



ESG Transition: The Impact of COVID on Sustainability Trend

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Abstract

Nowadays, to be successful in the long-term, businesses need to be able to follow sustainable development. New and more strict regulations are being issued, and many investors now have twin goals: generate returns without compromising their values. In fact, long-lasting businesses will be those that are ESG oriented, as the public opinion and international regulations will force the economy to move in this direction. Therefore, asset managers will need to keep a close eye on companies that are able to keep up with these new industry requests. The companies that are working towards the implementation of a significant ESG identity are following a variety of strategies, such as reviewing internal policies and performing financial and equity operations.

The implementation of the Next Generation EU in the near future will also be a significant boost for these green-oriented firms: indeed, the 37% of its capital will be allocated to support a green recovery. Furthermore, it is worth mentioning that the current pandemic not only had short-term environmental benefits, but it also highlighted those companies that have solid governance.

Our **chief purpose** here is to assess if ESG investing could be an efficient investment strategy in the future and if it could be considered a safe harbor during market downturns.

We run an analysis considering both qualitative and quantitative methodologies in order to understand the hypothetical future importance and popularity of such products.

Firstly, it is presented an overview of the sentiment concerning ESG products with a **description of the main strategies** adopted by fund managers.

Secondly, we run a **quantitative analysis** to evaluate the time series returns of a sample of 24 ESG funds during the recent Covid-19 pandemic. The objective of the evaluation is to find reliable overperformances and a possible reduction of variability in such performances.

Finally, we **analyzed qualitatively the new package of stimulus**, the Next Generation EU, in order to provide some details of how it can boost the growth of ESG products in the European environment.

1. ESGs Introduction

ESG investing or Environmental, Sustainable, and Governance factors investing is an increasingly relevant investment strategy. It involves accounting for ESG factors along with financial factors while making investment decisions or building investment portfolios. With climate change and sustainability becoming critically important to modern societies, allocating investments to firms that are actively working on solving these problems or at least neutralizing their negative environmental externalities, is also becoming an increasingly important variable for incentivizing such behavior. The Covid 19 crisis, which has profoundly affected markets worldwide across all industries, offers a natural opportunity to study if ESG investment strategies might grant financial stability in times of crisis as well on top of their ethical and humanitarian goals. This study attempts to measure the performance of select ESG funds compared to their benchmarks over the year 2020 to determine if these funds overperformed the markets during this highly volatile and uncertain period.

Throughout most of the 20th century, most significantly due to Milton Friedman's writings (Friedman and Rose, 1980), sustainable investing was generally marginalized, as Friedman argued that "corporate philanthropy" was inherently inefficient and social investing is best left as an individual exercise. However, a growing body of literature has since been published about the potential financial efficiencies that might lie in such strategies and effectively contradicting Friedman's work. James Coleman in 1988 published a seminal paper discussing the concept of social capital in a divergence from the contemporary "self-interest" arguments of the time. A few years later, John Elkington published an accounting framework known as the "triple bottom line" referring to financial, social, and environmental factors. More recently, ESG funds have attracted significant capital from institutional investors in a trend that seems to be growing over time, adding weight to the theoretical, social, and financial relevance of these funds.

1.1. Sustainability and SDGs



Figure 1: Sustainable Development Goals

Before proceeding further, it is important to elaborate on the idea behind sustainability. In a business setting, it can be a strategy that is oriented towards minimizing the negative impact of the business on environmental and human resources. More generally, it might be defined as an intergenerational pact to distribute resources in an equitable manner among the present and future as consuming more than our fair share now implies that there is less available for our progeny in the future. For instance, fixed resources such as forestry, fossil fuels, potable water, minerals, and

metals mined from the earth, etc are limited in their availability and cannot be easily reused, recycled, or reproduced. One stark estimate suggests that the world might face a severe water crisis in 2 decades should present consumption levels remain.

To this end, the United Nations in 2015 defined global Sustainable Development Goals (SDGs) (UN GA 2015) to replace the Millennium Development Goals of 2000. The UN adopted specific targets to be achieved in pursuit of these goals between the years 2020 and 2030. For example, the 12th Goal, which is about responsible consumption and production, has a target to substantially reduce waste generation, which is measured by the national recycling rate and tons of material recycled.

Many of the specific goals listed do not have a clearly defined path to achieve their set targets. However, they do provide a clear and coherent direction for businesses to orient their growth and investment. For instance, an investor might refrain from funding an energy business using fossil fuels and might instead invest in a solar power firm to further the 7th Goal of “Ensuring access to affordable, reliable, sustainable and modern energy for all.” The SDGs are ambitious and require significant cooperation, commitment, and investment in order to be successfully met. By carefully funneling investments towards undertakings that are working towards these goals, their fulfilment can be accelerated and incentivized for private businesses.

1.2. ESG Rating Agencies

ESG funds are those that apply specific ESG criteria while building portfolios. These criteria are not standardized and vary from firm to firm, but the general principle remains the same – “climate change, sustainability, social responsibility, and ethical governance”.

Since the 1990s, an ESG rating industry has emerged where specialized firms produce analyses of undertakings based on their long-term sustainability and governance practices. While there is no set framework for composing ESG ratings and most firms have developed their own methodologies for producing these ratings, they almost always rely on the same set of international standards and policies regarding environmental, sustainable, and governance factors. Data is usually sourced from the companies themselves via direct requests, publicly available documents, and numbers interviews, and also from regulators, unions, governments, and media. The kind of products offered by these firms varies based on their size, with some offering specialized analyses in specific sectors whereas others bigger could be providing more extensive broad-ranging services such as Bloomberg. (Novethic 2013)

Some of these ESG rating agencies also provide SRI (Socially Responsible Investing) indices using their ratings data. These indices can be used to build ESG portfolios or evaluate the performance of firms relative to other firms on these parameters. Some of the major SRI indices are Core Responsible Index (Calvert), MSCI ESG Indexes (MSCI), Thomas Reuters IX ESG Index (Thomas Reuters). (Novethic 2013)

There is not a standardized way to evaluate firms on ESG factors because of the inherently subjective definition of ESG parameters. A firm might put more weight on sustainable production techniques while another might have an ethical corporate governance structure. The way to rank these two firms cannot be evaluated without making subjective assumptions about the importance and significance of these parameters in the indexing model. Therefore, standardization or complete objectivity is difficult to achieve. Different ESG fund indices might use varying combinations and weights of similar parameters in order to build their products.

1.3. Performance Outlook

Grim and Berkowitz in 2018 published an article for Vanguard which provided some striking statistics about the size of ESG funds and the increasing interest, attention, and regulation being about sustainable investment. They reported that in December 2015, as per a GSIA report, cumulatively ESG funds had \$22.9 Trillion AUM. However, publicly available mutual funds and ETFs account for less than 10% of this, with the majority of capital being managed or owned in a variety of categories, and structures. This increased interest in ESG funds has also led to better data regarding sustainability and environmental activities of firms being available, positively reinforcing this upward trend of interest. More than 11,700 companies declared ESG related data in order to improve transparency (Bloomberg 2016). In a similar vein, more than 125 organizations are producing research or providing ratings for ESG funds.

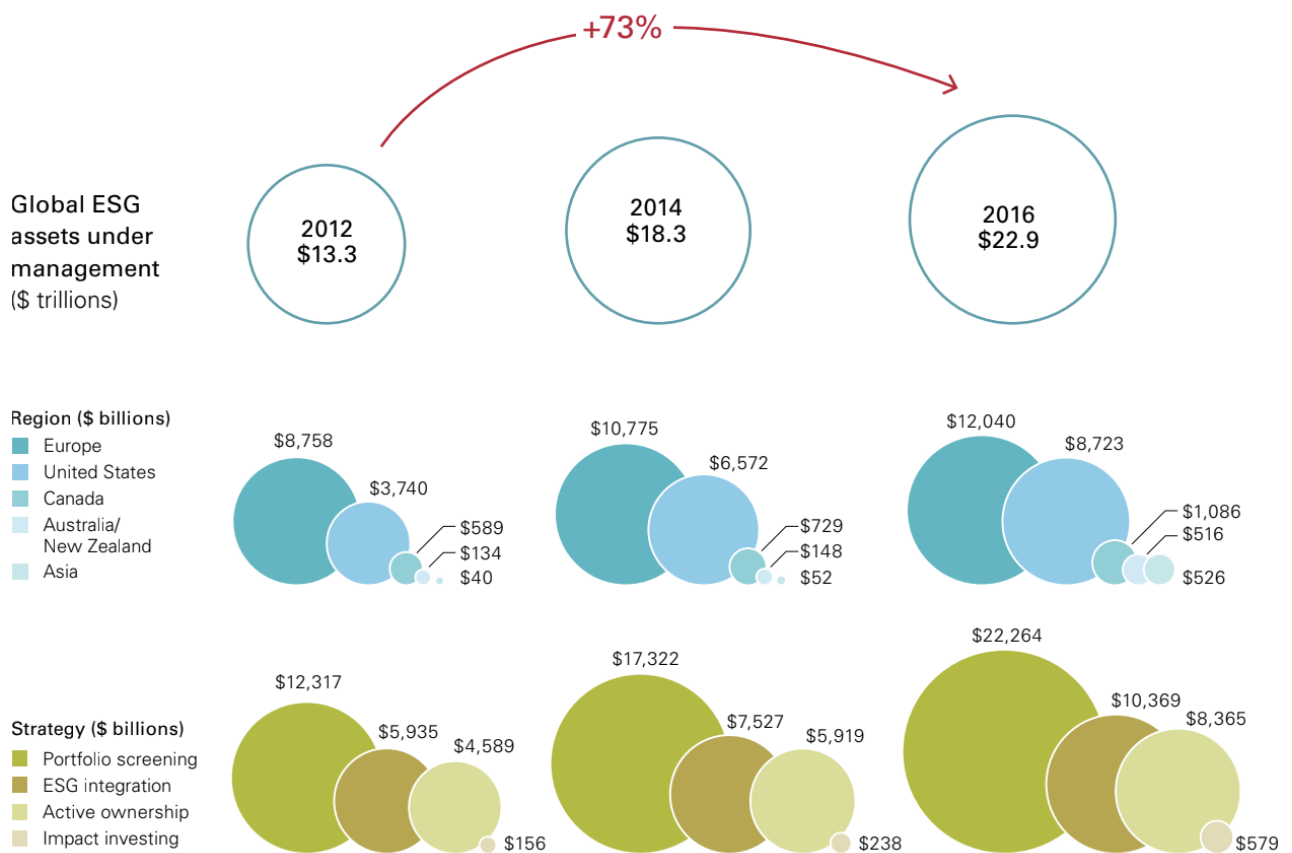


Table 1: ESG trends

A Barclays report highlighted some more trends in the industry. They found that ESG funds have brought in 7% inflows per annum in a time when other funds have lost 2% per annum in the US based on data on US-based mutual funds and ETFs. This was despite ESG labeled funds earning returns that were very similar to Non-ESG labeled funds. Further, highlighting the increased significance of these factors when building or managing portfolios.

2. Integrating ESG Criteria into Investors Portfolios

2.1. Ways to Implement an ESG Strategy

Investors are increasingly applying ESG factors as part of their analysis process to identify material risks and growth opportunities. However, there is not a standardized approach to the calculation or presentation of different ESG metrics. Investors can employ a variety of analytical strategies and data sources to address ESG considerations. Understanding the relative merits and limitations of different metrics can help to form a more complete picture of ESG risks and opportunities. Broadly speaking there could be two main families of ESG strategies, the ones actively managed and the ones passively managed. Here are some of the active techniques to integrate ESG factors across investment strategies.

Strategy	Popularity of the strategy*	Brief Explanation
Positive/negative screening	47%	Negative screening is when investors exclude specific industries, usually tobacco, alcohol, arms, and pornography companies or companies in oppressive regimes. However, previous studies have found that negative screening can substantially reduce the choice set to the extent of imposing a statistically significant (at the 1% level) negative alpha of -0.25% . Positive screening tries to include companies that add something to the community, have good corporate governance, and good working practices. Equally important, research shows that positive screening does not necessarily hurt performance or harm diversification.
Best in Class selection	37%	The best-in-class approach means investing in companies that are leaders in their sector in terms of meeting environmental, social, and governance criteria. An investor who follows the best-in-class principle does not exclude sectors or industries, such as tobacco or mining, but instead invests in the companies that make the most effort to meet the environmental, social, and governance criteria that are relevant for their respective industries.
Thematic investing	29%	Thematic funds focus on a single ESG-related area, such as clean energy, sustainable forestry, female leadership, or good board governance. If you are passionate about one particular issue, this method allows you to allocate your dollars to companies or projects that are directly related to what you care about most.
Full ESG Integration	21%	The ESG integration approach examines ESG criteria alongside traditional financial analysis. This method recognizes that issues like climate change, social inequality, and corporate governance can affect a company's long-term performance, but it does not emphasize specific ESG-related goals. ESG integration is the analysis of all material factors in investment analysis and investment decisions, including environmental, social, and governance factors.
Impact Investing	21%	Impact Investing targets particular projects designed to achieve specific, measurable goals, such as building affordable housing. The focus here is less on generating a financial return and more on using capital to create positive change in the world. Because impact investing has clearly defined goals, you can put your money to work directly toward solutions for issues or problems that you feel are most important for the greater good. The financial return potential is a clear step above charitable giving because you expect to generate some return on your investment. There are often a lot of risks involved because you are dealing with highly concentrated projects.

Table 2: Active ESG strategies

Now, talking about passive strategies we can differentiate the ones strictly index tracking and the ones that try in some way to overperform their benchmark. Here a brief description of these two technics:

- **Passive and enhanced passive strategies** – Investors can reduce the ESG risk profile or exposure to a particular ESG factor by tracking an index that adjusts the weights of constituents of a parent index accordingly. Funds that use a partial replication approach can also exclude companies with high ESG risk or low ESG ratings. Often these benchmarks use portfolio optimization techniques to minimize tracking error. Additionally, integration techniques can be applied to enhanced passive strategies. As enhanced passive strategies can make active investment decisions, such as adjusting index constituent weights and excluding certain stocks altogether to lower downside risk or outperform the benchmark, managers can integrate ESG factors into these strategies.
- **Smart beta strategies** – In smart beta strategies, ESG factors and scores can be used as a weight in portfolio construction to create excess risk-adjusted returns, reduce downside risk, and/or enhance portfolios' ESG risk profile. Managers who integrate an ESG factor into a smart beta portfolio often adjust holdings for other factors, such as the value factor PE ratio. In one of these case studies, AXA Investment Managers adjusts the weights of stocks in a global equity universe to increase the exposure to companies with high profitability, high quality of earnings, low-risk profiles, and top ESG scores. Furthermore, BlackRock has launched three ETFs that combine environmental, social, and governance strategies with a minimum volatility factor tilt. The combination of a sustainable strategy with a minimum volatility factor is a result of high demand for sustainable investing by investors seeking to limit downside exposure in volatile times such as what we are currently seeing as a result of the coronavirus outbreak.

2.2. Authenticity Behind This Trend

2.2.1. The Benefits of ESG Investing

The amount of money in sustainable mutual funds is estimated to have grown from under 500 billion dollars in 2013 to 750 billion in 2018, with the amount forecasted to reach 1.8 trillion by 2028. This rise in popularity led many companies to be more proactive in their practices. For example, companies like Nike have been more active in making donations and standing behind social causes. And as the social spotlight turns on corporations, many have promised to change their ways to favor more socially responsible strategies. Companies with proactive social and environmental policies usually face lower regulatory and legal risks.

In its August 2019 report *Sustainable Reality*, Morgan Stanley concluded: *“We found that sustainable funds provided returns in line with comparable traditional funds while reducing downside risk. What is more, during a period of extreme volatility, we saw strong statistical evidence that sustainable funds are more stable. Incorporating environmental, social, and governance criteria into investment portfolios may help to limit market and legal risks. Regulations tend to become stricter over time, so a company that is proactive in its policies is less likely to face a lawsuit or need to make a major change”*.

In January 2020, BlackRock released a letter to its investors stating that *“As a fiduciary, our responsibility is to help clients navigate this transition. Our investment conviction is that sustainability- and climate-integrated portfolios can provide better risk-adjusted returns to investors. And with the impact of sustainability on investment returns increasing, we believe that sustainable investing is the strongest foundation for client portfolios going forward”*.

It is also notable that customers become more active in supporting and blacklisting companies based on their values, as we have seen countless times in scandals such as Volkswagen or BP. Incidents like these make it more important for companies to be run ethically. This is why many investment companies, even those that are not explicitly running ESG funds, consider these ethical factors when making investment decisions, believing them to be a good indicator of the firm's risks. Finally, some research suggests that certain progressive strategies, including having a more diverse leader base, actually improve stock performance.

2.2.2. The Disadvantages of ESG Investing

While ESG investing surely has its merits, there are some important shortcomings that investors should be aware of.

Firstly, ESG investing is not a standardized approach, and sometimes an ESG fund may not always align with an investor's values. Investments firms use varying criteria for analyzing ESG factors, and no standard dictates how lenient a fund can be on a particular issue. For example, many ESG funds hold fossil fuel companies. While this is obviously a debated area, an environmentalist may be surprised to find a fossil fuel company in their ESG fund even if it is the most efficient operator. On top of this, while rating companies provide ESG scores that people can reference, scores for the same company can vary drastically between different rating agencies, showing how little agreement there is on such criteria.

Secondly, ESG factors can actually be fairly difficult to analyze. There are many details to consider, including company operations, supply chains, employees, and partners. Additionally, in the U.S., companies are not required to track their ESG performance, which means investors are often forced to make their decisions based on the firm's self-advertised information, which makes finding red flags difficult. Throughout history, there have been many companies that greenwash their operations where they take on minor initiatives or provide false promises to give the impression of some larger ethical operation.

Finally, while there are clear social benefits, there are some financial shortcomings to the investor regarding ESG investing. An investor who only wants to invest in renewable zero-waste positions will have a much smaller pool of stocks to choose from than other investors and will be heavily exposed to those companies' unique risks. And sadly, there is a cost to ESG because ESG funds and high-ranking ESG stocks garner a lot of demand; they can actually be more expensive. ESG funds tend to charge a higher fee than traditional funds. It certainly is discouraging to think that those trying to be good people have to pay more.

2.2.3. Are These Issues a Real Concern, or is it just a Greenwashing Operation?

Many investors still believe that impact investing comes with a trade-off between impact and risk-adjusted financial return. In their eyes, the more significant the impact focus is, the lower the return on investment. This perception is understandable if we realize that in the early days of impact investing, negative screening was the main technique, which could indeed result in enhanced risk and reduced performance. Over the past ten years, however, impact investing has grown into a sophisticated investment and risk management approach, allowing investors to include environmental, social, and governance considerations into their investment portfolios without having to give up a part of the return.

A large body of academic research shows that analyzing investments across a more holistic set of impact factors, beyond traditional risk and return, may enhance investment selection and contribute to lowering overall portfolio volatility, and thus to improving the risk-adjusted profile of portfolios. This research also justifies the conclusion that in the long run, impact investing is able to deliver market-rate returns. For example, a review by the German investment fund DWS and the University of Hamburg of more than 2,000 studies found that 63% showed a strong correlation between ESG performance and positive returns, while 10% showed a negative effect.

Furthermore, research by Friede, Busch, and Bassen, also in 2015, sampled more than 2,200 pieces of academic work over the past 40 years, all of which analyzed the relationship between environmental, social, and governance factors and corporate, financial performance. It found that more than 90% of them showed that ESG factors have a positive or neutral impact on financial returns, concluding: "The results show that the business case for ESG investing is empirically very well-founded." These examples show that impact investors do not have to choose between doing socially good or doing financially well. They can achieve it both.

At the end of the day, ethical investing is surprisingly a highly debated topic in investments. Some professionals believe an advisor's job is only to earn their client the best return possible, something that may require putting money in companies with poor social optics. Others believe that investors have the power and duty to support companies that will positively impact the world. There are a lot of grey areas where even the most ethical of investors disagree. Are fossil fuels immoral if they are necessary for economies and transportation? Is Amazon a tyrant if it enables many consumers to continue shopping for necessities through a pandemic? Is artificial intelligence a promising future or a tool that will enable the rise of totalitarian states? Nothing is clear-cut, but at the very least, taking the extra step to consider ESG factors is something that should not only help align your holdings with your values, but it also might lower the risk of your portfolio.

3. How Downturns Affect Sustainability Trend

3.1. The Scenario on the Market

The Covid-19 pandemic began as a health crisis, and as soon as the global situation worsened, markets began to be affected as well. News of generalized lockdowns and the diminishing of the demand made one of the worst periods in the history of financial markets. The magnitude of this reaction could be mainly addressed to the forecast impossibility of such a financial crisis and to the severity of the economic shock across countries.

During this pandemic, we have seen numerous boundaries that link financial markets to economies, politics, and industries. These could be containment measures, limitations on the propensity to consume, national and international traveling restrictions, reduction of household spending, and firm production capacity. These boundaries accelerated the spreading of the crisis and, as we have seen in the 2008 financial crisis, thanks to a chain reaction all the industries and segments of the market have been affected.

By sector, pharma, telecom, food and staples retailers did relatively well while energy, consumer services, consumer durables, and real estate firms suffered particularly. Within sectors, companies whose business is more exposed to China and international trade, in general, were particularly affected in the initial phases of the crisis, between 2nd January and 20th February 2020. After the beginning of the outbreak in Europe and the announcement of the first containment measures in Italy on 23rd February, investors started to discriminate between companies on the basis

mostly of their levels of debt and cash holdings. These patterns are also reflected in corporate conference calls. While analysts were initially concerned mainly about international trade, they later turned their attention to liquidity issues. Also, companies that have been exposed to previous epidemics were considered less vulnerable by analysts (Hassan et al., 2020).

Generally, we can say that the Covid-19 pandemic affected all the industries and geographic areas. However, we had experienced different reactions during the summer period when some markets displayed steady growth and others a "U" shape or "L" shape recovery.

3.2. Objectives of the Analysis

Our objectives here are to analyze the time series of daily returns of ESG funds during 2020 selected by various Asset Management's Companies in order to find evidence of an overperformance or underperformance compared to the market. This analysis is conducted with the objective to assess if ESG companies could be a good investment during a downturn and the successive recovery.

The possibility of an overperformance is conducted firstly with all the samples of funds in order to analyze if there is a consistent overperformance on ESG products without considering which type of products we are selecting. Secondly, we want to assess if there is an overperformance on any of the four types of products divided by geographic area.

Additionally, we analyzed the possibility to identify also benefits deriving by a lower risk exposure with a comparable return. In other words, we want to see if ESG funds could be more efficient in obtaining a defined return with a lower level of risk. This analysis is conducted both considering all the samples and by geographic area as well.

3.3. Data and Methodology

The sample analyzed is composed of 24 ESG funds, more precisely 14 active funds and 10 passive funds. We researched funds from different Asset Management Companies, and we selected four geographic regions: World, America, Europe, and Emerging markets.

Each fund was matched with a market portfolio that will recreate the investable universe of the asset manager. This matching was carried out by taking care to select a market portfolio with the same currency of the fund and describing the same geographic area of the fund. We decided to use the same index used as a benchmark in the KIID of the fund but taking the general one and not the ESG screened one. As an example, if the benchmark of an ESG fund is "S&P 500 ESG filtered", then we will use as a market portfolio the "S&P 500".

We decided to use daily observation to increase the significance of our estimation. Moreover, this choice derived from the necessity to analyze the behaviors of these funds during this recent crisis and, consequently, the time horizon was compulsory.

In order to study the possible over/underperformance of a given fund over a benchmark, we decided to use the metric named Jensen's Alpha. This metric is the intercept of a regression where the variable to be explained is the fund return, and the only explanatory variable of the fund is the market portfolio. Jensen's Alpha could be considered as the ability of getting an additional performance over the market model which remunerate only the systematic risk. More

precisely, considering all the investable universe available to the fund, if the asset manager is able to pick the right stocks which will overperform the market portfolio, the regression previously explained will expose a positive alpha. More precisely this metric gives you an indication of both the stock picking ability and the market timing ability of the manager.

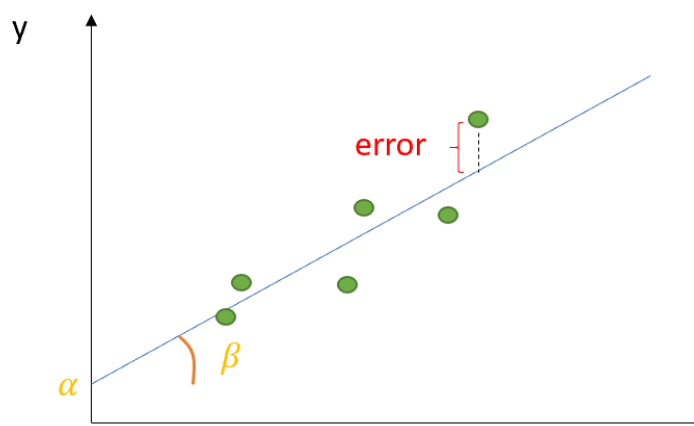


Figure 2: Regression Example

We decided to use a stock-picking and market timing metric because we consider investing in ESG a way both to filter the investable universe, and to invest into an asset class which could display an asymmetry reaction to market movements considering its systematic risk exposure. Moreover, this output is very straightforward in its significance because it exposes the daily return of the fund that came from the only stock picking activity.

Another big challenge is the statistical significance of this alpha in order to be sure to have identified a truthful value. More precisely, the statistical significance is the grade of probability for which we can be sure that the value that we have calculated is actually not zero. If we discover a positive value in Jensen's alpha, we cannot conclude that there is evidence of an overperformance. If this value has a big variability, we can conclude only that this positive value derives just from the noise in the data and not by a positive value activity done by the manager of the fund.

We studied the statistical significance using the usual t statistic for the intercept of the model. If the t statistic is in absolute value greater than 2, it means that we are 95% sure that the intercept is not zero.

To assess the risk exposure of such investments, we analyzed the sample standard deviation and the return over the period. This choice is derived by the necessity to be as clear as possible in comparing the risk exposures of the funds analyzed and the market portfolios used as proxies. It is fundamental to consider both the standard deviation and the return because one important relationship in the mean/variance framework of Markowitz is precisely on these two metrics. Thus, in every financial product, whenever we want to seek a higher return, it is quite normal that we will find along with it a higher variance and consequently a higher standard deviation. In the analysis conducted, it would be erroneous to consider just the standard deviations of the funds and the market portfolios. If a fund could reach a higher return with the same standard deviation concerning the market portfolio, it is clear that this fund is more efficient than the market portfolio.

This methodology is useful to the reader who is willing to invest in this type of funds because all the metrics used actually are referred to funds exchanged in the market and not to other abstract and hypothetical metrics less transparent.

3.4. Results

Name	Benchmark	ETF	Fund Return	Benchmark Return	Over Performance	Standard Deviation Fund	Standard Deviation Benchmark	Jensen's Alpha	T Stat
AMUNDI INDEX MSCI EMERGING MARKETS SRI - UCITS ETF DR (C)	MSCI EM USD	SI	22,99%	22,86%	0,13%	26,77%	23,67%	-0,005%	-0,200
AMUNDI INDEX MSCI EU SRI	MSCI EU EUR	SI	3,90%	-0,91%	4,81%	26,49%	27,70%	0,018%	1,287
AMUNDI INDEX MSCI GLO CLIMATE	MSCI WORLD USD	SI	18,12%	16,36%	1,76%	28,74%	28,58%	0,006%	0,647
AMUNDI INDEX MSCI USA SRI	MSCI USA EUR	SI	15,13%	11,86%	3,27%	31,21%	31,38%	0,012%	0,694
AMUNDI INDEX MSCI WORLD SRI	MSCI WORLD EUR	SI	11,09%	12,55%	-1,47%	27,56%	28,12%	-0,003%	-0,119
Pictet - Water	MSCI WORLD EUR	NO	6,72%	12,87%	-6,15%	24,28%	28,40%	0,004%	0,051
Pictet - Quest Europe Sustainable Equities	MSCI EU EUR	NO	0,03%	-0,67%	0,70%	24,66%	27,86%	0,002%	0,049
Pictet - Timber	MSCI WORLD EUR	NO	14,43%	12,87%	1,56%	32,34%	28,40%	0,030%	0,297
Pictet - Biotech	MSCI WORLD EUR	NO	24,14%	12,87%	11,27%	28,39%	28,40%	0,082%	0,766
Pictet - Clean Energy	MSCI WORLD EUR	NO	55,95%	12,87%	43,09%	30,47%	28,40%	0,156%	1,585
BSF BlackRock ESG World Equity	MSCI WORLD USD	NO	8,88%	16,43%	-7,55%	24,23%	28,59%	0,005%	0,064
iShares MSCI EM SRI	MSCI EM USD	SI	21,54%	22,57%	-1,04%	26,57%	23,43%	-0,009%	-0,302
iShares MSCI Europe SRI	MSCI EU EUR	SI	4,08%	-0,90%	4,98%	25,70%	27,46%	0,019%	1,143
JPM Global Sustainable Equity	MSCI WORLD EUR	NO	11,48%	12,66%	-1,18%	24,84%	28,19%	0,022%	0,280
JPM Europe Sustainable Equity	MSCI EU EUR	NO	5,02%	-0,90%	5,91%	25,26%	27,46%	0,023%	0,476
JPM Emerging Markets Sustainable Equity	MSCI EM EUR	NO	18,08%	13,51%	4,57%	24,54%	23,10%	0,019%	0,483
iShares MSCI USA SRI UCITS ETF	MSCI USA USD	SI	26,23%	19,95%	6,28%	33,50%	33,61%	0,021%	1,166
iShares MSCI World ESG Screened ETF	MSCI WORLD USD	SI	17,44%	16,16%	1,28%	28,45%	28,39%	0,002%	0,234
iShares MSCI World SRI ETF	MSCI WORLD EUR	SI	12,56%	12,40%	0,16%	26,87%	27,95%	0,003%	0,139
Pictet - Agriculture	MSCI WORLD EUR	NO	10,15%	12,87%	-2,72%	20,61%	28,40%	0,016%	0,264
Pictet - Global Environmental Opportunities	MSCI WORLD EUR	NO	25,33%	12,87%	12,47%	23,47%	28,40%	0,070%	0,928
CSIF (Lux) Equity EM ESG Blue	MSCI EM USD	NO	25,60%	22,86%	2,74%	24,35%	23,83%	0,010%	0,454
State Street US ESG Screened	MSCI USA USD	NO	15,43%	19,95%	-4,52%	33,55%	33,60%	-0,014%	-0,706
Candriam Sustainable North America	MSCI USA USD	NO	23,86%	20,72%	3,14%	33,61%	34,17%	0,012%	0,627

Table 3: Outputs of the Analysis

	All sample
Average Funds Return	16,31%
Average Benchmarks Return	12,46%
Overperformance	3,86%
Average Funds St.Dev.	26,79%
Average Benchmarks St.Dev.	27,71%
Average Alpha	0,023%
Average T Stat	0,472

Table 4: General Analysis

As we can see from table 1, which exposes the results from the general analysis without considering any geographic difference, even if the average return of ESG funds is higher, on average the intercept of their regressions (Jensen's Alpha) is not statistically significant. This result is supported by the fact that 17/24 funds outperformed their market portfolio. Consequently, we can assess that this intercept is on average positive, but it suffers from high variance. Therefore, we can conclude that the daily Alpha, albeit positive, is not stable enough to be considered truthful.

This result could change regarding the time horizon available. The vast majority of ESG funds are newborn, and, in many cases, the only crisis they faced is the COVID-19 one. Ergo, the possibility that they will continue this trend with higher performances in the long run, even during a market crash, could corroborate the stability of these alphas. At the time of writing, this is the constrained time horizon available, but the results could change with a longer time series.

We did not repeat the same analysis on Jensen's Alphas dividing the sample into the four geographic groups because every fund showed an intercept not statistically significant, and consequently, shrinking the sample would have led to the same conclusions.

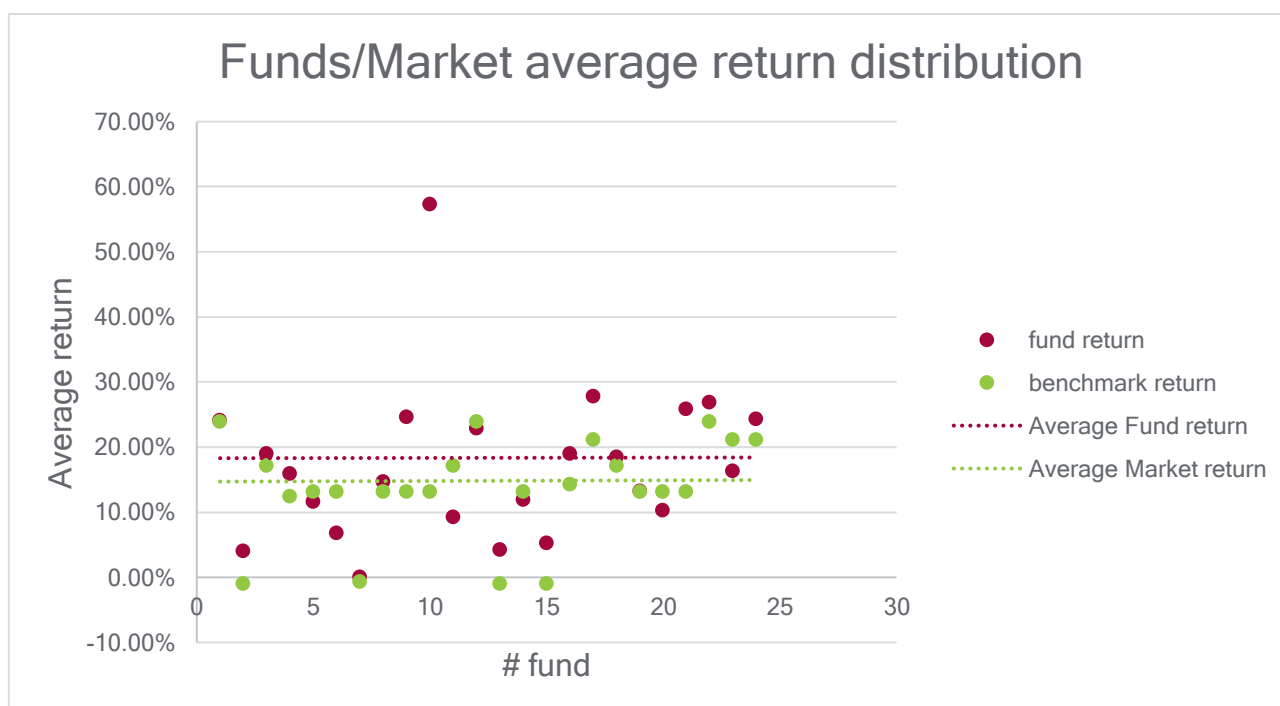


Table 5: Funds/Benchmarks return distribution

Regarding the variance analysis, as we explained in the data and methodology section, we analyzed both the average yearly return and the average yearly standard deviation of the whole group of funds and market portfolios. As we can see, the average return for an ESG fund in our sample is higher than the average return of a market portfolio, respectively 16,31% for an ESG fund and 12,46% for a market portfolio. On the contrary, the average standard deviation of a fund in our sample is lower than the average standard deviation of a market portfolio, respectively 26,79% for an ESG fund and 27,71% for a market portfolio, with 15 out of 24 funds with lower standard deviation with respect their market portfolio.

Consequently, there is a strong evidence about a higher efficiency of ESG funds compared to market portfolios. This evidence is corroborated by the higher average return, which cannot be considered, as we mentioned, a consistent source of outperformance but could be the source of higher efficiency in the mean/variance framework.

	Global	USA	EU	EM
Average Funds Return	18,02%	20,16%	3,26%	22,05%
Average Benchmarks Return	13,65%	18,12%	-0,84%	20,45%
Overperformance	4,38%	2,04%	4,10%	1,60%
Average Funds St.Dev.	26,69%	32,97%	25,53%	25,56%
Average Benchmarks St.Dev.	28,35%	33,19%	27,62%	23,51%
Average Alpha	0,033%	0,008%	0,016%	0,004%
Average T Stat	0,428	0,445	0,739	0,109

Table 6: Geographical analysis

We conducted the same analysis on mean/variance filtering the sample of ESG funds into four categories divided by geographic region. In Particular, we run the same assessment on four groups considering only ESG funds invested in America, Europe, Emerging Markets, and Global funds.

The results are summarized, in table 2. In particular, considering the global, the USA, and the European regions, we can see results in line with the previous analysis. Briefly, there is an overperformance but not statistically significant with, on average, a lower level of standard deviation by the fund compared to the market portfolio.

On the contrary, the Emerging Markets region outlined some discrepancies. In particular, the funds investing in the Emerging Markets region expose on average a higher standard deviation compared to the market portfolio but maintaining an overperformance not statistically significant.

	Passive	Active
Average Funds Return	15,31%	17,02%
Average Benchmarks Return	13,29%	12,39%
Overperformance	2,01%	4,63%
Average Funds St.Dev.	28,19%	26,23%
Average Benchmarks St.Dev.	28,03%	27,93%
Average Alpha	0,007%	0,033%
Average T Stat	0,469	0,384

Table 7: Passive vs Active analysis

Finally, we focused on evaluating if there could be some differences in active or passive strategies. The results are reported in table 3. The outputs of this assessment are in line with the results of the analysis which consider the whole sample. However, we can highlight one discrepancy concerning the level of standard deviation. In fact, considering only the sub-sample which invests with passive strategies, the average standard deviation is slightly higher than the average standard deviations of the market portfolios. On the other hand, the average return of every sub-sample of ESG funds is higher than the average return of the market portfolios.

With these results, we can outline that the efficiency in terms of volatility derives mainly from funds that invest using active strategies rather than passive ones.

4. “Next Generation EU” as a Potential Accelerating Factor of the Green Transition

To ensure a sustainable, inclusive, and fair recovery from the Covid-19 pandemic for all Member States, the European Commission has proposed to create a new recovery instrument, the so-called Next Generation EU, embedded within a powerful, modern, and revamped long-term EU budget. Following the implementation of this plan, the Commission will be authorized to borrow funds on behalf of the Union on the capital markets. The proceeds will be transferred to the Union’s programs in accordance with the guidelines specifically set by the European Council. As defined by the agreement reached in Brussels on 27/05/2020, new net borrowing activity will stop at the latest at the end of 2026, and the repayment will be scheduled following the principle of sound financial management, ensuring the steady and predictable reduction in liabilities until 31/12/2058.

Of the 750 billion euros that represent the financial bazooka provided by the Recovery plan, 37% of the capital will be allocated to green-oriented companies, following strict criteria stated by Next Generation EU’s guidelines. Consequently, the use of the funds is only partially linked to the impact of the crisis and rather attached to the achievement of wider and long-term objectives. This decision reflects a politically acceptable compromise to put in place the first large EU common crisis response, without generating disparities among countries that are currently experiencing the effects of the pandemic in different ways.

Next Generation EU will be reconciled with the prospects of a future less linked to coal consumption and CO₂ emissions. Therefore, 37% of the funds derived from the Next Generation EU will be directly spent on climate objectives in line with the European Green Deal. In order to finance this considerable number of financial incentives, 30% of resources offered by the recovery fund will be obtained through the issuance of green bonds, financial instruments that enable the involvement of capital markets in the ecological transition.

A paramount and distinctive feature of Next Generation EU is the fact that the whole initiative will not affect single state public debt. Indeed, in several EU member states, public debt is already at high levels, and it represents a critical and long-lasting problem for these economies. Moreover, financing investments in deficit through national public debt would lead, in the future, to even higher debt levels that would need to be compensated by an increase in future taxes. These expectations, as highlighted by the Ricardian equivalence, would make consumers more prudent, leading them to save a larger part of their incomes and consistently reducing consumption.

Consequently, this reduction would diminish the positive impact generated by public investments on the national economic and financial recovery. This effect should be less relevant for EU-financed expenditures, which does not lead to an outright increase in national public debts.

4.1. How Governments can fuel a Green Recovery: EU Guidelines

On 11/12/2019, the EU Commission presented the European Green Deal. This agreement entails a new growth strategy for all the members of the Union, aimed at transforming the EU into a prosperous society based on a modern, resource-efficient, and competitive economy. By concretizing the Deal, the Union is consistently pursuing its goal to reduce greenhouse gas emissions by 55% by 2030, fostering an economic development dissociated from the use of perishable and polluting resources.

Next Generation EU confirms the orientation towards sustainability implemented by the Union, adopting the Green Deal as a catalyst of the recovery from the Covid-19 pandemic. The Commission has defined a series of guidelines that should focus members investments on four main areas of intervention:

Infrastructure and Circular Economy	Renewable Energy	Cleaner Transport and Logistics	Just Transition Fund
This guideline highlights the importance of Goal number 9 of the European Green Deal: building resilient infrastructures, promoting inclusive and sustainable industrialization, and stimulating innovation.	Low-cost renewable energy, the Green Transition, the low-carbon economy, the blue economy, and the circular economy can create many new opportunities, including the creation of new occupations and sensitive savings for energy-intensive consumers.	Sustainable mobility is one of the central themes to foster the improvement of urban environments and the quality of life offered, both for the reduction of greenhouse gas emissions and the reduction of air pollution.	The Fund, aimed at supporting EU regions most affected by the transition to a low carbon economy, will have a budget of 40 billion euros, and it will be financed through resources from cohesion policy funds and national co-financing programs.

Table 8: NGEU's areas of intervention

4.2. The Green Stimulus and the Allocation Procedure

In order to be eligible to receive the financial resources of the Recovery Fund, Member States have to prepare national recovery and resilience plans, setting out their reforms and investment agendas for the years 2021-23. Subsequently, the recovery and resilience plans will be assessed by the Commission within two months from the submission. The criteria of consistency with the country-specific recommendations, as well as strengthening the growth potential, job creation, and economic and social resilience of the Member State will receive the highest weight in the assessment. An active contribution to the green and digital transition will be a prerequisite for a positive valuation. Finally, the evaluation of the recovery and resilience plans has to be approved by the Council, by a qualified majority on a Commission proposal.

An efficient methodology for monitoring climate-spending and its performance, including reporting and relevant measures in case of insufficient progress, has to be defined in the following months, ensuring that the next Multiannual

Financial Framework as a whole contributes to the implementation of the Paris Agreement. The Commission will report annually on climate expenditures. Moreover, to address the social and economic consequences of the objective of reaching climate neutrality by 2050 and the Union's new 2030 climate target, a Just Transition Mechanism, including a Just Transition Fund, will be created.

As defined during the special meeting of the European Council on 21/7/2020, expenditures for agriculture and maritime policy, as well as environmental and climate actions will not exceed EUR 356 374 million, of which EUR 258 594 million will be allocated to market-related expenditure and direct payments.

Next Generation EU Budget allocated for Natural resources and Environment						
(Million euros, 2018 prices)						
2021	2022	2023	2024	2025	2026	2027
55242	52214	51489	50617	49719	48932	48161
of which: Market related expenditure and direct payments						
38564	38115	37604	36983	36373	35772	35183

Table 9: Budget Allocation

4.3. Investment Implications

Next Generation EU, together with the European Green Deal, will be catalysts for the European equity markets. As already observed, following the definition of the agreement, the market reaction has been very positive. European equities offer the market significantly more upside than bonds and, in relative terms, than the US market. As this cyclical recovery continues, European equities will enjoy good absolute and relative performances.

The agreement sends a strong political message and is a significant step towards a coordinated policy response. Several risks remain for the Eurozone, but this accorded action is fundamental to face the Covid-19 crisis by adopting harmonized economic and financial measures. The liquidity bazooka prepared by the Union will increase the appetite for European equities, which have seen ultra-low interest and flows for a long time. All the member states will benefit from these economic measures, both central and peripheral countries.

Moreover, with a third of Next Generation EU and of the Multiannual Financial Framework's resources dedicated to projects that address climate change, the recovery fund will give a significant boost to climate change-related equity investments. Therefore, this will provide numerous opportunities for investors, generated in particular by the green bond market. During and after the current Covid-19 pandemic, environmental and social issues will receive consistently increasing attention both from regulators and asset managers. As a consequence, ESG investing, which seeks to proactively address these challenges, will continue to grow in importance.

Conclusion

The Covid-19 crisis has moved social considerations back to the forefront of ESG. Companies' decisions affecting workers have become increasingly important (Barb ris and Bri re, 2020).

On the one hand, we outlined that a big challenge when it comes to ESG ratings has been the persistent lack of transparency and concerns in their performance measurement methodology (Chatterji, Levine, and Toffel 2009). In

this framework, the EU is working on the taxonomy to give the tools to investors to understand what actually they are buying in order to diminish the information asymmetry.

On the other hand, ESG funds are and will be a great product to align performance objectives and ethical ones. They are now part of the investment strategies of the EU, and they share part of the objectives of the United Nations. With these recommendations, this industry could grow even faster than in previous years. Thanks to this stimulus ESG industry will certainly augment its weight in the market landscape. Moreover, we have confirmed how these products are reliable even during market downturns. In fact, we showed how precisely ESG active funds registered a low level of return fluctuations compared to their relative market portfolio.

Finally, these results are confirmed and corroborated if we consider active funds in different regions. Despite there are no certainties about the outperformance of ESG products during times of crisis, we have seen how they can achieve at least a greater efficiency in terms of variance reduction. These qualities could be the reasons to appreciate more ESG products, even without considering their ethical value.

References

- Alcidi, C. (2020). *Next Generation EU: A Large Common Response to the COVID-19 Crisis*. Intereconomics. <https://www.intereconomics.eu/contents/year/2020/number/4/article/next-generation-eu-a-large-common-response-to-the-covid-19-crisis.html>
- Alleanza Italiana per lo Sviluppo Sostenibile. (2020). *Obiettivi di sviluppo sostenibile e politiche Europee, Dal Green Deal al Next Generation EU*. https://asvis.it/public/asvis2/files/Pubblicazioni/Quaderno_Obiettivi_di_sviluppo_sostenibile_e_politiche_europee.pdf
- Asset Management. (n.d.). Credit Suisse. <https://am.credit-suisse.com/it/it/asset-management.html>
- Barclays Investment Bank. (2011). *3 Point Perspective*. <https://www.investmentbank.barclays.com/our-insights/3-point-perspective.html>
- BlackRock launches smart beta ESG ETF suite. (n.d.). ETF Stream. <https://www.etfstream.com/news/blackrock-launches-smart-beta-esg-etf-suite>
- Bloomberg Professional Service. (2016, April 21). *ESG reporting on the rise in Asia*. Bloomberg. <https://www.bloomberg.com/tosv2.html?vid=&uuid=357a00a0-5a9f-11eb-ba44-01dfa4f534eb&url=L3Byb2Zlc3Npb25hbC9ibG9nL2VzZy1yZXBvcnRpbmctb24tdGhlLXJpc2UtaW4tYXNpYS8=>
- Borowski, D., Brard, E., & Elmgreen, K. (2020, July 22). *EU agreement: a powerful answer that can lift further EU assets and ESG investing*. Research Center. <https://research-center.amundi.com/page/Article/Amundi-Views/2020/07/EU-agreement-a-powerful-answer-that-can-lift-further-EU-assets-and-ESG-investing>
- Cizmeci, D. (2020, March 17). *Investing in a Brighter Future: The Pros and Cons of Sustainable Investing*. Daglar Cizmeci. <https://daglar-cizmeci.com/sustainable-investing/>
- Coleman, J. S. (1988). *Social Capital in the Creation of Human Capital*. American Journal of Sociology.
- D'Angerio, V. (2020, October 20). *Green bond, il Btp verde in rampa di lancio. Sei i settori da finanziare*. Il Sole 24 ORE. <https://www.ilsole24ore.com/art/green-bond-btp-verde-rampa-lancio-sei-settori-finanziare-AD8x8Ex>
- Elkington, J. (1998). *Partnerships from Cannibals with Forks The Triple Bottom Line of 21st Century Business*. *Environmental Quality Management*, 6, 37-51. Scientific Research. [https://www.scirp.org/\(S\(czeh2tfqyw2orz553k1w0r45\)\)/reference/ReferencesPapers.aspx?ReferenceID=2291101](https://www.scirp.org/(S(czeh2tfqyw2orz553k1w0r45))/reference/ReferencesPapers.aspx?ReferenceID=2291101)
- ESG integration in fundamental strategies*. (n.d.). PRI. <https://www.unpri.org/listed-equity/esg-integration-in-fundamental-strategies/12.article>

ESG integration in passive and enhanced passive strategies. (n.d.). PRI.

<https://www.unpri.org/listed-equity/esg-integration-in-passive-and-enhanced-passive-strategies/15.article>

ESG integration in smart beta strategies. (n.d.). PRI.

<https://www.unpri.org/listed-equity/esg-integration-in-smart-beta-strategies/14.article#:~:text=In%20smart%20beta%20strategies%2C%20ESG,enhance%20portfolios%E2%80%99%20ESG%20risk%20profile>

E.S.G. Investing - What it Means and Its Pros/Cons. (2020, August 7). [Video]. YouTube.

https://www.youtube.com/watch?v=o0jdjsttys&ab_channel=ThePlainBagel.

Etf, A. (n.d.). *Amundi ETF United Kingdom.* Amundi ETF HUB. <https://www.amundiETF.co.uk>

Eunews. (2020, September 25). *Sviluppo sostenibile, Gentiloni: "Con Next Generation EU l'Europa assume la leadership globale."*

<https://www.eunews.it/2020/09/25/sviluppo-sostenibile-gentiloni-next-generation-eu-europa-leadership-globale/135107>

European Commission. (2020, May 27). *Europe's moment: Repair and prepare for the next generation.*

https://ec.europa.eu/commission/presscorner/detail/en/ip_20_940

European Council. (2020, July 21). *European Council conclusions, 17-21 July 2020.*

<https://www.consilium.europa.eu/en/press/press-releases/2020/07/21/european-council-conclusions-17-21-july-2020/>

Fink, L. (n.d.). *Larry Fink CEO Letter.* BlackRock.

<https://www.blackrock.com/us/individual/larry-fink-ceo-letter>

Friedman, M., & Friedman, R. (1990). *Free to Choose: A Personal Statement.* Mariner Books.

Gocek, G. G. (n.d.). *The Opportunity Cost of Negative Screening in Socially Responsible Investing (Digest Summary).* CFA Institute.

<https://www.cfainstitute.org/research/cfa-digest/2017/07/the-opportunity-cost-of-negative-screening-in-socially-responsible-investing-digest-summary>

Grim, D. M., & Berkowitz, D. B. (2020). ESG, SRI, and Impact Investing: A Primer for Decision-Making. *The Journal of Impact and ESG Investing*, 1(1), 47–65.

<https://doi.org/10.3905/jesg.2020.1.1.047>

I Principi dei Green Bond 2018, Linee Guida procedurali non vincolanti per l'Emissione di Green Bond. (2018, August). International Capital Market Association.

<https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/>

Impact investing: Choosing between impact and financial return? (n.d.). Triodos Bank.

<https://www.triodos-im.com/knowledge-centre/choosing-between-impact-and-financial-return>

Investment Funds. (n.d.). BlackRock.

<https://www.blackrock.com/it/investitori-privati/products/product-list>

J.P. Morgan Asset Management Italia | J.P. Morgan Asset Management. (n.d.). JP Morgan.

<https://am.jpmorgan.com/it/it/asset-management/adv/>

Lazaroff, P. (2020, June 3). *6 Methods to Consider When Choosing an ESG Investing Strategy.* Peter Lazaroff.

<https://peterlazaroff.com/6-methods-to-consider-when-choosing-an-esg-investing-strategy>

Novethic Research. (2013, September). *Overview of ESG Rating Agencies.* Novethic.

https://www.novethic.com/fileadmin/user_upload/tx_ausynovethicetudes/pdf_complets/2013_overview_ESG_rating_agencies.pdf

Pictet Asset Management Italia. (n.d.). *Pictet AM Italia.* Pictet Asset Management. <https://www.am.pictet/it/italy>

SG Value Partners. (n.d.). SG Value Partners. <https://www.sgvaluepartners.ch/en>

Stevens, P. (2020, September 2). *ESG index funds hit \$250 billion as pandemic accelerates impact investing boom.* CNBC.

<https://www.cnn.com/2020/09/02/esg-index-funds-hit-250-billion-as-us-investor-role-in-boom-grows.html>

The Rise Of ESG Investing. (2020, June 25). [Video]. YouTube.

https://www.youtube.com/watch?v=OQ1cliM0b0Q&ab_channel=CNBC

Thorpe, D. (2019, April 23). *Ethical investing: an introduction.* What Investment.

<https://www.whatinvestment.co.uk/ethical-investing-an-introduction-253220/#:%7E:text=Negative%20screening%20is%20where%20you,and%20working%20practices%2C%20for%20example.>

United Nations - General Assembly. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development.*

<https://www.un.org/development/desa/dspd/2015/08/transforming-our-world-the-2030-agenda-for-sustainable-development/>

van Duuren, E., Plantinga, A., & Scholtens, B. (2015). ESG Integration and the Investment Management Process: Fundamental Investing Reinvented. *Journal of Business Ethics*, 138(3), 525–533. <https://doi.org/10.1007/s10551-015-2610-8>

What is ESG integration? (n.d.). PRI.

[https://www.unpri.org/fixed-income/what-is-esg-integration/3052.article#:~:text=The%20PRI%20defines%20ESG%20integration,social%2C%20and%20governance%20\(ESG\)](https://www.unpri.org/fixed-income/what-is-esg-integration/3052.article#:~:text=The%20PRI%20defines%20ESG%20integration,social%2C%20and%20governance%20(ESG))

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