# Morgan Stanley

INSTITUTE FOR SUSTAINABLE INVESTING

# **Sustainable Reality**

Analyzing Risk and Returns of Sustainable Funds

#### Executive Summary

Can you invest sustainably without sacrificing financial returns? Research conducted on the performance of nearly 11,000 mutual funds from 2004 to 2018 shows that there is no financial trade-off in the returns of sustainable funds compared to traditional funds, and they demonstrate lower downside risk.

This white paper by the Morgan Stanley Institute for Sustainable Investing details the findings of a study that compares the performance of sustainable funds to traditional funds from 2004 to 2018 using Morningstar data on exchange-traded and openended mutual funds active in any given year of this period. A total of 10,723 funds were analyzed. We compared their performance on total returns, a measure of performance net-of-fees, and downside deviation, a measure of risk. We found that sustainable funds provided returns in line with comparable traditional funds while reducing downside risk. What's more, during a period of extreme volatility, we saw strong statistical evidence that sustainable funds are more stable. Incorporating environmental, social, and governance (ESG) criteria into investment portfolios may help to limit market risk.

Our findings revealed two key takeaways:



The returns of sustainable funds were in line with comparable traditional funds

There was no consistent and statistically significant difference in total returns.

# Sustainable funds may offer lower market risk

Sustainable funds experienced a 20% smaller downside deviation than traditional funds. This was a consistent and statistically significant finding.

# Background

Sustainable investing is growing in popularity. In 2018, the Forum for Sustainable and Responsible Investment (US SIF) indicated that more than one out of every four dollars invested in the U.S. capital markets included sustainability in its investment approach.<sup>1</sup> Indeed, demand for sustainable investments is on the rise. In a 2017 survey of individual investors, the Morgan Stanley Institute for Sustainable Investing found that 75% of those surveyed are interested in sustainable investing.<sup>2</sup>

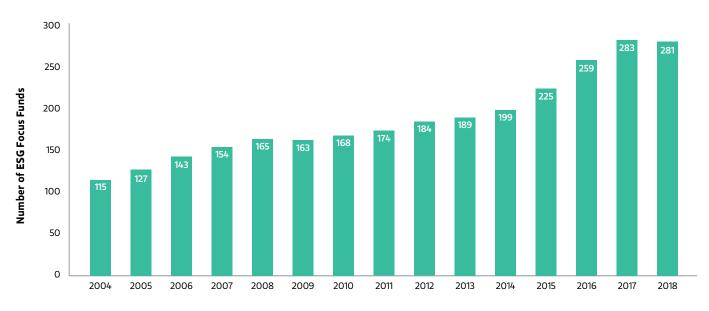
However, the same survey found that 53% of investors believe that investing sustainably requires a financial trade-off. This perception seems to cut across generations, with 59% of millennials believing that sustainable investing sacrifices financial performance. In line with these results, 76% of U.S. asset managers surveyed by the Institute said that they view this perception as one of the greatest challenges to sustainable investing.<sup>3</sup>

### What is myth and what is reality?

There is a growing body of academic literature evaluating the performance of sustainable investments in comparison to traditional ones.<sup>4</sup> In the 2000s, a number of studies analyzed the performance of sustainable investments.<sup>5,6,7,8,9</sup> In general, this body of research found that from a statistical perspective, the return performance of sustainable and traditional funds has been similar across regions, asset classes, and time periods.

While academic research is broadly settled on the finding of statistically equal performance, there is an increasing collection of empirical evidence that sustainable funds may provide investors with decreased risk compared to traditional funds.<sup>10,11</sup> The consensus view of the research community appears to be that sustainable investment choices provide investors returns that are in line with those of their traditional peers, while potentially offering downside risk protection to their investors.

Using these previous findings as our hypotheses, we set out to evaluate both return and risk performance through the end of 2018. This study will provide updated results on the returns and amount of risk offered by sustainable funds in comparison with traditional funds.



#### FIGURE 1 The number of ESG Focus Funds has grown 144% since 2004:

Source: Morningstar, 2019

# Methodology

What is the difference between sustainable funds and traditional funds in terms of performance and risk? We compared the return and risk-performance of ESG-focused mutual and exchange-traded funds (ETFs), as defined by Morningstar, against their traditional counterparts from 2004 to 2018, using total returns and downside deviation. We used Morningstar data on exchange-traded and open-ended mutual funds active in any given year of the period. In total, 10,723 were sampled using the oldest share class of each fund.

For each year analyzed in the study, the distribution of each of the indicators (total return and downside deviation) is described using the median and the interquartile range. The difference in the performance between ESG-focused funds and traditional funds for the given year is determined by comparing the two distributions using the non parametric Wilcoxon statistical test, due to the non-normal distribution of the data. This test evaluates the hypothesis that the two distributions of values are the same and provides an estimate of the likelihood that this is in fact the case. Additionally, we tested the robustness of the findings. The main approach involved breaking down the two analyses by major asset classes that had enough sustainable fund observation for a meaningful analysis within the sample: U.S. equities, sector equities, international equities and taxable bonds. Additional robustness checks were performed but do not change our findings.\*

## **Definitions of Categories and Data Points Used**

TERM	MORNINGSTAR DEFINITION
	Funds tagged by Morningstar with the ESG Focus attribute are defined as those that prioritize investments based on multiple screens for numerous ESG factors and a variety of strategies, ranging from ESG integration to exclusion.
ESG-Focus Funds	
Total Returns	Expressed in percentage terms, Morningstar's calculation of total return is determined by taking the change in price, reinvesting, if applicable, all income and capital gains distributions during the period, and dividing by the starting price. Morningstar does not adjust total returns for sales charges (such as front-end loads, deferred loads, and redemption fees), preferring to give a clearer picture of performance. Total returns do account for the expense ratio, which includes management, administrative, and other costs as well as 12b-1 fees that are taken out of assets. <sup>13</sup>
	The downside deviation is a value representing the potential loss that may arise from risk as measured against a minimum acceptable return, by isolating the negative portion of the volatility. It is thus similar to standard deviation, but considers only returns that fall below the minimum acceptable return. <sup>14</sup>
Downside Deviation	

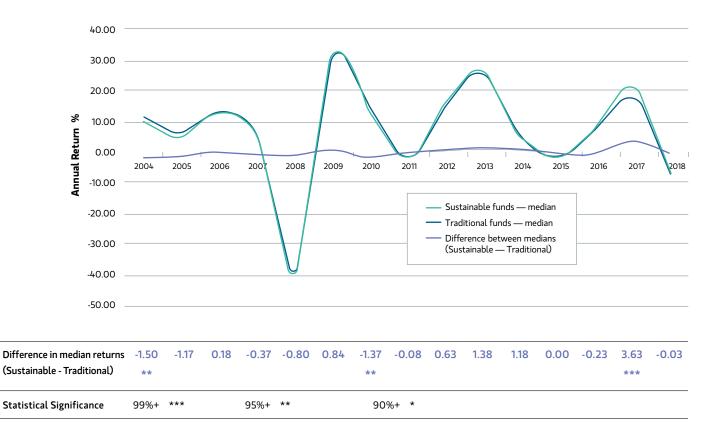
\* A full description of the methodology, robustness checks, definitions of the indicators and the data sampling procedure is available upon request. Please contact sustainability@morganstanley.com with any methodological inquiries.

# **Results and Discussion**

There is no trade-off in the financial performance of sustainable funds compared with their traditional peers. Analyzing the total returns between 2004 and 2018, we find only sporadic and inconsistent differences in performance. Therefore, the returns of sustainable funds were in line with those of traditional funds.

There are arithmetic differences between the medians of the two distributions across the years. However, most of these differences are not statistically significant, meaning that the two distributions are for all intents and purposes equal. Moreover, there is not a consistency in the direction or magnitude of the statistical differences that do occasionally appear. These return findings are shown in Figure 2. As the graph illustrates, the returns between the two types of funds are very similar. However, sustainable funds show a tighter dispersion. The table below the graph shows the percentage-point difference between the two types of funds with respect to medians, and an indication whether that difference can be considered statistically significant.

#### FIGURE 2 Median Total Returns of Sustainable and Traditional Funds, 2004–2018:



### **Returns by Asset Class**

When examining the behavior of total returns by asset class, we find that the differences between sustainable and traditional funds are similarly narrow and of an inconsistent direction (Figure 3). We also find that the magnitude of these differences narrows over time. Looking more closely into the difference of returns by asset class, we see that there is not a consistent difference at present, but that this story was different in certain asset classes before 2008. Prior to the fall 2008 financial crisis, traditional funds outperformed in broad U.S. Equity and International Equity. Sustainable funds' performance is more in line with traditional funds' performance in these two asset classes post-financial crisis.

Overall, differences in total returns between sustainable and traditional funds are found to be narrow and inconsistent. As a result, we find that the total returns of sustainable mutual and exchange-traded funds in the period of 2004-2018 were in line with their traditional counterparts. This finding confirms the first part of the hypothesis that was derived from academic literature, namely that there is no difference in the return performance between sustainable and traditional funds.

#### FIGURE 3

Annual Median Total Returns(%) of Sustainable and Traditional Funds by Asset Class, 2004-2018:

Asset Class		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
International Equity	Sustainable	16.09	14.29	23.16	14.97	-44.78	35.38	12.40	-13.92	17.42	20.52	-1.80	-1.47	4.58	26.19	-13.59
	Traditional	18.25	15.20	25.42	12.72	-44.97	36.99	13.86	-14.01	17.89	19.36	-3.08	-2.86	3.79	26.85	-14.42
_	Sustainable - Traditional	-2.17	-0.91	-2.26	2.25	0.20	-1.60	-1.46	0.08	-0.48	1.16	1.28	1.38	0.78	-0.67	0.84
Sector Equity	Sustainable	37.19	17.67	47.49	-12.26	-44.93	41.07	17.62	-8.71	21.63	17.81	14.09	-2.12	3.42	19.14	-8.44
	Traditional	13.45	10.42	16.91	6.36	-41.42	33.97	19.10	-5.29	15.78	23.45	9.25	-1.94	11.15	13.83	-8.78
	Sustainable - Traditional	23.74	7.25	30.58	-18.62	-3.51	7.10	-1.48	-3.42	5.85	-5.64	4.84	-0.18	-7.74	5.31	0.34
Taxable Bond	Sustainable	3.80	2.14	4.50	5.67	-2.28	11.25	6.37	5.20	7.06	-1.64	3.74	-0.50	3.97	3.85	-0.44
	Traditional	4.09	2.17	4.40	5.42	-2.88	11.49	7.31	4.51	6.86	-0.32	2.38	-0.35	4.07	4.10	-0.66
	Sustainable - Traditional	-0.29	-0.03	0.10	0.25	0.60	-0.24	-0.94	0.69	0.19	-1.32	1.37	-0.15	-0.11	-0.25	0.22
U.S. Equity	Sustainable	10.00	5.60	13.28	4.03	-37.68	30.63	14.75	-1.03	15.20	33.20	10.92	-2.09	10.88	19.69	-5.83
	Traditional	12.33	6.72	13.57	5.43	-37.98	30.01	18.05	-1.63	15.25	34.42	9.14	-2.15	11.87	19.04	-7.27
	Sustainable - Traditional	-2.33	-1.12	-0.29	-1.40	0.30	0.62	-3.30	0.59	-0.05	-1.22	1.78	0.06	-0.99	0.65	1.44

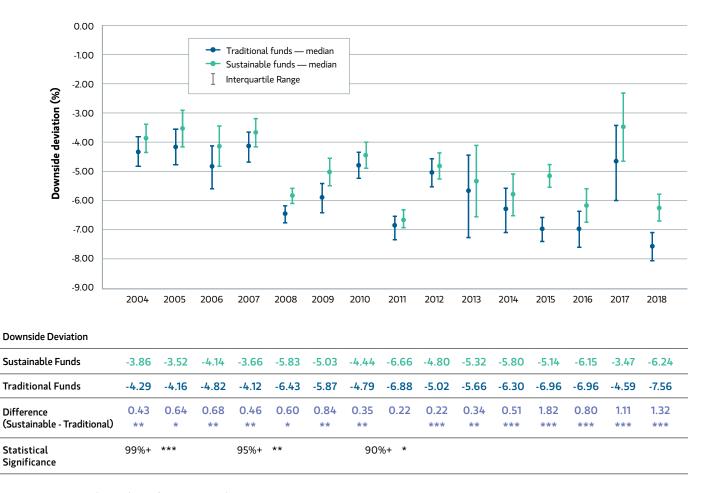
Shaded cells represent statistically significant differences at a 0.9 level.

### Sustainable Funds May Potentially Reduce Risk

Unlike the lack of difference found in returns, the assessment of risk shows a clear and consistent message: sustainable funds were less risky investments between 2004 and 2018. Overall, the median of the distribution of downside deviation for the market value of sustainable funds was consistently smaller each year—on average 0.6% less in magnitude than the previous period and 20% less than what traditional fund investors experienced in the same period. The dispersion of downside deviation was also smaller for the sustainable funds. Figure 4 shows that starting in 2004 the downside deviation and the dispersion range of sustainable funds was significantly and consistently smaller than that of traditional funds. The table below the graph shows the percentage-point differences between the two types of funds with respect to medians. These differences are statistically significant in every period beginning in 2004, at a level that exceeds 99% in most years. The magnitude of the reduction in volatility offered by sustainable funds is especially notable at the height of the financial crisis in 2008.

In years of turbulent markets, such as 2008, 2009, 2015 and 2018, sustainable funds' downside deviation was significantly smaller than traditional funds'.

#### FIGURE 4 Median Downside Deviation of Sustainable and Traditional Funds, 2004-2018:



The risk reduction offered by sustainable funds is most pronounced in International Equity and broad U.S. Equity. These two asset classes consistently show a much smaller downside deviation from sustainable funds as compared to traditional funds. Bonds and Sector Equity show differing results but there is little to no significance for the difference between the medians in these two asset classes. Overall, the difference of risk measures by asset class, shown in Figure 5, highlights a consistent pattern of sustainable funds having a lower downside deviation.

Our conclusion is that sustainable funds consistently show a significantly lower downside risk than their traditional counterparts, regardless of the asset class held. This supports the latter part of the hypothesis that sustainable funds may potentially offer downside risk protection to their investors.

#### FIGURE 5

Annual Median in Downside Deviation(%) of Sustainable and Traditional Funds by Asset Class, 2004-2018:

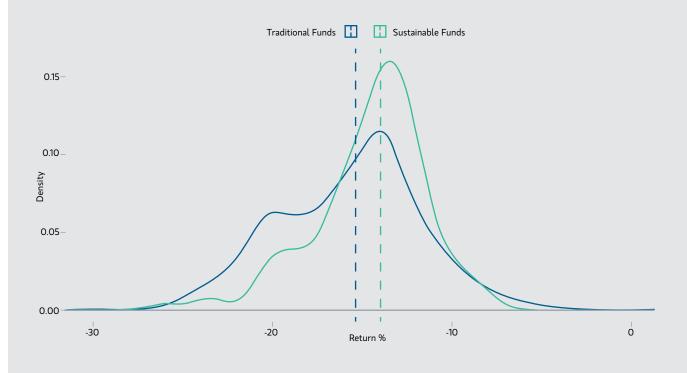
Asset Class		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
International Equity	Sustainable	-3.06	-4.27	-3.75	-3.49	-10.56	-4.59	-5.95	-8.28	-5.96	-7.15	-7.12	-4.32	-8.20	-3.44	-7.52
	Traditional	-2.82	-4.15	-3.63	-3.83	-10.99	-4.91	-6.06	-8.71	-6.32	-7.38	-7.62	-5.52	-8.26	-3.89	-8.50
	Sustainable - Traditional	-0.24	-0.12	-0.12	0.35	0.43	0.32	0.11	0.44	0.36	0.23	0.50	1.20	0.06	0.44	0.98
Sector Equity	Sustainable	-7.50	-5.87	-4.41	-11.43	-17.83	-9.03	-5.10	-7.89	-6.12	-10.35	-6.31	-9.89	-8.04	-5.07	-8.22
	Traditional	-8.19	-6.01	-6.25	-5.83	-13.10	-9.34	-5.86	-7.53	-6.76	-7.58	-6.30	-9.03	-8.18	-5.79	-8.59
	Sustainable - Traditional	0.69	0.15	1.84	-5.60	-4.74	0.31	0.76	-0.36	0.64	-2.77	-0.01	-0.86	0.14	0.72	0.37
Taxable Bond	Sustainable	-5.83	-6.56	-5.38	-6.75	-5.38	-14.49	-14.76	-11.46	-7.73	-11.23	-6.49	-10.33	-8.53	-6.14	-8.48
	Traditional	-6.11	-6.60	-5.23	-6.73	-5.50	-14.42	-14.47	-10.83	-7.65	-10.93	-6.52	-10.36	-8.54	-6.09	-8.30
	Sustainable - Traditional	0.28	0.04	-0.16	-0.02	0.12	-0.07	-0.28	-0.63	-0.08	-0.30	0.03	0.04	0.01	-0.05	-0.18
U.S. Equity	Sustainable	-2.19	-2.35	-3.35	-2.61	-4.88	-3.71	-2.60	-3.49	-3.04	-2.08	-2.74	-3.33	-2.51	-2.52	-2.88
	Traditional	-2.94	-2.82	-4.03	-2.69	-5.77	-4.35	-2.71	-4.21	-3.26	-2.50	-4.26	-4.25	-3.36	-3.09	-4.34
	Sustainable - Traditional	0.76	0.47	0.68	0.08	0.89	0.63	0.11	0.72	0.22	0.42	1.52	0.92	0.85	0.56	1.46

Shaded cells represent statistically significant differences at a 0.9 level.

### How do Sustainable Funds Perform During Periods of High Volatility?

During the last quarter of 2018, the volatility in the American stock markets increased considerably.<sup>15</sup> For example, between October 1 and October 31, 2018, almost half the trading days saw a daily shift in major equity indices of more than +/- 1% between open and close. For example, some days saw the Dow Jones Industrial Average move almost 1,000 points within a single trading session. This pattern continued in November — gains for the year in the Dow Jones were erased by November 20, followed by a series of gains that brought it back to over 25,000 by the end of the month. During this period (October 1 to December 31), the returns of almost all pooled vehicles were down. However, among the U.S. equity funds active in this quarter, **the median sustainable fund outperformed the median traditional fund by 1.39%.** This difference is statistically significant at the 99th percentile. In other words, we are virtually certain that sustainable investment strategies may potentially offer downside risk protection to their investors in times of high volatility. This analysis at the quarterly scale further supports our hypothesis, and findings at the annual scale, that sustainable funds provide less downside deviation and strong risk-adjusted returns.

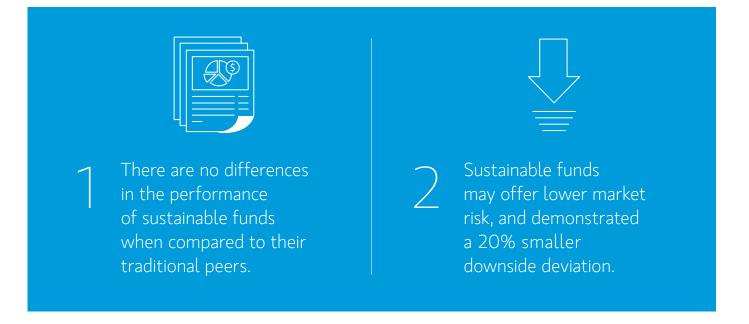
Returns of Sustainable and Traditional Funds During Recent High Market Volatility (October- December 2018):



# Conclusion

The returns of sustainable funds are in line with those of traditional funds, while also offering lower downside risk for investors. What's more, in an uncertain market, sustainable funds may offer a layer of stability for investors looking to reduce volatility.

By analyzing the returns and downside deviation of 10,723 exchange-traded and open-ended mutual funds between 2004 and 2018, our analysis shows that:



Despite the 53% of individual investors who believe investing sustainably requires a financial trade-off, these findings show that this perceived trade-off is a myth. Contrary to what many investors believe, sustainable funds gain returns that do not differ from those of traditional funds. Further, sustainable funds may offer a risk reduction in comparison to traditional funds, resulting in attractive risk-adjusted returns. This can help mobilize the 75% of investors who are interested in sustainable investing to act on those interests.

### Notes

- 1 U.S. Sustainable Investment Forum (2018). Report on U.S. Sustainable, Responsible and Impact Investing Trends.
- 2 Morgan Stanley Institute for Sustainable Investing (2018). Sustainable Signals: New Data from the Individual Investor. Retrieved from: https://www.morganstanley.com/pub/content/dam/msdotcom/ideas/ sustainable-signals/pdf/Sustainable\_Signals\_Whitepaper.pdf.
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- 4 As opposed to studies of individual stocks or bonds. The literature on those topics is equally rich. Note that there is also a wide body of work looking at sustainable investment options across individual non-U.S. markets.
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# Disclosures

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The returns on a portfolio consisting primarily of Environmental, Social and Governance ("ESG") aware investments may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria.

Past performance is not a guarantee or indicative of future performance.

#### KEY ASSET CLASS CONSIDERATIONS AND OTHER RISKS

Investing in the markets entails the risk of market volatility. The value of all types of investments, including stocks, mutual funds, exchange-traded funds ("ETFs"), closed-end funds, and unit investment trusts, may increase or decrease over varying time periods.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment. Companies paying dividends can reduce or stop payouts at any time.

Because of their narrow focus, sector investments tend to be more volatile than investments that diversify across many sectors and companies.

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally, the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Debt instruments issued by U.S. corporate and municipal issuers that provide a return in the form of fixed periodic payments and eventual return of principal at maturity. Fixed income investments are advantageous in a time of low inflation, but do not protect investors in a time of rising inflation.

International investing entails greater risk, as well as greater potential rewards compared to U.S. investing and may not be suitable for all investors. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics. Diversification does not assure a profit or protect against loss in a declining market. Past performance is no guarantee of future results.

An investment in an exchange-traded fund involves risks similar to those of investing in a broadly based portfolio of equity securities traded on exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock prices. The investment return and principal value of ETF investments will fluctuate, so that an investor's ETF shares, if or when sold, may be worth more or less than the original cost.

#### Investors should carefully consider the investment objectives and risks as well as charges and expenses of a mutual fund/exchange-traded fund before investing. To obtain a prospectus, contact your Financial Advisor or visit the fund company's website. The prospectus contains this and other information about the mutual fund/exchange-traded fund. Read the prospectus carefully before investing.

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