

The Low-volatility Equity Opportunity

Equities and low risk are rarely mentioned in the same sentence. The recent regular and extreme bouts of volatility have increased the questions raised about the risk/return profile of the asset class. Yet despite these concerns, we believe institutional investors still need equity as a key building block of their asset mix. We think low-volatility equities are a solution for those who cannot tolerate the volatility in asset prices, but need the long-term capital appreciation that equity offers. If successfully implemented, evidence suggests you can achieve equity-market returns with a strong risk/return trade-off through low-volatility stocks. As we will demonstrate, a fully diversified portfolio of low-volatility stocks can have profound implications on an investor's portfolio structure and asset mix.

The Emergence of the “Low-risk” Equity Opportunity

Low-volatility equity investing has gained increasing attention within the institutional investment community over the last few years. Investors are finding that these strategies provide a timely opportunity to address both return and risk priorities. We think one of the most important equity risk priorities is the ability to reduce the loss of capital. This is the basis for a low-volatility portfolio. Put another way, by reducing “risk” we are seeking to smooth out some of the highs and lows of the rollercoaster ride that can be equity investing. For low volatility investors, absolute return measures of risk have supplanted benchmark-aware risk measures, such as tracking error or information ratio (see Exhibit 1), which, as we will demonstrate later, contain inherent risks that we are seeking to minimize.

The Lazard Quantitative Equity (LQE) team was an early advocate of a low-volatility equity approach after reading research on strategies designed to meet investor needs for equity returns with reduced risk. The benefits of such an approach are just beginning to gain traction in the wider investment community, evidenced by an emerging group of “low risk” managers and the introduction of benchmark indices from several providers. Relative to traditional market capitalization benchmarks, these strategies seek to provide the benefit of reduced capital loss, but at the expense of under-performance within sharply rising markets. Total returns may be similar over the longer term, but with a potentially steadier and more predictable return pattern.

Increasing investor interest could be partially the result of the prevailing economic and geo-political conditions the world faces in the short and longer term. The global financial crisis has raised investors’ uncertainty as the world grapples with an era of de-leveraging, the spectacular growth of the developing world, and challenges to political and financial institutions at a global, regional, and

Exhibit 1

Creating Common Terminology

Equity Risk

The chance of losing capital from your equity investments

Risk Premium

Anticipated reward for risk

Equity Volatility

The rate at which equity prices move up or down; measured as the standard deviation of equity returns

Sharpe Ratio

Ratio of returns to volatility (i.e., risk-adjusted return)

Tracking Error

Variability of returns versus a benchmark

Information Ratio

Excess returns versus tracking error

domestic level. Market outlook has morphed into managing under uncertainty. Under this scenario, markets tend to be highly volatile, yet directionless, over the medium to long terms. Traditional asset allocation models are likely to be challenged as investors look for a more dynamic approach under this regime of uncertainty. Against this backdrop, low-volatility equities can form one part of a credible solution.

More importantly, we believe low-volatility equity investing is an attractive solution because of the attractive characteristics it can provide to pension schemes, insurance firms, charities, and individual investors. Focusing on an investor’s ultimate return objective, as opposed to a market cap equity benchmark, removes inefficiencies and offers a potentially significant risk/return benefit to an investor’s overall portfolio.

Facts, Not Perceptions, about Equity Returns and Risk

Our research on global equity markets clearly shows that investment in low-volatility equities results in returns that are generally similar to that of the broad market and that low volatility tends to outperform high volatility, as illustrated in Exhibit 2.

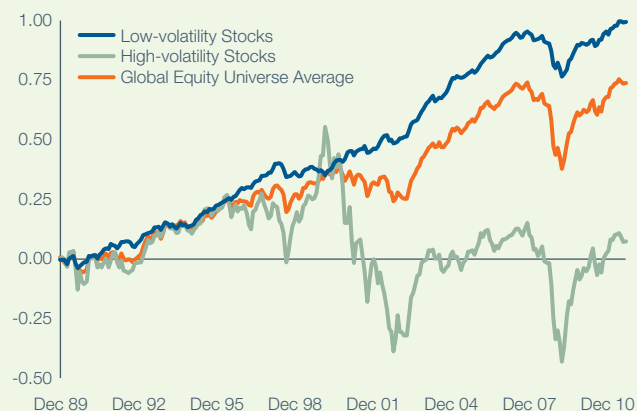
In terms of indexes, MSCI data show that the MSCI Minimum Volatility Index has outperformed the MSCI World Index by 2.5% annualized over the last ten years¹.

Exhibit 3 represents quite clearly that you are not gaining any additional return for the risk you are taking in the equity-market. The

Exhibit 2

Equity Performance by Volatility Decile

Cumulative Performance (Jan 1990 – Jun 2011; log)



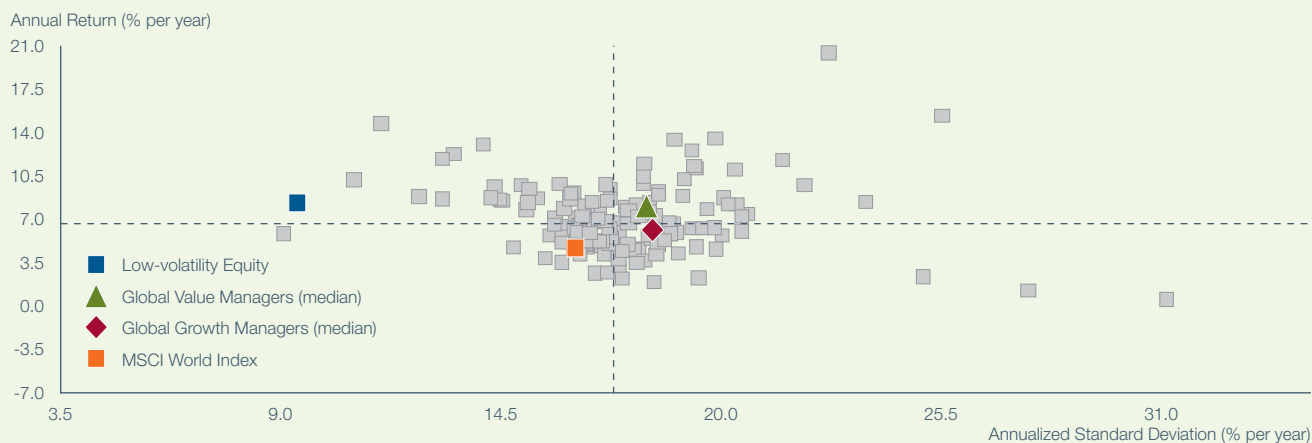
As of June 30, 2011

Low- and high-volatility stocks represent the average returns within the lowest and highest decile by historical volatility of stocks within the S&P/Citigroup BMI universe. The Global Equity Universe is composed of the 10,000 stocks the LQE team uses as their opportunity set for global mandates.

This data is for illustrative purposes only and does not represent past performance of any strategy managed by Lazard. Past performance is not a reliable indicator of future results.

Source: Lazard Asset Management, all data in USD

Exhibit 3 Comparison with the Mercer Global Equity Universe



Ten years ended March 31, 2011 (before tax and fees)

Low-volatility Equity represents the Global Managed Volatility Simulation Model from the period January 1996 through December 2008 and a representative account in the LQE – Global Managed Volatility (Unhedged) strategy from January 2009 through March 2011. The simulation information is being shown for illustrative and comparative purposes only and is supplemental to the composite performance for the strategy. Please refer to the Simulation Disclosure for the complete disclosure notes and simulated performance information and to the Important Information section for a brief description of this composite. MSCI World Index is shown in local currency. The Mercer universe has been modified by including the Global Managed Volatility Simulation Model. All data in GBP. The performance quoted represents past performance. Past performance is not a reliable indicator of future results.

Source: Lazard Asset Management, Mercer, and MSCI

benchmark MSCI World Index is offering a lower return for higher risk than a sample low-volatility portfolio. The median global value and global growth managers are also taking on additional risk for their returns. The similar risk profile of both growth and value is particularly interesting, because while style matters in terms of generating a diversified pattern of returns, it does not change your long-term risk profile.

Diversify Away from Market Capitalization Benchmarks

Market capitalization-weighted benchmarks (such as the MSCI World Index or FTSE All Share Index) remain a useful option for investors. Equity investors using market capitalization benchmarks as default exposures benefit from the low trading costs and excellent liquidity that this approach offers. We, however, believe that it should not be an investor's sole equity building block in today's environment.

The cost to investors of market capitalization benchmarks is often greater exposure to what can be the riskiest components of the market. Capitalization weights are simply an aggregation of the consensus views in the market. A quick survey of major recent market declines illustrates how the greatest concentration of exposure has the potential to occur at exactly the wrong time. Exhibit 4 demonstrates the dramatic changes that occurred in market cap-weighted indexes following three major events, Japan's Lost Decade, the TMT Bubble, and the Global Financial Crisis.

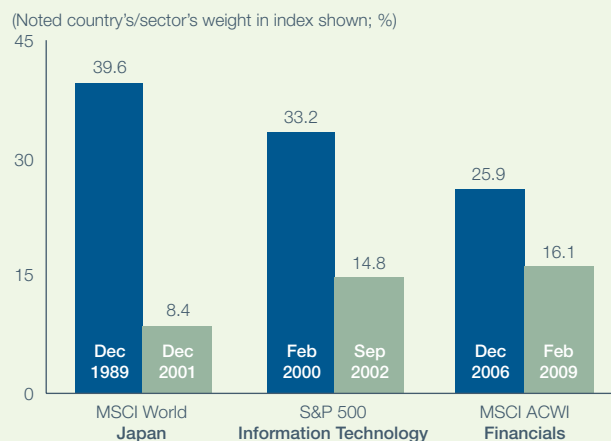
Over the last five years the MSCI World Index has returned 3% at a volatility of 19%²—these are hardly great rewards for the risks

taken. An investor who has opted for a passive or a low tracking error approach during this time has most likely been disappointed with the risk/return payoff received.

Improving Asset Allocation Flexibility

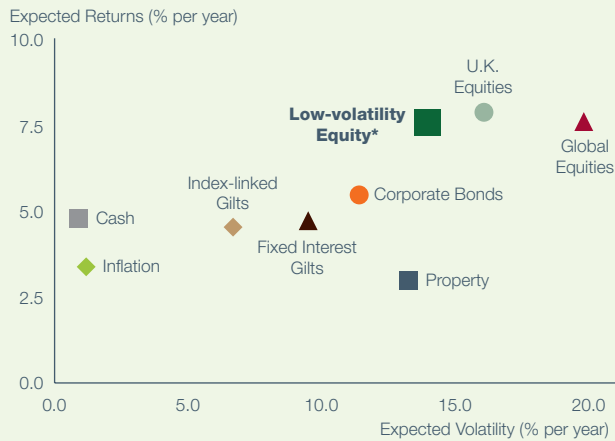
Research by Lazard and others shows that including low-volatility equity as an asset class creates a significant opportunity for investors to better position themselves with a risk/return profile that supports the investor's investment return objectives. Low volatility's fit for an investor can be assessed by examining the potential impact within strategic asset allocation reviews and by focusing on

Exhibit 4 Market Cap Bubbles



Source: MSCI, Standard & Poor's

Exhibit 5
Long-term Risk and Return Assumptions



* Low-volatility Equity data was established by maintaining the expected return and applying a 30% reduction to the expected volatility of the Global Equities assumption in the Audit Commission's report.

This data is for illustrative purposes only and does not represent the performance of any strategy managed by Lazard. Expected returns are not a promise or guarantee of future results and are subject to change.

Source: "Local Government Pensions in England," Audit Commission 2010, Lazard Asset Management. All data in GBP.

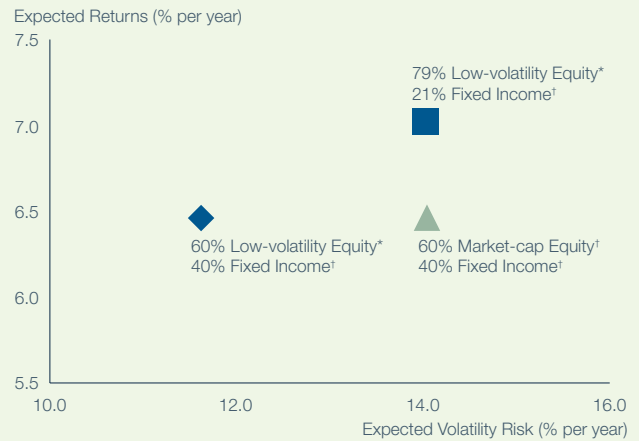
asset/liability risk. Considering low-volatility as an independent asset class allows return and risk preferences to be incorporated and supports asset mix decisions that reflect the investor's specific needs. For example, the future returns and risk expectations that were published in a U.K. pension review³ illustrate the importance of returns generated by equities and the diversification value offered by fixed income and property in Exhibit 5.

To focus on a comparison of low-volatility equity to market capitalization equity we reduce the analysis to assess the two equity alternatives versus an allocation to fixed income. Exhibit 6 illustrates that an allocation of 40% fixed income and 60% market cap-weighted equities is projected to earn a long-term return of 6.4% with expected volatility of 14.0% for a return/risk ratio of 0.46. An investor who maintains equity exposure at 60% and uses low-volatility equities to decrease risk can decrease volatility by over 15% and increase the return/risk ratio to 0.55. If the starting level of risk matches the investor preference, then replacing market cap-weighted equities with low-volatility equities allows an increase in expected returns by almost 10%.

Reducing Risk in an Asset Allocation Framework

Equity risk can be defined at several levels depending on perspective and responsibility. For most investors de-risking will focus on asset/liability risk, equity structure risk, and implementation risk. Some investors may also include complexity risk in this analysis. We define liabilities as not only future pension payments, but the

Exhibit 6
Asset Allocation of Impact of Market Cap vs Minimum Variance



* Low-volatility Equity data was established by maintaining the expected return and applying a 30% reduction to the expected volatility of the Global Equities assumption in the Audit Commission's report.

† Market-cap Equity and Fixed Income data were derived from assumptions in the Audit Commission's report.

This data is for illustrative purposes only and does not represent the performance of any strategy managed by Lazard. Expected returns are not a promise or guarantee of future results and are subject to change.

Source: "Local Government Pensions in England," Audit Commission 2010, Lazard Asset Management. All data in GBP.

responsibility to support an institution/mission or the personal lifestyle of families and individuals.

Asset/liability risk can be measured by the degree and certainty by which today's assets are projected to meet tomorrow's liabilities. Managing this risk typically requires returns above inflation, as well as a preference for contribution consistency. From the perspective of equities, the most straight-forward approach to managing asset/liability risk is capturing the equity risk premium that stocks have historically earned while minimizing the total volatility of these returns. Essentially you are seeking to minimize "funding ratio volatility" while also seeking to maximize the total return and reduce concerns about the overall "funding level" of your plan.

Within the context of equities these risks are impacted by the allocation to each asset class, the equity program structure, and its implementation. The classic trade-off is between increasing equity exposure to boost returns versus increasing the allocation to diversifying asset classes to increase the predictability of the total return. More recently investors have considered decreasing implementation risk by shifting from active to passive management. Equity structure and implementation risk will vary as allocations to active management and strategy types change. Examples of historical shifts include an increase in global equities, as well as the addition of small cap and emerging markets.

De-risking conversations typically start with a debate over active or passive and then proceed to asset allocation and implementation considerations. Low-volatility equity is a relatively recent addi-

tion to the de-risking “toolkit” but we believe offers an attractive alternative. Exhibit 7 summarizes a potential set of alternatives considered when de-risking equities.

Hedge funds, private equity, and other alternative asset classes offer the potential of returns that are higher than equities with risk (as defined by standard deviation) that is lower, resulting in decreases in funding ratio volatility and funding level uncertainty. These unique return streams achieve their risk/return objectives primarily through active management and this is one of the reasons that it is substantially more challenging to realize return objectives in alternative assets when compared to other asset classes. Higher implementation risk (i.e., the likelihood of choosing the wrong manager) is evidenced by the wide range of returns reported by investors. For example, annualized 10-year private equity returns varied between 3.9% and 16.1% for a group of 19 state pension systems.⁴

Another consideration is that complexity risk increases sharply as a function of the range and nature of strategies, liquidity, capital calls, and transparency in holdings and pricing. By comparison, low-volatility equity portfolios hold only stocks, are fully invested, and provide the same transparency and liquidity as other public equity portfolios. Allocations to low-volatility equity can be expected to decrease funding ratio volatility but are not expected to noticeably impact funding level uncertainty, implementation risk, or complexity risk.

How Should Low-volatility Equity Investing Work in Practice?

Creating low-volatility portfolios is not as simple as just allocating to low-risk stocks. We believe institutional investors stand to benefit from focusing on strategies that diversify risks along different risk dimensions, neutralize currency volatility, minimize trading costs, and seek to improve returns through stock selection. Successful long-term low-risk equity managers capture the low-risk anomaly without taking on additional sources of style, sector, or market-cap risk within their portfolios.

Lazard’s research and practical experience in investing in low-volatility strategies has resulted in the following core philosophy concerning strategy design and portfolio construction:

- Stock selection can improve returns with a slight increase in risk
- Risk model limitations need to be understood by:
 - Recognizing that not all risks can be modeled
 - Incorporating the changing nature of risk sources
- Currency exposure risks should be efficiently minimized
- Style risk should be reduced and liquidity increased

It is our view that a quantitative or systematic approach is the best starting point to construct a low-volatility equity portfolio. A systematic approach can have an explicit focus on risk reduction and deliberately target low-risk stocks.

We also recognize the limitations of a purely mechanical approach, because not all risks can be modeled. This is particularly true in the case of “shocks” to the market. Some fundamental insight is especially helpful during times of high volatility. While of course these latter are rare, when they do occur, they can be quite visible and have a huge impact.

In our view, the objective of a low-volatility equity portfolio is to gain exposure to all economic segments of the market without creating undue concentration in any particular industry or set of securities. By managing absolute exposure risk, a portfolio can have the freedom to gravitate to lower-risk segments of the market without being forced to adjust weightings due to an increase or decrease in the capitalization weight. This methodology allows the strategies to create low-risk portfolios that seek to maximize risk-adjusted returns.

The Future of Low-volatility Equity Investing

What started as an academic curiosity 40 years ago has evolved over the last five years into a recognized opportunity as investors, managers, and index providers have worked together to better understand and illustrate this asset class’s potential. A natural question is what impact this increased investor interest will have on the asset class. At some point a substantial portion of investor assets might migrate from current investor practices to a disciplined preference for low-volatility equities. A conceivable result is that risk differences within the total market will decline, thus reducing the opportunity for low-volatility approaches to capture risk discounts relative to the market.

Exhibit 7
Comparison of Equity De-risking Alternatives

Strategy Change	Funding Ratio Volatility	Funding Level Uncertainty	Implementation Risk	Complexity Risk
Convert from active to passive	No change	Uncertain	Decreases	Decreases
Increase non-equity allocations	Decreases	Increases	No change	No change
Increase exposure to alternative equity asset classes	Decreases	Decreases	Increases	Increases
Add low volatility equity	Decreases	No change	No change	No change

For illustrative purposes only

Yet we don't believe this opportunity is likely to be reduced by a substantive degree in the foreseeable future. Given that the benefit of low-volatility investing is mainly a risk-driven one, it does not lend itself to the type of investors that typically arbitrage return opportunities. The natural investor in low-volatility equities is a long-term investor who is managing risk relative to a liability or predicted payment stream. These investors typically benefit by avoiding inefficiencies created by market-cap indices and by aligning equity investment strategies with strategic objectives. In doing so they invest in portfolios with the transparency and liquidity offered by public equities resulting in a reduction in the requirement for risk management resources and increased confidence regarding the availability of funds.

We think the low volatility opportunity is here to stay and will only rise further in prominence. The current uncertain global macro-economic environment is only adding urgency to the opportunity. As we have demonstrated, the risk/return payoff is compelling and offers crucial volatility discounts. We believe strategies that diversify risks along different risk dimensions, neutralize currency volatility, minimize trading costs, and seek to improve returns through stock selection should prove successful.

The Lazard Quantitative Equity team manages a platform of low-risk global equity strategies that capture market returns while benefiting from substantially lower overall total risk.

About the Authors

The Lazard Quantitative Equity Team

The Lazard Quantitative Equity team is a long-standing team with 18 years' average investment experience. Our strategies utilize a team-driven investment approach. The team joined Lazard in 2007 and manages a successful range of benchmark-aware global and regional quantitative equity products and a platform of low-risk global equity strategies. Prior to joining Lazard, the team developed a global, low-volatility equity strategy in 2006, and managed assets in the strategy beginning in 2007. In order to meet investor demand, we introduced the concept of a multi-strategy platform that could be tailored to the needs and specific preferences of investors. The LQE – Global Managed Volatility strategy was launched in January 2009 and the Global Passive and Global Controlled Volatility strategies were developed and launched in the middle of 2009 to supplement the offerings of the LQE – Managed Equity Risk platform.

Personnel data are calculated as of year-end 2010; YTD 2011 experience/tenure is not reflected.

Notes

1. Source: Lazard Asset Management and MSCI. Returns are based on the MSCI World Index Net and are in USD. As at June 30, 2011.
2. Source: Lazard Asset Management and MSCI. Returns are based on the MSCI World Index Net and are in USD. As at March 31, 2011.
3. "Alternative Investments: Are They Worth The Price" April 7, 2010, Cliffwater LLC.
4. Source: Local government pensions in England, Audit Commission 2010, Lazard Asset Management

LQE – Global Managed Volatility – Simulation Disclosure

Performance returns for Global Managed Volatility in USD from January 2009 to the present day are based on live accounts and are GIPS compliant returns. Performance returns in currencies other than USD are based on equity positions held in the live strategy and include simulated hedges to the currency specified. These simulated returns were derived using the same methodology as the simulated model detailed below and are being provided for illustrative and comparative purposes only. This information is supplemental to the complete composite performance. Please refer to the Important Information section below for additional information and a brief description regarding the composite.

The data from the time period from January 1996 through December 2008 is simulated data and has been hedged to the currency specified.

This simulated data is hypothetical performance for the period when the product was not yet offered by Lazard Asset Management (the "Simulated Model"). It is shown for illustrative and comparative purposes only. The Simulated Model's returns were constructed by utilizing LQE's global stock selection model to select stocks within MSCI World Index countries. The MSCI World Index is an unmanaged free float-adjusted market capitalization index that is designed to measure developed market equity performance within North America, Europe, Australia and the Far East. The stocks were screened for data availability and liquidity requirements and only those equity securities that satisfied these data and liquidity requirements were included.

The portfolio's construction methodology unique to the Simulated Model includes limiting exposure to any one MSCI sector group to 20% of the total portfolio as well as a 1.5% maximum allocation to any one stock. The Simulated Model also incorporates a comprehensive and proprietary risk model that ensures market capitalization distribution and industry diversification. Additionally, the risk model employs measures to monitor and control both short and long term portfolio risk characteristics.

The simulated data presented reflect performance information for the period in which information is available from Factset. The Simulated Model analyzes data from January 1996. Performance shown is presented gross of fees and net of transaction costs. Had such fees and expenses been reflected, performance would have been lower. It represents past performance and is not a reliable indicator of future results.

LAM did not manage the Simulated Model during the periods shown. The hypothetical performance presented herein includes historical financial data to show what decisions would have been made if the strategy were employed. Simulated performance results are shown for illustrative purposes only and do not represent actual trading or the impact of material economic factors on LAM's decision-making process for an actual LAM client account. Simulated performance results were achieved by means of a retroactive application of a model designed with the benefit of hindsight.

The MSCI World Index Local is included for comparative purposes only. The MSCI World Local represents the performance of the MSCI World Index in local currency terms. The Relative Performance is included to show the difference between the Simulated Model and the MSCI World Local.

Important Information

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Lazard Quantitative Equity – Global Managed Volatility is a diversified equity strategy that seeks to produce stable, equity-like returns with total risk well below market levels. Stocks are selected for the portfolio using a proprietary, multi-factor investment process that seeks stocks with fundamental attractiveness and below average risk characteristics. This strategy includes currency hedging.

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A quantitative investment strategy relies on quantitative models and quantitative filters, which, if incorrect, may adversely affect performance.

The information and opinions presented in this report have been obtained from sources believed by Lazard Asset Management to be reliable. Lazard makes no representation as to their accuracy or completeness. All opinions and estimates expressed herein are as the published date, and are subject to change.

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