











### **Can Sustainable Portfolios Offer Sufficient Diversification?**

**November 2015** 

Increasingly, investors are concerned about how their lives and personal investments impact society and the world around them. With that comes fears that investing for sustainability, which often excludes certain sectors such as energy or materials, will interfere with asset allocation criteria and impair a portfolio's risk and return characteristics relative to standard benchmarks. To help determine whether these fears can be substantiated, we analyzed quarterly risk and return data from June 2010 through June 2015 for "portfolios" of S&P 500 companies. We defined "portfolio" as a quintile (i.e., one hundred) of S&P 500 companies, ranked by sustainability as rated by Bloomberg and rebalanced quarterly. The first quintile portfolio consists of the 100 highest rated companies in terms of sustainability, the second quintile portfolio consists of the next 100 highest rated companies, and so on.

Our analysis focused on the relationship between diversification and tracking error, which measures the differences in return between the portfolio segments and the benchmark as a whole over the designated five year period. Low tracking error, or a smaller variation, in the performance of the sustainable portfolios compared to the index points to sufficient sector diversification over the sample period.

#### We found:

- The portfolios of stocks with higher sustainability scores performed better than those with low scores.
- Compared with the S&P 500 benchmark, portfolios scoring in the top quintile for sustainability had less tracking error than typical actively managed equity funds.<sup>1</sup>

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Do sustainable oriented portfolios exhibit lower volatility? Sufficient diversification?

The data say, "Yes!"



By Peter Nielsen MBA, CFA Deputy Portfolio Manager, Saturna Sustainable Equity Fund

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- The higher sustainability, top quintile portfolios exhibited less volatility than the lower quintile portfolios.
- No significant patterns or biases were identified in the portfolio performance that was adjusted for overall market risk using the Treynor ratios<sup>2</sup> of the portfolios.

## **Broad Market Sector Exposure**

A sustainable portfolio can in fact achieve broad diversification across sectors as compared to the S&P 500 Index. As of June 30, 2015, portfolios consisting of S&P 500 stocks scoring in the top two quintiles for sustainability had modest Financials and Consumer Discretionary sector underweighting as compared to the S&P 500 as a whole.

Relative to the S&P 500 Index, do portfolios of higher scoring sustainability stocks exhibit significant deviation (tracking error) from the index? The answer is no. Indeed, tracking error over this time period was generally lower for stocks having higher sustainability scores. Financial analysis software design firm Zephyr Associates suggests typical tracking errors for "enhanced index" products range from one to two percent, while "traditional active managers" show tracking errors of four to seven percent.<sup>3</sup> By these informal measures, the first and second quintile portfolios demonstrated less tracking error than typical actively managed equity funds, and only slightly more than active index products.

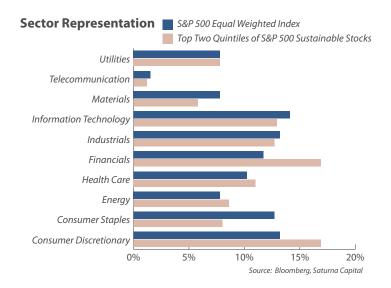
# **Lower Volatility**

It is also worth noting that higher sustainability scores were generally associated with larger companies, and these stocks also had a lower associated volatility.

## **Negligible Company-Specific Risk**

We also wanted to know if material differences exist in risk exposure between sustainable portfolios and the market in

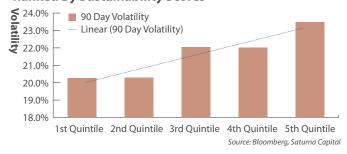
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# Tracking Error of Portfolios of S&P 500 Stocks Ranked By Sustainability Scores



### Volatility of Portfolios of S&P 500 Stocks Ranked By Sustainability Scores



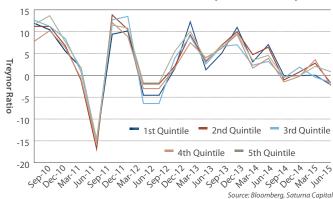
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general. That is, do higher sustainability portfolios exhibit higher levels of undiversified, company-specific risk? To answer this, we look to the Treynor ratio, which adjusts a particular portfolio's returns for the the risk inherent to the market in general, also known as nonsystematic risk. We found only minute differences between the quintiles, and the modestly positive average value of the Treynor ratio across all quintiles over the period was likely a result of weighting the portfolios equally.

#### Portfolios of S&P 500 Stocks Ranked By Sustainability Scores



## Sustainable Investing is Well-Diversified

In the end, we did not find evidence that a sustainable investment program would have impaired investors' efforts to diversify company-specific risk, minimize volatility, or avoid distortion to asset allocation decisions. Recent data appears to assuage concern that implementing a sustainable investment program will adversely impact investment choice and heighten portfolio risk. Evidence shows that it is possible to build a well-diversified equity portfolio while investing in a socially responsible manner.

#### Footnotes:

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<sup>&</sup>lt;sup>1</sup> According to data collected by Zephyr Associates, Inc.

<sup>&</sup>lt;sup>2</sup> Similar to the Sharpe Ratio, Treynor Ratio is a measurement of efficiency utilizing the relationship between annualized risk-adjusted return and risk. Unlike Sharpe Ratio, Treynor Ratio utilizes "market" risk (beta) instead of total risk (standard deviation). Good performance efficiency is measured by a high ratio.

<sup>&</sup>lt;sup>3</sup> Zephyr StatFACTS, http://www.styleadvisor.com/resources/statfacts/tracking-error





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**Sharpe Ratio:** Developed by Nobel laureate William F. Sharpe, the Sharpe Ratio helps investors evaluate a portfolio's return in terms of risk exposure. A higher Sharpe ratio indicates lower risk exposure relative to the return generated, while a lower ratio indicates relatively high risk exposure. The Sharpe ratio is calculated by subtracting the risk-free interest rate (e.g., that of US Treasury bills) from a portfolio's return, then dividing by the standard deviation of the portfolio's returns.

**Beta:** A ratio (often encountered as "beta coefficient") that expresses the volatility (risk) of a security or portfolio relative to the volatility of the overall market. A security with a volatility that very closely matches the overall market's volatility will have a beta of 1. more volatile (higher risk) security will have a beta above 1, while a beta below 1 indicates greater stability (lower risk) relative to the market.

**Standard Deviation:** The measure of how closely a set of data matches the mean (average) value of that data. The higher the standard deviation, the more spread out (or variable) the data points are. The lower the standard deviation, the more closely each data point matches the mean value of the group. Standard deviation can be used to measure the historical variability of a mutual fund's annual return.

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