the stress event were to happen today. In stress testing, the following are defined: the relevant risk factors; the historical stress period or scenario; and the return of the risk factors in the historical stress period or scenario. Next, a portfolio’s current exposure to those risk factors is determined, then shocked based on the exposure to the risk factor multiplied by the return of the risk factor in the scenario. The results are compiled using FactSet and Northern Trust’s proprietary methodology.

Near-market returns with less risk

Our Solution

Allocate 25% of the equity portion of the portfolio to our Quality Low Volatility World Strategy.

We recommended that 25% of the equity portion of the portfolio be allocated to our Quality Low Volatility World Strategy to achieve the manufacturer’s goal of lowering volatility without compromising returns. Historically, this strategy has delivered near-market returns with less risk. Since inception May 2015, the strategy has offered about a 20% reduction in risk while keeping pace with the MSCI World Index benchmark total returns (as of June 2022).

The manufacturer accepted our advice, funding the 25% allocation proportionately from the mix of active and passive equity strategies that existed at the time.

The Benefits

Reduced portfolio volatility while maintaining market returns.

Down-market mitigation.

Safeguarding the funding status

The solution has reduced portfolio volatility, as intended, while maintaining market returns. It has the additional potential benefit of cushioning losses in falling markets, and outperforming in falling yield environments. Additionally, the investment process integrated the proprietary Northern Trust Quality factor, which is complementary to low volatility, further enhancing portfolio variance characteristics and driving excess returns.

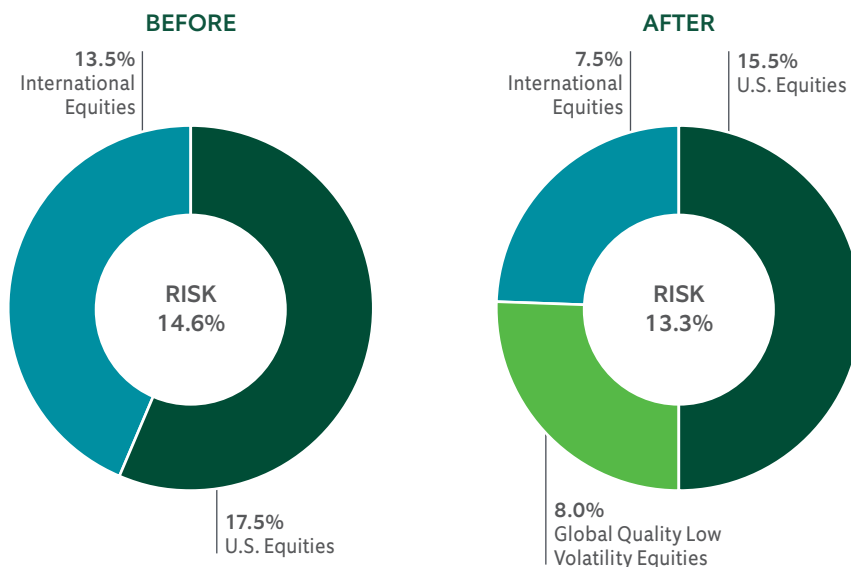
A marked reduction in equity volatility

The 25% allocation to the high-quality, low-volatility equity strategy is estimated to reduce overall equity volatility by 9%.

The Result

Adding a global low volatility equity strategy is **estimated to reduce risk by 9%** while still providing equity market exposure.

Reducing equity risk while maintaining exposure



Source: Northern Trust Asset Management. For illustrative purposes only.

Investing in the high-quality, low-volatility equity strategy looks set to achieve the goal of lowering volatility while maintaining returns. In fact, it may even allow the pension plan to raise the portfolio's equity allocation. This switch in strategy has the potential to protect the pension plan's 100% funded status.

ABOUT NORTHERN TRUST ASSET MANAGEMENT

Northern Trust Asset Management is a global investment manager that helps investors navigate changing market environments, so they can confidently realize their long-term objectives.

Entrusted with \$1.0 trillion in assets,* we understand that investing ultimately serves a greater purpose. We believe investors should be compensated for the risks they take — in all market environments and any investment strategy. That's why we combine robust capital markets research, expert portfolio construction and comprehensive risk management to craft innovative and efficient solutions that deliver targeted investment outcomes.

As engaged contributors to our communities, we consider it a great privilege to serve our investors and our communities with integrity, respect and transparency.

*AUM as of June 30, 2022. Article published as of June 30, 2022. For more recent AUM, please visit northerntrust.com.

