Chapter 1

Introduction

1. Introduction

Investing involves committing a certain present value in exchange for an uncertain future reward. This endeavor requires making a series of decisions, including selecting the type, combination, amount, timing, and quality of investments, as well as the timing of divestments. Furthermore, these decisions must be both ongoing and rational.

In essence, investment decisions involve a delicate balancing act between risk and return. Every investment choice is influenced by individual investment objectives and the anticipation of an unpredictable future. Given that investments in securities can be reversed, investment objectives are transient, and the investment landscape is dynamic. As one contemplates a distant future, the reliable foundations for making informed predictions become increasingly unclear. Consequently, investors in securities periodically reevaluate and reassess their various investment commitments based on new information, shifting expectations, and evolving investment objectives.

The term "investment" encompasses the process of allocating funds into various financial instruments such as stocks, debentures, fixed deposits, gold, real estate, life insurance policies, and more. These avenues in which funds are placed are referred to as investment assets. The analysis, decision-making, and procedures involved in distributing funds among these diverse assets, particularly the selection of one asset over another, constitute the field of investment management.

Investors grapple with questions such as: What is the total sum of funds available for investment? How much should be allocated to long-term assets versus liquid assets? What portion should be invested in tangible assets as opposed to stocks and other securities?

Investment decisions stem from a combination of three distinct yet interconnected factors. The first category can be described as factual or informational premises. These factual premises are derived from a multitude of data sources and collectively represent the observable environment, as well as the general and specific characteristics of the securities or companies available for investment.

The second set of factors influencing investment decisions can be labeled as expectational premises. Expectations regarding the potential outcomes of various investment options are inherently subjective and hypothetical. However, they are grounded in the environmental and financial information accessible to investors. These expectations not only shape the scope of available investment opportunities but also define the range of plausible expected outcomes.

The third and final category of factors comprises valuation premises. For investors, these factors encompass the assessment of the security and tradability of specific investments or combinations thereof. This evaluation is an ongoing process, subject to periodic reevaluation. Bhalla V.K (2008)

In addition to conventional investment options like stocks, banks, gold, silver, real estate, life insurance, and postal savings, there exists another type of investment known as sustainable investment. Sustainable investment is also referred to as Socially Responsible Investment (SRI), Socially Impact Investment, and ESG-based Investment. The following sections provide a comprehensive exploration of both conventional and sustainable investment approaches.

1.1 Formal Investment in India

In this research endeavor, the investigator examines both conventional and non-traditional investment options, encompassing avenues like Post Office Investment, Banking, Insurance, Mutual Funds, Stock Markets, Commodity Markets, Gold, and Real Estate products. These are collectively referred to as formal investment avenues, and a comprehensive elucidation of each of these investment choices is presented in the subsequent paragraph.

a) Post Office Investments

India's postal system boasts the world's largest network, with over 150,000 post offices nationwide. For over 150 years, it has served as a cornerstone of communication and small savings schemes. Some of the popular investment schemes offered by the Post Office include:

- Post-Office One-Time Deposit Scheme
- Post Office Recurring Deposit Account
- Post Office Savings Account
- Post Office Monthly Income Account Scheme
- Senior Citizen Savings Scheme, and more.

b) Bank Investments

Bank deposits are a widely embraced and secure investment option. Banks are closely regulated by the Reserve Bank of India, offering a range of deposit types tailored to customers' needs. Bank deposits are favored for their liquidity and safety rather than their returns. Investors can choose from the following bank investment options:

- Savings Bank Account
- Bank Fixed Deposit (Bank FDs)
- Recurring Deposit Account
- Special Bank Term Deposit Scheme

c) Insurance Investments

Insurance serves as a safeguard against financial loss and is a fundamental risk management tool. It is primarily used to mitigate the risk of potential or uncertain losses. The entity providing insurance is known as an insurer, insurance company, insurance carrier, or underwriter. Insurance covers a variety of risks and offers policies such as:

- Term Life Insurance
- Endowment Policies
- Annuity/Pension Policies/Funds
- Unit Linked Insurance Policy (ULIP)
- Health Insurance

d) Mutual Funds

Mutual funds provide an indirect means of investing in equities and fixed-income instruments. Investors can participate in schemes managed by Asset Management Companies (AMCs), which, in turn, invest in stocks and fixed-income securities. There are three broad categories of mutual fund schemes:

- Equity Schemes
- Debt Schemes
- Balanced Schemes

e) Capital Market Instruments

The stock market is a public marketplace for trading company shares at agreed-upon prices. These securities are listed on stock exchanges, such as the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). Investing in equities carries risk and demands careful consideration. Investors can engage in equities through the primary market (applying for shares offered to the public) or the secondary market (buying listed shares). It's crucial to research, diversify, and monitor investments for favorable returns.

f) Bullion (Gold, Silver)

In India, real assets like gold and silver hold a place in the portfolios of investors, particularly in rural and semi-urban areas. Gold, in particular, serves as a primary form of savings for many households. These tangible assets provide liquidity and can be easily converted into cash without significant financial loss in case of emergencies.

g) Real Estate

Real estate has emerged as an appealing investment option, encompassing agricultural land, semi-urban land, commercial properties, and resort homes. It offers investors opportunities for capital appreciation and rental income.

1.2 Sustainable Investment

After delving into formal investments in the previous sections, let's now explore another investment avenue known as sustainable investments. The focus on sustainable and responsible investment (SRI) strategies has been steadily increasing due to growing awareness of environmental sustainability, socio-economic development, and ethical standards. Recent events, such as perceived governance deficiencies during the global financial crisis, the escalating threat of global warming, and activism on social issues, have led to a consensus regarding the significance of holistic growth and responsible investing. One strategy that has gained traction among investors is environmental, social, and governance (ESG) based investing. The fundamental principle underlying ESG-based investing is the identification and quantification of the intangible value associated with socially responsible, environmentally conscious firms that uphold robust governance practices (Sparkes, R. (2008).

Sustainable investment, also known as Socially Responsible Investment (SRI), Social Impact Investment (SII), and ESG-based Investment, encompasses a range of innovative approaches aimed at promoting economic development and achieving social objectives. SII represents a response to the demand for sophisticated financing strategies that can effectively contribute to the fulfillment of the Sustainable Development Goals (SDGs) (Development Co-Operation Directorate, OECD (2016)).

Social impact investment (SII) involves providing financial support to individuals or organizations dedicated to addressing social and/or environmental needs, with the explicit expectation of achieving measurable social and/or environmental outcomes, along with financial returns (Development Co-Operation Directorate, OECD (2016)). According to the Sustainable Stock Exchange (SSE) and the National Stock Exchange of India Ltd (NSE), sustainable investments are evaluated based on three fundamental principles: Environmental, Social, and Governance (ESG).

Environmental: The environmental factor encompasses the assessment of a firm's activities' impact on the environment. This includes evaluating trends in carbon intensity, recycling and waste management practices, and the development of renewable energy sources, among other considerations.

Social: Social factors encompass an examination of a firm's policies and the impact of its activities on various social aspects. This includes assessing working conditions, adherence to human rights, compliance with health and safety norms, and contributions to financial inclusion, among other relevant criteria.

Governance: The governance factor evaluates the effectiveness of a firm's processes and policies related to corporate governance. This includes considerations of business ethics, measures to prevent fraud and corruption, engagement in public policy, and related areas.

In this study, we focus on sustainable investments, which include Financial Inclusion Schemes, Socially Responsible Investment (SRI) Mutual Fund Schemes, and Sustainable Stock Indices. These sustainable investments are typically channeled into the formal investment avenues mentioned earlier. Here are the details of the sample sustainable investments under consideration.

Figure 1.1 Principles of Sustainable Investment

What Considerations Go Into Sustainable Investing?

Environmental	Social	Governance
Carbon emissions	Diversity & workplace policies	Board structure
Energy efficiency	Labor standards	Board composition
Water scarcity	Supply chain management	Executive compensation
Waste management	Product safety and usefulness	Political contributions & lobbying
Pollution mitigation	Customer privacy	Bribery and corruption policies & oversight
	Community impact	Strategic sustainability oversight

These are examples of ESG criteria but not a complete list.

a) Financial Inclusion Schemes

Financial inclusion refers to ensuring that individuals and businesses have access to affordable and beneficial financial products and services tailored to their needs, delivered in a responsible and sustainable manner. It is characterized by the availability of equal opportunities for accessing financial services.

Financial inclusion can be described as the process of extending banking and financial solutions to all members of society, without any form of discrimination. Its primary objective is to provide basic financial services to everyone, irrespective of their income or savings, with a particular focus on economically disadvantaged segments of the population, all while maintaining fairness and transparency. Financial inclusion is committed to offering financial assistance without hidden transactions or undisclosed costs.

India offers various financial inclusion schemes to cater to the needs of investors and the general populace, including:

- Pradhan Mantri Jan Dhan Yojana (PMJDY)
- Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)
- Pradhan Mantri Suraksha Bima Yojana (PMSBY)
- Atal Pension Yojana (APY)

b) Socially Responsible Mutual Funds

Socially responsible mutual funds invest in securities issued by companies that align with specific social, moral, religious, or environmental principles. To ensure that the selected stocks align with the fund's core beliefs, these companies undergo a rigorous screening process. Socially responsible mutual funds exclusively include securities from companies that uphold high standards of ethical corporate behavior.

Given the wide array of values and beliefs held by individuals, fund managers face the challenge of determining the stocks that best represent the optimal combination of values to attract investors. The criteria used in the stock screening process depend entirely on the values and objectives of the particular fund. For example, funds with a strong commitment to environmental concerns will specifically select stocks from companies that exceed minimum environmental standards.

In India, several socially responsible funds, such as Tata Ethical Fund, Taurus, and Reliance ETF Shariah BeES, adhere to the moral principles of Shariah law in their investment strategies.

c) Sustainable Stock Market Indices

Sustainable stock market indices comprise companies that exhibit favorable sustainability scores, often categorized into Environmental (E), Social (S), and Governance (G) criteria. A company's ESG performance is assessed through a comprehensive process, including:

- Review of company reporting, including annual reports and CSR reports
- Examination of external sources such as newspapers, NGOs, and publications
- Analysis conducted by experienced analysts
- Peer review of the company's structural aspects
- Soliciting feedback from the company itself
- A research process underpinned by a rigorous Quality Management System

In India, the National Stock Exchange of India Ltd (NSE) and the Bombay Stock Exchange have introduced socially responsible investment indices, including the Nifty 100 ESG Index, Nifty Shariah Index, and S&P BSE Greenex. These indices incorporate companies that demonstrate strong ESG performance, contributing to sustainable and responsible investing practices.

1.3 Investment Decision Making Behaviour

Decision-making is a multifaceted process that involves the evaluation and selection of alternatives. It can be defined as the process of choosing a specific course of action from a range of available options, taking into account potential rewarding or aversive outcomes.

According to Simon (1960), the decision-making process consists of three key phases:

Intelligence Activity: This initial phase involves gathering information from the environment to identify the conditions that necessitate a decision.

Design Activity: In this phase, activities such as brainstorming, development, and analysis of potential courses of action are carried out.

Choice Activity: In this final phase, a particular course of action is selected from the available alternatives.

Individuals must navigate these phases to make informed decisions. Similarly, investors in various investment options must also go through these decision-making phases when selecting investments. Numerous factors influence investors' decisions at each phase, including demographic and socio-economic factors, investment awareness, information sources, investment motivations, socio-economic constraints, perceptions, lifestyle characteristics, and more.

Investment behavior is the process through which investors fulfill their financial needs by selecting investment options. This behavior is influenced by both internal and external factors. Demographic factors, in particular, play a crucial role in shaping individual buying behavior, whether for goods or services. Research has been conducted to understand investor buying behavior and financial planning decisions aimed at meeting future financial needs.

Following the economic reforms of 1991 in India, the financial sector underwent significant changes. This transformation attracted numerous domestic and foreign players who influenced the buying behavior of Indian investors, especially regarding financial asset investments.

Investment avenues offer financial security based on the risk and return profiles of financial products. However, one of the most significant challenges for investors lies in making investment decisions. Behavioral finance examines how investors behave in the market and seeks to explain why people buy and sell financial products based on psychological principles of decision-making. It sheds light on how individuals interpret information and make investment decisions.

In recent years, various financial products have been introduced, targeting both urban and rural markets in India. Rural investors tend to favor less risky financial products compared to their urban counterparts, as indicated by SEBI statistics handbook 2009 and the NCAER survey in 2011.

Investment decision-making poses a substantial challenge for investors, as every individual differs in various aspects due to factors such as demographics, socio-economic status, marital status, education level, age, gender, and more. These factors significantly influence investment choices. For example, an educated person may make different decisions than an uneducated one, and a young bachelor may prefer riskier options, while a mature individual with dependents may opt for more stable income-generating avenues. Additionally, rural and urban backgrounds, information availability, accessibility to investment options, and other contextual factors play pivotal roles in shaping investment decisions. Therefore, this study investigates the investment decisions of both rural and urban investors across various investment avenues.

1.3.1 Investors' Characteristics towards Formal Investments

Based on the available literature, the study identified several key factors that influence formal investments. These factors include awareness, sources of information or awareness, reasons for investment, perceptions about investments, lifestyle characteristics, the risk and return profile of investors, and socio-economic constraints. Table 1.1 below provides a comprehensive list of these characteristics affecting formal investments by investors.

Table 1.1 List of Investors' Characteristics affecting Formal Investments

Characteristics	Authors
Awareness	Phani Kumar. T.V.V (2014), Murlidhar Ananda Lokhande (2015), Sethupathi. M and Banumathi. S (2017) Deshmukh. G. K and Sanskrity Joseph (2016)
Sources of Information/Awareness	Hussein A. Hassan Al-Tamimi and Al Anood Bin Kalli (2009), Murlidhar Ananda Lokhande (2015), Deshmukh. G. K and Sanskrity Joseph (2016)
Reasons for Investment	Lubna Riaz and Ahmed Imran Hunjra(2015), Selamah Abdullah Yusof (2015), G. K and Sanskrity Joseph (2016)
Perception	Varadharajan. P (2015), Kapil Kapoor (2016), Deshmukh. G. K and Sanskrity Joseph (2016) Jisha. V.G and Gomathi. V (2017), Lubna Riaz and Ahmed Imran Hunjra(2015)).
Lifestyle Characteristics	Sushant Nagpal and BodlaB S (2009), R. Kasilingam (2015)
Risk and Return Profile	Phung Thai Minh Trang and Nguyen HuuTho (2017), Deshmukh. G. K and Sanskrity Joseph (2016), Seetharaman. A, Indu Niranjan, Nitin Patwa and Amit Kejriwal (2017), Lubna Riaz and Ahmed Imran Hunjra(2015), Selamah Abdullah Yusof (2015)
Socio-Economic Constraints	Securities and Exchange Board of India (SEBI) (2015), Shalini KalraSahi (2013), Sudheer. V (2015)

1.3.2 Investors' Characteristics towards Sustainable Investments

The study adopted variables related to investor characteristics from the Theory of Planned Behaviour to examine investment decision behavior regarding sustainable investments. This theory establishes a connection between an individual's beliefs and their behavior. According to the theory, an individual's behavioral intentions and actions are shaped by their attitude toward the behavior, subjective norms, and perceived behavioral control (Ajzen, 1985, 1991).

Table 1.2 Comprehensive list of investor characteristics relevant to sustainable investments.

Investors' Characteristics	Authors
Attitude	(Ajezen (1985), Ajezen (1991)
Subjective Norm	(Ajezen (1985), Ajezen (1991)
Perceived Behavioural Control	Ajezen (1991) Ajzen, I (2002)
Moral norm	Godin, Conner & Sheeran 2005, Manstead 2000 Rivis, Sheeran & Armitage 2009
Intention	(Ajezen (1985), Ajezen (1991)

1.4 Operational Definitions

a) Formal Investments

Formal investments encompass a variety of investment avenues preferred by investors, excluding those that fall within the ESG (Environmental, Social, and Governance) parameters, as delineated in this study. These investments encompass both traditional and alternative options, including bank deposits, post office deposits, insurance, mutual funds, stock markets, bonds, commodity markets, and more (Anson, M. J., Fabozzi, F. J., & Jones, F. J., 2010).

b) Sustainable Investments

Sustainable investments represent an investment strategy that seeks to achieve both financial returns and positive social and environmental impacts. This approach is also referred to as socially responsible investment (SRI) and social impact investment. Sustainable investments employ a specific methodology known as the ESG

(Environment, Social, and Governance) score methodology. Under the ESG factors, this study considers financial inclusion schemes, socially responsible mutual fund schemes, and sustainable stock market indices as sample sustainable investments.

c) Awareness

Awareness in the context of this study pertains to investors' knowledge or understanding of various formal investments such as post-office investments, banking, insurance, mutual funds, capital markets, commodity markets, gold, and real estate.

d) Sources of Information or Sources of Awareness

Investors rely on various sources to acquire knowledge and understanding of formal investments, which aids them in making informed investment decisions. These sources of awareness can be categorized into three broad groups: Personal Members (friends, family members, financial advisors, etc.), Media (TV, radio, newspapers, etc.), and Financial Literacy Programs (conducted by financial institutions, regulatory bodies, investors associations, etc.).

e) Reasons for Investments

Reasons for investments encompass the motivating factors that drive investors to allocate their money to various investment options. These motivations can be categorized as economic reasons, social reasons, and factors related to improving one's quality of life. In this study, "reasons for investments" are defined as various motivational factors that encourage investors to allocate their funds into different investments for specific purposes.

f) Perception

Perception refers to investors' interpretations of various formal investments, including their assessment of the services, procedures, trustworthiness, and accessibility of these investment options.

g) Risk and Return Profile

The risk and return profile is a critical factor in determining the appropriate allocation of investments within a portfolio. In this study, the risk and return profile of investors are represented by factors such as Risk Attitude, expected return for a given risk, and

Risk Tolerance.

h) Lifestyle Characteristics

Lifestyle characteristics pertain to individual traits and behaviors, including elements such as effective planning, innovativeness, task orientation, fashion consciousness, self-confidence, and leadership abilities.

i) Socioeconomic Constraints

Socioeconomic constraints refer to external factors that influence individuals' decision-making processes. These constraints can include factors like low family income, high family consumption expenditure, children's education expenses, healthcare costs, and a lack of education necessary for making significant decisions.

j) Attitude

Attitude is defined as an individual's positive or negative evaluation of a specific object or behavior (Ajzen, 1991), which includes emotional responses and overall willingness to engage in a particular behavior. In this study, investors' attitudes toward sustainable investment behavior are examined to understand the dynamics of investment decision-making.

k) Subjective Norm

Subjective norm refers to the perceived expectations from others that influence an individual to engage in a particular behavior (Ajzen, 1991). It encompasses the impact of peers and social groups, such as friends, parents, and colleagues, on an individual's behavior.

i) Perceived Behavioral Control

Perceived behavioral control refers to an individual's perception of the availability of necessary resources and opportunities required to perform a specific behavior, as defined by Ajzen (1991).

m) Moral Norm

Moral norms can be described as an expression of an individual's personal standards regarding a particular action, which differs from attitude. While the latter pertains to an individual's estimation of the likelihood of specific outcomes resulting from the behavior, moral norms are rooted in one's personal conduct standards (Godin, Conner & Sheeran, 2005). Research has increasingly supported the role of moral norms as predictors of intentions, even when accounting for attitude, subjective norm, and perceived behavioral control (Manstead, 2000). Several studies (Godin, Conner & Sheeran, 2005; Rivis, Sheeran & Armitage, 2009) have concluded that moral norms should be examined within the broader framework of the Theory of Planned Behavior.

1.5 History of Sustainable Investment

Years	Events
1.5.1 The Innovators of Socially Responsible Investing	
1970s	Activism increases around U.S. involvement in the Vietnam War, particularly over the use of chemical weapons. Shareholders organize letters and resolutions against the production of napalm and Agent Orange. The anti-war movement further propels practices of sustainable investing, referred to as socially responsible investing and still built on exclusionary principles. Public sentiment leads to the establishment of the first sustainable mutual funds. Strong voices for responsible corporate practices speak up and begin to influence the global discourse.
1971	Pax World launches the first sustainable mutual fund (PAXWX). It's still an investable fund today. Two United Methodist ministers—Luther Tyson and Jack Corbett—looking to avoid investing church dollars in companies contributing to the Vietnam War, founded the groundbreaking Pax World fund. They want to align their investments with their values and urge companies to adhere to a standard of social and environmental responsibility.
1972	Journalist Milton Moskowitz constructs a list of "socially responsible stocks," published in Business & Society, to track performance against broad market indexes, including the first sustainable funds. (Townsend 2017)

1977	The Rev. Leon Sullivan, a clergyman and civil rights leader, develops a code of conduct for companies, dubbed the Sullivan Principles. These principles aim to promote corporate social responsibility and to apply economic pressure in South Africa in response to the apartheid system of racial segregation. A quarter century later, the United Nations adopts an updated version of Sullivan's corporate code of conduct for companies as part of the United Nations Global Compact.

1.5.2 Legislating Corporate Responsibility	
1980s	The anti-apartheid movement advocating for divestment from South Africa gains critical mass. Shareholder activism pressures corporate involvement, and the push reaches the U.S. government, translating to public policy. Environmental concerns continue to propel growth for sustainable investing. The establishment of forums and key proclamations in the 1980s help to formalize the process, but the Exxon Valdez oil spill in Alaska puts the U.S. at a crossroads with fossil fuel companies.
1984	U.S. Sustainable Investing Forum is founded.
1986	The U.S. Congress passes the Comprehensive Anti-Apartheid Act, banning new investment in South Africa. According to Calvert Investments, it becomes the first investment firm to sponsor a shareholder resolution tied to a social issue.
1988	In response to growing concerns over the burning of fossil fuels and the rise of global temperatures, the Intergovernmental Panel on Climate Change is jointly established with the World Meteorological Organization and United Nations Environment Programme.
1989	In the face of the Exxon Valdez oil spill in Prudhoe Bay, Alaska, activists' efforts lead to the founding of the Coalition of Environmentally Responsible Economies, or Ceres. It brings together investors, business leaders, and public-interest groups to speed the adoption of sustainable business practices and the transition to a low-carbon economy.

1.5.3 A Global Call to Action	
1990	Awareness of a warming planet continues to grow globally with the signing of the Kyoto Protocol, an agreement among nations to reduce carbon emissions. But sustainable-investment options are growing modestly; the selection of funds is limited. They employ a mix of negative-screening and positive-screening practice also known as best in class, which stems from growing notions of corporate responsibility, prompting consideration of a company's governance practices relative to its industry peers. The Domini 400 Social Index launches. Now named MSCI KLD 400 Social Index, the Domini Index is the first capitalization-weighted index built to track sustainable investments.
1992	The United Nations holds the Conference on Environment and Development, a global summit to discuss the intersection of economic development and environmental protection.
1994	26 sustainable funds are available to investors, with assets roughly around $1.9 billion.
1997	The Kyoto Protocol convenes world leaders to set goals on addressing global warming.

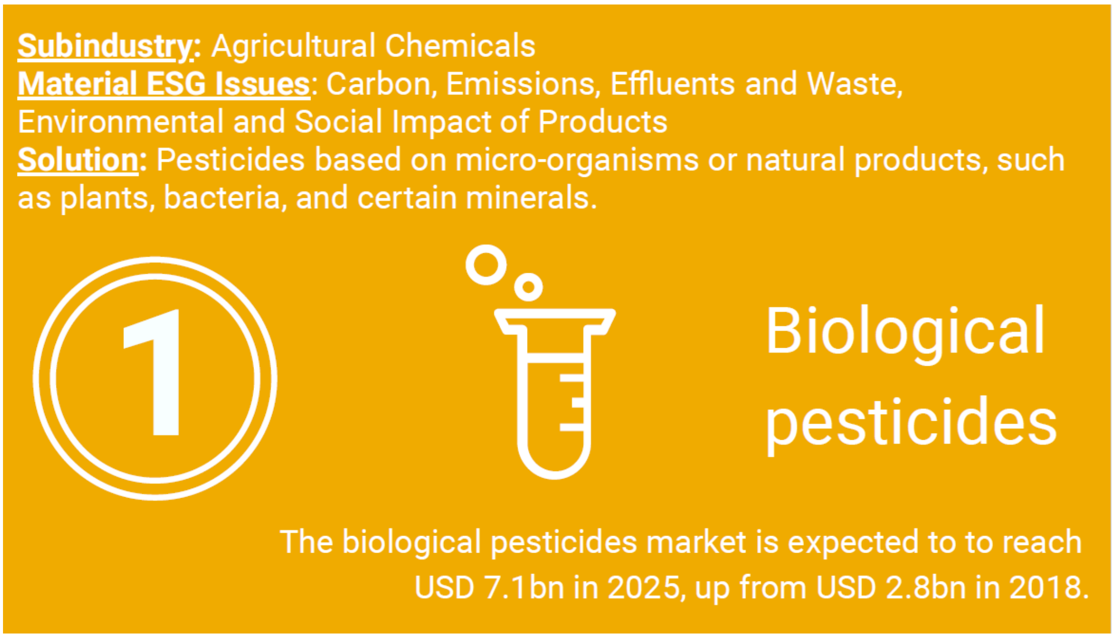
1.5.4 The Education of ESG	
2000	Annan launches the Global Compact initiative—which is a voluntary, corporate-citizenship effort that's based on a set of human rights, labor, environmental, and anticorruption principles. The Global Reporting Initiative launches and provides companies with international, independent standards on how to communicate their impact on issues such as climate change, human rights, and corruption.
2004	The Global Compact produces the landmark report "Who Cares Wins," providing recommendations on how to incorporate ESG issues into analysis, asset management, and securities brokerage. Today, more than 12,000 companies are Global Compact signatories.
2006	The United Nations' Principles for Responsible Investment is launched, an effort focused on encouraging further development of sustainable investing. PRI has at present gained more than 2,900 signatories from asset managers and institutional investors.
2009	The Global Impact Investing Network is launched. Born out of a Rockefeller Foundation meeting, the network spurs the idea of impact investing. This adds an influential element to investing, in addition to personal values as purpose. These focused investments aim to create an impact on society that wouldn't otherwise happen without the investment.

1.5.5 Putting ESG Into Action	
2010	As issues like climate change, labor practices, and environment degradation come to light, consumers are making purchasing decisions on these sustainability issues. It all adds up to great expectations for public companies to be good stewards of the environment, to attend to the well-being of all their stakeholders, and to govern themselves in an ethical and transparent way. ESG investments proliferate. But, as a developing practice, many methods are labeled "sustainable," and attempts to further regulate and construct standards continue.
2011	The Sustainability Accounting Standards Board forms with a mission to establish industry-specific standards for corporate reporting on ESG issues, aiming to help companies understand how to report these metrics. California, Washington, and New York state governments require disclosures on climate risk by insurers operating there.
2015	Paris Agreement is written and formed during the United Nations Framework Convention on Climate Change, as world leaders come to consensus in combating climate change and adapting to its impacts. The U.S. Department of Labor rules that pensions and plan sponsors can invest in socially responsible investments, so long as the investment is appropriate for the plan and economically and financially equivalent with respect to the plan's objectives, return, risk, and other financial attributes as competing investment choices.
2016	CalPERS, the largest public pension fund in the U.S., adopts a five-year plan to incorporate ESG principles into its investment process. The Paris Agreement officially goes into force when 55 nations representing at least 55% of global emissions formally join. At present, more than 187 countries have ratified the Paris Agreement.
2018	BlackRock founder and CEO Larry Fink publishes his annual letter to CEOs urging companies to position the long-term profitability of their businesses by keeping their focus on the role of the corporation in society. Companies focused on minimizing negative environmental and social impacts and accentuating positive ones will be rewarded by increasingly aware customers, will protect their brand, and will attract top talent, enabling them to better navigate the transition to an increasingly low-carbon and digital economy, Fink writes.

	The European Commission presents its sustainable finance action plan; it includes proposals for regulation of disclosures on sustainable investment and sustainability risks.
2019	Flows into U.S. sustainable funds top $20 billion as of December. That's more than quadruple the previous annual record for net flows for sustainable funds set in 2018. Nearly 500 actively-managed funds in the U.S. add ESG criteria to their prospectuses, formally conveying to investors that they may use ESG to inform their investment decisions.

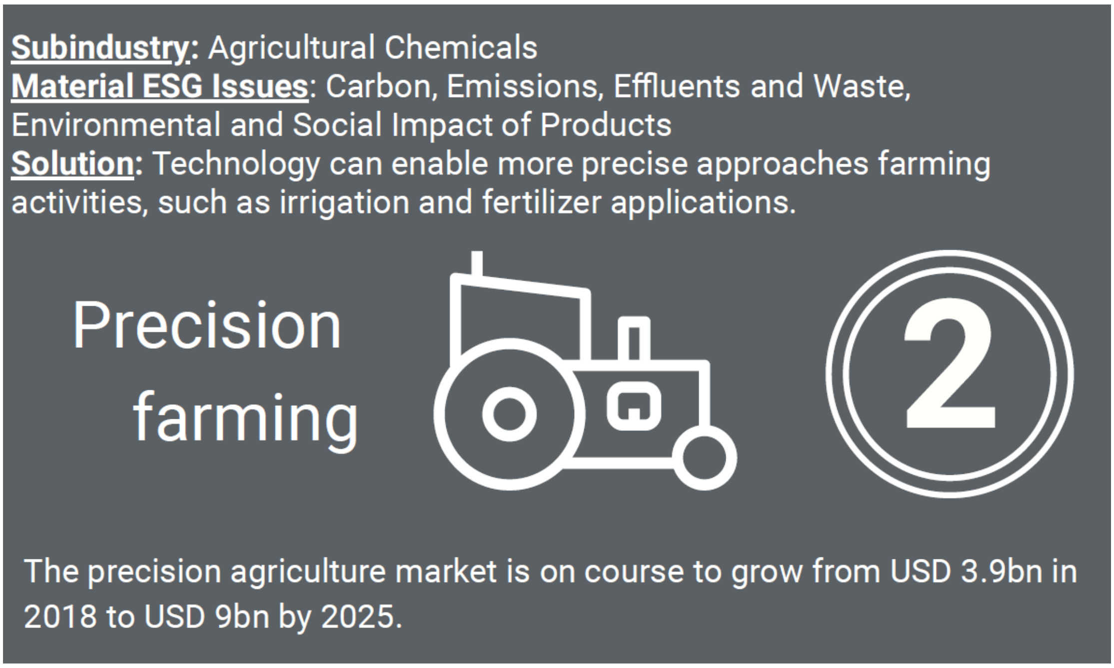
1.5.6 ESG During a Pandemic and Social Unrest	
2020	The coronavirus pandemic shook investors and markets to their core in 2020. The killings of George Floyd and other Black Americans highlight the need to address systemic racism. Evidence for climate change becomes clearer with increased frequency and devastation from natural disasters. Investors looking to make a difference with their money have sought ESG funds in record-breaking fund flows, and fund companies have noticed, leading to record-setting ESG fund launches. Global sustainable funds pull in $45.6 billion during the first quarter, compared to an outflow of $384.7 billion for the overall fund universe amid the coronavirus pandemic market sell-off. In Europe, flows into ESG funds add up to EUR 233 billion. European asset managers launch a record number of 505 new ESG funds and repurposed more than 250 conventional funds, bringing the total European sustainable funds universe to 3,196 funds. In the U.S., sustainable funds attract a record $51.1 billion in net flows, more than twice the previous record set in 2019. Sustainable fund flows account for nearly one fourth of overall flows into funds in the U.S.
2021	In his annual letter to CEOs, BlackRock founder and CEO Larry Fink argues that no company's business model won't be profoundly affected by the transition to a net-zero economy. He asks companies to a disclose a plan for how they will be compatible with a net-zero economy and to have this plan reviewed by their board of directors. Under the Biden administration, the U.S. Department of Labor says it won't enforce a Trump-era rule that limits the use of ESG funds in retirement plans regulated under ERISA, including 401(k) plans.

1.6 Sustainalytics: 10 Investing Themes for 2021



1.6.1 Biological Pesticides

Agrochemical companies can expose investors to ESG risks through the production and application of pesticides and fertilizers, which can result in impacts ranging from toxic emissions, effluents, and waste incidents to large carbon footprints. Certain pesticides (for example, glyphosate) have also been linked to harmful effects on human health because of their hazardous properties and inappropriate uses. Novozymes NVZMF has recently expanded its activities into microorganisms, which can replace or complement traditional fertilizers and pesticide products.



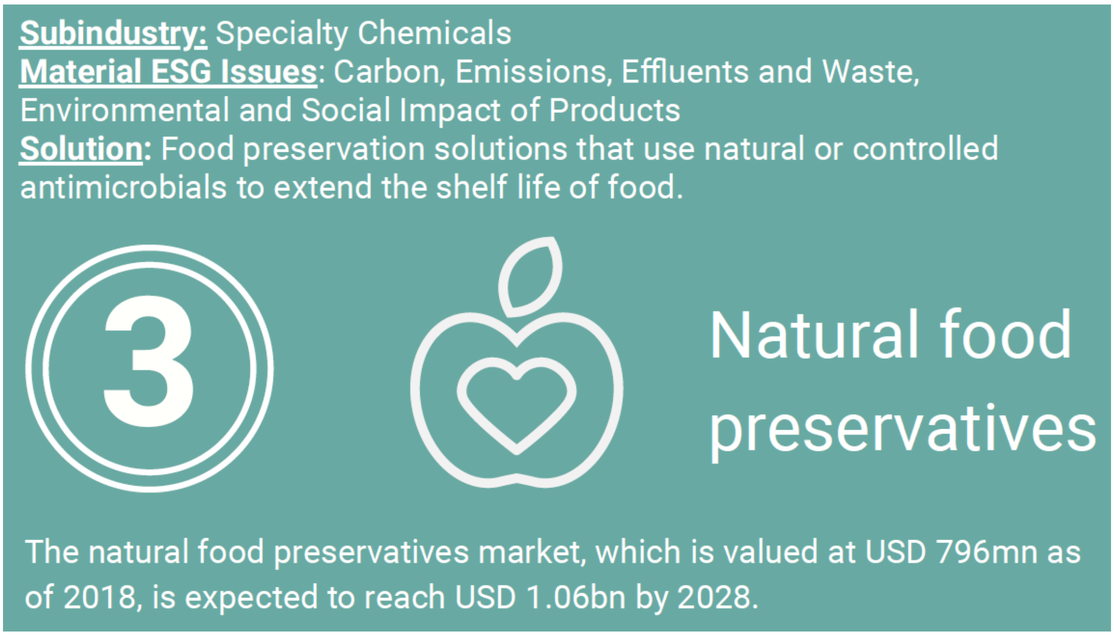
1.6.2 Leveraging Technology for Sustainable Agriculture

The integration of technology in agriculture plays a crucial role in promoting responsible practices by ensuring the judicious use of agricultural chemicals and scarce resources such as water, thereby mitigating the overuse of pesticides and fertilizers.

Precision agriculture represents a cutting-edge farming management approach that harnesses digital tools to monitor, assess, and analyze the unique requirements of individual fields and crops, optimizing production processes. This approach empowers farmers to consider soil variations and fine-tune their strategies for fertilization and pest control, resulting in reduced costs and minimized environmental impacts.

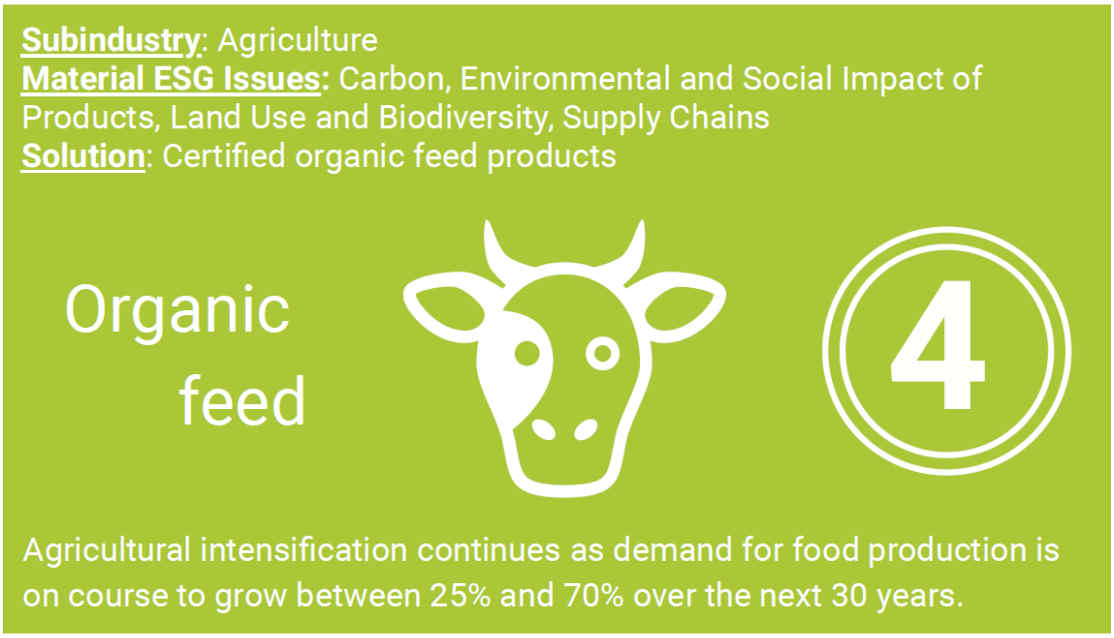
Companies like Yara (YRAIF) and Nutrien (NTR) distinguish themselves in terms of managing risk effectively and avoiding significant adverse events. These assessments, part of the MEI (Material ESG Integration) evaluation, consider ESG indicators related to policies and programs.

Both Yara and Nutrien offer biological alternatives and precision farming solutions, positioning them favorably to mitigate environmental and social risks while meeting the growing demand for sustainable alternatives to conventional agrochemical products.



1.6.3 Natural Food Preservatives

Agrochemical products play a major role in assuring food production worldwide. As agricultural land is limited, pesticides and fertilizers are valuable inputs to increase land productivity. While such inputs can help meet increasing demand for food, limiting their negative impacts on the environment and human health remains a challenge. DSM is collaborating with Syngenta on the joint development of microbials for crop protection agents.



1.6.4 Promoting Sustainable Agriculture for Soil Health and Profitability

Embracing organic farming and biodynamic approaches can play a pivotal role in preserving soil quality, minimizing the impact on biodiversity, and harnessing renewable energy sources. These practices have the potential to close several loops within the agricultural system and, surprisingly, may prove to be more financially rewarding than conventional farming methods.

Although organic farming practices are not the norm in the industry, certain food companies actively support regenerative farming practices aimed at enhancing soil health. These practices involve reducing chemical inputs, crop rotation, minimizing soil tillage, and utilizing crop residues as compost. In contrast, many agricultural companies have been slow to adopt such practices, despite their high exposure to potential risks. However, some of these companies do offer certified organic products or adhere to other sustainability standards. For instance, Archer-Daniels Midland (ADM), a global processor and trader of agricultural commodities, provides organic food and animal feed options to align with these sustainable farming principles.

1.6.5 Addressing Global Land Degradation for Sustainable Agriculture

Out of the world's 1.6 billion hectares of productive land dedicated to crop cultivation, a concerning one-third has suffered degradation due to erosive forces, nutrient depletion, acidification, pollution, and unsustainable land management practices. This degradation phenomenon extends across all continents, with regions experiencing varying degrees of stress or declining productivity, ranging from 12% in Europe to as high as 37% in Australia and Oceania, all attributable to mounting pressures on vegetated land.

The Intergovernmental Panel on Climate Change's special report on climate change underscores the consequences of land degradation, which leads to decreased productivity, restricted crop choices, diminished soil carbon absorption capacity, and reduced moisture retention. This cycle of degradation exacerbates climate change, in turn accelerating land deterioration, thus jeopardizing food production and global markets.

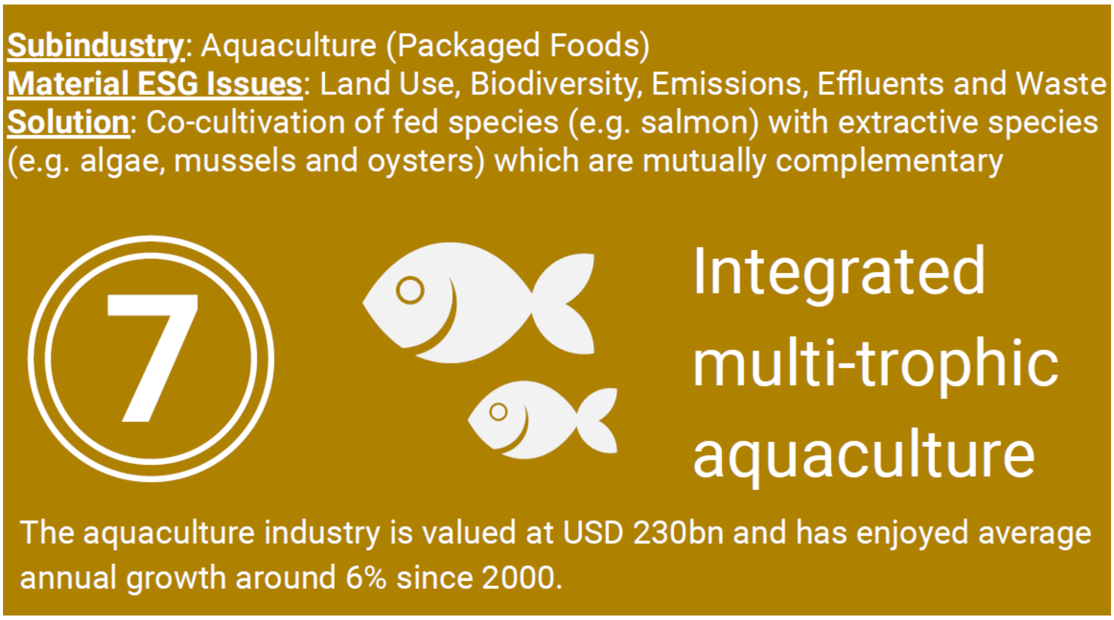
In response to these challenges, Olam International (OLMIY) takes proactive steps by offering certified sustainable products, including coffee and cocoa products endorsed by Rainforest Alliance and UTZ certifications, as well as Bonsucro-certified sugar. These sustainability initiatives align with the urgent need to combat land degradation and promote environmentally responsible agricultural practices.

1.6.6 Navigating the Sustainability Challenge in the Fishing Industry

The remarkable efficiency and expansion of the fishing sector have given rise to a critical situation, with some estimates suggesting that the global fishing capacity could theoretically capture the world's fish stocks four times over, resulting in substantial marine damage. The consequence of this rapid expansion is evident in the alarming prevalence of overfishing, with approximately 90% of global fish stocks now classified as overexploited, fully exploited, depleted, or on the brink of collapse. This insatiable consumption of this precious natural resource has outpaced its natural regeneration.

According to Planet Tracker, Japan, the world's largest fishing nation, witnessed a staggering 66% decline in seafood production from 1985 to 2017. The report also underscores the perilous risk to profits if overfishing and unsustainable fishing practices persist. Meanwhile, companies engaged in fish farming are actively seeking ways to reduce their reliance on wild fish stocks as primary feed ingredients.

Bakkafrost (BKFKF), with its vertically integrated model and robust supply chain control, emerges as a leading player in the realm of sustainable seafood production. Their approach positions them at the forefront of efforts to address the sustainability challenges faced by the fishing industry.



1.6.7 Pioneering Sustainable Aquaculture Innovations

Cutting-edge aquaculture systems are adopting innovative practices such as co-cultivation and natural solutions to achieve resource sustainability and minimize exposure to environmental risks. Some companies are transitioning to land-based and recirculation aquaculture techniques, effectively mitigating risks linked to physical climate change, rising sea temperatures, algal blooms, sea lice, and disease outbreaks.

Lerøy Seafood Group (LYSFF), in collaboration with the Bellona Foundation, has established Ocean Forest, a pioneering venture dedicated to ocean farming that embraces a regenerative approach. This initiative represents a significant stride in the quest for sustainable and environmentally responsible aquaculture practices.

1.6.8 Regulatory Initiatives Promoting Sustainable Packaging

Regulators are playing an increasingly pivotal role in steering companies towards sustainable packaging practices. They are mandating the adoption of packaging materials with higher recycled content and greater recyclability, while discouraging the use of single-use plastics. In several countries and local jurisdictions, bans and pricing mechanisms for thin, single-use plastic bags have already been implemented, yielding promising outcomes.

Building on these efforts, the European Union (EU) is set to enforce a ban starting in 2021 on single-use plastic products for which alternatives are readily available in the market. Similarly, the United Kingdom will introduce a tax in 2022 on plastic packaging containing less than 30% recycled materials.

Furthermore, regulatory measures are addressing gaps in the current consumption cycle. The EU Landfill Directive, for instance, mandates reductions in biodegradable municipal waste, while an increasing number of Chinese cities are instituting mandatory garbage sorting requirements.

Leading the way in this drive for sustainable packaging is Tesco (TSCDF), which is taking proactive steps to reduce plastic use in its stores. This includes the removal of ready-meal trays, yogurt container lids, and straws, reflecting the company's commitment to minimizing its environmental footprint.

1.6.9 Addressing Inefficiencies and Waste in the Food Value Chain

Inefficiencies within the food value chain can significantly impact a company's cost structure, resulting in missed revenue opportunities and potentially eroding margins and shareholder returns. Of even greater concern are the environmental and social challenges posed by food and packaging waste, which encompass issues ranging from global hunger and the unsustainable depletion of natural resources to water scarcity, biodiversity depletion, and climate change. For investors, these challenges translate into portfolio risks, as they can exert downward pressure on companies' costs, revenues, and overall reputation.

Looking ahead, Starbucks (SBUX) has set ambitious sustainability targets. By 2030, the company aims to achieve a remarkable 50% reduction in waste sent to landfills, encompassing waste generated across its stores and manufacturing facilities. This proactive approach underscores Starbucks' commitment to minimizing its environmental footprint and ensuring a more sustainable future.

1.6.10 Addressing Food Waste: An Investment Opportunity Aligned with Sustainability Goals

In the realm of humanitarian considerations surrounding poverty and hunger, tackling the problem of food waste can serve as a foundational element of an investment thesis for asset managers who are dedicated to impact investing aligned with the UN Sustainable Development Goals. However, it's crucial to recognize that food security is not solely a concern for impact-focused investors; it's also a significant issue for mainstream fiduciary investors. This is because food security has the potential to impact macroeconomic stability and geopolitical dynamics.

A notable pioneer in this effort is Tesco, which became the first food retailer in the United Kingdom to disclose year-on-year food-waste data, including information on the quantity of redistributed food surplus. This transparency underscores Tesco's commitment to addressing food waste and promoting a more sustainable and equitable food ecosystem.