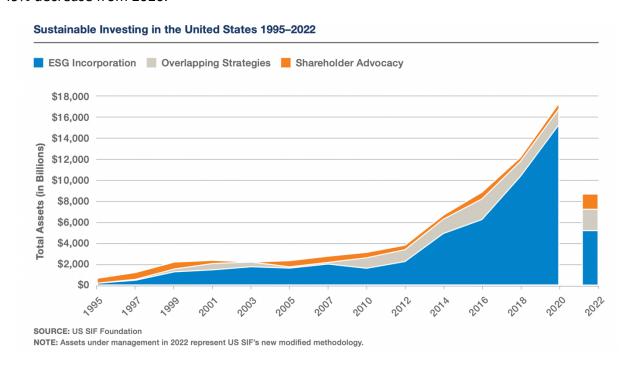
Rachel Iaione

An Analysis of Responsible Investing, ESG Investing, and Impact Investing

Introduction

In 2018, the United States had \$12 trillion in assets allocated to sustainable investments (which includes responsible, ESG, and impact assets). In 2020, this statistic exploded to \$17.1 trillion, a 42% increase from 2018 (The US Sif Foundation's Biennial 'Trends Report' Finds That Sustainable Investing Assets Reach \$17.1 Trillion). Sustainable investment trends were looking promising until the US SIF (The Forum for Sustainable and Responsible Investment) released the bi-annual 2022 statistics. Sustainable investments plummeted to \$8.4 trillion, an approximate ~49% decrease from 2020.



The cause of the drastic decrease is attributed to the US SIF changing the reporting methodology out of efforts to reduce greenwashing. Greenwashing is a marketing tactic to lure

in environmentally conscious investors when investments don't meet the claims they are given (Smith, Kelly Anne). The US SIF made the below statement:

"In a departure from previous editions, this report does not include the AUM [assets under management] of investors who stated that they practice firmwide ESG integration but did not provide information on any specific ESG criteria they used (such as biodiversity, human rights, or tobacco) in their investment decision-making and portfolio construction.

The US SIF Foundation committed to this approach after the 2020 Trends report found that ESG integration had become mainstream and was applied across trillions of dollars, but with limited disclosure on specifics. This continued a phenomenon first identified in the 2014 Trends report" (2022 Report on US Sustainable Investing Trends).

A 49% decrease in sustainability assets after the reporting methodology change is monumental, revealing various issues across the asset management system. The next big question is if there was the capability for this drastic statistical decrease after a change in reporting requirements, what are the intended purposes and goals of some of these so called "ESG funds". While greenwashing is undeniably a major issue, I would also like argue there are a few other issues in the system that are causing a general lack of understanding and transparency around sustainable investments. See below other issues in the system that should be further addressed:

- 1. Lack of terminology/definition clarity
 - See below an image from the Organisation for Economic Co-operation and Development (OECD). The display shows that 'ESG metrics and methodologies' are used across several different investment types that are designed for different return expectations and, therefore, different risk appetites. Not to say that there can't be similarities across different sustainable investment classes, but there is a need for further specification to prevent blanket terminology from being blindly

used. It's important that asset managers aren't hiding behind blanket terminology and are intentional about their sustainable investments. Thus, having clearly defined terminology, just like other asset classes have, is key for successful sustainable investment practice and outcomes.

| | Philanthropy | | Social Impact Investing | | Sustainable and Responsible Investing ⁸ | Conventional financial investing |
|-----------------------|---|--|---|---|---|---|
| | Traditional Philanthropy | Venture Philanthropy | Social Investing | Impact investment | ESG investing | Fully commercia investment |
| | | 1 | | | | |
| Focus | Address societal challenges through the provision of grants | Address societal challenges with venture investment approaches | Investment with a focus on social and/or environmental outcome and some expected financial return | Investment with an intent to have a measurable environmental and/or social return | Enhance long-term value by using ESG factors to mitigate risks and identify growth opportunities. | Limited or no regard for environmental, social or governance practices |
| | | Use of ESG metrics and meth | | odologies | | |
| Return Expectation | Social return only | Social return focused | Social return and sub-market financial return | Social return and adequate financial market rate | Financial market return focused on long-term value | Financial market return only |
| | Social impact | $\leftarrow \rightarrow$ | Social a | and financial | \leftrightarrow | Financial returns |

Source: stylised adaptation from OECD (2019), "Social Impact Investment, the Impact Imperative for Sustainable Development," based on earlier versions from various organisations; for illustrative purposes only.

• 2. Lack of understanding around sustainable investment vehicles

o While there already is solid understanding around asset classes from a technical finance perspective, once terminology such as ESG (environmental, social, and governance) is added to investments, it adds a layer of uncertainty that has yet to be universally defined in finance. For example, later in this paper will be discussed that financial professionals do not agree on what the purpose of ESG investing is. Some view ESG as a retrospective risk mitigating tool, while others view ESG as a prospective change invoking tool.

- 3. Lack of understanding around measurable impact from sustainable investments and the overall impact on the public sector
 - Many corporate companies share similar mission statements about the desire to have a greater positive impact on society and the environment. This larger category of sustainable investing is a mechanism many corporations partake in to further support their mission statement. However, with the sustainable investment space lacking a lot of general structure it can be difficult to understand the actual/measurable impact sustainable investments are yielding. Additionally, it is important for corporations to also consider impact from a public sector perspective. Sustainable investments made by the private sector should support public sector initiatives. Ultimately, long term societal and sustainability progress will be a function of agendas and impact from both the public and private sector.

The goal of this paper is to provide layers of insight on the issues mentioned above. For a long-term solution, it will take a universal policy approach to get all asset managers on the same page with sustainable investment fundamentals. Once sustainable investments have defined parameters/scope they will be utilized in a more intentional way that will result in more impactful outcomes. However, this necessary policy development will likely take a long time to develop. In the meantime, companies can benefit from clearly defining and establishing their own internal views on sustainable investments and strategy. The outcome I want to make in this paper is that for colleagues, investment committees, and boards within the same company to have more productive conversations about social and sustainable investments.

While it seems that the industry is lagging to provide uniformity in this space, institutions can establish internally their own views, which will likely result in more productive conversations around sustainable/ethical investments. Hopefully more productive conversations can lead to more progress/growth within a company's sustainable investments strategy- ultimately yielding higher public impact through these investments.

Responsible Investing

The concept of responsible investing was debatably the first type of ethics driven investment to emerge in the mid/late 1900's. Responsible investing puts investors' morals as first priority and financial returns as second priority. Responsible investing is an overarching investment strategy that is determined by positive and negative screens. For example, if an investor did not support fossil fuels, this would be a negative screen and investments associated with fossil fuels would be avoided. If an investor supported human rights initiatives, this would be a positive screen and investments associated with human rights initiatives would be sought (What Is the Difference between ESG Investing and Socially Responsible Investing?).

The first responsible investment funds in the United States were started in the 1970's out of demand from the Methodist church. The Methodist Church did not support the Vietnam War and did not want the churches money invested in weaponry manufacturing. During this time, all asset managers were investing in the defense sector. The church was still interested in investment returns and ministers did not have the capital markets knowledge to invest the churches money on their own. This led to the emergence of responsible investment managers that aligned to the values of the Methodist church. Three notable responsible investment firms that arose during the 1970s were Pax World Funds, Calvert Investments, and Christian Brothers

Investment. In addition to avoiding weaponry investments, these investment managers further customized their funds to align with Methodist values through avoiding other "sin" investments such as alcohol, tobacco, and gambling (The Sustainable Business Case Book).

The 1980's marked the first worldwide responsible investing effort. The racial injustice from the apartheid in South Africa led institutional and individual investors to pull out of any investments that had ties to South Africa. The United States passed the Comprehensive Anti-Apartheid Act, which banned new investments in South Africa (Sustainable Investing: Morningstar). This caused economic instability in South Africa, which was a factor in the collapse of apartheid (Donovan, William).

There are several avenues to incorporate responsible investing into an investor's portfolio depending on their screens, risk tolerance, investment strategy, etc. Simply avoiding investment exposure to one specific area (i.e., oil and gas) is considered responsible investing. Investors that want to take a more robust screening approach can either manage those screens themselves or invest in a responsible investing fund. The main benefits of responsible investment fund are:

- Diversification: Funds can hold a large array of investments to protect from risks associated with any asset class or investment type.
- Professional Management / Cost Effectiveness: Impact investing is a
 completely different approach than traditional investing. The key
 difference being traditional investment managers would primarily
 manage assets based off the capital markets, but responsible
 investment managers would primarily manage assets based off the

screens. The fundamental difference between traditional investing and responsible investing may make a professionally managed fund a better option for individuals or institutions who do not have robust experience or knowledge with responsible investments. Therefore, funds can be cost – effective when considering the additional time/resources needed to manage responsible investing.

For further context on responsible investment funds, see below information on iShares MSCI KLD 400 Social ETF (ticket symbol DSI). DSI is a responsible investment equity ETF managed by BlackRock. DSI holds approximately 400 U.S. based companies that meet the screen requirements outlined by BlackRock. See the below excerpt from BlackRock's website explaining the negative screens and find definitions of each negative screen in Appendix A. The positive screens are those that meet traditional ESG baseline requirements.

SUSTAINABLE SCREENS

As part of its investment objective this fund seeks to track an index that applies the following business involvement screens: adult entertainment, alcohol, civilian firearms, controversial weapons, conventional weapons, fossil fuel extraction, fossil fuel reserves ownership, gambling, genetically modified organisms (GMOs), nuclear power, nuclear weapons, thermal coal power and tobacco. The business involvement screens are based on revenue or percentage of revenue thresholds for certain categories and categorical exclusions for others. Please read the definition for each screen here.

The fund's inception date is November 14, 2006. See the table below showing the fund's performance (data is as of December 31, 2022).

| | 1 y | 3у | 5у | 10y | Incept. |
|-------------------------|------------|------|------|-------|---------|
| Total Return (%) | -21.66 | 7.51 | 9.43 | 12.32 | 8.27 |
| Market Price (%) | -21.71 | 7.52 | 9.41 | 12.31 | 8.27 |
| Benchmark (%) | -21.48 | 7.78 | 9.72 | 12.76 | 8.74 |
| After Tax Pre-Liq. (%) | -22.02 | 7.12 | 9.03 | 11.93 | 7.94 |
| After Tax Post-Liq. (%) | -12.75 | 5.76 | 7.39 | 10.21 | 6.89 |

The below table shows returns for the S&P 500. To note, the S&P 500 is not the benchmark for DSI, but it is a common benchmark for the U.S. equity market. The S&P 500 is not considered an ESG investment and has exposure to everything that DSI has a negative screen for.

| S&P 500 | 1у | Зу | 5у | 10y |
|------------------|--------|-------|------|------|
| Total Return (%) | -10.63 | 19.42 | 8.10 | 9.98 |

Source (S&P 500[®])

Comparing returns between DSI and the S&P 500 shows that DSI had a stronger performance from a 5y and 10y perspective, but the S&P 500 had a stronger performance from a 1y and 3y perspective.

See the table below on the main companies that DSI invests in. All the individual companies that iShares MSCI KLD 400 Social ETF invests in can be considered ESG investments. The strategy of the fund is a responsible investment strategy because it is based upon screens. See more discussion in the section below on ESG investments and further perspective on the differences between a responsible investing strategy and an ESG strategy.

| Ticker⊳ | Name > | Sector > | Asset Class▶ | Market Value▶ | Weight (%)▼ |
|---------|------------------------|------------------------|--------------|------------------|-------------|
| MSFT | MICROSOFT CORP | Information Technology | Equity | \$341,740,861.98 | 9.54 |
| GOOGL | ALPHABET INC CLASS A | Communication | Equity | \$106,401,850.80 | 2.97 |
| GOOG | ALPHABET INC CLASS C | Communication | Equity | \$98,986,744.35 | 2.76 |
| NVDA | NVIDIA CORP | Information Technology | Equity | \$73,188,081.12 | 2.04 |
| PG | PROCTER & GAMBLE | Consumer Staples | Equity | \$72,717,123.96 | 2.03 |
| V | VISA INC CLASS A | Information Technology | Equity | \$68,321,460.48 | 1.91 |
| TSLA | TESLA INC | Consumer Discretionary | Equity | \$65,986,786.92 | 1.84 |
| HD | HOME DEPOT INC | Consumer Discretionary | Equity | \$65,035,258.14 | 1.82 |
| МА | MASTERCARD INC CLASS A | Information Technology | Equity | \$60,343,325.55 | 1.68 |
| ABBV | ABBVIE INC | Health Care | Equity | \$57,470,455.32 | 1.60 |

ESG Investing

The acronym "ESG" is now a part of common vocabulary in the investment space despite being a relatively new term that was coined in the early 2000's. In 2004, secretary of the United Nations, Kofi Anna, reached out to some of the largest financial institutions about a collaborative approach to determine ways environmental, social, and governance (ESG) factors could be considered in capital markets. The outcome of this collaboration was a research article called "Who Cares Wins" (Perrone, Giuseppe), where the term ESG was first seen in a publication.

The Norwegian government was the first large entity to adopt an ESG investing approach before the term ESG was even coined. In the 1990's, the Norwegian government began considering ESG factors in the investment selection for its sovereign wealth fund. The asset manager responsible for managing the sovereign wealth fund vets all investments and prospective investments on ESG criteria, weeding out any investments that do not meet their standards. The Norwegian government has seen success with this investment approach, with an annual and net annual return of 5.7% and 3.5% since inception. The fund has outperformed its benchmark by 0.30% since inception, showing consistent performance from a relative returns' perspective. Other countries that were early participants in the ESG movement include Sweden, France, Canada, and The Netherlands (Returns).

Institutional investment managers were initially skeptical of ESG investing because of the fiduciary duty they hold to their clients. The U.S. department of labor states that fiduciary responsibility is to "run the plan solely in the interest of participants and beneficiaries and for the exclusive purpose of providing benefits and paying plan expenses" (Fiduciary

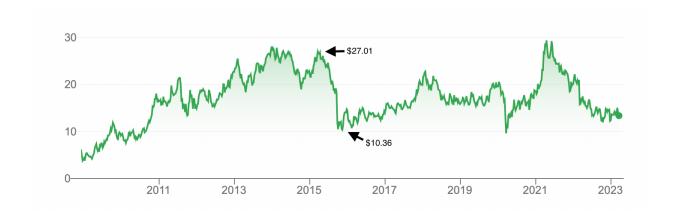
Responsibilities). Historically, asset managers have interpreted fiduciary responsibility as the practice of acting in the best interest of their client to maximize investment returns within the parameters of the client's risk appetite. ESG is a newer asset class and there are potentially some additional risks/uncertainties that can come with those investments. This is where investment managers have some disagreement on where the line is between upholding the traditional risk/return fiduciary responsibility relative to the values of ESG investing. To note, there is research that suggests there is not any additional risks for ESG investments.

To elaborate on the issue described above, MSCI defines ESG investing as "the consideration of ESG factors alongside financial factors in the investment decision-making process" (ESG 101: What Is Environmental, Social and Governance). Some investors believe that ESG is solely based upon the assumption that ESG factors have financial relevance in terms of risk and returns. Therefore, utilizing ESG as a risk mitigation tool under a compliance framework.

A common example of ESG investment risk comes from the 2015 Volkswagen scandal.

Between 2006 and 2015, Volkswagen sold approximately 580,000 diesel vehicles that had defeat devices installed. These defeat devices allowed Volkswagen to cheat by showing falsified emissions numbers on testing, but during standard driving were polluting well beyond regulated emission limits. Before Volkswagen was exposed for this wrongdoing, they were advertising diesel vehicles as an eco-friendlier alternative to gasoline vehicles. In 2014 Volkswagen issued a green bond. A green bond is type of bond that uses funding to finance a sustainability project. It was found that some of the funding from this green bond went towards the fraudulent emission detection devices. Once the news of this fraudulence became available

to the public, Volkswagen's stock price plummeted- see graph below. This Volkswagen scandal suggests that some additional risk in ESG investing could be fraudulence, claims/impact fact checking, greenwashing etc.



Impact Investing

In the early 2000s, the Rockefeller Foundation laid the groundwork for what was eventually coined as 'impact investing'. The Rockefeller Foundation defines impact investing as investments made in companies or organizations with the intention of generating social or environmental impact *and* financial returns (Impact Investing: An Introduction). This differs from traditional philanthropy work where money is just donated. The general idea of impact investing allows organizations to stimulate the financial development for social and environmental initiates that currently carry too much risk or are too early stage to attract regular institutional or individual investors.

In 2009, the Rockefeller Foundation launched the Global Impact Investing Network (GIIN), which is a network of nonprofits to collaborate on impact investment initiatives. To note, many of the nonprofits in this network are philanthropy arms of corporate companies.

One of the goals of the GIIN is to reduce barriers of impact investing, so regular investors can eventually become perspective investors. Some of the barriers include:

- Credit Risk Many social and sustainable initiative companies are in early stages. Newer startups don't have the credit history that long standing companies have.
- Liquidity Risk Impact investments are typically off-market investments that are
 not publicly traded. The investment structure of off-market investments makes
 it more difficult to liquidate and exit the investment.
- Investment Size Many startups social and sustainable initiatives are growing from the ground up, therefore starting off as smaller companies/organizations.

 As a result, the size of investments they are offering to investors is smaller than that of an established company. A concern larger investors have is that with the size of investment being so small relative to their book, the financial return would be small. Investors must complete a due diligence process to get new investments approved by compliance before investing. For very small returns, many investors have the concern that the time/effort of the due diligence process outweighs the value of the investment to them (this logic weights financial returns over social returns).

The objective for GIIN is to rally nonprofit investors to invest in these early on social and sustainable investments that are not yet attractive to traditional investors. The long-term goal is to give these smaller/startup companies the opportunity to develop their track record, credit history, investment structure, etc., so one day they may become attractive investments for a

broader range of investors. Another potential benefit is that if the philanthropy arm of a finance organization already completes the due diligence process for their initial investment, it may make is easier to eventually transition that investment to a regular portfolio at some point (without needing to do the full due diligence twice).

An example of an impact investment is the Forest Resilience Bond through the Blue Forest organization. The mission of Blue Forest is to provide crucial maintenance work on overgrown forests, such as mechanical trimming, to reduce wildfire risks. The forest services are severely underfunded and don't have the budget for these necessary projects. Therefore, Blue Forest identifies stakeholders that could benefit from preventing wildfires- such as utility providers, private companies, and local/state governments. Blue Forest pools investor funding for the projects, while offering investors a modest return (*Blue Forest Conservation*). This type of investment is very high impact as the funds directly help an urgent societal and sustainable initiatives that could help reduce future catastrophic emergencies. However, the investment itself does contain some of the risks discussed above, so this investment is not for every investor.

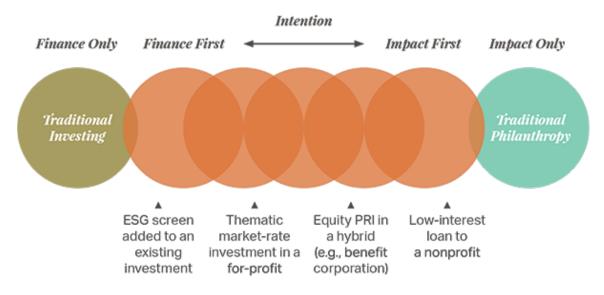
Measuring Impact

Measuring impact is a challenge throughout the entire responsible investment space.

Organizations need to realize what is measurable and what is not measurable. For example, it is reasonable to produce a metric for assets delegated to responsible investments. What is not reasonable is to try and quantify impact that is hard to directly correlate because of your responsible investments. If you have X amount of ESG investments that are focused on initiates to reduce carbon, it is not plausible to say you contributed to reducing XX tons of carbon. When

you try and make a metric out of something that cannot be directly measured, this is how issues like greenwashing arise.

The image below is a good visual for measuring impact. The more impact focused the investment is the easier it will be to measure impact. For example, the Blue Forest Resilience Bond discussed above in the impact investing section is an example of an investment that can yield reasonable impact metrics. You can say your investment led to maintenance on X acres of forest.



Examples

(Impact Investing: An Introduction)

Overall Recommendations

- 1. Promote companywide how QBE defines their responsible investing approach.
 - Have training sessions for all employees and board members on QBE's responsible investing approach.
- 2. Set targets to increase QBE's responsible investments.

- a. Understand that there is no "perfect approach". Determine what risk level is of comfort.
- 3. Create a bridge between QBE's philanthropy and investment team.
 - a. Philanthropy investments meeting expectations should be considered for investment portfolios- due diligence will already have been done by the philanthropy.
 - b. Create a specific high impact portfolio for all high impact investments.
- 4. Devote more research into QBE's investments public sector impacts and share that information company wide.
- 5. Be realistic about what is measurable and what is not measurable decide on a formulaic impact measurement approach.
 - a. Impact investing can easily be turned into impact statistics.
 - Responsible investing and ESG investing can be more difficult to provide accurate investment impact data.
- 6. Onboarding external asset managers focused on responsible investments.

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Appendix

1)

| SCREEN | DEFINITION |
|--|--|
| Adult entertainment | All companies deriving 5% or more revenue from the production of adult entertainment materials. All companies deriving 15% or more aggregate revenue from the production, distribution and retail of adult entertainment materials. |
| Alcohol | All companies deriving 5% or more revenue from the production of alcohol-related products. All companies deriving 15% or more aggregate revenue from the production, distribution, retail and supply of alcohol-related products. |
| Civilian firearms | All companies with any tie to Civilian Firearms, covering the production and distribution (wholesale or retail) of firearms or small arms ammunitions intended for civilian use, as well as ownership of or by another company with involvement. It does not include companies that cater to the military, government, and law enforcement markets. |
| Controversial weapons | All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments and incendiary weapons), as defined by the methodology of the MSCI Ex-Controversial Weapons Indexes. |
| Conventional weapons | All companies deriving 5% or more revenue from the production of conventional weapons and components. All companies deriving 15% or more aggregate revenue from weapons systems, components, and support systems and services. |
| Fossil fuel extraction | All companies deriving any revenue (either reported or estimated) from thermal coal mining or unconventional oil and gas extraction. Thermal Coal Mining: Revenue from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It does not cover revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading. Unconventional Oil & Gas Extraction: Revenue from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane. It does not cover all types of conventional oil and gas production including Arctic onshore/offshore, deep water, shallow water and other onshore/offshore. |
| Fossil fuel reserves ownership | All companies with evidence of owning proven & probable coal reserves and/or proven oil and natural gas reserves used for energy purposes, as defined by the methodology of the MSCI Global Ex Fossil Fuels Indexes. |
| Gambling | All companies deriving 5% or more revenue from ownership of operation of gambling-related business activities. All companies deriving 15% or more aggregate revenue from gambling-related business activities. |
| Genetically modified organisms (GMOs) | All companies deriving 5% or more revenue from activities like genetically modifying plants, such as seeds and crops, and other organisms intended for agricultural use or human consumption. |
| Nuclear power | All companies generating 5% or more of their total electricity from nuclear power in a given year. All companies that have 5% or more of installed capacity attributed to nuclear sources in a given fiscal year. All companies deriving 15% or more aggregate revenue from nuclear power activities. |
| Nuclear weapons | All companies that manufacture nuclear warheads and/or whole nuclear missiles. All companies that manufacture components that were developed or are significantly modified for exclusive use in nuclear weapons (warheads and missiles). All companies that manufacture or assemble delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons. All companies that provide auxiliary services related to nuclear weapons. All companies that manufacture components that were not developed or not significantly modified for exclusive use in nuclear weapons (warheads and missiles) but can be used in nuclear weapons. All companies that manufacture or assemble delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons but have the capability to deliver nuclear weapons. All companies that manufacture components for nuclear-exclusive delivery platforms. |
| Thermal coal | All companies deriving 5% or more revenue (either reported or estimated) from thermal coal-based power generation. |
| Tobacco | All companies classified as a "Producer." All companies deriving 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products. |