CHAPTER 1
INTRODUCTION TO ESG INVESTING

There was a time when environmental, social and governance (ESG) issues were the niche concern of a select group of ethical or socially responsible investors. That time is long gone.

The consideration of ESG factors is becoming an integral part of investment management. Asset owners and investment managers are developing ways to incorporate ESG criteria into investment analysis and decision-making processes. The emergence of responsible investment proponents, such as the **United Nations Principles for Responsible Investment (PRI)**, has encouraged a fundamental change in investment practices whereby investors explicitly employ ESG factor analysis to enhance returns and better manage risks. Societal and client pressure – and the growing evidence of the direct financial benefits of incorporating ESG analysis – has led integration to become more mainstream.

This chapter provides an overview of the concept of ESG as well as the different types of responsible investment, and their implications. It highlights the main benefits of integrating ESG factors and identifies ways in which ESG investing is implemented in practice.

ESG investing sits within a broader context of sustainability; this chapter also highlights a number of key initiatives in the business and investment communities that seek to assist all parties to navigate the associated challenges.

CHAPTER 1
INTRODUCTION TO ESG INVESTING

1 WHAT IS RESPONSIBLE INVESTMENT?

1.1.1	Define ESG.
1.1.2	Define the following sustainability-based concepts in terms of their strengths and limitations: Corporate Social Responsibility; triple bottom line (TBL) accounting.

ESG investing is an approach to managing assets where investors explicitly acknowledge the relevance of **environmental, social and governance (ESG)** factors in their investment decisions, as well as their own role as owners and creditors, with the long-term return of an investment portfolio in mind.

In other words, ESG investing aims to correctly price social, environmental and economic risks and opportunities.

Table 1.1: **ESG FACTORS DEFINED**

	ENVIRONMENTAL FACTORS	SOCIAL FACTORS	GOVERNANCE FACTORS
Definition	These are the factors pertaining to the natural world. These include the use of, and interaction with, renewable and non-renewable resources (e.g. water, minerals, ecosystems and biodiversity).	These are the factors that affect the lives of humans. The category includes the management of human resources, local communities and clients.	These are the factors that involve issues inherent to the business model or common practice in an industry, as well as the interest of broader stakeholder groups.

The definition and scope of ESG

There is no standard across the industry on how to break down environmental, social and governance issues. It is common for each investor, or business, to define each of the three factors into a different number of issues, which may more or less overlap with each other. Examples of the definition and scope of ESG issues can be illustrated by the following two widely-referenced organisations.

Table 1.2: **EXAMPLES OF ESG ISSUES**

ENVIRONMENTAL	SOCIAL	GOVERNANCE
• Climate change • Resource depletion • Waste • Pollution • Deforestation	• Human rights • Modern slavery • Child labour • Working conditions • Employee relations	• Bribery and corruption • Executive pay • Board diversity and structure • Political lobbying and donations • Tax strategy

Source: PRI.[1]

Figure 1.1: **YOUR GUIDE TO ESG REPORTING**

Source: FTSE Russell. [2]

ESG investing also recognises that the generation of long-term sustainable returns is dependent on stable, well-functioning and well-governed social, environmental and economic systems.

Ultimately, ESG investing recognises the two-way relationship between social and environmental and governance issues and investment. It acknowledges that:

- social, environmental as well as governance issues may impact the risk, volatility and long-term return of securities (as well as markets); and
- investments can have both a positive and negative impact on society and the environment.

Corporate social responsibility

The concept of ESG investing is closely related to the concept of investees' **corporate sustainability**. Related to this, **corporate social responsibility (CSR)** is a broad business concept that describes a company's commitment to conducting its business in an ethical way. Throughout the 20th century and until recently, many companies implemented CSR by contributing to society through philanthropy. While this may indeed have a positive impact on communities, modern understanding of CSR recognises that a principled behaviour approach can play a strategic role in a firm's business model. This led to the theory of **triple-bottom line accounting**.

The triple-bottom line accounting theory expands the traditional accounting framework focused only on profit to include two other performance areas: the social and environmental impacts of a company. These three bottom lines are often referred to as the three Ps:

1. people;
2. planet; and
3. profit.

While the term and concept are useful to know, including for historical reasons, they have been replaced in the industry with a broader framework of sustainability that is not restricted to accounting.

Effective management of the company's sustainability can:

- reaffirm the company's license to operate in the eyes of governments and civil society;
- increase efficiency;
- attend to increasing regulatory requirements;
- reduce the probability of fines;
- improve employee satisfaction and productivity; and
- drive innovation and introduce new product lines.

ESG investing recognises these benefits and aims to consider them in the context of security/asset selection and portfolio construction.

There are many organisations and institutions contributing to the further exploration of interactions between society, environment, governance and investment. This curriculum focuses on how professionals in the investment industry can better understand, assess and integrate ESG issues when conducting stock selection, portfolio construction and engagement with companies.

2. TYPES OF RESPONSIBLE INVESTMENT

1.1.3	Define the different approaches to ESG investing, their characteristics and the role that ESG plays in each of them: responsible investment; socially responsible investment (SRI); sustainable investment; best-in-class investment; ethical/values-driven investment; thematic investment; impact investment; green investment; social investment; shareholder engagement.

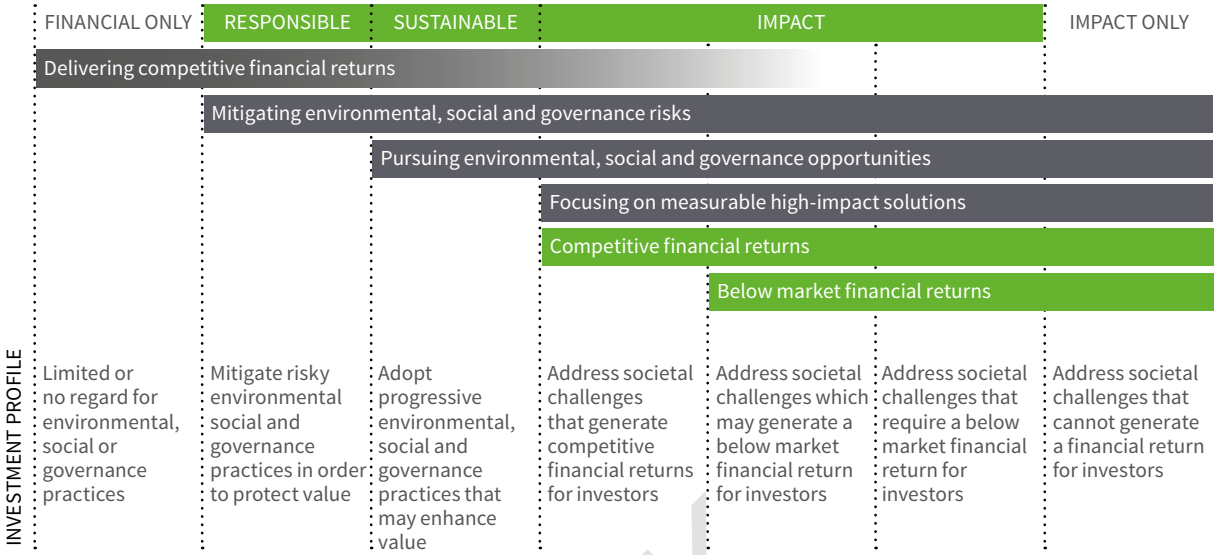
ESG investing is part of a wider concept of responsible investment. While ESG investing is concerned with how ESG issues can impact the long-term return of assets and securities, responsible investment also considers non-financial value creation and reflects investor and beneficiary values in an investment strategy. Responsible investment is an umbrella term for the various ways in which investors can consider environmental, social and governance within security selection and portfolio construction. As such, it may combine financial with non-financial outcomes and complements traditional financial analysis and portfolio construction techniques. While there is no standard set of criteria for identifying responsible investment, the main investment profiles are presented in this section to demonstrate the wide spectrum of different types of responsible investment.

All forms of responsible investment, except for engagement, are ultimately related to portfolio construction (in other words, which securities a fund holds). Engagement, both by equity owners and bond holders, concerns whether and how an investor tries to encourage and influence an issuer's behaviour on ESG matters. There is no standard classification in the industry; types of responsible investment overlap and evolve over time.

Figure 1.2 illustrates some of the conceptual differences between these approaches and how they range from strictly 'finance-only' investment, with no consideration of ESG factors, to the other end of the spectrum, where the investor may be prepared to accept returns below market in exchange for the high positive impact the projects and companies in the portfolio deliver. As investors move towards the right-hand side of the spectrum,

they are increasingly interested in aligning their capital with ESG-related investment opportunities, in order to capture associated financial returns and/or to have a positive impact by financing solutions to societal challenges.

Figure 1.2 A SPECTRUM OF CAPITAL



Source: Organisation for Economic Co-operation and Development (OECD)[3]

Responsible investment

Responsible investment is a strategy and practice to incorporate environmental, social and governance (ESG) factors into investment decisions and active ownership. It considers both how ESG might influence the risk-adjusted return of an asset and the stability of an economy, as well as how investment in and engagement with assets and investees can impact society and the environment.

Socially responsible investment

Socially responsible investment (SRI) refers to approaches that apply social and environmental criteria in evaluating companies.

Investors implementing SRI generally score companies using a chosen set of criteria, usually in conjunction with sector-specific weightings. A hurdle is established for qualification within the investment universe, based either on the full universe or sector-by-sector. This information serves as a first screen to create a list of ESG-qualified companies.

SRI ranking can be used in combination with best-in-class investment, thematic funds, high-conviction funds or quantitative investment strategies.

Best-in-class investment

Best-in-class investment involves selecting only the companies that overcome a defined ranking hurdle, established using ESG criteria within each sector or industry. Typically, companies are scored on a variety of factors that are weighted according to the sector. The portfolio is then assembled from the list of qualified companies.

Due to its all-sector approach, best-in-class investment is commonly used in investment strategies that try to maintain certain characteristics of an index. In these cases, security selection seeks to maintain regional and sectorial diversification and a similar profile to the parent market cap index, while targeting companies with higher ESG rating. The tracking error for MSCI World SRI, which is designed to represent the performance of companies with high ESG rating and employs a best-in-class selection approach to target the top 25%

companies in each sector, is only 1.79% (see Table 1.3).

Table 1.3: **CHARACTERISTICS OF AN SRI INDEX UTILISING A BEST-IN-CLASS APPROACH**

SECTOR	PARENT INDEX (%)	SRI INDEX (%)	REGION	PARENT INDEX (%)	SRI INDEX (%)	ESG RATING	PARENT INDEX (%)	SRI INDEX (%)
Information technology	18.1	19.6	USA	63.8	60.7	Leader	24	67
Financials	15.4	14.6	Japan	8.1	7.5	Average	65	33
Healthcare	12.9	13.4	UK	5.3	–	Laggard	10	0
Industrials	11	11.1	Canada	3.4	3.8			
Consumer discretionary	10.3	10.9	France	3.7	4.3			
Consumer staples	8.3	10.0	Other	15.7	19.2			
Communication services	8.5	4.5						
Materials	4.2	4.9						
Energy	4.5	4.4						
Utilities	3.6	3.2						
Real estate	3.3	3.6						

Source: MSCI.[4]

Sustainable investment

Sustainable investment refers to the selection of assets that contribute in some way to a sustainable economy, i.e. an asset that minimises natural and social resource depletion. It is a broad term that may be used for the consideration of typical ESG issues, and may include best-in-class. It can also include ESG integration, which considers how ESG issues impact a security's risk and return profile. It is further used to describe companies with positive impact or companies that will benefit from sustainable macro-trends.

The term 'sustainable investment' can also be employed to mean a strategy that screens out activities considered contrary to long-term environmental and social sustainability, such as coal mining or exploring for oil in the Arctic regions.

Thematic investment

Thematic investment refers to selecting companies that fall under a sustainability-related theme, such as clean-tech, sustainable agriculture, healthcare or climate change mitigation.

Thematic funds pick companies within various sectors that are relevant to the theme. A smart city fund, for example, might invest in companies offering activities or products related to electric vehicles, public transportation, smart grid technology, renewable energy and green buildings.

Bear in mind, though, that not all thematic funds are considered to be 'responsible investments'. Becoming one not only depends on the theme of the fund, but also on the ESG characteristics of the investee companies.

Green investment

Green investment refers to allocating capital to assets that mitigate:

- climate change;
- biodiversity loss;
- resource inefficiency; and
- other environmental challenges.

These can include:

- low-carbon power generation and vehicles;
- smart grids;
- energy effciency;
- pollution control;
- recycling;
- waste management and waste of energy;
- process innovation; and
- other technologies and processes that contribute to solving particular environmental problems.

Green investment can thus be considered a broad sub-category of thematic investing and/or impact investing. Green bonds, a type of fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects, are commonly used in green investing.

→ *Further details on green investing and green bonds can be found in Chapter 3.*

Social investment

Social investment refers to allocating capital to assets that address social challenges. These can be products that address the bottom of the pyramid (BOP). BOP refers to the poorest two-thirds of the economic human pyramid, a group of more than four billion people living in poverty. More broadly, BOP refers to a market-based model of economic development that seeks to simultaneously alleviate poverty while providing growth and profits for businesses serving these communities. Examples include:

- micro-finance and micro-insurance;
- access to basic telecommunication;
- access to improved nutrition and healthcare; and
- access to (clean) energy.

Social investing can also include social impact bonds, which is a mechanism to contract with the public sector which pays for better social outcomes in certain services and passes on part of the savings achieved to investors.

Impact investment

Impact investing refers to investments made with the specific intent of generating positive, measurable social and environmental impact alongside a financial return (which differentiates it from philanthropy). These are usually associated with direct investments, such as in private debt, private equity and real estate.

Impact investments can be made in both emerging or developed markets, and target a range of returns from below-market to market rate, depending on investors' strategic goals. It provides capital to address the world's most pressing challenges, investing in projects and companies that, for example:

- offer access to basic services, including housing, healthcare and education;
- promote availability of low-carbon energy;
- support minority-owned businesses; and
- conserve natural resources.

Measurement and tracking of the agreed-upon impact generally lies at the heart of the investment proposition.

Impact investors have diverse financial return expectations. Some intentionally invest for below-market-rate returns in line with their strategic objectives. Others pursue market-competitive and market-beating returns, sometimes required by fiduciary responsibility. The Global Impact Investing Network (GIIN) estimates the size of the global impact investing market to be US$502 billion (£393bn); its 2019 annual survey[5] indicated that 66% of investors in impact investing pursue competitive, market-rate returns.

Ethical/value-driven and faith-based investment

Ethical (also known as value-driven) and faith-based investment refers to investing in line with certain principles, usually using negative screening to avoid investing in companies whose products and services are deemed morally objectionable by the investor or certain religions, international declarations, conventions and voluntary agreements. Typical exclusions include:

- tobacco;
- alcohol;
- pornography;
- weapons;
- nuclear power; and
- significant breach of agreements, such as the **Universal Declaration of Human Rights** or the International Labour Organization (ILO)'s **Declaration on Fundamental Principles and Rights at Work**.

From religious individuals to large religious organisations, faith-based investors have a history of shareholder activism to improve the conduct of investee companies. Another popular strategy is portfolio building with a focus on screening out the negative; in other words, avoiding 'sin stocks' or other assets at odds with their beliefs.

Below are a few examples of faith-based negative screening.

Catholic

Investors wishing to put their money to work in a manner consistent with Catholic values seek to avoid investing in firms that:

- facilitate abortion, contraceptives or embryonic stem-cell research; or
- are involved in the production and sales of weapons.

They often favour firms that support human rights, environmental responsibility and fair employment practices via the support of labour unions.

Shariah

Investors seeking to follow Islamic religious principles cannot:

- invest in firms that profit from alcohol, pornography or gambling;
- invest in companies that carry heavy debt loans (and therefore pay interest);
- own investments that pay interest;
- liaise with firms that earn a substantial part of their revenue from interest; and
- invest in pork-related businesses.

Table 1.4: **NEGATIVE SCREENING STRATEGIES**

NEGATIVE SCREENING	CATHOLIC FUNDS	PROTESTANT FUNDS	ISLAMIC FUNDS	SRI FUNDS
Alcohol	✓	✓	✓	✓
Gambling	✓	✓	✓	✓
Tobacco	✓	✓		✓
Pornography	✓	✓	✓	
Pork products			✓	
Interest-based financial services			✓	
High leverage companies			✓	
Anti-family entertainment	✓	✓		
Marriage lifestyle	✓	✓		
Abortion	✓	✓		
Human rights	✓	✓		✓
Workers' rights	✓	✓		✓
Bioethics	✓	✓		
Weapons	✓	✓	✓	✓

Source: Inspire Investing.[6]

Shareholder engagement

Shareholder engagement reflects active ownership by investors in which the investor seeks to influence a corporation's decisions on matters of ESG, either through dialogue with corporate officers or votes at a shareholder assembly (in the case of equity). It is seen as complementary to the before-mentioned approaches to responsible investment as a way to encouraging, and hopefully succeeding, in getting companies to act more responsibly. Its efficacy usually depends on:

- the scale of ownership (of the individual investor or the collective initiative);
- the quality of the engagement dialogue and method used; and
- whether divestment is known to be a possible sanction.

→ *For further details on the process of engagement, see Chapter 6.*

3 WHY INTEGRATE ESG?

1.1.4	Describe the benefits and challenges to organisations of adhering to good practice in ESG and the arguments in relation to financial system stability and effectiveness.
1.1.5	Explain in outline the materiality of ESG issues in terms of their key characteristics, risks and impact that they can cause: Environmental: climate change, infrastructure, natural resources, nuclear energy, sustainability; Social: human capital, culture, customer engagement, demographical and social change; Governance: employee relations, management structure, executive remuneration; Disclosure and regulation; Technological disruption; Globalisation of value chains; Changes to the distribution and transfer of wealth.
1.1.6	Explain the different ESG megatrends, their systemic nature and potential impact on companies and company practices.

There is a range of beliefs about the purpose and value, both to investors and to society more broadly, of integrating ESG considerations into investment decisions. Some of the main reasons for integrating ESG are detailed in this section.

Financial materiality

One of the main reasons for ESG integration is recognising that ESG investing can reduce risk and enhance returns, as it considers additional risks and injects new and forward-looking insights into the investment process. ESG integration may therefore lead to:

A. reduced cost and increased efficiency;
B. reduced risk of fines;
C. reduced externalities; and
D. improved adaptability to sustainability megatrends.

Each of these is described in the following in greater detail.

A. Efficiency and productivity

Sustainable business practices build efficiencies by conserving resources, reducing costs and enhancing productivity. Sustainability was once perceived by businesses and investors as requiring sacrifices, but the perception today is very different. Significant cost reductions can result from improving operational efficiency through better management of natural resources like water and energy, as well as from minimising waste.

Research conducted by McKinsey[7] found that resource efficiency can affect operating profits by as much as 60%, and that more broadly, resource efficiency of companies across various sectors is significantly correlated with the companies' financial performance. A study[8] analysing data from the global climate database provided by CDP (formerly Climate Disclosure Project) estimated that companies experience an average internal rate of return of 27% to 80% on their low-carbon investments.

A strong ESG proposition can help companies attract and retain quality employees, and enhance employee motivation and productivity overall. Employee satisfaction is positively correlated with shareholder returns. The London Business School's Alex Edmans found that the companies that made Fortune's *100 Best Companies to Work For* list generated 2.3% to 3.8% higher stock returns per year than their peers over a greater than 25-year horizon.[9]

Case studies

Savings from efficiency measures

The Dow Chemical Company

Between 1994 and 2010, The Dow Chemical Company invested nearly US$2bn (£1.6bn) in improving resource efficiency, and saved US$9.8bn (£7.7bn) from reduced energy and wastewater consumption in manufacturing.[10] The company's long-established focus on resource efficiency cost reductions enabled it to achieve savings of US$31 million (£24.3m) on its raw materials alone (compared to a net income of approximately US$4bn (£3.1bn)) in 2018.

General Electric

In 2013, General Electric reduced its greenhouse gas emissions by 32% and water use by 45% compared to the 2004 and 2006 baselines, respectively. This resulted in savings of US$300m (£235m).[11]

Walmart

Within ten years, Walmart improved the fuel efficiency of its fleet by approximately 87% through better routing, cargo loading and driver training. In 2014 alone, these improvements resulted in avoiding 15,000 metric tons of CO_2 emissions and savings of nearly US$11m (£8.6m).[10]

Nike

Almost half (40%) of Nike's footwear manufacturing waste is generated by cutting scraps from materials such as textiles, leather, synthetic leather and foams. In 2018, modern cutting equipment, which can achieve smaller gaps between cut parts than traditional die-cutting can, were deployed to various factories. The estimated value of savings was US$12m (£9.4m) (compared to their net income of US$1.1bn (£0.9bn)) and nearly 1.2m kilograms of material for that fiscal year.[12]

B. Reduced risk of fines and state intervention

With all the discussion regarding climate change, dwindling energy resources and environmental impact, it is no surprise that state and federal government agencies are enacting regulations to protect the environment. Integrating sustainability into a business will position it to meet changing regulations in a timely manner. For example, the UN Environment Programme's 2019 report[13] found that despite a 38-fold increase in environmental laws put in place since 1972, while enforcement remains weak today, significant events are indeed fined and the level of enforcement could quickly change with little notice to investors.

Analysis conducted by McKinsey[7] calculated that, typically, one-third of corporate profits are at risk from state intervention (not only fines). For pharmaceuticals, the profits at stake are about 25 to 30%, and for the automotive, banking and technology sectors, where government subsidies (among other forms of intervention) are prevalent, the value at stake can reach 60%.

Table 1.5: **ESTIMATED SHARE OF EBITDA AT STAKE**

ESTIMATED SHARE OF EBITDA AT STAKE		FOR EXAMPLE
Banks	50–60%	Capital requirements, systemic regulation ("too big to fail") and consumer protection
Automotive, aerospace and defence, technology	50–60%	Government subsidies, renewable regulation and carbon-emissions regulation
Transport, logistics, infrastructure	45–55%	Pricing regulation and liberalisation of sector
Telecom and media	40–50%	Tariff regulation, interconnection, fibre deployment, spectrum and data privacy
Energy and materials	35–45%	Tariff regulation, renewables subsidies, interconnection and access rights
Resources	30–40%	Resource nationalism, mineral taxes, land-access rights, community reach and reputation
Consumer goods	25–30%	Obesity, sustainability, food safety, health and wellness, and labelling
Pharmaceuticals and healthcare	25–30%	Market access, regulation of generic drugs, pricing, innovation funding and clinical trials

Source: McKinsey Quarterly.[7]

Case studies

Major fines

BP and Deepwater Horizon

The biggest corporate fine to date was levied against BP in the wake of the 2010 Deepwater Horizon oil spill in the Gulf of Mexico, the largest in history. BP settled with the US Department of Justice for US$20.8bn (£16.3bn) in 2016;[14] total compensation ultimately paid out by the company reportedly exceeded US$65bn (£51bn).

Financial crisis and the Bank of America

Several of the largest fines have hit the financial services industry, a direct result of the scrutiny facing banks in the wake of the financial crisis. These include the second highest, US$16.65bn (£13bn) fine paid by Bank of America in 2014[15] for its role in the subprime loan crisis. Just two years before that, the bank had agreed to a US$11.8bn (£9.2bn) settlement with the US federal government over foreclosure abuses.

Volkswagen's emissions scandal

The third largest fine was paid by Volkswagen, which, in 2016, faced US$14.7bn (£11.5bn) in civil and criminal penalties from the USA in the wake of its scandal over emissions cheating.[16] The scandal dampened the hype of diesel as a fuel for the future. Today, most major automotive companies are directing their current (and future) investments towards electric cars while striving to meet increasingly aggressive emissions targets.

C. Reduced negative externalities

The term **externalities** refers to situations where the production or consumption of goods and services creates costs or benefits to others that are not reflected in the prices charged for them. In other words, externalities include the consumption, production and investment decisions of firms (and individuals) that affect people not directly involved in the transactions. Externalities can either be negative or positive.

The concept of externality, though central to the concept of sustainability and responsible investment, dates back to 1920, having been introduced by Cambridge Professor Arthur Pigou in his book *The Economics of Welfare*. Externalities often occur when the production or consumption of a product or service's private price equilibrium cannot reflect the true costs or benefits of that product or service for society as a whole.

Example

Pollution

In the case of pollution, a polluter makes decisions based only on the direct cost and profit opportunity associated with production and does not consider the indirect costs to those harmed by the pollution. These indirect costs – which are not borne by the producer or user – may include decreased quality of life, higher healthcare costs and forgone production opportunities, for example when pollution harms activities, such as tourism.

Professor William Nordhaus, who was recently awarded the Nobel Prize for his work on the externality of climate change, developed a model to measure the impact of environmental degradation on economic growth and thus, created a price for carbon pollution. However, externalities can also be due to social factors, for example when companies fail to pay a living wage or submit their employees to poor working conditions.

In short, when externalities are **negative**, private costs are lower than societal costs, resulting in market outcomes which may not be efficient or, in other words, leading to 'market failures'.

For that reason, externalities are among the main reasons governments intervene in the economic sphere.[17] Even back in the 1920s, British economist Arthur Pigou suggested that governments should tax polluters an amount equivalent to the cost of the harm incurred by others. Such a tax would yield the market outcome that would have prevailed with adequate internalisation of all costs by polluters. As environmental and social regulation and taxation rise, it is expected that an increasing proportion of this cost might be forced into companies' accounts.

In the social sphere, recent developments in the interpretation of the **OECD Guidelines for Multinational Enterprises**[18] and the **UN Guiding Principles for Business and Human Rights**[19] – clarifying that these instruments apply to investors and give rise to responsibility for conducting human rights' due diligence on investments – are in effect paving the way for more formal internalisation of social costs in hard law.[20]

Internalisation can happen in various ways. Taking the transportation industry by way of example, internalisation can happen through:

- market-based instruments, e.g. charges, taxes and tradable permits;
- regulatory instruments, e.g. vehicle emission and safety standards, traffic restrictions; or
- voluntary instruments, e.g. agreements with the car industry to reduce CO_2 emissions from new passenger cars.

Understanding the risks posed by 'externalised' environmental and social costs in the real economy is central to the practice of investment, as the internalisation of these externalities could significantly impact the costs and profits of companies' products and services, affecting their bottom line. The uncertainty surrounding the timing and extent of internalisation is a critical component of the overall risk landscape facing investors.

Beyond affecting companies' financial performance, these externalities can also have a drag on the wider economy, potentially affecting the total return investors may achieve in the long term. A study[21] by an environmental consulting company found that the top 3,000 publicly traded companies were responsible for US$2.15tn (£1.7tn) worth of environmental damage in 2008, and that global environmental damage was set to cost an estimated US$28tn (£22tn) by 2050. Environmental harm was found to be a material risk that could significantly affect the value of capital markets and global economic growth.

Case studies

Air travel and carbon emissions

Air travel is currently the source of around 2.5% of global CO_2 emissions, but it is estimated to grow by 300% by 2050. For that reason, the European Commission (EC) has been assessing and advocating for the internalisation of externalities associated with transportation for many years.

In 2010, the European Union (EU) expanded the scope of its Emissions Trading System (ETS) to include aviation.[22] The EU-ETS for aviation requires all non-commercial operators who travel into, out of and between EU and European Economic Area (EEA) Member States to monitor their CO_2 flight emissions, and purchase carbon allowances equal to the emissions on intra-EU flights when emitting more than 1,000 tonnes of CO_2 under the full scope (in, out and within the EU).

In 2019, the Ministers of Finance of the Netherlands, Germany, France, Sweden, Italy, Belgium, Luxembourg, Denmark and Bulgaria asked the EC to introduce a measure to offset the CO_2 emissions of planes.

A report[23] from the independent research and consultancy organisation CE Delft shows that tax exemptions for the aviation sector lead to:

- higher passenger demand;
- aviation sector growth (in terms of both jobs and value added); and
- more flights.

The report also shows that a tax could result in a 10% increase in average ticket price and an 11% decline in passenger demand, but on the other hand, CO_2 emissions would decrease by 11%.

	Current situation	Abolition of ticket tax		Introducing VAT on all tickets (19%)		Introducing fuel excise duty	
Impacts in the aviation sector	Value	Value	Change	Value	Change	Value	Change
Passenger demand (million)	691.5	718.5	+4%	570.4	–18%	616.0	–11%
Average ticket price (€)	304	293	–4%	358	+17%	333	+10%
Number of flights and connectivity			+4%		–18%		–11%
Employment (1,000 FTE)	362	376	+4%	296	–18%	321	–11%
Value added (€ billion)	43.4	45.1	+4%	35.6	–18%	38.5	–11%
CO_2 emissions (Mton)	149.5	155.3	+4%	123.3	–18%	133.1	–11%
People affected by noise (1,000)	2,851.5	2,919.8	+2%	2,495.9	–12%	2,637.1	–8%
Aviation-related fiscal revenue (€ billion)	10.0	2.6	–74%	39.9	+297%	26.9	+168%

Sweden and France have acted unilaterally:[24] Sweden introduced a SEK60 to SEK400 (£5 to £32) carbon tax for all airline passengers in April 2018, while France introduced a levy of €1.50 (£1.25) to be charged on domestic and intra-European flights. In addition, France will charge €3 (£2.50) on flights outside the EU. A business class seat on a flight in the EU will include a €9 (£7.60) eco-charge from 2020, while a longer flight in business class will be €18 (£15.15) more expensive. The French government estimates that the 'eco-tax' will raise €180m (£151m) a year from flights which will be invested in other forms of transport like trains, according to the transport ministry.

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Case studies

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Air France has already said they expect the eco-tax to cost them an extra €60m (£50m) a year,[24] which is believed to have encouraged them to buy more efficient planes in order to negotiate with the government. Price sensitivity for passengers is relatively low, however, and the tax is deemed more of a symbolic first step. It's been a practice employed in the past by governments to start environment-related taxes low and get people used to the idea before increasing them.

For example, the UK's landfill tax, introduced in 1996, started at £7 per tonne of waste deposited, but now stands at £91.35 per tonne,[24] an effective deterrent.

D. Sustainability megatrends

1.1.6 Explain the different ESG megatrends, their systemic nature and potential impact on companies and company practices

This idea also recognises the implications of the so-called **sustainability megatrends**. Business leaders, investors, economists and governments are increasingly recognising the economic implications of:

- social challenges (such as increasing income inequality, poverty, and human and labour rights abuses); and
- environmental issues (such as climate change, biodiversity loss and resource scarcity).

These factors have interacted with:

- the aftermath of the financial crisis;
- ageing populations;
- the rise of emerging countries; and
- rapid technological changes.

This interaction increases the complexity, but also the impact, that the social and environmental challenges have on the growth and profitability of sectors and businesses.

These is no agreement about what these megatrends are and how many of them exist. Four, which are widely recognised across governments and businesses, are put forward.

Emerging and urban

The locus of economic activity and dynamism is shifting to emerging markets and to cities within those markets, which are going through industrial and urban revolutions simultaneously. While, until recently, 97% of the Fortune Global 500 were headquartered in developed economies, nearly half of the world's large companies are expected to be headquartered in emerging markets by 2025. Nearly half of global gross domestic product (GDP) growth between 2010 and 2025 will come from 440 cities in emerging markets – 95% of them small and medium-size cities.[25] That will impact not only where headquarters are, but also supply chains and their workforces, and the expectation of the local communities as well as where new consumers come from.

Technological disruption

Technology has always had the power to change behaviour and expectations. What is new is the speed of change. It took 76 years for the telephone to penetrate half of all US households. The smartphone has achieved the same in less than a decade.[26] Accelerated adoption invites accelerated innovation. By 2014, seven years after the iPhone's launch, the number of applications created had hit 1.2 million, and users had downloaded more than 75 billion total apps, more than ten for every person on the planet.[25] Social media is the new social fabric – a platform for crowd intelligence and influence. Artificial intelligence, the computer systems able to perform tasks normally requiring human intelligence, is poised to change and grow at an exponential speed beyond the power of human intuition to anticipate. It is being used by the health industry to track patients' data and medication intake, by businesses to automate customer service and robotise manufacturing, by energy companies' smart grids to forecast energy supply and demand, and by self-driving cars to optimise routes. Gartner (an IT research firm) estimates that one-third of jobs will soon be replaced by smart machines and robots and Google estimates robots will attain the level of the intelligence of human by 2029. It has significantly impacted most sectors.

Demographic changes and wealth inequality

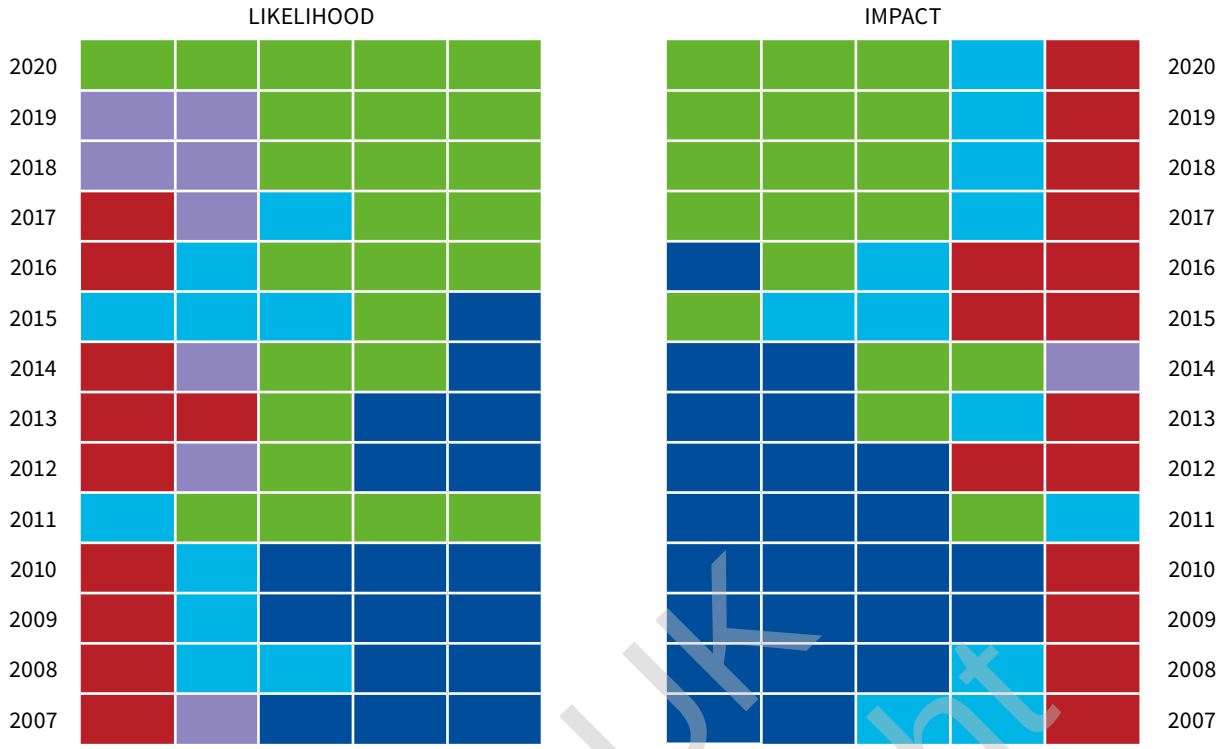
By 2030 the world's population is projected to rise by more than 1 billion. At the same time, the population is getting older. Germany's population is expected to shrink by one-fifth, and the number of people of working age could fall from 54 million in 2010 to 36 million in 2060. China's labour force peaked in 2012. Today, about 60% of the world's population lives in countries with fertility rates below the replacement rate.[25] A smaller workforce will place a greater onus on productivity for driving growth and may cause economists to rethink the economy's potential. Caring for large numbers of elderly people has already started to reshape industries and put severe pressure on government finances. At the same time, the rise in population overall will only increase the demand and stress on renewable and non-renewable resources. A growing global population is expected to demand 35% more food by 2030. Finally, increasing concentration of wealth and rising inequality have already led to increasing social strains. This increase in inequality happens across, and within, countries, contributing to depressed economic growth, criminal behaviour and undermined educational opportunities.[27]

Climate change and resource scarcity

As the world becomes more populous, urbanised and prosperous, demand for energy, food and water will rise. But the Earth has a finite amount of natural resources to satisfy this demand. Without significant global action, average temperatures are predicted to increase by more than two degrees Celsius, a threshold at which scientists believe significant and potentially irreversible environmental changes will occur. The interconnectivity between trends in climate change and resource scarcity is amplifying the impact: climate change could reduce agricultural productivity by up to a third across large parts of Africa over the next 60 years. Globally, demand for water will increase by 40% and for energy by 50%. In short, the world's current economic model is pushing beyond the limits of the planet's ability to cope.

Figure 1.3: TOP GLOBAL RISKS

From economic to environmental. Climate now tops the risks agenda, while the economy has disappeared from the top five.



Economic

- Asset bubble.
- Critical infrastructure failure.
- Deflation.
- Energy price shock.
- Financial failure.
- Fiscal crises.
- Illicit trade.
- Unemployment.
- Unmanageable inflation.

Environmental

- Biodiversity loss.
- Climate action failure.
- Extreme weather.
- Human-made environmental disaster.
- Natural disasters.

Geopolitical

- Global governance failure.
- Interstate conflict.
- National governance failure.
- State collapse.
- Terrorist attacks.
- Weapons of mass destruction.

Societal

- Failure of urban planning.
- Food crises.
- Infectious diseases.
- Involuntary migration.
- Social instability.
- Water crises.

Technological

- Adverse technological advances.
- Cyberattacks.
- Data fraud or theft.
- Information infrastructure breakdown.

Figure 1.3: TOP GLOBAL RISKS (cont'd)

TOP TEN RISKS OVER THE NEXT 10 YEARS **LONG-TERM RISK OUTLOOK: LIKELIHOOD**

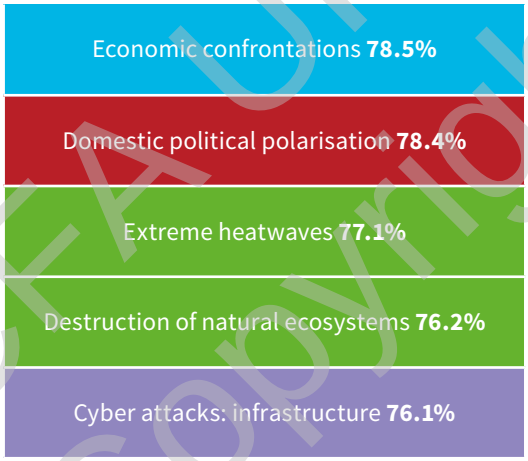
Extreme weather	Climate action failure	Natural disaster	Bio-diversity loss	Human-made environ. disasters	Data fraud or theft	Cyber-attacks	Water crises	Global governance failure	Asset bubble

TOP TEN RISKS OVER THE NEXT 10 YEARS **LONG-TERM RISK OUTLOOK: IMPACT**

Climate action failure	Weapons of mass destruction	Biodi-versity loss	Extreme weather	Water crises	Inform. infra-structure breakdown	Natural disasters	Cyber attack	Human-made environ. disasters	Infectious diseases

SHORT-TERM RISK OUTLOOK

PERCENTAGE OF RESPONDENTS EXPECTING RISKS TO INCREASE IN 2020



Economic | **Environmental** | **Geopolitical** | **Societal** | **Technological**

Source: World Economic Forum.[29]

Evidence of the risks these megatrends carry is illustrated by the World Economic Forum's 2020 *Global Risk Report*,[28] which for many years now has highlighted the growing likelihood and impact of extreme weather events and the failure to address climate change (refer to **Figure 1.3**). Note that **Figure 1.3** highlights how risks related to the environment have been significantly increasing in importance in the past years. Environmental risks are high on the radar – in fact, five of the top ten risks identified in 2020 are not only risks in the long-term (ten years), but are also two of the five top risks in the short term.

In the agriculture, food and beverage sectors, the impacts of climate change have the potential to:

- alter growing conditions and seasons;
- increase pests and disease; and
- decrease crop yields.

Disruptions in the supply chain may affect production processes that depend on unpriced natural capital assets, such as biodiversity, groundwater, clean air and climate. These unpriced natural capital costs are generally externalised until events like floods or droughts cause disruption to production processes or commodity price fluctuation, which result in the costs being partially internalised.

This broader information enables a richer understanding of companies and their potential future success or failure. But one of the key challenges of incorporating ESG in investment processes lies in time horizons. In many cases:

- It is challenging to predict the value of future losses (or gains).
- It is difficult to forecast when those losses (or gains) might occur – it may well be far into the future.
- Fund managers' performance is typically assessed using shorter time horizons, rather than longer ones over which ESG factors might have a material impact.

In 2015, Mark Carney, then Governor of the Bank of England and chairman of the Financial Stability Board, the international body set up by the G20 in 2009 to monitor risks to the financial system, referred to this challenge in a speech that became a cornerstone for the integration of climate change to financial regulators.

> *"Climate change is the tragedy of the horizon. We don't need an army of actuaries to tell us that the catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors – imposing a cost on future generations that the current generation has no direct incentive to fix… The horizon for monetary policy extends out to two to three years. For financial stability it is a bit longer, but typically only to the outer boundaries of the credit cycle – about a decade. In other words, once climate change becomes a defining issue for financial stability, it may already be too late."*[29]

In his annual letter to chief executives in 2020,[30] Larry Fink, the CEO of BlackRock, stated that the investment firm would step up its consideration of climate change in its investment considerations because it was reshaping the world's financial system. Concretely, he committed BlackRock to divesting from companies that generate more than 25% of their revenues from coal production from its actively managed portfolios, and required reporting from investee companies on their climate-related risks and plans for operating under the goals of the *Paris Agreement* to limit global warming to less than 2°C (3.6°F). As the largest asset manager in the world, BlackRock's decision could represent a new paradigm in the investment industry in which the integration of material ESG factors is mainstream.

Prudent investors are engaging with companies to ask them to disclose not only what they are emitting today, but how they plan to achieve their transition to the net-zero world of the future. There is value in being able to spot winners and losers in a rapidly changing risk landscape. Investors that are attempting to take advantage of this usually operate over a longer timeframe than the usual quarterly or one-year time horizon, with the objective of understanding emerging risks and new demands so that they can convert these into above-market performance.

Case studies

Water depletion

Companies are already experiencing risks in their manufacturing due to water depletion, which has been aggravated by acute impacts of climate change. Water has largely been considered a free raw material and therefore used inefficiently, but many companies are now experiencing the higher costs of using the resource, as well as suffering increasing frequency of extreme weather events.

Pacific Gas and Electric Company (PG&E), a listed American utility, was driven to bankruptcy proceedings due to wildfire liabilities.[31] The company's equipment led to more than 1,500 fires between 2014 and 2017. As low humidity and strong winds worsen due to climate change, the fire hazard increases. In 2018, a problem with PG&E equipment was deemed to have led to fires that killed at least 85 people, forced about 180,000 to evacuate from their homes and razed more than 18,800 structures.

Coca-Cola Company faced a water shortage in India that forced it to shut down one of its plants in 2004. The company has since invested US$2bn (£1.6bn) to reduce water use and improve water quality in the communities in which it operates. SABMiller, a multinational brewing and beverage company, has also invested heavily in water conservation, including US$6m (£4.7bn) to improve equipment at a facility in Tanzania affected by deteriorating water quality.

In extreme cases, assets can become stranded, in other words, obsolete due to regulatory, environmental or market constraints. In Peru, for example, social conflict related to disruptions to water supplies resulted in the indefinite suspension of US$21.5bn (£16.8bn) in mining projects since 2010.

There are many ways in which ESG factors can impact a company's bottom line. Nonetheless, identifying those issues which are genuinely material to a sector and company is one of the most active challenges within ESG investment. Each company is unique and faces its own challenges related to its culture, particular business model, supply chain structure, etc. So not only are there substantial differences between sectors, there are also differences between what is most material to individual companies within a single sector.

→ *For further details on how to assesses materiality and what tools are available, refer to Chapter 7.*

Financial performance

In commenting on the increased support from investment managers for responsible investment, Mark Carney, observed in 2019 that:

> *"This swell of support is driven by the expectation that sustainable investment can generate return in three ways.*
>
> *First, companies that score well on ESG metrics could better anticipate future climate-related risks and opportunities. This makes them more strategically resilient and therefore able to anticipate, and adapt to, the risks and opportunities on the horizon, generating true alpha from ESG.*
>
> *Second, strong ESG scores could signal that a firm is more naturally disposed to longer-term strategic thinking and planning. Climate disclosure is increasingly seen not only as necessary in and of itself, but also as informative about the extent to which companies are focused on long-term value creation.*
>
> *And third, strong ESG firms may enjoy valuation premiums consistent with shifting investor preferences."*[32]

There is a growing recognition in the financial industry and in academia that ESG factors indeed influence financial performance. An analysis of over 2,000 academic studies[33] on how ESG factors affect corporate financial performance found 'an overwhelming share of positive results,' with just one in ten showing a negative relationship. Various research[34] also indicates that engaging with companies on ESG issues can create value for both investors and companies, by encouraging better ESG risk management and more sustainable business practices. These provide evidence that ESG issues can be financially material to companies' performance and potentially to alpha.

Mounting evidence shows that sustainable companies deliver higher positive financial performance. The topic has been the focus not only of various individual studies, but the subject of meta-analysis, which is a research process used to merge the findings of single, independent studies to reach an overall conclusion.

In summary, these meta-studies suggest that in most research papers, there was a positive correlation between ESG performance and corporate financial performance, including stock prices. This provides academic evidence for the financial materiality of ESG factors. This correlation, however, does not hold for fund performance, suggesting that the asset management industry in general hasn't been consistently able to translate ESG analysis into alpha.

Case studies

Meta-data studies

One of the first meta-data studies, in 2012, was conducted by the Deutsche Bank,[35] assessing over 100 studies. The vast majority (89%) of studies showed that companies highly rated for ESG factors outperformed the market, while 85% demonstrated outperformance in terms of business performance. These results were strongest over the medium- to long-term. Deutsche Bank found weaker results with respect to the influence of ESG on investment funds. They concluded that companies with good ESG outperform, but that investors were not always good at capturing that outperformance.

The University of Oxford and asset manager Arabesque in 2014 reviewed[36] the academic literature on sustainability and corporate performance, and found that out of the 200 studies analysed:

- 90% conclude that good ESG standards lower the cost of capital;
- 88% show that good ESG practices result in better operational performance; and
- 80% show that stock price performance is positively correlated with good sustainability practices.

Another study[37] conducted in 2015 combined the findings of around 2,200 individual studies (35 times larger than the average sample of previous meta-analyses) and thus claimed to be the most exhaustive overview of the academic evidence on ESG and performance. In this case, about 90% of studies demonstrate a relationship between ESG and financial performance that was not negative (i.e. positive or neutral performance), with the large majority showing positive correlation between ESG factors and performance across equity, fixed income and property, as well as in aggregate.

The meta-study shows a significant difference between the impact of ESG on corporate financial performance, at the asset class level and on investment fund performance:

- 15% of the studies on portfolio-level impact were positive; and
- 11% were negative.

cont'd...

Case studies

...

The authors suggest three reasons why the results differ:

1. The alpha from ESG might be captured elsewhere in factors studies (and so is 'drowned out by noise').
2. The impact of different ESG approaches in the different studies might cancel each other out.
3. The costs of implementation consume the available alpha.

Case studies

Top 100 sustainable global companies

Between 2006 and 2010, compared to control companies, the top 100 sustainable global companies experienced significantly higher:

- mean sales growth;
- return on assets;
- profit before taxation; and
- cash flows from operations in some sectors.

During the 2008 recession, companies with effective sustainability practices achieved above average performance in the financial markets. Additionally, companies with superior environmental performance experienced lower social cost of debt by 40 to 45 basis points. A study in 2015[38] found that companies with strong corporate responsibility reputations 'experience no meaningful declines in share price compared to their industry peers during crises', versus firms with poor CSR reputations whose stocks declined by '2.4–3%; a market capitalisation loss of US$378m (£296m) per firm.'

Fiduciary duty

For many years, fiduciary duty was considered a barrier to considering ESG within investments. In the modern investment system, financial institutions or individuals, known as **fiduciaries**, manage money or other assets on behalf of beneficiaries and investors. Fiduciary duties exist to ensure that those who manage other people's money act in their beneficiaries' interests, rather than serving their own.

Beneficiaries and investors rely on these fiduciaries to act in their best interests, which are typically defined exclusively in financial terms. Due to the misconception that ESG factors are not financially material, some investors have used the concept of fiduciary duty as a reason not to incorporate ESG issues.

In 2005, the **United Nations Environment Programme Finance Initiative (UNEP FI)** commissioned the law firm Freshfields Bruckhaus Deringer to publish the report titled *A Legal Framework for the Integration of Environmental, Social and Governance Issues* into Institutional Investment (commonly referred to as the *Freshfields report*). The report argued that "integrating ESG considerations into an investment analysis so as to more reliably predict financial performance is clearly permissible and is arguably required in all jurisdictions.'[39] Despite the conclusions of the report, many investors continue to point to their fiduciary duties and the need to deliver financial returns to their beneficiaries as reasons why they cannot do more in terms of responsible investment.

However, increasing academic studies and work undertaken over the last decade by progressive investment associations, including the United Nations Environment Programme Finance Initiative (UNEP FI) and **Principles for Responsible Investment (PRI)** on the topic have clarified that financially material ESG factors must be incorporated into investment decision-making. The 2005 UNEP FI report,[39] and the more recent report published by the PRI in 2019,[40] both argue that failing to consider long-term investment value drivers – which include ESG issues – in investment practice is a failure of fiduciary duty. The 2019 report concludes that modern fiduciary duties require investors to:

- Incorporate financially material ESG factors into their investment decision-making, consistent with the time frame of the obligation.
- Understand and incorporate into their decision making the sustainability preferences of beneficiaries or clients, regardless of whether these preferences are financially material.
- Be active owners, encouraging high standards of ESG performance in the companies or other entities in which they are invested.
- Support the stability and resilience of the financial system.
- Disclose their investment approach in a clear and understandable manner, including how preferences are incorporated into the scheme's investment approach.

→ *For further details on fiduciary duty, see Chapter 2.*

Economics

Another reason for implementing ESG stems from the recognition that negative megatrends will, over time, create drag on economic prosperity as basic inputs (such as water, energy and land) become increasingly scarce and expensive, and the prevalence of health and income inequalities increase instability both within countries and between the 'global north and south'. There is an understanding that, unless these trends are reversed, the economies will be weakened, exposed to sustainability-led bubbles and spikes. While this may not have a significant impact on asset managers whose performance is judged by their ability to provide alpha, it may considerably impact asset owners, who depend on total returns in the long-term to pay out pensions and their liabilities.

The **Financial Stability Board (FSB)**, an international body that monitors and makes recommendations about the global financial system, has already identified climate change as a potential systemic risk. This may also be the case for other issues. The economic implications of these environmental issues (such as climate change, resource scarcity, biodiversity loss and deforestation) and social challenges (such as poverty, income inequality and human rights) are increasingly being recognised.

In fact, the Stockholm Resilience Centre has identified nine 'planetary boundaries' within which humanity can continue to develop and thrive for generations to come,[41] but in 2015 found that four – climate change, loss of biosphere integrity, land-system change and altered biogeochemical cycles (phosphorus and nitrogen) – have been crossed. Two of these – climate change and biosphere integrity – are deemed 'core boundaries', for which significant alteration would 'drive the Earth System into a new state'.

Figure 1.4: STOCKHOLM RESILIENCE CENTRE'S NINE PLANETARY BOUNDARIES

Source: J. Lokrantz/Azote based on Steffen et al (2015).[42]

Social issues are also having a significant impact in the wider economy. Income inequality in OECD countries is at its highest level for 30 years, and Oxfam estimates[43] that 26 of the richest billionaires own as many assets as the 3.8bn people who make up the poorest half of the planet's population. This significant level of income inequality is creating a number of social stresses, including security-related issues.[44] In 2014, the world spent 9.1% of its GDP on costs associated with violence. Undernutrition is also still common in developing economies and has severe economic consequences: the economic cost of undernutrition to Ethiopia alone is just under US$70m (£55m) a year. While the number of undernourished people in the world has declined sharply, there are still one-in-eight suffering from chronic malnutrition.

Large institutional investors have holdings, which, due to their size, are highly diversified across all sectors, asset classes and regions. As a result, the portfolios of **universal owners**, as they are known, are sufficiently representative of global capital markets that they effectively hold a slice of the overall market. Their investment returns are thus dependent on the continuing good health of the overall economy. Inefficiently allocating capital to companies with high negative externalities can damage the profitability of other portfolio companies and the overall market return. It is in their interests to act to reduce the economic risk presented by sustainability challenges to improve their total, long-term financial performance. There is therefore a growing school of thought that investors should integrate the price of externalities into the investment process, and take into account the wider effects of investments by considering the impact on society and environment, and in the economy as a whole.

For that reason, investors increasingly call for governments to set policies in line with the fundamental challenges to our future. The **UN Sustainable Development Goals (SDGs)**,[45] an agreed framework for all UN member state governments to work towards in aligning with global priorities (such as the transition to a low-carbon economy and the elimination of human rights abuses in corporate supply chains) was welcomed by the investment community.

→ *For further details on the SDGs, see Section 5 of this chapter.*

Impact and ethics

Yet another reason for practising responsible investment is the belief that some investors have that investments can, or even should, serve society alongside providing financial return. This translates into focusing on investments with a positive impact and/or avoiding those with a negative impact.

- Those investing for **positive impact** see investment as a means of tackling the world's social and environmental problems through effective deployment of capital. The aim is to put beneficiaries' money to good use rather than to invest it in any activity that could be construed as doing harm – essentially a moral argument. This idea is giving rise to the growing area of impact investment, itself a response to the limits of philanthropy and a recognition of the potential to align returns with positive impacts.
- Those avoiding **negative impact**, at times for religious reasons, usually do not invest (negative screening) from controversial sectors (such as arms, gambling, alcohol, tobacco and pornography).

Client demand

Clients and pension fund beneficiaries are increasingly calling for greater transparency about how and where their money is invested. This is driven by:

- growing awareness that ESG factors influence:
  - company value;
  - returns; and
  - reputation; and
- increasing focus on the environmental and social impacts of the companies they are invested in.

Asset owners are instrumental for responsible investment because they make the decisions about how their assets, representing on average around 34% of GDP in OECD countries, are managed.[46] The number of them that are integrating ESG continues to grow. In 2018/19, 69 further asset owners signed up to the PRI, with growth particularly strong in the UK, USA, Netherlands and across Southern Europe.

→ *Further details on the demand for and supply of responsible investment, as well as the market more broadly, are discussed in Chapter 2.*

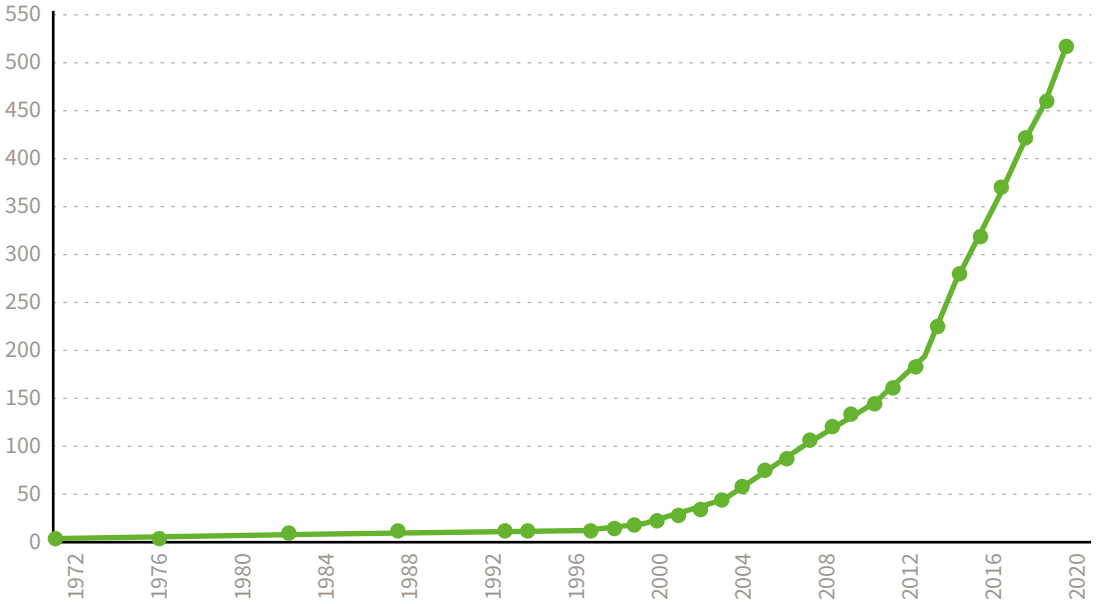
Regulation

Finally, regardless of their views or beliefs, some investors are being required to increasingly consider ESG matters. Since the mid-1990s, responsible investment regulation has increased significantly, with a particular surge in policy interventions since the 2008 financial crisis. Regulatory change has also been driven by a realisation among national and international regulators that the financial sector can play an important role in meeting global challenges, such as climate change, modern slavery and tax avoidance.

Across the world's 50 largest economies, the PRI found that 48 have some form of policy designed to help investors consider sustainability risks, opportunities or outcomes. In fact, across these economies, there have been over 730 hard and soft law policy revisions, which encourage or require investors to consider long-term value drivers, including ESG factors.

→ *For further details on how regulation has played a key role in increased demand for responsible investment, refer to Chapter 2.*

Figure 1.5: **CUMULATIVE NUMBER OF POLICY INTERVENTIONS PER YEAR**



Source: PRI.[47]

4. PUTTING ESG INTO PRACTICE

ESG investing is a strategy and practice related to incorporating ESG factors in investment decisions and active ownership. Institutional investors typically reflect ESG considerations in three ways:

A. incorporating ESG factors into investment decision-making;

B. through corporate engagement; and

C. through policy engagement.

Different institutions take different approaches and blend these elements differently, reflecting their culture and investment style.

A. Investment decisions

Incorporating ESG factors into investment decision-making can happen throughout the investment value chain:

- Asset owners can include ESG factors in their request for proposal and consider them in their appointment process. Asset owners are often supported by investment consultants, who can factor in asset managers' ESG policy, implementation and outcomes in their selection process. Asset owners can reassure themselves that their views on ESG are implemented by integrating them into investment mandates and monitoring processes.
- Asset owners and some asset managers can embed ESG into strategic asset allocation (SAA). SAA is the process in which an investor chooses to allocate capital across asset classes, sectors and regions based on their need for return and income, and risk appetite.

- Asset managers and asset owners who invest directly can incorporate ESG issues within their security selection process. This can be done by:
  - applying a filter or threshold, which rules potential investments in or out of the investment universe;
  - integrating ESG issues within their financial and risk analysis; or
  - using ESG criteria to identify investment opportunities through a thematic approach (e.g. water fund, impact investing, etc.).

→ *For further details on this process, see Chapters 7 and 8.*

B. Shareholder engagement

Investors can encourage investees to improve their ESG practices. This can happen via a company's annual general meeting (AGM) by formally expressing their views through voting on resolutions. Engagement can also happen outside of this process (with an investment firm, individually or through a collective initiative), discussing ESG issues with an investee company's board or management.

→ *For further details on this process, see Chapter 6.*

C. Policy engagement

The proper functioning of the market, and thus public policy, critically affect the ability of institutional investors to generate sustainable returns and create value. Policy engagement by institutional investors is therefore a natural extension of an investor's responsibilities and fiduciary duties to the interests of beneficiaries.

Investors can work with regulators, standard setters and other parties (e.g. consultants, stock exchanges, etc.) to design a financial system that:

- is more sound and stable;
- levels the playing field; and
- brings ESG more effectively into financial decision-making.

Investors can:

- respond to policy consultations;
- participate in collective initiatives; and
- make recommendations to policy makers.

→ *Further details on this process are discussed in Chapter 6.*

5 KEY INITIATIVES

1.1.7	Explain the aims, elements and progress achieved by key supranational ESG initiatives and organisations: United Nations Global Compact (UNGC) Principles; United Nations Environment Programme Finance Initiative (UNEP FI); Principles for Responsible Investment (PRI); The Paris Agreement and United Nations Framework Convention on Climate Change (UNFCCC); United Nations Sustainable Development Goals (SDGs); International Corporate Governance Network (ICGN). Global Sustainable Investment Alliance (GSIA); Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD); Global Impact Investing Network (GIIN); Corporate Reporting Dialogue (CRD)

Various initiatives have contributed to increasing the investment industry's awareness of ESG, as well as enhancing its ability and capacity to integrate ESG factors within the investment process.

United Nations initiatives

The United Nations (UN) has played a critical role in the advancement of sustainability and specifically responsible investment in the past 30 years. Three of its initiatives are of particular interest to investors.

United Nations Global Compact

Chief amongst the supranational initiatives, the **United Nations Global Compact (UNGC)** was launched in 2000 as a collaboration between leading companies and the UN. It has since gained remarkable traction and now claims to be the largest corporate sustainability initiative in the world with over 8,000 corporate signatories spanning the globe. These signatories agree to adhere to the ten principles, derived from broader global standards such as the **Universal Declaration of Human Rights** and the **International Labour Organization's Declaration on Fundamental Principles and Rights at Work**. The UNGC has provided investors with a helpful set of principles to assess and engage with companies, as well as directly aided companies in becoming more sustainable.

United Nations Environment Programme Finance Initiative (UNEP FI)

The **United Nations Environment Programme Finance Initiative (UNEP FI)** is a partnership between UNEP and the global financial sector to mobilise private sector finance for sustainable development.

UNEP FI started in 1992 with a few banking institutions and today it works with over 300 members – banks insurers and investors – to catalyse integration of sustainability into financial market practice. The frameworks UNEP FI has established or cocreated include:

- **Principles for Responsible Investment (PRI)**, established in 2006 by UNEP FI and the UN Global Compact, now applied by half the world's institutional investors (US$83tn).
- **Principles for Sustainable Insurance (PSI)**, established in 2012 by UNEP FI and today applied by one-quarter of the world's insurers (25% of world premium).
- **Principles for Responsible Banking (PRB)** launched with more than 130 banks collectively holding US$47tn (£37tn) in assets, or one-third of the global banking sector, on 22 September 2019.

Principles for Responsible Investment (PRI)

The PRI comprises an international network of investors – signatories, working together towards a common goal to understand the implications of ESG to investment and ownership decisions and ownership practices.

The PRI provide support in four main areas:

1. The PRI provides a broad range of tools and reports on best practices for asset owners, asset managers, consultants and data suppliers, supporting the implementation of the principles across all asset classes and providing insights into ESG issues.

2. It hosts a collaborative engagement platform, by which it leads engagements and also enables like-minded institutions to coordinate and take forward engagement with individual companies and sectors.
3. The PRI reviews, analyses and responds to responsible investment-related policies and consultations. It also provides a policy map to investors and facilitates communication between investors and their regulators on the topic of responsible investment.
4. The **PRI Academy** develops, aggregates and disseminates academic studies on responsible investment-related themes.

The PRI developed six principles, which are voluntary, but that provide overarching guidance on actions members can take to incorporate ESG issues into investment practice. The six principles are:

1. We will incorporate ESG issues into investment analysis and decision-making processes.
2. We will be active owners and incorporate ESG issues into our ownership policies and practices.
3. We will seek appropriate disclosure on ESG issues by the entities in which we invest.
4. We will promote acceptance and implementation of the principles within the investment industry.
5. We will work together to enhance our effectiveness in implementing the principles.
6. We will each report on our activities and progress towards implementing the principles.

The PRI also leads or establishes partnerships with other organisations to develop initiatives, such as a review of fiduciary duty around the world, the establishment and implementation of the Sustainable Stock Exchanges Initiative, etc. Many of its workstreams and initiatives are supported by committees made of members, which is a key way in which investors can gain further insight, and contribute to the development of knowledge and the further implementation of responsible investment across the industry.

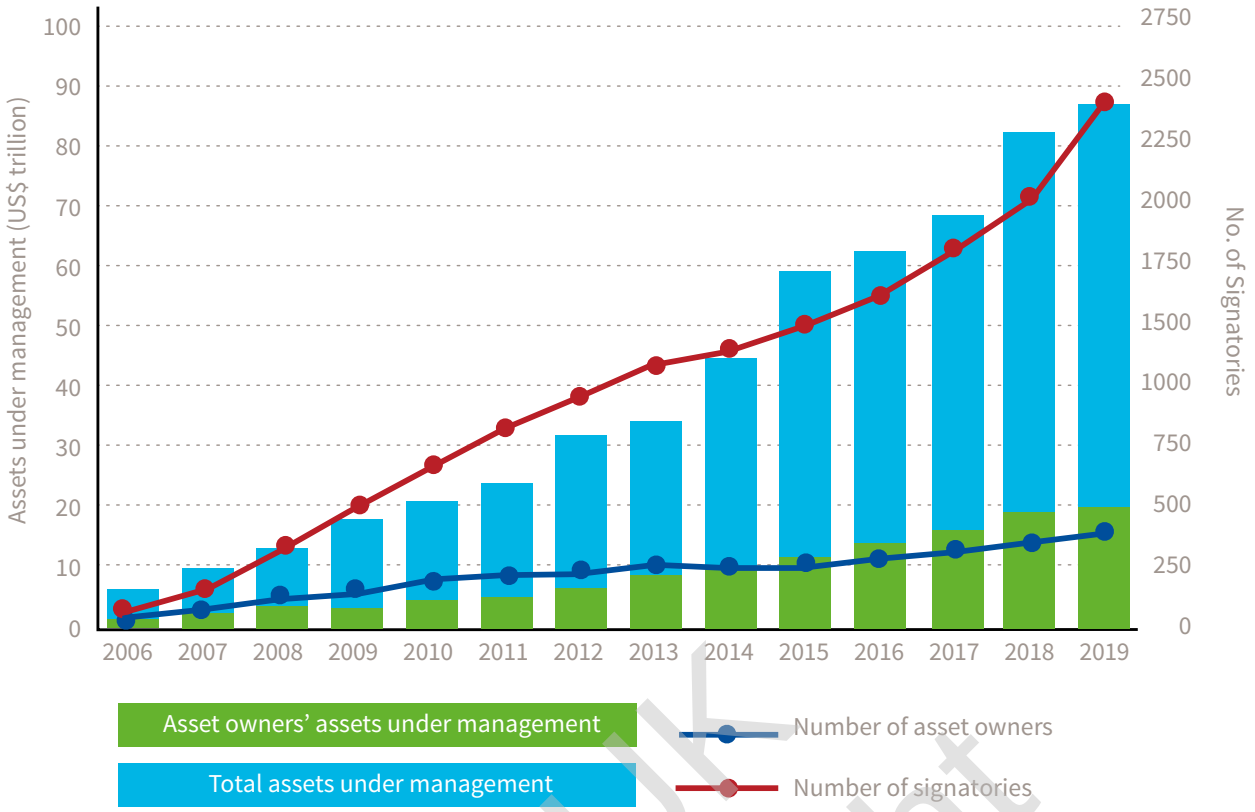
For some in the investment industry, membership of the PRI has become a badge for being a responsible investor. The PRI does require members to report annually on their responsible investment practices, which are assessed by the PRI. The report is made available to the public, while the assessment is private to the member, who can then decide whether, and with whom, they may wish to share it (e.g. asset managers share the report with an existing or prospective client asset owner). Amid criticism that, despite the assessment, there were no minimum requirements to become a member beyond payment of the membership fees, the PRI implemented minimum requirements in 2018. The three requirements are:

1. Investment policy that covers the firm's responsible investment approach, covering >50% of assets under management (AUM).
2. Internal or external staff is responsible for implementing responsible investment policy.
3. Senior-level commitment and accountability mechanisms for responsible investment implementation.

Over recent years, the growth of the ESG market and the increased use of the term 'ESG' has been highly correlated to the growth in PRI membership. This relationship may be linked to the fact that the principles are designed to be compatible with a wide range of investment styles that operate within a traditional fiduciary framework. PRI signatories have grown circa 30% a year since 2006. This growth rate demonstrates the overall market opportunity for ESG.

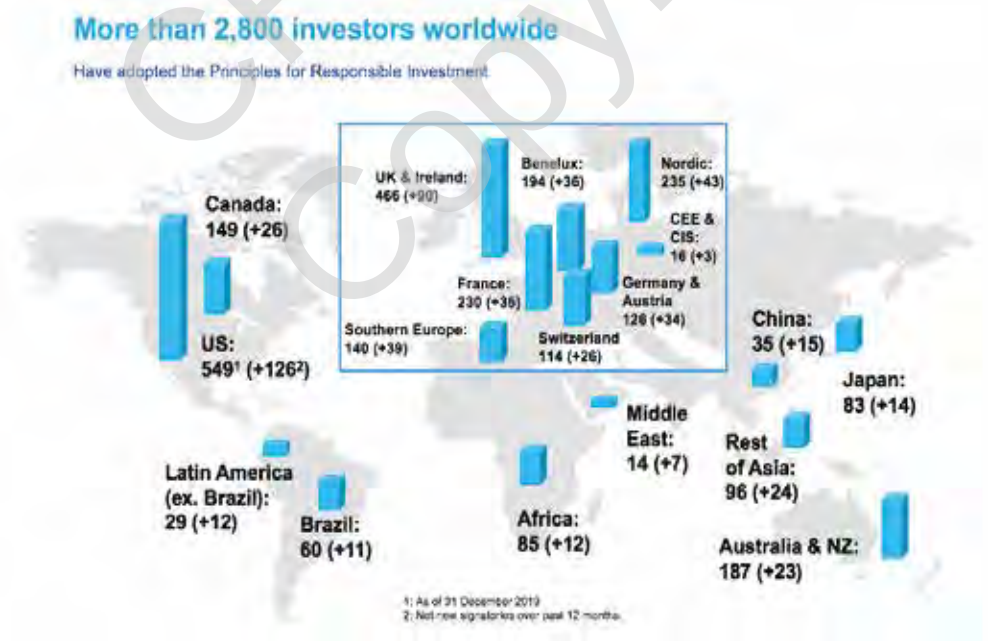
Figure 1.6 shows the growth in PRI signatories, in terms of both membership numbers and assets under management, for the period end of April 2006 to end of April 2018 inclusive.

Figure 1.6: GROWTH IN NUMBER OF PRI SIGNATORIES AND SIZE OF ASSETS MANAGED



Source: PRI.[48]

Figure 1.7: PRI SIGNATORIES WORLDWIDE



Source: PRI.[49]

In 2019, PRI asset owner signatories numbered 432 and managed aggregate assets of over US$20tn (£16tn); total number of signatories was 2,372 with assets circa US$86tn (£67tn). These figures represent significant investment industry penetration of ESG. According to global investment consultant Willis Towers Watson's *Global Pension Assets Study 2018*, the latest report available, the global pension schemes collectively owned a total of US$41tn (£32tn) of investment assets, so PRI membership represents a significant proportion of that total.

United Nations Framework Convention on Climate Change (UNFCCC)

Climate change has been a focus of the UN and more recently, of investors as well. The **United Nations Framework Convention on Climate Change (UNFCCC)**, launched at the Rio de Janeiro Earth Summit in 1992, aims to stabilise greenhouse gas (GHG) emissions to limit man-made climate change.

The UNFCCC hosts annual Conferences of the Parties (COP) meetings, which seek to advance members states' voluntary agreements on limiting climate change.

The two COPs of particular importance were:

1. The COP3 meeting in Kyoto in 1997, which created the **Kyoto Protocol**. This commits industrialised countries to limit and reduce their GHG emissions in accordance with agreed individual targets.
2. The COP21 meeting in Paris in 2015, which led to the **Paris Agreement**. This commits developed and emerging economies to strengthen the response to the threat of climate change by keeping a global temperature rise this century well below 2°C (3.6°F) above pre-industrial levels.

   The Paris Agreement had a significant impact on investors, including government and civil societies' expectations of them. This has led to investor-led initiatives to understand how to become aligned with the Paris Agreement, as well as various organisations engaging with investors on the topic.

UN Sustainable Development Goals (SDGs)

The **Sustainable Development Goals (SDGs)**, agreed by all UN members in 2015 in replacement of the **UN Millennial Goals**, are the UN's blueprint to address the key global challenges, including those related to poverty, inequality, climate change, environmental degradation, peace and justice. The 17 goals are all interconnected and particularly aimed at governments. The Paris Agreement, though negotiated in parallel to the SDGs, became one of its goals.

Despite the goals and subsequent targets not being directly applicable to businesses and investors, the SDGs have become a powerful framework to these two actors, with some investors already reporting against their impact on the SDGs and driving capital to contribute to their achievement.

Figure 1.8: **UN SUSTAINABLE DEVELOPMENT GOALS**

Note from UN: The content of this publication has not been approved by the United Nations and does not reflect the views of the United Nations or its officials or Member States.

Source: Sustainable Development Goals.[50]

Other initiatives

International Corporate Governance Network (ICGN)

The International Corporate Governance Network (ICGN) is an investor-led organisation established in 1995 to promote effective standards of corporate governance and investor stewardship to advance efficient markets. Of note, the ICGN developed two key guidance documents for investors: one on stewardship and another one on investment mandates.

Global Sustainable Investment Alliance (GSIA)

Many countries have a national forum for responsible investment. The Global Sustainable Investment Alliance (GSIA) is an international collaboration of these membership-based sustainable investment organisations. It is a forum itself for advancing ESG investing across all regions and asset classes.

Core members of the GSIA includes representatives from the regional responsible investment forums of Europe, the USA, Canada, Japan, Australia and New Zealand. The GSIA reports draw on the in-depth regional and national reports and work from GSIA members.

Task Force on Climate-related Financial disclosures (TCFD)

The Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) takes the Paris Agreement's 2°C (3.6°F) target and tries to operationalise it for the business world. Its *June 2017 Final Report* urges companies to disclose against the following:

- governance: the organisation's governance around climate-related risks and opportunities;
- strategy: the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning;
- risk management: the processes used by the organisation to identify, assess and manage climate-related risks; and

- **metrics and targets**: the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

  The TCFD recommends that these disclosures are provided as part of the mainstream financial filings. For many, the emphasis that the TCFD puts on climate change as a board level issue is its greatest contribution, both in terms of enhancing disclosure and in helping to ensure that this crucial issue is actively considered at the top of organisations. It should also drive a substantial advance in disclosures by seeking transparency about realistic scenario planning, particularly around the physical impacts of climate change.

→ *For more details, refer to Chapter 3.*

Global Impact Investing Network (GIIN)

The **Global Impact Investing Network (GIIN)** focuses on reducing barriers to impact investment by building critical infrastructure and developing activities, education and research that help accelerate the development of a coherent impact investing industry. It:

- facilitates knowledge exchange;
- highlights innovative investment approaches;
- builds the evidence base for impact investing; and
- produces tools and resources.

Of note are its databases IRIS+ (of metrics for measuring and managing impact) and ImpactBase (of impact investing funds).

Reporting initiatives

Global Reporting Initiative (GRI)

The **Global Reporting Initiative (GRI)** publishes the *GRI Standards*, which provide guidance on disclosure across environmental, social and economic factors for all stakeholders, including investors, whereas the other major frameworks are primarily investor focused. Several thousand organisations worldwide use the GRI framework, which is among the most well-known and is the standard for the United Nations Global Compact. The framework covers the most categories of sustainability activity and encourages anecdotes and further prose to help contextualisation.

Integrated Reporting Framework (IRF)

The **Integrated Reporting Framework (IRF)**, put forward by the International Integrated Reporting Council (IIRC), encourages companies to integrate sustainability within their strategy and risk assessment by integrating it into the traditional annual report. The integrated report aims to make it easier for investors to review such information as part of normal research processes and thus increase the likelihood that sustainability information is material to investment decisions.

CDP (former Carbon Disclosure Project)

CDP is a non-governmental organisation (NGO) which supports companies, financial institutions and cities to disclose and manage their environmental impact. It runs a global environmental disclosure system in which nearly 10,000 companies, cities, states and regions report on their risks and opportunities on climate change, water security and deforestation.

Climate Disclosure Standards Board (CDSB)

Climate Disclosure Standards Board (CDSB) is an international consortium of business and environmental NGOs with the mission to create the enabling conditions for material climate change and natural capital information to be integrated into mainstream reporting.

Corporate Reporting Dialogue (CRD)

Corporate Reporting Dialogue (CRD) is a joint project led by the CDP, the Climate Disclosure Standards Board (CDSB), the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB). Its objective is to drive better alignment of sustainability reporting frameworks, as well as with frameworks that promote further integration of non-financial and financial information. Its **Better Alignment Project** is focused on driving better alignment in the corporate reporting landscape, to make it easier for companies to prepare effective and coherent disclosures that meet the information needs of capital markets and society.

Sustainability Accounting Standards Board (SASB)

The **Sustainability Accounting Standards Board (SASB)** issues standards that are focused on the key material sustainability issues which affect 70-plus industry categories. These, along with the SASB materiality maps, are particularly helpful for investors determining what is material for reporting, and aids more standardised benchmarking.

KEY FACTS

1. **ESG investing** is an approach to managing assets where investors explicitly acknowledge the relevance of **environmental, social and governance (ESG)** factors in their investment decisions, as well as their own role as owners and creditors. ESG investing also recognises that the generation of long-term sustainable returns is dependent on stable, well-functioning and well-governed social, environmental and economic systems.

2. The concept of ESG investing is intricately related to the concept of investees' corporate sustainability. Related to this, **corporate social responsibility (CSR)** is a broad business concept that describes a company's commitment to conducting its business in an ethical way.

3. All forms of responsible investment, except for engagement, are ultimately related to portfolio construction (in other words, which securities a fund holds). Some focus more on improving financial returns using financially-material ESG factors, while others combine robust returns with optimising the impact the investment has on society and the environment. Engagement, both by equity owners and bond holders, concerns whether and how a fund tries to encourage and influence an issuer's behaviour on ESG matters.

4. One of the main reasons for ESG integration is recognising that responsible investment can reduce risk and enhance returns. Financial materiality can be due to:

   a. reduced cost and increased efficiency;
   b. reduced risk of fines;
   c. reduced externalities; and
   d. improved adaptability to sustainability megatrends.

5. Evidence of the risks that ESG megatrends carry is illustrated by the World Economic Forum's *Global Risks Report*,[28] which for many years now has highlighted the growing likelihood and impact of extreme weather events and the failure to address climate change.

6. There is a growing recognition in the financial industry and in academia that ESG factors do influence financial performance. An analysis of over 2,000 academic studies on how ESG factors affect corporate financial performance found 'an overwhelming share of positive results,' with just one-in-ten showing a negative relationship.

7. For many years, fiduciary duty was considered a barrier to considering ESG within investments. The modern interpretation of fiduciary duty, put forward in the *Freshfields report*,[39] recognises that failing to consider long-term investment value drivers – which include ESG issues – in investment practice is a failure of fiduciary duty.

8. Large institutional investors, known as **universal owners**, have holdings that are highly diversified across all sectors, asset classes and regions. Their investment returns are thus dependent on the overall economy. A reason for implementing ESG stems from the recognition that negative megatrends will, over time, create drag on economic prosperity and may increase instability both within countries and between the 'global north and south'.

9. A reason for practicing responsible investment is the belief that some investors have that investments can, or even should, serve society alongside providing financial return. The UN *Sustainable Development Goals (SDGs)*, a framework agreed by all UN member state governments to work towards aligning with global priorities, has been adapted by some of the investment community to manage and improve the impact of their investments.

10. Client demand is instrumental for responsible investment because they make the decisions about how their assets, representing on average around 34% of gross domestic product (GDP) in Organisation for Economic Co-operation and Development (OECD) countries, are managed. The number of them that are integrating ESG continues to grow.

11. Institutional investors typically reflect ESG considerations by incorporating ESG factors into investment decision-making, through corporate and policy engagement. These factors can be included:

    a. within their investment mandates;
    b. within their strategic asset allocation process;
    c. by applying a filter based on ratings;
    d. by integrating ESG issue(s) into financial models; or
    e. by using ESG factors to identify investment opportunities.

12. The UN hosts or sponsors various initiatives which drive sustainability and ESG investing. Of note is the **Principles for Responsible Investment (PRI)**, which comprises an international network of investors working together to understand the implications of ESG to investment and ownership decisions, and ownership practices. The PRI provides a broad range of tools and reports on best practice for the various actors in the investment value chain. Over recent years, the growth of the ESG market and the increased use of the term 'ESG' has been highly correlated to the growth in PRI membership.

13. The **Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD)** takes the *Paris Agreement's* 2°C (3.6°F) target and tries to operationalise it for the business world. It should also drive a substantial advance in disclosures by seeking transparency about realistic scenario planning, particularly around the physical impacts of climate change, including for investors.

CHAPTER 1

SELF-ASSESSMENT **QUESTIONS**

These self-assessment questions are provided only to enable you to test your understanding of the chapter content. They are not indicative of the types and standard of questions you may see in the examination.

1. What is ESG investing?

(a) an approach to managing companies that explicitly acknowledges the relevance of *environmental, social* and *governance* factors in corporate decision-making.

(b) an approach to managing assets where investors explicitly acknowledge the relevance of *environmental, social* and *economic* factors in investment decision-making.

(c) an approach to managing assets where investors explicitly acknowledge the relevance of *environmental, social* and *governance* factors in their investment decisions.

(d) an approach to managing assets where investors explicitly acknowledge the relevance of *environmental, social* and *economic* factors in corporate engagement.

2. Which of the following is not an example of a social factor?

(a) Labour rights.

(b) Local communities.

(c) Product safety.

(d) Biodiversity.

3. In what sense are ESG considerations non-financial?

(a) They are difficult to value precisely and difficult to time.

(b) They are issues that will never turn into financials.

(c) They sit in a different category of performance.

(d) They can only ever be measured qualitatively.

4. For which of the following sectors will the management of greenhouse gas emissions be most material?

(a) Software.

(b) Recruitment.

(c) Power generation.

(d) Fund management.

5. Which of the following is not a typical method by which ESG is reflected in investment approaches?

(a) Integrating ESG into investment decision-making.

(b) Engaging actively with companies on ESG matters.

(c) Engaging in public policy debates on ESG issues.

(d) Disclosing the investor's corporate social responsibility activities.

6. Which of the following is not a form of ESG investment?

(a) Valuation investment.

(b) Ethical investment.

(c) Thematic investment.

(d) Impact investment.

7. What are the four broad groupings of issues covered by the UN Global Compact?

(a) Environmental, social, governance and impact.

(b) Human rights, labour, environment and anti-corruption.

(c) Poverty, diversity, sustainability and transparency.

(d) Education, development, fairness and independence.

8. What is not one of the three P's in the triple-bottom line concept?

(a) People.

(b) Planet.

(c) Profit.

(d) Principle.

9. Which of the following statements is true about best-in-class investment?

(a) It involves selecting only the companies that overcome a defined ranking hurdle.

(b) It cannot be used to maintain key characteristics, such as regional and sectoral diversification of an index.

(c) It refers to selecting companies that fall under a sustainability-related theme.

(d) It refers to allocating capital to assets that best mitigate climate change.

10. Which of the following sectors is NOT typically excluded by ethical and faith-based investments?

(a) Tobacco.

(b) Alcohol.

(c) Controversial weapons.

(d) Technology.

11. The efficiency of shareholder engagement does NOT depend on…

(a) …the scale of ownership of the individual investor or the collective initiative.

(b) …the quality of the engagement dialogue and method used.

(c) …whether divestment is known to be a possible sanction.

(d) …the amount of security in free float.

12. In which way can ESG matters become financially material for a company, and contribute to reduced risk and enhanced return?

(a) Increased cost and reduced efficiency.

(b) Increased externality.

(c) Increased risk of fines.

(d) Increased adaptability to sustainability megatrends.

13. What kinds of situations does the term 'negative externality' best describe?

(a) Situations where the production of goods induces costs to others that are not reflected in the prices charged for them.

(b) Situations where the consumption of services induces benefits to others that are not reflected in the prices charged for them.

(c) Situations where the production or consumption of a product or service's private price equilibrium cannot reflect the true costs of that product or service for society as a whole.

(d) Situations where the production or consumption of a product or service's private price equilibrium cannot reflect the true benefits of that product or service for society as a whole.

14. According to Oxfam, "reports show that the richest 1% in the world have more than double the wealth of 6.9 billion people".[27] Which megatrend does this refer to?

(a) Emerging and urban.

(b) Technological disruption.

(c) Demographic changes and wealth inequality.

(d) Climate change and resource scarcity.

15. What is the most probable reason why an investor would engage with policy makers on ESG?

(a) The consideration of ESG-related matters can contribute to the proper functioning of the financial markets.

(b) Asset owners need regulators to level the playing field in order to be able to increase their percentage of ESG investments.

(c) Policy consultations on ESG investing are mandatory in order to ensure that all perspectives are taken into consideration.

(d) ESG investors require a sound and stable financial system in order to make alpha from ESG megatrends.

CHAPTER 1

SELF-ASSESSMENT **ANSWERS**

1. **c.**
2. **d.**
3. **a.**
4. **c.**
5. **d.**
6. **a.**
7. **b.**
8. **d.**
9. **a.**
10. **d.**
11. **d.**
12. **d.**
13. **c.**
14. **c.**
15. **a.**

FURTHER READING

Carney, M. (2015). "Breaking the Tragedy of the Horizon – climate change and financial stability". *Lloyd's of London*, 29 September 2015. Available at: www.bankofengland.co.uk/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability

Eccles, R., Ioannou, I. and Serafeim, G. (2012). "The impact of corporate sustainability on organizational processes and performance". National Bureau of Economic Research, working paper 17950. Available at: www.nber.org/papers/w17950

International Corporate Governance Network (2016). *ICGN Global Stewardship Principles*. Available at: www.icgn.org/policy/global-stewardship-principles

International Corporate Governance Network (2017). *ICGN Global Governance Principles*. Available at: www.icgn.org/policy/global-governance-principles

International Corporate Governance Network (2012). *ICGN Model Mandate Initiative*. Available at: www.icgn.org/policy/icgn-global-stewardship-principles-endorsers

Law Commission (2013). *Fiduciary Duties of Investment Intermediaries*. Available at: www.lawcom.gov.uk/project/fiduciary-duties-of-investment-intermediaries

PRI (2015). *Fiduciary duty in the 21st century*. Available at: www.unpri.org/fiduciary-duty/fiduciary-duty-in-the-21st-century/244.article

PRI (2016). *From Principles to Performance*. Available at: http://10.unpri.org/wp-content/uploads/2016/04/PRI-final-report_-single-pages.pdf

UNEP Finance Initiative (2005). *A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment*. Available at: www.unepfi.org/publications/investment-publications/a-legal-framework-for-the-integration-of-environmental-social-and-governance-issues-into-institutional-investment/

END NOTES

[1] Principles for Responsible Investment (2020). *What is responsible investment?* Available at: www.unpri.org/pri/an-introduction-to-responsible-investment/what-is-responsible-investment

[2] FTSE Russell (2018). *FTSE Russell Stewardship, Transition and Engagement Program for Change – 2018 STEP Change Report*. Available at: https://content.ftserussell.com/sites/default/files/research/ftse_russell_step_change_2018_report.pdf?_ga=2.62012138.779747487.1583235810-1851105969.1582044447

[3] OECD (2015). *Social Impact for Investment: Building the Evidence Base*. Available at: www.oecd.org/publications/social-impact-investment-9789264233430-en.htm

[4] MSCI (2020). *MSCI SRI Indexes*. Available at: www.msci.com/msci-sri-indexes.

[5] Mudaliar, A., Bass, R., et al (2019). "2019 Annual Impact Investor Survey". *Global Impact Investing Network*, 19 June 2019. Available at: https://thegiin.org/research/publication/impinv-survey-2019

[6] Inspire Investing (2019). *Faith-based Investment and Sustainability*. Available at: www.inspireinvesting.com/2019/03/26/faith-based-investment-and-sustainability/

[7] Henisz, W., Koller, T. and Nuttall, R. (2019). "Five ways that ESG creates value". *McKinsey Quarterly*, November 2019. Available at: www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/five-ways-that-esg-creates-value?cid=soc-web

[8] We Mean Business (2014). *The Climate Has Changed*. Available at: www.wemeanbusinesscoalition.org/blog/the-climate-has-changed/

[9] Edmans, A. (2011). "Does the stock market fully value intangibles? Employee satisfaction and equity prices." *Journal of Financial Economics*, September 2011, vol. 101, no. 3, pp. 621–40. Available at: www.sciencedirect.com/science/article/abs/pii/S0304405X11000869

[10] Whelan, T. and Fink, C. (2016). "The Comprehensive Business Case for Sustainability". *Harvard Business Review*. Available at: https://hbr.org/2016/10/the-comprehensive-business-case-for-sustainability

[11] GE Works (2013). *Annual Report*. Available at: www.annualreports.com/HostedData/AnnualReportArchive/g/NYSE_GE_2013.pdf

[12] Parker, M. (2018). "Letter to shareholders". Nike Inc. Available at: https://s1.q4cdn.com/806093406/files/doc_financials/2018/ar/mark_parker_letter.html

[13] UN Environment Programme (2019). *Environmental Rule of Law: First Global Report*. Available at: www.unenvironment.org/resources/assessment/environmental-rule-law-first-global-report

[14] Rushe, Dominic (2015). "BP set to pay largest environmental fine in US history for Gulf oil spill." *The Guardian*, 2 July 2015. Available at: www.theguardian.com/environment/2015/jul/02/bp-will-pay-largest-environmental-fine-in-us-history-for-gulf-oil-spill

[15] New York Times (2014). "Bank of America and the Financial Crisis." *The New York Times*, 21 August 2014. Available at: www.nytimes.com/interactive/2014/06/10/business/dealbook/11bank-timelime.html

[16] Financial Times (2016). "VW in $14.7bn US deal over rigged cars". *Financial Times*, 27 June 2016. Available at: www.ft.com/content/f45c2b30-3cbb-11e6-8716-a4a71e8140b0

[17] Helbling, T. (2010) "What are externalities?" *Finance & Development*, December 2010, vol. 47, no. 4. Available at: www.imf.org/external/pubs/ft/fandd/2010/12/basics.htm

[18] OECD (2018). *OECD Guidelines for Multinational Enterprises*. Available at: www.oecd.org/corporate/mne/

[19] UNGC (2011). *Guiding Principles for Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*. Available at: www.unglobalcompact.org/library/2

[20] See for example:

- Marotta, F. (2013). S*ubject: Request from the Chair of the OECD Working Party on Responsible Business Conduct*. Available at: www.ohchr.org/Documents/Issues/Business/LetterOECD.pdf
- The Norwegian National Contact Point for the OECD Guidelines for Multinational Enterprices (2013). *Final Statement: Complaint from Lok Shakti Abhiyan, Korean Transnational Corporations Watch, Fair Green and Global Alliance and Forum for Environment and Development Vs. Posco (South Korea), ABP/APG (Netherlands) and NBIM (Norway)*. Available at: www.responsiblebusiness.no/files/2013/12/nbim_final.pdf

[21] Wainwright, S. (2010). "Putting a price on global environmental damage". *Trucost News*, 5 October 2010. Available at: www.trucost.com/trucost-news/putting-price-global-environmental-damage/

[22] European Commission (2019). *Aircraft operators and their administering countries*. Available at: https://ec.europa.eu/clima/policies/ets/monitoring/operators_en

[23] CE Delft and Directorate-General for Mobility and Transport (2019). *Taxes in the field of aviation and their impact: Final report*. Available at: https://op.europa.eu/s/oarR

[24] Stokel-Walker, C. (2019). "Only extreme eco-taxes on flights will change our flying habits." *Wired,* 12 July 2019. Available at: www.wired.co.uk/article/plane-tax-eco-france-sweden

[25] McKinsey & Company (2017). *McKinsey Special Collections – Trends and global forces*. Available at: www.mckinsey.com/~/media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Strategy%20and%20corporate%20finance%20special%20collection/Final%20PDFs/McKinsey-Special-Collections_Trends-and-global-forces.ashx

[26] PWC (2020). *Technological breakthroughs*. Available at: www.pwc.co.uk/issues/megatrends/technological-breakthroughs.html

[27] Oxfam International (2020). *Time to care – unpaid and underpaid care work and the global inequality crisis*. Available at: www.oxfam.org/en/research/time-care

[28] World Economic Forum (2020). *The Global Risks Report 2020*. Available at: www.weforum.org/reports/the-global-risks-report-2020

[29] Carney, M. (2015). "Breaking the Tragedy of the Horizon – climate change and financial stability". *Lloyd's of London*, 29 September 2015. Available at: www.bankofengland.co.uk/-/media/boe/files/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.pdf?la=en&hash=7C67E785651862457D99511147C7424FF5EA0C1A

[30] Fink, L. (2020) "A Fundamental Reshaping of Finance". *BlackRock*. Available at: www.blackrock.com/uk/individual/larry-fink-ceo-letter

[31] McFall-Johnsen, Morgan (2019). "Over 1,500 California fires in the past 6 years – including the deadliest ever – were caused by one company: PG&E. Here's what it could have done but didn't." *Business Insider*, 3 November 2019. Available at: www.businessinsider.com/pge-caused-california-wildfires-safety-measures-2019-10?r=US&IR=T

[32] Carney, M. (2019). "A New Horizon". *European Commission Conference: A global approach to sustainable finance*, 21 March 2019. Available at: www.bankofengland.co.uk/-/media/boe/files/speech/2019/a-new-horizon-speech-by-mark-carney.pdf

[33] Global Research Institute (2018). *Digging Deeper Into the ESG-corporate financial-performance-relationship*. Available at: https://download.dws.com/download?elib-assetguid=714aed4c2e83471787d1ca0f1b559006&wt_eid=215662395190095327 0&wt_t=1566240624353

[34] PRI (2018). *How ESG engagement creates value for investors and companies*. Available at: www.unpri.org/academic-research/how-esg-engagement-creates-value-for-investors-and-companies/3054.article

PRI (2017). *RI Quarterly Vol. 12: Highlights from the Academic Network Conference and PRI in Person 2017.* Available at: www.unpri.org/academic-research/local-leads-backed-by-global-scale-the-drivers-of-successful-engagement/537.article

[35] DB Climate Change Advisors (2012). *Sustainable Investing – Establishing Long-Term Value and Performance*. Available at: www.db.com/cr/en/docs/Sustainable_Investing_2012.pdf

[36] Clark, G.L., Feiner, A. and Viehns, M. (2015). *From the Stockholder to the Stockholder: How Sustainability Can Drive Financial Outperformance*. Available at: https://ssrn.com/abstract=2508281

[37] Friede, G., Busch, T. and Bassen, A. (2015). "ESG and financial performance: aggregated evidence from more than 2000 empirical studies". *Journal of Sustainable Finance & Investment*, 5(4), pp.210–233. Available at: https://doi.org/10.1080/20430795.2015.1118917

[38] Yaffe Kiser, C., Bliss, R. et al (2015). "Project ROI Report: Defining the Competitive and Financial Advantages of Corporate Responsibility and Sustainability". Available at: www.issuelab.org/resource/project-roi-report-defining-the-competitive-and-financial-advantages-of-corporate-responsibility-and-sustainability.html

[39] UNEP Finance Initiative (2005). *A Legal Framework for the Integration of Environmental, Social and Governance Issues into Institutional Investment*. Available at: www.unepfi.org/publications/investment-publications/a-legal-framework-for-the-integration-of-environmental-social-and-governance-issues-into-institutional-investment/

[40] PRI (2019). *Fiduciary Duty in the 21st Century – Final Report*. Available at: www.unpri.org/download?ac=9792&adredir=1

[41] Stockholm Resilience Centre (2015). *The nine planetary boundaries*. Available at: www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html

[42] J. Lokrantz/Azote based on Steffen et al. (2015). "Planetary Boundaries: Guiding human development on a changing planet". *Science*, volume 347, no. 6223.

[43] Ratcliff, A. (2019). "Billionaire fortunes grew by $2.5 billion a day last year as poorest saw their wealth fall." *Oxfam International*, 21 January 2019. Available at: www.oxfam.org/en/press-releases/billionaire-fortunes-grew-25-billion-day-last-year-poorest-saw-their-wealth-fall

[44] PRI (2017). *Macro risks: Universal ownership*. Available at: www.unpri.org/sdgs/the-sdgs-are-an-unavoidable-consideration-for-universal-owners/306.article

[45] UN Sustainable Development Goals (2020). *About the Sustainable Development Goals*. Available at: www.un.org/sustainabledevelopment/sustainable-development-goals/

[46] Sievänen, R., Rita, H., and Scholtens, B. (2012). "The Drivers of Responsible investment: The Case of European Pension Funds". *Journal of Business Ethics*, 117(1), 137–151. Available at: www.researchgate.net/publication/236667333_The_Drivers_of_Responsible_Investment_The_Case_of_European_Pension_Funds

[47] PRI (2019). *Responsible investment regulation map*. Available at: www.unpri.org/sustainable-markets/regulation-map

[48] PRI (2020). *About the PRI*. Available at: www.unpri.org/pri/about-the-pri

[49] PRI (2019). Annual Report 2019. Available at: www.unpri.org/pri/about-the-pri/annual-report

[50] Sustainable Development Goals (2020). *Sustainable Development Goals*. Available at: www.un.org/sustainabledevelopment/sustainable-development-goals