POLITECNICO
MILANO 1863

SCUOLA DI INGEGNERIA INDUSTRIALE
E DELL'INFORMAZIONE

Non-financial information in the FTSE MIB: state of art and perspectives

Tesi di Laurea Magistrale in
Management Engineering - Ingegneria Gestionale

Author: **Chiara Serino**

Student ID: 970782
Advisor: Prof. Marco Giorgino
Academic Year: 2022-23

Abstract

Starting from ancient origins and developing into increasingly structured forms, investments that consider environmental, social and governance (ESG) dimensions are under the spotlight. Companies' ESG performances are factors more and more considered by different actors, such as consumers, employees, investors, authorities and regulators. The level of a company's ESG commitment is shown to stakeholder by the firm itself though the non-financial disclosure (NFD) and by external rating providers, through dedicated ESG ratings. However, concerns are still many and mainly linked to the sources actors rely on: the discretionary way of pursuing the ESG disclosure, with a possible consequence of greenwashing, and the divergency of the available ESG ratings. The objective of this study is to contribute to the existing literature about the level and type of information provided by the non-financial disclosures (NFDs). In order to answer the research question, after a literature review about the topic, sustainability reports published by companies needed to be analyzed. To achieve this result, NFDs drafted by Italian listed companies belonging to the FTSE MIB index were used to extract non-financial information, especially about three areas: stakeholders engaged, Sustainable Development Goals (SDGs) impacted and material aspects considered. Then, the huge amount of collected data was categorized and possibly adjusted according to their final use. From the results, it emerged that the current level of information has a high level of detail in certain issues, such as human resources and climate change; while others are still considered material more in a rough way. Then, it seems that firms still perceive non-financial information as something to be

kept apart from the financial one. Lastly, sometimes it arose a misalignment among the different areas of the study: a demonstrated strong concern about a specific aspect, stakeholder or SDG does not always reflect proportionate attention in the other two areas; this highlighted a lack of a coherent overall view.

Keywords: ESG, ESG investment, NFD, FTSE MIB, reporting, sustainability

Abstract in lingua italiana

Partendo da origini antiche ed evolvendosi in forme sempre più strutturate, gli investimenti che considerano aspetti ambientali, sociali e di governance (ESG) sono sempre più sotto i riflettori. Le performance ESG delle aziende sono sempre più prese in considerazione da diversi attori, come i consumatori, le risorse umane, gli investitori, le autorità e gli enti regolatori. Gli stakeholder valutano le performance ESG delle aziende attraverso la dichiarazione non finanziaria (DNF), fornita dalle aziende stesse, o attraverso i rating ESG, generati da diversi rating provider. I problemi sono ancora molti e soprattutto riguardano proprio le fonti a cui fanno riferimento i diversi attori: la discrezionalità con cui viene redatta la DNF, e i relativi problemi di greenwashing, e la divergenza dei vari rating ESG disponibili. L'obiettivo che si pone questa tesi è quello di contribuire alla già esistente letteratura riguardo al livello e al tipo di informazione che viene fornita attraverso le dichiarazioni non finanziarie. Per raggiungere questo obiettivo, dopo uno studio dello stato dell'arte sull'argomento, è stato necessario leggere diversi report di sostenibilità. In particolare, è stato usato come campione l'insieme delle 40 aziende appartenenti all'indice di Borsa Italiana FTSE MIB di cui sono stati scaricate e lette le DNF. In particolare, il focus è stato su tre aree: gli stakeholder coinvolti, i Sustainable Development Goals (SDGs) impattati e i temi materiali considerati. Una volta raccolta una grande mole di dati, essi sono stati categorizzati e sistemati in base al loro utilizzo finale. Dai risultati è emerso che l'attuale livello di informazione è caratterizzato da un alto livello di dettaglio per quanto riguarda certi aspetti, come quelli delle risorse umane e del climate change; altri aspetti invece sono

ancora considerati materiali in modo più generico. Inoltre, sembra che le aziende percepiscano le informazione di carattere non finanziario in modo non integrato a quelle di tipo finanziario. Infine, in alcuni casi è emersa una scarsa coerenza tra le tre diverse aree di studio: un forte interesse dimostrato per un aspetto specifico, uno stakeholder o un SDG non sempre riflette una attenzione proporzionata in una delle altre due aree, e questo evidenzia una mancata visione d'insieme.

Parole chiave: ESG, investimenti ESG, DNF, FTSE MIB, reporting, sostenibilità

Contents

Introduction

In the past decades firms' environmental, social and governance (ESG) performances have drawn the attention of many actors, from consumers to employees, financial players and regulators. However, despite the strong diffusion of ESG practices, related concerns are still many. The objective of such thesis is to contribute to the state of the art about the current level of information provided through the disclosures, analyzing through an innovative framework the typology and the content of non-financial data present in sustainability reports. The document is organized as follow. The Chapter 1 focuses on environmental, social and governance dimensions, and highlights how ESG have entered the mainstream, with two different approaches, namely, ESG integration and active ownership and the way such criteria entered into the investment process. The Chapter 2 retraces the origins of ESG as today is intended, describing how starting from biblical times as a form of ethical investing, it evolved into more comprehensive forms which included more and more also environmental and governance aspects. The Chapter 3 contextualizes the increasing adoption of ESG criteria through the current regulatory framework, highlighting the most important initiatives and regulation, with a particular focus on those directed toward the financial world. The Chapter 4 describes the actors mainly involved with ESG performances. Changes in the society and in the mindset of consumers and millennials investors played a big role in the ESG diffusion; investors started to consider more and more ESG information in their investments; and sustainability rating providers expand the presence of data about firms' ESG performances, contributing to reduce information asymmetry and helping stake-

holders in their decision-making. The Chapter 5 provides major perks – i.e. strategic, operational and financial benefits – and problems – i.e. ratings divergency, greenwashing and disclosure – in the utilization and diffusion of ESG criteria. The Chapter 6 describes the data sample and explains how the database to categorize information collected from disclosures was built. Lastly, Chapters 7 and 8 presents and analyzes results, suggesting future research development.

1 | ESG criteria

The 21st century has seen the widespread of environmental, social and governance (ESG) aspects also into financial mechanisms. The term ESG refers to criteria and logics which guide strategies and investment with the aim of generating a positive impact on the environment and the society and having an ethical governance. Each of them includes different factors, which may slightly vary case by case. The list in 1.1 is provided just as an example to give a generic overview of what is typically included in each area (CFA Institute, 2023).

Environment	**Social**	**Governance**
Climate change	Customer satisfaction	Board composition
Air and water pollution	Gender and diversity	Audit committee structure
Biodiversity	Employee engagement	Bribery and corruption
Deforestation	Community relations	Executive compensation
Use of renewable energy	Human rights	Lobbying
Waste and hazardous materials management	Labor standards	Political contributions
Water stress	Data protection and privacy	Whistleblower schemes

Table 1.1: Examples of E, S and G factors

ESG investing may be defined as the "consideration of environmental, social and governance factors alongside financial factors in the investment decision-making process"

(MSCI, 2022). Currently, ESG investing has become a form of sustainable finance of primary importance, shifting "from early stages development to mainstream finance in some OECD jurisdictions" (OECD, 2021). In all of its shades, ESG investing is 2021 rose to almost $40 trillion (Bloomberg, 2021), and it is estimated that ESG assets would exceed $53 trillion by 2025, driven by investor demand, government regulation and societal pressure (Bloomberg, 2019).

1.1. E for environment

As will be explained in Section 2.3, concerns for environmental aspects emerged as a consequence of disasters caused by the human being during the 1990s. An increasing interest in environmental performance of organizations concerns the pollution issue, that may negatively impact internal stakeholders – i.e., employees in work environment – and external ones – which embed, among others, local communities, activists, regulators and clients (Jasch, 2006). Despite that environmental screening practices derived from the concept of environmental stewardship (Cui et al., 2015), behind which there is the idea of caring not only for own wellbeing but also others' and future generations' ones, with the time they were considered also as instrument to lower the risk and enhance performances. Indeed, sensible companies tries to minimize their environmental impacts, taking into consideration aspects such as greenhouse gasses (GHG) emissions and climate change, energy, waste management, natural resources consumption, water management and biodiversity, as these factors could pose a risk to a company's long-term financial well-being and survival (Tarmuji et al., 2016; Henisz et al., 2019; Senadheera et al., 2021). Moreover, a stronger environmental performance not only avoid the just mentioned risks, but also it can improve the value of the firm, generate competitive advantage for eco-friendly products and services and attract new stakeholders (Melnyk et al., 2003; Boffo et al., 2020; Dragomir, 2020). A good en-

vironmental practice on operational activities can generate reasonable costs saving as well as keeping away from the business effect of the contamination issue (Jasch, 2006). Environmental performances may be further improved thanks to technology and product innovation because they seem able to reduce environmental costs and problems for clients, creating in this way new market opportunities. In addition, they also attract sustainability-oriented investors and green business (Nordea Equity Research, 2017). Unfortunately, such technologies are still characterized by a high capital cost, inserting a barrier for adoption of environmental approaches, particularly for small companies.

1.2. S for social

The social pillar is related to labour relations, health and safety, training and development, diversity and opportunity, product responsibility, community, human rights (Marsat & Williams, 2014; Tarmuji et al., 2016; Henisz et al., 2019). For corporations, these areas imply "social expenses", which can be toward either internal stakeholders (f.i. human resources) through for instance training and development, or external stakeholders (f.i. customers and local communities) with customer satisfaction, education, donations, etc. (Løwendahl & Revang, 1998; Marsat & Williams, 2014). Social pillar demonstrated a positive relationship with firm value, and more in detail such results are particularly strong if considering human capital. Social expenses toward human recourses generates higher labour productivity and shareholder value consequently – if their marginal expenses are lower than their marginal benefits –, confirming that social expenses toward employees are a "social investment" producing intangible assets, that raise firm market value and take part in the global financial goodwill (Marsat & Williams, 2014). A positive implication of including social issues is that they generate trust and loyalty toward its workforce, customers and society; thus, companies with good social performance are more attractive both for employees and clients and gener-

ate through social performances two intangible assets: human capital and reputation (Turban & Greening, 1997; Tarmuji et al., 2016). Hence, it is possible to say that the management of social issues can lead also to lower the financial risk, as it works on the generation of cash flows – through productivity and reputation – and the discount rate[1] – through "insurance-like" benefits and "ethical premium" (Godfrey et al., 2009; Marsat & Williams, 2013).

1.3. G for governance

Definitions of corporate governance vary considerably (Claessens, 2003) as it encompasses different areas of interaction, such as management, ethical, legal, regulatory, structural, and behavioral aspects (Garzón Castrillón, 2021). However, the traditional definition of corporate governance is the one suggested by the Organization for Economic Cooperation and Development (OECD), which defines it as "the system by which business corporations are directed and controlled" (OECD, 2016). Depending on the point of view considered, such definition can have different meanings. Traditionally, corporate governance has been perceived as a model designed to guarantee shareholder that their investment is managed to achieve profitability and efficiency (Garzón Castrillón, 2021;) and to protect them from opportunistic behavious of managers (Roberts & Van den Steen, 2000). For instance, the chairman of the Securities and Exchange Committee (SEC) between 1993 and 2001 Arthur Levitt defined corporate governance as "the relationship between the investor, the management team and the board of directors of a company" and stated that to pursue a good corporate governance is necessary an open and honest communication between the groups (Levitt, 2002). This view relies on the so called "Agency theory", developed for the first time by Adam Smith in 1776, according to which the relationship between principal (shareholders) and agents

[1]Considering the present value model, the goodwill has two components: cash flows and discount rate

(managers) may be conflictual if not properly balanced, because it is "inherently impossible for the agent to represent the principals' viewpoint in all respects" (Jensen & Meckling, 1976). In order to avoid tensions between managers and company owners – the so called agency problems[2] – it emerges the figure of the board of directors, used by companies to control their executives (Dalton et al., 1998), and it is crucial that ethical standards and regulatory provisions are included in corporate governance reports. Following such perspective, the final aim of a good governance is to "protect shareholders from the power of managers, as well as to ensure that there is good control of the former towards the latter, avoiding the agency problems existing between them" (Garzón Castrillón, 2021). More recently, governance has been increasingly applied to a more extensive form of monitoring of corporate activities, including the impact on society and the environment (Naciti et al., 2021). Corporate governance can indeed be defined as a set of rules and organizational structures that are the basis for correct business operation, understood as compensation for the interests—sometimes divergent—of stakeholders (du Plessis et al., 2018). This view can find its origins into the "Stakeholder theory", according to which corporations exist for the purpose of serving its stakeholders, i.e., "any group or individual that can affect or be affected by the achievement of the company's objectives (Freeman, 1984). So, such term includes business constituents to be considered in the decision-making process, such as the management, shareholders, creditors, employees, customers, suppliers, local communities, competitors, authorities and the general public (Schilling, 2000; Hill & Jones, 1992; Aoki, 2001). Such approach implies that corporate governance is oriented toward the safeguard, interests and the remuneration of all participants (Aoki, 1991) and affected by the relationships among agents who intervene in the corporate governance system, but also by laws and regulations, voluntary adaptation and, more importantly, to market forces (Garzón Castrillón, 2021). Thus, the company may be defined as a "nexus of

[2]Agency problems are developed in the agency theory by Jensen and Meckling (1976). This theory was later expanded by Tosi and Gomez-Mejia (1994)

contracts" among the stakeholders or "an agreement according to which the company constitutes a cooperative game between the different stakeholders" (Aoki, 2001).

The 20th century saw numerous efforts to resolve agency issues, through legislative actions and regulatory processes and numerous proposed theories and solutions by academics, practitioners and politicians (Grant, 2003). Now, the recognized international standards for corporate governance are the G20/OECD Principles of Corporate Governance. Firstly issued in 1999 and endorsed by G20 Leaders in 2015, the OECD Principles have become relevant for policy makers, investors, corporations and other interest groups around the world (OECD, 2015). They provide guidelines to good practices, adaptable to different countries (members or non-members of the OECD), whether for legislative and regulatory initiatives in member and non-member countries. The Principles themselves are evolutionary in nature and are reviewed in light of significant changes in circumstances in order to maintain their role as a leading instrument for policy making in the area of corporate governance. Currently, OECD Principles are being revised and updated principles will be issued during the 2023. The Principles focus on publicly traded companies, both financial and non-financial. To the extent they are deemed applicable, they might also be a useful tool to improve corporate governance in companies whose shares are not publicly traded. Nowadays, the good corporate governance concept included in ESG criteria refers to good practices and ethical principles, so it incorporates management remuneration, respect of shareholder rights, transparency of company's decisions, respect of minorities (ESG360, 2021). Having a good corporate governance leads to efficiency in capital allocation and preservation and growth of capital. On the contrary, a poor governance is costly for both shareholders and other stakeholders, as without an efficient capital allocation and growth businesses are unsustainable and unlikely to provide either appropriate returns for shareholders or long-term positive impacts for societal development (Khan, 2019).

Among the three dimensions, there is still not a balance in terms of investments and

legislative interventions: typically, the environmental one is the most popular (BlackRock, 2020; Macrì, 2022). The 2020 "Sustainability goes Mainstream" research by BlackRock showed how the E is perceived as the predominant pillar with respect to S and G. Investors[3] involved in the research were asked to rank their focus on E, S and G today and for the future 3-5 years: the 88% of the respondents put the Environmental as a priority of today (against the 52% and 60% putting as priority respectively Social and Governance), while for the future years, even if Environmental still remain in the majority of the cases the priority, Social pillar would gain more importance (up to 58%) and Governance would decrease it (to 53%) (BlackRock, 2020). Additionally, according to Simona Merzagora, managing director of NN Investment Partners, and Michele Gambera, co-head of strategic asset allocation di UBS Asset Management, the S dimension is today still the less developed one and many people think about ESG just as an environmental issue (Conti, 2022). Actually, a more recent analysis conducted by the Milano-Bicocca University in 2022 – following the 6th questionnaire by Osservatorio ESG of Plus24 and Ufficio studi del Sole 24 Ore – on firms listed on BIt, highlighted how governance of sustainability is the key factor to catch the listed greenest company, as it generates better awareness and communication and better monitoring of results (D'Angerio, 2023).

1.4. ESG investment techniques

ESG investing is an "approach that focuses on non-financial dimensions of a stock's performance, including the impact of the company on the environment, a social dimension, and governance" (van Duuren et al., 2015). ESG issues become more and more integrated into mainstream portfolio management. In order to respond to the demand from asset owners, asset managers started using different ESG strategies (Melas et al., 2017). Such strategies can be implemented either when building a portfolio,

[3]Investors were 425 from 27 countries and representing about $25 trillions assets under management

so since the beginning of the investment management process, or during an already started investment, trying to improve investees' ESG performance. In these two distinct moments, different approaches to consider ESG issues may be identified: "ESG incorporation" and "active ownership" (UN PRI, 2020). The following tables 1.2 and 1.3 have been generated through the integration of classification and definitions provided by UN PRI[4] and Etica SGR[5] and present the two approaches just mentioned. ESG incorporation is the act of considering ESG issues when building a portfolio, and it can be done through a combination of three approaches: integration, screening and thematic.

[4]https://www.unpri.org/introductory-guides-to-responsible-investment/an-introduction-to-responsible-investment-screening/5834.article

[5]https://www.eticasgr.com/storie/approfondimenti/investimenti-esg-che-cosa-sono

Negative screening	Avoidance or exclusion of either firms or industries
Positive screening	Concentrating only on particular firms or industries
Best-in-class screening	Investing only in firms with a better ESG performance relative to industry peers
Norm-based screening	Considering only firms or industries based on the compliance to some norms or against minimum standards
Sustainability-themed investing	Investment in themes or assets specifically related to a sustainability topic or megatrend (e.g. clean energy, green technology or sustainable agriculture)
ESG integration	Systematic and explicit inclusion of sustainability criteria into the allocation strategy, investment decision and into the different stages of the investment process
Impact/community investing	Investments into organizations generating a positive and measurable social, environmental impact, together with the financial return (e.g. microfinance)

Table 1.2: ESG incorporation

Engagement	Discussing ESG issues with portfolio companies' management to improve their business practices. It can be done by a single investor ("individual engagement"), by a group of investors ("collaborative engagement") or through a third party ("service provider engagement")
Proxy voting	Formally expressing approval or disapproval through voting on resolutions and proposing shareholders resolutions on specific ESG issues

Table 1.3: Active ownership

1.5. ESG investment process

Many providers of investment services offer the incorporation of ESG into investment strategies, collecting information and analyzing each of the three pillars (van Duuren et al., 2015). Considering a typical investment management process, ESG criteria may took part in each of the steps. (i) *Origination.* The origination phase defines and incorporate impact principles into the investment strategy. Investment opportunities according to ESG are searched. (ii) *Screening.* The screening phase involves a preliminary feasibility analysis based on ESG criteria of the investment opportunities identified in the origination step, to assess whether such investments can qualify as sustainable. (iii) *Due diligence.* For those investments worth pursuing a specific assessment, the Social and Environmental Impact Due Diligence, will be carried out to estimate and quantify the potential impact of the investment. There are several key steps used to perform ESG due diligence. In order to pursue the analysis, collection of significant information and KPIs setting are the first necessary steps. An interaction with the company's stakeholders (such as employees and managers) could be useful, to gather information mainly about the governance of the company, but in some cases also about environmental or social issues. In second place, "background checks" on decision-makers should be done to highlight possible problematic behaviours of key stakeholders, in order to assess the risk level of working with each individual. After, a review on the company's financial position as well as its accounting policies are necessary. Then, once information about stakeholders and accounts are gathered, inspections are performed, mainly to check work conditions and other social related issues. Eventually, the final step is to compile a risk assessment, where the risk level of E, S, G are evaluated. Here, also recommendations based on the obtained information are provided. (iv) *Investment.* In the investment phase, a full integration of ESG criteria into the investment agreement should be guaranteed, and so, KPIs and targets are

defined. Usually, this phase is supported by the use of international frameworks (e.g. GIIN's IRIS Catalog of Metrics), that can provide standardization and comparability in terms of communication of results. (v) *Monitoring.* The monitoring phase is pursued to check the progress of predetermined KPIs and targets achievements and highlights any deviation between targets and actual results. (vi) *Disinvestment and Exit.* Finally, the results obtained through the investment are measured and a final report may be draft, to indicate the success or not of the investment. In this context, also the private equity[6] (PE) industry is showing an increasing interest for ESG strategies, and as the top 10 private equity firms highlighted, incorporating ESG measures "seek to meet demand for ESG, differentiate themselves from their peers, better align stakeholder interests, and most importantly, mitigate risk while maximizing returns, both financial and non-financial" (Alfonso-Ercan, 2022). As a demonstration of the growing interests three main different trends of the last years may be presented. First of all, a larger number of private equity firms is incorporating ESG factors: from the PwC Global PE Responsible Investment Survey, the 37% of interviewed have rejected an investment because of ESG concerns. Another survey, conducted by the Institutional Limited Partners Association (ILPA) and Bain & Company in 2022, revealed that more than the 75% of respondents[7] considers ESG as an important part of the PE investment policies. Around the 85% of them embeds at some ESG initiatives, with fully ESG integration in more than half. Secondly, an increase in the ESG capital commitment has been registered. Indeed, in 2019 PE funds raised the third-highest amount of money (around $595 billion) while simultaneously seeing an increase in ESG capital commitments by UN Principles for Responsible Investment (UNPRI) signatories. Thirdly, the investor base is diversifying more and more, ranging from HNWIs to institutional investors (Alfonso-Ercan, 2022; Lino et al., 2022). From the Bain & Company and

[6]Private equity investing is the purchase of shares of a non-listed company. This is mainly done by three different actors: business angels, private equity funds (also called private equity firms) and hedge funds

[7]For the survey more than 100 LP organizations were interviewed

ILPA survey, it emerged also that only the 43% of interviewed consider ESG criteria during the screening phase. Of these, a 66% uses them for negative screening, a 40% for a norms-based screening and a 41% for a positive screening. In the due diligence phase ESG criteria are taken into consideration by the 73% of respondents, in particular during the committee discussions about investment evaluation (84%), general partners questionnaires or due diligence questionnaires (63%), and assessment frameworks and internal scorecards (49%). During the portfolio management, only the 50% declared to adopt ESG, especially through assessment of ESG-based risk (88%), ongoing ESG performance and key performance indicator (KPI) monitoring (73%), and consideration of ESG-based value-creation opportunities (59%). The ESG evolution in the PE industry is being contained mainly by the issues faced in the collection of ESG information, needed for the monitoring and measurement. An evidence of this is the result of the Morgan Stanley's 2018 Sustainable Signals Asset Owners Survey, where the 23% of investors identified the quality of ESG data as their top challenge As will be detailed in Section, one of the major cause of this is the lack of reporting standardization, which obstruct data availability, homogeneity, accuracy, materiality, completeness, and reporting frequency (Morgan Stanley, 2018; Alfonso-Ercan, 2022; Lino et al., 2022).

2 | The road toward ESG themes

2.1. The origin in religious movements

The origins of ESG must be searched backward in time: what today is called ESG was born with another name and evolved during time. A first insight of ethical investment may be dated back to biblical times, as the Old Testament explicitly encouraged not to collect any kind of interest from the poor and even to cancel the debt and to avoid usury practice (Levitico 25, 36-37; Deuterinomio 15, 1-11). Such teachings have been also put into practice by the Christian Church, which during the centuries imposed many restrictions on loans, interests, investments: at the Council of Nicea in 325, interest charge by clerics was banned; in 850 lay usurers were excommunicated; in the 11th century usury was considered equal to robbery; in 1139 usury was completely banned by the Second Lateran Council (Homer & Sylla, 1991). Even if during the 15th, theologians and philosophers started to oppose the ban, leaning on the distinction between loans for consumption and loans for production and placing usury restrictions only on the former, it officially has not been relaxed until the 19th century (Lewison, 1999). Besides the rejection of usury, investors also opposed certain economic practices with reference to their religious convictions (Diener & Habisch, 2022). During the 18th century, the Quakers[1] boycotted companies that profited from slavery or war (Kinder

[1]Quakers are members of the Religious Society of Friends, a Protestant Christian group born in England in the mid-17th century

& Domini, 1997), and the Methodist communities[2] banned the purchase of "sin stocks" – namely, stocks of companies involved in the industry of gambling, tobacco or alcohol (Martini, 2021). The English theologist and founder of the Methodism John Wesley highlighted that the use of money was the second most important subject to be taught in the New Testament (Schueth, 2003). Inspired from that, he wrote the sermon "The use of money"[3], where it is contained his rule of conduct: "We cannot devour the increase of his[4] lands, and perhaps the lands and houses themselves, by gaming, by overgrown bills (whether on account of physic, or law, or anything else), or by requiring or taking such interest as even the laws of our country forbid. Hereby all pawn-broking is excluded. [...] Gain all you can by honest industry." (Wesley, 1760). The interest for the ethical finance became strong also in the U.S., where in 1928 the first American ethical fund was launched: the Pioneer Fund. It was the first fund to apply negative screening for "sin stocks" used by Quackers (Kinder & Domini, 1997; Renneboog et al., 2008). Besides its origins in Jewish and Christian religions, ethical investing has its roots also in Islamic teachings (Ben Arab, 2009). They indeed share similar criteria for negative screening. Based on the Koran's law, Islamic finance is characterized by the following main principles: (i) ban on receiving and paying interests ("riba") and usury; (ii) prohibition of stock acquisition of companies which are directly or indirectly attributed to interest[5]; (iii) ban on uncertainty[6] ("gharar"); (iv) ban on investments in companies involved in completely unacceptable ("haram") products and businesses,

[2]The Methodism is a group of historically related denominations of Protestant Christianity whose origins, doctrine and practice derive from the life and teachings of John Wesley during the 18th century

[3]The sermon was published in the form of book in 1760

[4]"His" is referred to the neighbor

[5]Companies that provide financial services on interest, such as interest-based banks, insurance companies, finance and leasing companies, etc., also fall under this category of prohibition

[6]The uncertainty is given by the selling of something that is not owned or that cannot be described in accurate detail in terms of type, size and amount

such as liquor, pork, gambling, discos, prostitution, night club, pornography and pubs[7] (Renneboog et al., 2008; von Wallis & Klein, 2014; Alam et al., 2017).

2.2. The 1960s: from religious to social criteria

Until the mid-20th century, socially responsible investing (SRI) remained a religiously centered, small movement (Martini, 2021), as "ethical investors" were church investment bodies (McCann et al., 2003) and screening was done according to religious beliefs. On the contrary, more modern form of SRI will also be based on the varying personal ethical and social convictions of individual investors (Renneboog et al., 2008). With the social activism of the 1960s due to protests against the Vietnam War (1955-1975), the boycott campaign against weapons suppliers, the selling of napalm-producing Dow Chemical[8] shares (Biller, 2007) and proposals on civil rights and democratic participation, the phenomenon of negative screening spread more and more (Entine, 2003) and SRI started to develop also outside the religious sphere (Martini, 2021). Additionally, the evolution of SRI was signed by the moves against the South Africa's practice of apartheid during the 1970s (O'Brien, 1992). Besides social movements, also legislative measures were taken by American and European governments; for instance, in 1986 the United States Congress enacted the Comprehensive Anti-Apartheid Act to impose sanctions against South Africa and ban investments there. Governments urged investors and companies to withdraw their investment from South Africa and pushed mutual funds not to include in their portfolios South-African companies nor firms with

[7] "And you see many of them hastening into sin and aggression and the devouring of [what is] unlawful. How wretched is what they have been doing." [Al Quran 5:62]

[8] Dow Chemical is an American company operating in the chemistry industry. At the time of the Vietnam War, Dow Chemical was the military's sole supplier of napalm, becoming the target of anti-war activists. Over a five-year period, Agent Orange was sprayed over 10% of South Vietnam in a technique, called "herbicidal warfare". This combination of toxins was developed for the United States Department of Defense by Dow Chemical and Monsanto, and its use has been described as "ecocide," an "environmental catastrophe," and a "moral calamity" (Zierler 2011)

South-African subsidiaries (Renneboog et al., 2008). The combination of such context with the establishment during the 1970s of Community Development Banks[9], marked the beginning of the "modern SRI" (Solomon et al., 2002; Sparkes & Cowton, 2004). Indeed, during these years such practice resulted also into dedicated SRI retail funds open to the public (McCann et al., 2003), that switched some years later from applying merely a negative screening to a positive one (Martini, 2021). The first SRI retail fund in Europe was founded in Sweden in 1965, by the insurance company Aktie-Ansvar and with the participation of the Church, and took the name of Ansvar Aktiefond Sverige (Kerander et al., 2004; Lulewicz-Sas & Kilon, 2014). In 1968, the securities analyst Alice Tepper Marlin was asked to create a "peace portfolio", embedding corporations characterized by the least involvement in providing weapons for the Vietnam war (O'Sullivan, 2011). In 1971, a Methodist group launched the Pax World Fund to "make a contribution to world peace" (O'Brien, 1992), providing an alternative for investors who did not want to support even indirectly the Vietnam war, so excluding from investments armament manufacturers, along with alcohol and gambling industries (O'Brien, 1992; Kreander et al., 2004; Townsend, 2020). In 1972, the Dreyfus Third Century Fund was launched as the first fund to include what later on will be defined as "best in-class" screening: its objective was to look for companies that "show evidence in the conduct of their business, relative to other companies in the same industry or industries, of contributing to the enhancement of quality of life in America" (Townsend, 2020). In Italy, the earliest form of modern ethical finance dates back to 1978, with the creation of the first Mutua per l'autogestione[10] (MAG), a financial cooperative which collected liquidity from shareholders and under form of social capital on a fiduciary basis, to finance ethical projects at advantageous rates and reinvest profits in similar

[9]CD banks are depository institutions with a mission to primarily benefit people who have been locked out of the traditional financial systems, by providing financial services to low-and moderate-income individuals or communities (https://www.cga.ct.gov/PS97/rpt/olr/htm/97-R-0376.htm)

[10]The first MAG in Italy founded in Verona, followed two years later by the MAG in Milan

projects. In France, the first ethical fund arose in 1983, with the name of Nouvelle Strategies Fund, followed the year after by the Friends Provident Stewardship Fund in U.K.; both were founded and conducted by the Church (Lulewicz-Sas & Kilon, 2014).

2.3. The 1980s: diffusion of environmental concerns

Before the 1980s, the focus of SRI has been turned to religious and social aspects, but with the occurrence of critical events concerning the environment something changed. In 1984, a chemical disaster in Bhopal exposed people living around to a highly toxic gas; in 1986, the Chernobyl nuclear power plant in the former Soviet Union exploded, causing an increase in cancer deaths due to the radioactive material across Europe; in 1989, the oil supertanker Exxon Valdez got stranded near Alaska and spilled more than 40 million liters of crude oil (Schueth, 2003; Renneboog et al., 2008). With the happening of these and other environmental disasters, investors started to become more aware of the harmful environmental effects of industrial development (Renneboog et al., 2008) and the "environment" moved ahead in socially concerned investors' minds (Schueth, 2003). Climate scientists were expressing their increasing worries about the burning of fossil fuels and the rise in global temperatures, such as the NASA scientist James Hansen who during the US Congress in 1988 declared to be "99% certain" that green-house gases were causing global warming (Shabecoff, 1988). Concerns increased to the point that different important cooperations started to form. In 1988, two UN agencies, namely the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), established the Intergovernmental Panel on Climate Change (IPCC) to initially prepare a comprehensive review and recommendations with respect to the state of knowledge of the science of climate change, its social and economic impact, and potential response strategies to include in a future international convention on climate. As a right consequence of the Exxon Valdez disaster,

the socially responsible investing pioneer Joan Bavaria cooperated with environmental leaders to create a group of institutional investors, environmental organizations, and socially responsible investors[11]: the Coalition for Environmentally Responsible Economies (CERES), which gave birth to the Valdez Principles[12] – successively renamed as CERES principles – to guide and evaluate companies with regard to their environmental responsibilities (Sanyal & Neves, 1991). The objective was to create a "voluntary mechanism of corporate self-governance that will maintain business practices consistent with the goal of sustaining our fragile environment" (CERES, 1990). The coalition initiated the road toward greater transparency on environmental issues of publicly traded corporations, continued later by other initiatives such as the Global Reporting Initiative[13] (GRI) and Sustainable Accounting Standards Board[14] (SASB). Some years after, the Kyoto Protocol[15], an international treaty aimed at the reduction of greenhouse gas emissions to prevent global warming, was agreed to in 1997 and entered into force in 2005 (Emerick, 2022). It puts into practice the United Nations Framework Convention on Climate Change[16] (UNFCCC) by committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets and to report periodically.

[11]From the start, the CERES coalition included environmental nongovernmental organizations (NGOs) like the National Wildlife Foundation, religious investors including the Interfaith Center for Corporate Responsibility (ICCR), large-asset owners such as the City of New York Pension Fund, and traditional SRI firms

[12]Valdez principles are a voluntary set of 10 principles for large companies to sign: (https://www.gdrc.org/sustbiz/ceres-principles.html)

[13]GRI was founded in Boston in 1997, from the collaboration between CERES and Tellus Institute, with the support of UNEP

[14]SASB is a non-profit organization, founded in 2011 by Jean Rogers to develop sustainability accounting standards

[15]The Kyoto protocol became in force in 2005, with 192 countries signing the agreement, making it one of the most widely supported treaties in history (https://www.esgthereport.com/what-is-the-kyoto-protocol-and-why-is-it-important/)

[16]The UNFCCC was signed in Rio de Janeiro in 1992

2.4. The 1990s: ethical consumerism and SRI indexes

Since the 1990s, SRI industry expanded a lot in the U.S., the Europe and all over the world. Such growth was also due to the ethical consumerism which characterized costumers: they were willing to pay a premium price for product aligned with their personal values. For example, the consumer market for ethical products and services in the U.K. was valued at 59$ billion in 2005. This also pushed criteria like transparency, governance and sustainability to emerge and become essential in the decision-making (Renneboog et al., 2008). The 1990s are also characterized by the birth of the first SRI indexes: one of the first ones is The Domini 400 Social Index (now MSCI KLD 400 Social Index), launched in 1990 by KLD Research & Analytics. It is a capitalization weighted index of 400 U.S. securities that provides exposure to companies with outstanding ESG ratings and excludes companies whose products have negative social or environmental impacts (Martini, 2021).

2.5. The 2000s: increasing concerns for governance failures

The subject of corporate governance came into vogue in U.S. during the 1970s and has become more and more debatable all around the world because of its importance for the economy of corporations and society (Arjoon, 2005; Cheffins, 2011;Chandrakant & Rajesh, 2022). Its popularity increased also because of the frequent corporate failures in the 2000s, which later created more and more pressure on organizations to pursue good governance practices (Chandrakant & Rajesh, 2022). The years of the 2000s were characterized by a bad or a lack of corporate ethics, which gave rise to many

bankruptcies. The first critical failure of those years was the one of Enron Corporation, an American energy, commodities, and services company. Until 2001, it was the seventh largest company in U.S., claiming around $101 billion revenues. In 2001 it was revealed that its reported financial condition hid an "institutionalized, systematic, and creatively planned accounting fraud", known later on as the "Enron scandal" (Li, 2010). As a consequence, Enron Corporation went bankrupt and its audit firm Arthur Andersen was dissolved. Aside from representing one of the largest corporate bankruptcies in the U.S.[17], the failure of Enron corporation has raised the discussion about the effectiveness of contemporary accounting, auditing and corporate governance practices (Vinten, 2002) and demands for democratized structures of corporate power, improved managerial accountability and legislated regulatory reform (Petrick & Scherer, 2003). In 2002 it was estimated that 250 companies would need a corporate restatement, compared to the 92 in 1997, but despite so, most of the corporate scandals of 2000s were caused by accounting irregularities. Similar stories to the one of Enron are the ones of Worldcom Inc and Conseco, that in 2002 registered a bankruptcy of respectively $103,91 and $61,39 billion assets; actually, many other companies contributed to the market decline and corporate scandals. As response to scandals and their derived concerns, the U.S. Congress passed the Sarbanes-Oxley Act of 2002, founding the Public Company Accounting Oversight Board, with the aim of improving regulatory fails of the securities industry and to instill the ideals of corporate governance into businesses (The Sarbanes-Oxley Act, 2002; Grant, 2003).

[17] As of March 2023, the one of Enron corporation is still one of the largest bankruptcies in the U.S., holding the 9th position by asset at the time of bankruptcy (https://www.statista.com/statistics/1096794/largest-bankruptcies-usa-by-assets/)

2.6. 2004-2006: the "ESG" acronym and the UN PRI

In such context, the term "ESG" was coined in 2004 by James Gifford, currently the Head of Sustainable and Impact Advisory and Thought Leadership for Credit Suisse. At the time, he was a PhD student attending the just founded Environment Programme Finance Initiative by United Nations (UNEP FI) in Geneva. After the stage, he was hired in the same department and they started to coin the structure of a new segment of finance with the acronym "ESG": shares and bonds issued by firms and countries aimed at environmental improvements or no harms. Before that moment, such aspect was ignored by the financial industry, even if potentially relevant for investment yields (D'Angerio, 2022). In April 2006, the United Nation's Principles for Responsible Investment (UN PRI) were launched at the New York Stock Exchange, as a response to the still not sufficient reflection of sustainable development principles in investment decision-making. With the objective to encourage managers of big institutional funds, pension funds, investment funds, to consider environmental and social impact of their decisions. The PRI report made reference of ESG criteria for the first time. More in detail, they were required to be incorporated into investment analysis and decision-making processes, ownership policies and practices and to be searched for into investee disclosures (Atkins, 2020). The six UN PRI are listed in Table 2.1.

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

Table 2.1: Principles for Responsible Investment

At the time, investment companies[18] that signed the UN PRI were 63, with $6.5 trillion in assets under management (AUM). In 2019, there were already 2450 signatories representing over $80 trillion AUM. In 2022, signatories became 4902, with an estimated total of $121.3 trillion AUM (UN PRI, 2022; Atkins, 2020).

[18]Composed of asset owners, asset managers and service providers

3 | Initiatives and regulations

The importance ESG issues are continuously gaining comes from a combination between a top-down pressure (i.e., the regulatory framework) and a bottom-up one (i.e., the society). According to Research in Finance, these two forces contribute to the continuous growth of the so called "snowball effect[1]" of responsible finance (Dominy, 2021). The European sustainable development framework has its roots in the 2015 Paris agreement on climate change (COP 21), the UN 2030 Agenda for Sustainable Development and the EU 2030 climate & energy framework, adopted in October 2014 (Martini, 2021).

3.1. Paris Agreement 2015

The Paris Agreement[2] has been adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, on 12 December 2015 and it entered into force on 4 November 2016. Among many goals, its members agreed to reduce emissions, track progress in a transparent and accountable way, reinforce the ability to face climate change's impact and support developing countries.

[1] A process in which something increases its size or importance at a faster and faster rate

[2] For more detailed information visit: https://climate.ec.europa.eu/eu-action/international-action-climate-change/climate-negotiations/paris-agreement_en

3.2. The 2030 Agenda

The 2030 Agenda for Sustainable Development[3] was launched by United Nations in 2015 but its official start was at the beginning of 2016. All the 193 Member States of the United Nations declared their commitment to the transition towards a more sustainable and resilient model and to the goals accomplishment before 2030. The Agenda poses 17 Sustainable Development Goals – with 169 targets and more than 240 indicators –, about three dimensions: environment, society and economy, that combined all together result in the partnership for sustainable development. The list of the 17 SDGs and their relative category is provided in Table 3.1.

[3]For more detailed information visit: https://unric.org/en/united-nations-sustainable-development-goals/

	Name	Main category
Goal 1	*No Poverty*	Social
Goal 2	*Zero hunger*	Social
Goal 3	*Good health and well-being*	Social
Goal 4	*Quality education*	Social
Goal 5	*Gender equality*	Social
Goal 6	*Clean water and sanitation*	Environmental
Goal 7	*Affordable and clean energy*	Social
Goal 8	*Decent work and economic growth*	Economic
Goal 9	*Industry, innovation and infrastracture*	Economic
Goal 10	*Reduced inequalities*	Economic
Goal 11	*Sustainable cities and communities*	Social
Goal 12	*Responsible consumption and production*	Economic
Goal 13	*Climate action*	Environmental
Goal 14	*Life below water*	Environmental
Goal 15	*Life on land*	Environmental
Goal 16	*Peace, justice and strong institutions*	Social
Goal 17	*Partnerships for the goals*	Partnerships

Table 3.1: Sustainable Development Goals

3.3. The 2030 climate & energy framework

The 2030 climate & energy framework[4] includes targets and policy objectives for the 2021-2030 period. Under the Paris Agreement, members' commitment was to reduce GHG emissions by at least 40% by 2030 compared to 1990; with the 2030 climate &

[4]For more detailed information visit: https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2030-climate-energy-framework_en

energy framework, such target was raised to at least 55%.

For what concerns the financial world, specific regulatory frameworks have been introduced for finance and sustainable development. The European national regulatory system is assigning an increasingly responsibility for the generation of social and environmental value to the way of doing business and finance. Indeed, the European Union is defining an ecosystem of compulsory requirements about ESG, providing compliance, disclosure, and measurement obligations for finance players. The most important regulations are presented below.

3.4. Action Plan on Financing Sustainable Growth

In March 2018, an "Action Plan on Financing Sustainable Growth" was published by the European Commission. It explained how to establish a financial system promoting a sustainable growth from an economic, social and environmental point of view, by contributing to the implementation of the Paris Agreement and the 2030 Agenda for Sustainable Development. The plan indicates ten actions to be implemented in order to: 1. Shifting capital flows towards investments with positive concrete impacts, and so toward a more sustainable economy 2. Mainstreaming sustainability into risk management 3. Fostering transparency and long-term view in financial activities

3.5. Sustainable Financial Disclosure Regulation

In December 2019 the European Commission published the regulation on sustainability-related disclosures in the financial services sector, in order to provide "harmonized rules for financial market participants and financial advisers on transparency with regard to the integration of sustainability risks and the consideration of adverse sustainability impacts in their processes and the provision of sustainability-related information with respect to financial products" (Busch, 2023).

Article 2 of such regulation contains relevant definitions that put order in the taxonomy. For the objective of the analysis, it is relevant to mention the ones below.

Sustainable investment: "Investment in an economic activity that contributes to an environmental objective, [...] or [...] to a social objective, [...], or an investment in human capital or economically or socially disadvantaged communities, provided that such investments do not significantly harm any of those objectives and that the investee companies follow good governance practices [...]";

Sustainability risk: "an environmental, social or governance event or condition that, if it occurs, could cause an actual or a potential material negative impact on the value of the investment";

Sustainability factors: "environmental, social and employee matters, respect for human rights, anti-corruption and anti-bribery matters".

It is then important to highlight the content of Articles 7, 8 and 9, which introduces a distinction in the financial product's extent of achieving ESG objectives.

Article 7: Transparency of adverse sustainability impacts at financial product level For each financial product, financial market participants are required to publish on their website a clear and reasoned explanation of whether and how financial products take into account adverse sustainability risks (Article 4, a). In the case in which financial market participant does not take into account the negative effects of investment decisions on sustainability factors, they must explain them and the reason therefor (Article 4, b).

Article 8: Transparency of the promotion of environmental or social characteristics in pre-contractual disclosures If a financial product promoted among its characteristics, environmental or social characteristics, investing in companies that follow good governance practices, the information to be communicated must include:

a. How these characteristics are met

b. The methodology to use for the measurement of these characteristics

Article 9: Transparency of sustainable investments in pre-contractual disclosures If a financial market participant promotes a financial product that has a sustainable investment as its objective, for which an index is defined, the information to be communicated is:

a. How the investment is contributing to achieve the impact objective

b. How the impact objective differs from a traditional market objective.

If there is not a defined index for the measurement, the financial market participant shall include an explanation on how the objective is to be attained.

3.6. Corporate Sustainability Reporting Directive (CSRD)

On April 2021 the European Commission proposed to amend the current Non-Financial Reporting Directive (i.e., Directive 2014/95/EU), entered into force since January 2023. The major introduced changes are outlined below. The Directive applies to large public-interest companies with more than 500 employees, covering approximately 11700 large companies and groups across the EU. The updated Directive would "extend the scope to all large companies and all companies listed into regulated markets (except listed micro-enterprises)", embracing in this way around 49000 companies. This is due to the inclusion of also many SMEs, which would make available their information in a more transparent and complete way in order to prove their contribution to sustainable goals and to have less problems to access to credit. In order not to be too strict, listed SMEs would disclose according to simpler rules than big companies and for them the directive will enter into force from January 2026 on. Enterprises should disclose environmental, social and governance information about their activities in a more complete way. First of all, companies should report the impacts following the double materiality principle: not only highlighting the effect of ESG factors on the business, but also the effect of the

business on ESG factors. Secondly, the disclosed content should embed what follows:

1. Business model and corporate strategy, clarifying their resilience to risks, their compatibility with the transition toward green economy and the ways of taking into account stakeholders' interests
2. Sustainable set goals and accomplished progresses
3. Board and management roles concerning sustainability
4. Implemented due diligence processes concerning sustainable factors
5. Potential and actual negative effects correlated to company's value chain and actions undertaken to prevent and mitigate these impacts
6. Intangible assets, not present in the financial disclosure but which contribute to value creation (e.g. human capital, intellectual capital, relationship and reputational capital)
7. Methodologies used to get the reported information

The amend also proposes the elimination of the comply and explain principle, according to which companies should "give reasons for deviations from the applicable corporate governance codes". For what concerns the provided information, they should be subjected to audit, following a simplified method called "limited assurance". Furthermore, they should be disclosed as part of the Annual Report and divulged digitally to be more transparent. Companies should draft reports and financial statements with electronic format XHTML and label data on sustainability according to a specific categorization system (to be developed with sustainability reporting standard). This would be necessary also to include data in the *European Single Access Point* (ESAP) to create a public European database to have higher transparency and to provide investors and users with standardized and comparable information. Indeed, these data should be reported following common reporting standards, which will be developed by the Euro-

pean Financial Reporting Advisory Group (EFRAG), coherently with the Green Deal and other EU regulatory initiatives and international reporting standards about sustainable finance, such as the Taxonomy, Transparency of sustainability information for the financial sector.

4 | Main actors

4.1. The society

The increasing attention companies and investors pay to ESG factors is attributable also to changes in the world and in the society. Three main aspects should be mentioned in this regard: global challenges, millennial investors and advanced technology development. Global challenges are under the attention of everyone, fact demonstrated by the continuous creation of environmental and social movements and the willingness of people, especially new generations, to make a better world. Global challenges are on everyone's lips but, in order to be faced, they need people financing solutions. A keystone for the integration of ESG strategies have been the changed mindset of consumers, who started to become more and more concerned about social, environmental and ethical issues, and asking for products in line with their values (Boufounou et al., 2023). Actually, from what emerged from the PwC 2021 Consumer Intelligence Series survey on ESG, customers (and employees) do not want companies just to be compliant with regulations, but to "invest in making sustainable improvements to the environment and society" (PwC, 2021). Differently with the management perception according to which companies are increasing investments across ESG issues, clients expect more investments in ESG topics. The 57% of clients want organizations to work on the environmental dimensions, 48% on the social one and 54% on the governance one. Accordingly, also the way new generation invests is changed: millennial investors are twice as likely as others to invest in companies that incorporate ESG practices (Ruggie

& Middleton, 2019) and this pushes the rapid growth of ESG investments. A third factor to be considered in ESG growth is certainly technology, which is becoming day by day more sophisticated and advanced. Its fast development allows better data gathering, analysis and validation, but also helps reduce the reliance on voluntary disclosures. Artificial intelligence, alternative data extraction techniques, machine learning, natural language processing are some of the technologies that make easier measuring impacts generated and creating ratings.

4.2. Investors

A growing number of socially responsible investors consider ESG information in their investment allocations, suggesting that such information has become more important in the investment process than in the past (US SIF, 2016). In the 2021 UK Responsible Investing Study, Research in Finance (RIF) showed how the majority of retail and institutional investors (respectively with a percentage of 78% and 82%) mentioned a boost of responsible investments between 2020 and 2021 (Kenway, 2021). The main reasons behind this can be found in the greater awareness and media coverage for retail investors (41% and 40%); while in greater awareness/social expectation and regulations for institutional investors (46% and 37%). Another interesting result emerged from the RiF's 2021 UK Responsible Investing Study is the different importance retail and institutional investors[1] assign to ESG issues when building an ESG portfolio. The main environmental concerns mentioned by both retail and institutional investors - but with different percentage - are *climate change, emissions* and *pollution*. For what concerns social issues, retail investors mainly mentioned *workers' rights and conditions, human rights* and *fairness/equality*, while institutional investors also cited *diversity* a lot. Lastly, for institutional investors main governance issues are *executive pay, board*

[1] 210 intermediaries, including 103 DFMs and 107 investment adviser, and 152 consultants and schemes on the institutional side

diversity and *independence of board*; retail investors make reference also to *corruption*. For social and governance issues, percentages are more distributed among the various issues, but for the environmental issue there is an evident predominance of *climate change*. About this, the senior research consultant at RiF Jack Dominy said that "Investors now clearly recognize there is a link between how companies navigate environmental challenges and opportunities and the financial performance of the businesses" (Kenway, 2021). He added that many of the surveyed retail investors (about 41% of financial advisers and discretionary fund managers and even more of investment advisers), and more than half of institutional investors look more for information about climate change risk exposure within a portfolio. These findings found correspondence also in the research "Sustainability goes Mainstream" by BlackRock. The research found that the SDGs that mostly guides investment choices the Goal 13 *Climate action* (51%) followed by Goal 7 *Affordable and clean energy* (50%), Goal 6 *Clean water and sanitation* (37%), Goal 3 *Good health and well-being* (32%) and Goal 11 *Sustainable cities and communities* (29%) (BlackRock, 2020). As it is possible to see, in addition to climate change and water issue, the attention is mainly toward social issues. A study conducted by Robeco showed that in at the beginning of 2022 the number of investors that consider natural capital SDGs (i.e., Goal 12 *Responsible consumption and production*, 14 *Life below water*, 15 *Life on land*) relevant for their investment approach was assessed around 24%, but that in the following two years was predicted to increase up to 53% (Robeco, 2022). The reasons that pushed investors to use ESG information are primarily financial rather than ethical, but this varies by locations: ethical motives are more important for European investors rather than American ones (Amel-Zadeh & Serafeim, 2018).

4.3. ESG rating providers

The ESG rating is a synthetic index that certifies the environmental, social and governance solidity of an issuer, title or fund. It is produced by entities known as sustainability rating agencies (SRAs) (referred to hereafter as rating agencies) (Busch et al., 2015; Drempetic et al., 2019), in order to provide stakeholders with data on various environment, social and governance indicators. Making available systematized and comparable information, rating agencies contribute to information asymmetry reduction, helping stakeholder understand and manage the nature of business ethics and sustainability (Cappucci, 2018). ESG ratings are useful also for the company itself and investors. In the first case, they contribute to internal strategy and to investment decisional process. As a survey about sustainability professionals conducted by SustainAbility revealed, almost two-thirds of the interviewees (72% considering just corporates) declared to consider their own rating to take internal decision. The rating is useful for internal valuation and strategies to help inform which data to share, identify trends and support stakeholders' engagement (Wong & Petroy, 2020). From investors' perspective, ESG ratings are used to assess and manage their exposure to ESG-related risks and engage with investee companies (Clementino & Perkins, 2020). Such interest is also due to the increased awareness of the financial materiality of ESG factors and increased client demand such as that from asset owners (van Duuren et al., 2015). The ESG research industry is made up by a growing number of companies that collect and analyze data about ESG issues. Up to 2020, there were 70 different firms that provide some sort of ESG ratings data[2], excluding investment banks, government organizations, and research organizations that conduct ESG-related research that can be used to create customized ratings (Li & Polychronopoulos, 2020). The ESG ecosystem is characterized by the following actors: (i) standard setters, which help structure

[2]Data compiled by reviewing organizations listed as service providers on the Principles for Responsible Investment website (unpri.org), SRI-Connect.com, and through web searches

and prioritize ESG reporting and disclosures; (ii) data aggregators, which provide extensive sets of structured data taken from publicly available sources; (iii) specialized data providers, i.e. firms focused on specialized data related to particular ESG issues; (iv) rating agencies, which through ratings offer a composite environmental, social and governance perspective, enabling investors to compare and rank companies relative to their industry peers (iShares by Blackrock, 2019). From this distinction it is possible to observe a first difference among ESG data and rating providers (namely (ii), (iii), (iv)) (Li & Polychronopoulos, 2020). Companies hereinbefore defined as data aggregator collect data from public sources, but without offering any value-adding input or scoring; rating agencies gather public and own-created data to combine it, generating a score or a rating (e.g. Sustainalytics, MSCI); specialized data providers instead focus on a specific ESG issue (e.g. CDP focuses only on the E aspect). Another difference among ESG data and rating providers may be about data sources. Typically, they take data from publicly available information, third-party research, sustainability or integrated reports, corporate websites (Jackson et al., 2019), and sometimes they send questionnaire to firms, or provide companies the opportunity to review and comment on profiles before finalizing them (Clementino & Perkins, 2020). On the contrary, some agencies do not accept information coming from the organization itself, preferring to rely just on external source. More in detail, rating agencies may interact with the companies under evaluation in different ways. The engagement may start from an early stage, it can be in the meanwhile through for instance a portal which companies can use to upload additional information, or it may be in an end stage with draft data and report consultation, to collect feedbacks on the accuracy of information. On the other hand, in other cases the opportunity for interaction is not available (Bullock & Cockfield, 2022). Moreover, some rating agencies make the company's evaluation based on its compliance to certain sustainability standards, others on its ability to recognize and manage the risk (Li & Polychronopoulos, 2020). Lastly, additional differences emerge

based on the consideration of the materiality in the whole assessment process (Lopez et al., 2020). The number of ESG data providers is estimated to be around 140 including ESG branches of established agencies (Bullock & Cockfield, 2022), generating more than 1000 ESG ratings and indices (iShares by Blackrock, 2019). Such ESG data business is in continuous expansion, with an expected annual growth of at least 20% (Foubert, 2020). Even if the number of available ESG rating providers is large and constantly growing, the most employed raters for ESG issues still remain the big players (Eccles et al., 2019), which are listed below by alphabetical order.

Bloomberg. Bloomberg is an American financial, software, data and media company, founded in 1981. It offers ESG and climate data and solutions on more than 4500 fields and derived fields for over 14000 global companies. Data are taken from public sources such as reports and websites. In addition to its own ESG & Climate Indices, Bloomberg partners with external providers of ESG and climate ratings, frameworks and data to create custom index alternatives. It focuses also on the social element with a specific index, i.e., the Bloomberg Gender-Equality Index (GEI), which tracks the performance of public companies committed to disclosing their efforts to support gender equality through policy development, representation and transparency. Scores range from 0 to 100, but in order to be included in the index the company must go beyond a globally established threshold.

Carbon disclosure project (CDP). CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. The areas of focus are three: climate, water and forests; each of them is represented by a CDP score ranging from D- to A (F if not a requested company fails to disclose through CDP), i.e., from disclosure though awareness, then management and finally to leadership. CDP score is a snapshot of a company's environmental disclosure and performance; more in detail, the scores show the organization alignment on operating for a 1.5-degree, deforestation-free and water-secure future. The

score methodology is fully aligned with regulatory boards and standards and provides comparability in the market.

FTSE Russell. FTSE Russell, a subsidiary of London Stock Exchange group (LSEG), is a leading global provider of benchmarks, analytics, and data solutions with multi-asset capabilities. Among many indexes, FTSE Russell focuses also about sustainable investment, offering Climate Indexes and ESG Indexes for thousands of companies and the main sovereign issuers globally.

Institutional Shareholder Services (ISS) ESG. The Institutional Shareholder Services group of companies (ISS) was founded in 1985 and is currently owned for the majority by Deutsche Bourse Group, along with Genstar Capital and ISS management. ISS is a leading provider of corporate governance and responsible investment solutions, market intelligence, fund services, and events and editorial content for institutional investors and corporations. Companies are rated from D- to A+, on their sustainability performance on an absolute best-in-class basis.

Morgan Stanley Complex Index (MSCI). Morgan Stanley Complex Index (MSCI) is a leading provider of critical decision support tools and services for the global investment community. Its ESG rating consists in an overall ESG score on a seven-grade scale from CCC to AAA, measuring the extent the company is exposed to the risks of specific industries and its ability to manage them and also providing a relative comparison. Data sources comprise macro data from academic and governmental data sets, the company level disclosures and daily monitored media news. Systemic communication with companies is performed to verify the data.

REFINITIV. Refinitiv, a subsidiary of LSEG, is a global provider of financial market data and infrastructure, founded in 2018. The ESG scores measure a company's relative ESG performance, commitment and effectiveness across 10 main themes based on verifiable publicly reported data. Among the 630 and more metrics, 186 comparable

measures are used in the ESG scoring. There are 10 categories that form the three pillar scores and, in combination with the controversies across the specific category, the final ESG score.

REP RISK. RepRisk is a global leader and pioneer in data science, specializing in premium ESG and business conduct risk research and quantitative solutions. With the combination of AI, machine learning, and human intelligence, it translates big data into actionable research, analytics and risk metrics, with the final objective to systematically identify and assess material ESG risk and violations of international standards that can have a reputational, compliance, and financial impacts on a company. Data sources include media, data from government and regulatory bodies, and other external online sources, intentionally excluding company self-disclosures. The list of sources is reviewed regularly, also through client feedbacks.

Standard ethics. Standard ethics is a self-regulated sustainability rating company that provides a comparable and standardized solicited rating system, i.e., the Standard Ethics Rating (SER), suited to a modern rating agency in terms of methodology, long-term evaluations and fairness. The SER is issued to companies and organizations wishing to compare their ESG performance with guidelines and models promoted by the EU, the OECD and the UN. Final valuation on compliance level of organizations and nations on sustainability principles are expressed through nine rates, from F to EEE, communicating the agency's opinion of relative level of reputational and operational risk.

S&P Global Ratings. S&P Global Ratings is an American credit rating agencies and a division of S&P Global that publishes financial research and analysis on stocks, bonds and commodities. Among their core ESG indices, there are best-in-class indices (e.g., DJSI) as well as broader market indices (e.g., S&P 500 ESG Index). The Dow Jones Sustainability Indices (DJSI) are a family of best-in-class benchmarks, launched

in 1999 as the first global sustainability benchmark and which target the top 10% of ESG world performers. The key criteria for constituent eligibility and selection in the S&P ESG Index Family are the S&P DJI ESG Scores, based on the results of the annual S&P Global Corporate Sustainability Assessment (CSA). They contain a total company-level ESG score for a financial year, individual dimension scores and industry-specific criteria scores that can be used as specific ESG signals. **Sustainalytics**. Sustainalytics is a sustainability-related ratings provider of more than 20 thousand companies worldwide, operating in the ESG markets for around 25 years. In 2020 Sustainalytics became part of Morningstar Inc. (19), continuing to provide "high-quality, analytical environmental, social and governance (ESG) research, ratings and data to institutional investors and companies". The ESG score is expressed on a 100-point scale and is calculated based on three pillars: corporate governance, material ESG issues, and idiosyncratic issues measured on the company level. The dimensions are evaluated according to the exposure to the specific ESG factor and the company's ability to manage this risk. The methodology used combines a quantitative score, which represents the part of the ESG risks that remains unmanaged, and a risk category, assessed based on the quantitative score peer comparison.

Vigeo Eiris. Vigeo Eiris is the first European rating agency operating only about sustainability topics, providing research and ESG analysis to investors and supporting organizations in their path of social responsibility. Collaborating with Euronext, Vigeo Eiris launched in 2021 a new index of BIt: the MIB ESG. Such index is dedicated to national blue-chips[3], with the objective of gather big Italian listed issuers that have the best ESG practices. It combines the economic performance measurement with ESG valuations in line with Global Compact principles of UN.

[3]Blue chips are stocks issued by highly capitalized listed companies, i.e., in Italy FTSE MIB constituents (https://www.borsaitaliana.it/borsa/glossario/blue-chip.html)

5 | Benefits and concerns of ESG strategies

5.1. Benefits of ESG

Beside the increasing number of mandatory regulations that some kind of companies must follow, there are other reasons pushing firms to integrate ESG factors into their strategies. Indeed, some benefits on the value of the company may be generated. For a sake of clarity, the current section is divided into three main subsections: strategy, finance and operations.

5.1.1. Strategic benefits

First of all, implementing an ESG strategy generates a higher attractiveness of investors, both for financial and extra-financial reasons. From one side, as many studies reported, a prevailing positive correlation between ESG and financial performance has been found through the years. In particular, NYU Stern Center for Sustainable Business and Rockefeller Asset Management analyzed more than 1000 research papers published between 2015 – 2020, dividing them into those focused on *corporate*

financial performance[1] and those focused on *investment performance*[2]. The relationship between ESG and financial performance was reported as positive for 58% of the *corporate* studies and for 33% for the *investment* ones. A small number of studies accounted negative relationships. This means that sustainable investing creates similar or even better performance compared to traditional investment (Whelan et al., 2021). It is worth noting that the existence of a correlation does not necessarily explain the direction of causality: «firms with better ESG performance may enjoy better firm performance and better performing firms can afford to invest more in CSR» (Jiraporn, 2014). Besides investors interested to better returns, ESG strategies attract also for extra-financial benefits. Firstly, it attracts high-net-worth individuals[3] (HNWIs) as it seems that the top five motives for impact investing exhibited by them are to (i) pursue investments that are aligned with personal values, (ii) make investments that benefit others, (iv) signal prosocial activity, (v) align the investment portfolio with the personal risk profile, and (vi) make a profit (Carroux et al., 2021). Secondly, ESG is able to drive preferences of consumers, who are willing to pay to an additional 5% for a green product in more of the 70% of the cases[4] – performance standards being equal (Henisz et al., 2019). This may make revenues rise, thanks to the entrance in new markets and the expansion into the current ones. Thirdly, a strong social responsibility commitment often attracts better job applicants (Branco & Rodrigues, 2006) and tal-

[1]Corporate-focused studies mainly consider operating metrics (such as ROE or ROA or stock performance for a company or group of companies) and may include mediating factors such as innovation, operational efficiency, or risk management for a better understanding of how sustainability initiatives lead to corporate financial performance

[2]Investor-focused studies are those typically focused on risk-adjusted attributes (such as alpha or the Sharpe ratio on a portfolio of stocks) and tend to look at a direct relationship between ESG and performance based on benchmarks and a portfolio-level view of themes such as materiality or governance structure

[3]HNWIs are people or households who own liquid assets valued at $1 million or more (Forbes)

[4]A McKinsey research surveyed consumers about their purchases in multiple industries, including the automotive, building, electronics, and packaging categories, said they would pay an additional 5% for a green product if it met the same performance standards as a nongreen alternative

ented managers (Henisz et al., 2019). Lastly, it has been shown that external benefits of strong ESG commitment are related to corporate reputation, as firms perceived as beneficial for the society by stakeholders seems to improve relations with stakeholders and to have more ease in operating encountering less obstacles and obstructionisms, so without extensive planning or operational delays (Branco & Rodrigues, 2006; Henisz et al., 2013). In addition, a strong ESG proposition reduces companies' risk of adverse government action or sanctions – one-third of corporate profits are at risk from state intervention, and in some cases even more (f.i. 25-30% for pharmaceuticals and healthcare, 50-60% for banking, 60% for automotive, aerospace and defense, and tech sectors), and may even generate government support, which in particular industries is fundamental to earn subsidies (Henisz et al., 2019).

5.1.2. Operational benefits

From the resource-based perspective, ESG strategy seems to have also benefits in terms of efficiency and productivity. It may help in developing «new resources and capabilities that are related to know-how and corporate culture», which «would then lead to more efficient use of resources» (Branco & Rodrigues, 2006), for instance a lower energy or water consumption. This has a double benefit: cost reduction due to lower operating expenses, which represent around the 60% of operating profits (Henisz et al., 2019) and lower operational risk (Fatemi & Fooladi, 2013). It has been demonstrated that ESG practices can have a positive effect on employees' enthusiasm and on their commitment and loyalty to the firm (Branco & Rodrigues, 2006) as employees obtain higher levels of persistence, performance, and productivity when they live prosocial actions. (Grant, 2008). This implies an increase in the productivity, and so consequently in returns (Henisz et al., 2019); indeed, it has been found that firms in the "100 Best Companies to Work For in America" list obtained 2.3%-3.8% higher lung-run stock returns per year more than peers over a greater than 25-year horizon, showing a positive relationship

between job satisfaction and firms value in the long-term (Edmans, 2012). Additional derived benefits regard cost savings for recruitment and training of new employees (Branco & Rodrigues, 2006).

5.1.3. Financial benefits

Implementing ESG practices have different financial benefits. First of all, it resulted that a better performance on CSR strategies leads to a better access to external financial sources (Cheng et al., 2014). Secondly, a correlation between ESG practices and disclosure and the weighted average cost of capital (WACC) was reported (Piechocka et al. 2021). In the MSCI World Index, the average cost of capital of the highest-ESG-scored quintile was 6.16%, compared to 6.55% for the lowest-ESG-scored quintile; the differential was even higher for MSCI EM[5] (Lodh, 2020). Focusing specifically at WACC's single components cost of equity and cost of debt, it is possible to deep-dive the results.

Many papers assert that ESG practices and disclosure lower the cost of equity (Dhaliwal et al., 2011; El Ghoul et al. 2011; Reverte 2012; Dhaliwal et al.,2014; Wu et al. 2014; Xu et al. 2015; Gupta 2018; Lodh, 2020). More in detail, a study found that for a 10% increase in the ESG Overall Score, the cost of equity of firms declines by 134 basis points[6] (Bellavite Pellegrini et al., 2019). But it seems that not every ESG issue significantly affect equity pricing: just employee relations, environmental performance, and product characteristics do (El Ghoul et al., 2011). In general, the reason behind such correlation is that companies with strong ESG profile are less exposed to

[5]The study conducted by MSCI Research, from Dec. 31, 2015, through Nov. 29, 2019, obtained monthly industry-adjusted ESG scores that underlie the MSCI ESG Ratings and classified the companies in the MSCI World Index (comprised of developed-market constituents) and MSCI Emerging Markets (MSCI EM) Index into two sets of ESG-score quintiles, each with the same number of companies

[6]The study was conducted with a panel of data composed of 182 public firms, from 2002 to 2018. The cost of equity is measured according to Easton Model (Easton, 2004)

systematic market stocks and consequently to systematic risk[7], and this implies that investors require a lower rate of return[8] and so a lower cost of capital (Giese et al., 2019). These implications found evidence also on results of an empirical analysis conducted by MSCI Research in 2019 (Lee & Giese, 2019). Following the Discounted Cash Flow (DCF) model, a lower cost of capital implies a higher valuation of the company (Giese et al., 2019). Considering the ESG disclosure, it seems that firms with ESG good performance register a lower estimation risk in the market, because of a better coverage from financial analysts and an improved forecast accuracy and lower absolute forecast errors and dispersion (Dhaliwal et al., 2011).

The literature about the relationship between ESG information and the cost of debt provided mixed results. Some studies evidenced the effect of ESG practices and disclosure on the cost of debt, but there are also studies reporting the absence of statistically significant correlations between the two (Menz, 2010; Hoepner et al., 2016; Piechocka-Kaluzna et al., 2021). Among the papers stating the existence of a correlation, some of them claim a negative correlation between ESG engagement and the cost of debt (Boutin-Dufresne and Savaria, 2004; Lee and Faff, 2009; Godfrey et al., 2009; El Ghoul et al., 2011; Goss & Roberts, 2011; Lodh, 2020) and some a positive one (Magnanelli & Izzo, 2017). Results of a negative correlation lie on the so-called "risk mitigation view", which argues that that ESG engagement reduces risk. According to some, the reason behind this can rely on the enhancement of the relationships with the government and the community, which consequently mitigate the risk of litigation and sanctions (McGuire et al, 1988; Peloza, 2006; Sharfman and Fernando, 2008; Dhaliwal, Eheitzman, and Li, 2009; Ye & Zhang, 2011). Indeed, drawing on the "social contract theory" – which is at the basis of negative correlation between cost of debt and ESG

[7]The systematic risk is the risk that affect the broad equity market

[8]The deduction lower systematic risk -> lower rate of return derives from the Capital Asset Pricing Model (CAPM)

commitment –, an implicit contract exists between companies and society, requiring businesses to follow socially accepted and prescribed values and norms (Farache & Perks, 2010). Such fallouts are in line also with results of a more recent study, which demonstrated that corporate governance pillar reduces default risk, which consequently lower the cost of debt (Switzer et al., 2018). Having a lower risk, ESG engaged firms enjoy better credit ratings (Jiraporn et al., 2014) and pay between 7 and 18 basis points less than firms with social responsibility concerns (Goss & Roberts, 2011). A recent study reported that the relationship between ESG performance and disclosure and the cost of debt may be affected by a company's characteristics. Specifically, focusing on the influence of corporate reputation, ESG performance and disclosure indirectly lower the cost of debt: ESG performance and disclosure affect corporate reputation, which in turn affects the cost of debt financing (Maaloul et al., 2021). Indeed, low-quality borrowers who engage in discretionary ESG activities face higher loan spreads (Goss & Roberts, 2011), as financial institutions do not consider them with a lower level of risk and in fact perceive them as waste of resources, generating a negative impact on the cost of financing (Magnanelli & Izzo, 2017). These results are in line with the over-investment view, which, relying on the agency theory , argues that ESG investments constitute an agency cost or a «costly diversions of firm resources [...] that do not create value for shareholders». As a consequence, firm value is expected to decline, to the disadvantage of both shareholders and debtholders. Thus, this view suggests that rating agencies assign lower credit ratings to firms with higher ESG performance. Since bank responses are conditional on the quality of the borrower, when agency risks are likely to be high, investments in ESG initiatives are penalized (Goss & Roberts, 2011). Referring to the CAPM model, high ESG rated companies showed lower idiosyncratic risk. Companies with strong ESG performances typically have risk control and compliance standards above the average, both within the organization and across their supply chain management. Therefore, they are less involved in severe incidents such

as fraud, embezzlement, corruption, or litigation cases (Hong & Kacperczyk, 2009), avoiding a negative impact on the company's value and stock price. This generates less stock-specific downside or tail risk in the company's stock price.

5.2. Major concerns of ESG

5.2.1. ESG disclosure

ESG disclosure, also referred to as non-financial disclosure (NFD), is a form of public reporting provided by an organization about its performance on ESG issues and its progress in environmental, social, and governance goals achievement (Darnall et al., 2022; Peterdy, 2023). Target users of the non-financial disclosure are firm's stakeholder, who in case of effective reporting may benefit from the greater transparency about company's ESG-related risks and the consequent reduction of information asymmetry. More in detail, primary users of reported ESG information are financial and raters' communities, customers, employees, authorities and regulators. The financial community, thanks to more available information, can better assess the firm's performance and direct investments consequently; sustainability rating agencies may use disclosed data to produce ESG scores, which facilitate comparability in the market and are subsequently used by other actors, such as investors and customers (Peterdy, 2023). Customers may use such non-financial data to take decisions about which firms to direct toward investments and purchases (Rhodes, 2010; Sarti et al., 2018) and possibly motivate companies to improve their sustainability performances (Michelon et al., 2015). In the same way, employees may find ESG data useful to decide which company to work for. Authorities, regulators or governmental agencies employ non-financial information to offer funding, through grants and tax incentives, or impose penalties (Peterdy, 2023). The way in which the NFD is draft is discretionary, so firms do not have to follow a specific framework. Despite this, there exist many standards to sup-

port companies in provide consistent, standardized and cross-firms and cross-industry comparable disclosure (Peterdy, 2023). Among them, the most employed is the Global Reporting Initiative (GRI) framework (Delmas & Blass, 2010), which provide principles for sustainability report content and quality. In addition to the GRI, the most recognized standards and frameworks are the International Integrated Reporting Council (IIRC) framework, Principles of Responsible Banking (PRB), Principles of Responsible Investing (PRI), the Climate-related Financial Disclosures (TCFD), the Sustainability Accounting Standards Board (SASB) framework and the UN Global Compact (Delmas & Blass, 2010; Lokuwaduge & Heenetigala, 2016; Serafeim & Yoon, 2022) The biggest challenges concerning the ESG disclosure are related to the report content and the quality of data provided. Following the GRI reporting principles, for what concerns the report content the main reported problem for institutional investors is linked with data materiality, while for the report quality with data accuracy, reliability and comparability (Serafeim & Yoon, 2022). For the sake of the matter, in the Table 5.1 hereafter only necessary GRI reporting principles are reported; the others may be consulted in the Appendix.

Materiality	The report shall cover topics that: • reflect the reporting organization's significant economic, environmental, and social impacts; or • substantively influence the assessments and decisions of stakeholders.
Accuracy	The reported information shall be sufficiently accurate and detailed for stakeholders to assess the reporting organization's performance.
Comparability	The reporting organization shall select, compile, and report information consistently. The reported information shall be presented in a manner that enables stakeholders to analyze changes in the organization's performance over time, and that could support analysis relative to other organizations.
Reliability	The reporting organization shall gather, record, compile, analyze, and report information and processes used in the preparation of the report in a way that they can be subject to examination, and that establishes the quality and materiality of the information.

Table 5.1: GRI reporting principles with major concerns

Despite the well-recognized importance of ESG reporting and the increased volume of ESG information, ESG data are often over-generalized, becoming immaterial for making investment decisions (Khan et al., 2016; Amel-Zadeh & Serafeim, 2018). A reason behind this may be found in the so called "tick the box" culture[9] used by companies

[9]The "tick the box" culture is when an organization monitors its processes and policy through checklists to show its stakeholders that processes are in tip-top condition and fully compliant with

to respond to the increasing demand of data (Jonsdottir et al., 2022). Additionally, disclosed ESG data is still inaccurate as companies might avoid some data disclosure o provide inferior quality data. The reasons should be searched also in the reporting process, which is complex and resource-heavy – as it requires to aggregate ESG data and verify the accuracy –, and in the difficult understanding of the numerous reporting requirements and report draft (Jonsdottir et al., 2022), caused by the lack of a standard framework (Kotsantonis & Serafeim, 2019). Companies use different expressions and metrics – even more than twenty – to disclosure the same ESG aspect (Kotsantonis & Serafeim, 2019). Such low accuracy generates inconsistencies and lack of comparability among firms' ESG performance evaluations (Belkhir et al., 2017; Amel-Zadeh & Serafeim, 2018). This reduces general quality of ESG disclosure, as high levels of standardization and accuracy typically guarantee a high quality ESG disclosure (Peterdy, 2023). Furthermore, investors identify in the lack of cross-company comparability the problem at the basis of the difficulty they face in using ESG data (Amel-Zadeh & Serafeim, 2018). This is a consequence of the multi-aspect standards for the ESG disclosure, which hampers institutional investors in the right association ESG outcome-performance (Berg et al., 2022; Christensen et al., 2021). Lastly, ESG data is still perceived as low reliable by institutional investors as companies, pursuing ESG performance assessment on their own, are inclined to report only the positive impacts of their activities (Jonsdottir et al., 2022) and do not have strong internal controls (Koo & Ki, 2020), consequently misrepresenting the actual situation. This would increase the risk of "window dressing" (Cho et al., 2015; Pagano et al., 2018; Cho et al., 2020) described as the "misleading use of ESG data disclosure, designed to create a favourable view without the intention to honour the disclosure by implementing actions" (Cho et al., 2015). To avoid it, ESG data should come just from sources external to the company itself (Michelon et al., 2015; Bender et al., 2017; Pagano et

legislation and regulations (drillster.com)

al., 2018).

5.2.2. Greenwashing

A very linked topic with the one of ESG disclosure is the one of greenwashing, as this last can emerge also in the disclosure. The term "greenwashing" was coined in 1986 by the environmentalist Jay Westervelt, while writing a term paper on multiculturalism and hospitality (Wolniak, 2015; Guo et al., 2018); year by year the awareness about greenwashing increased, to the extent that in 2002 the word had been included in the Oxford English (Oxford English Dictionary, 2002). However, greenwashing still do not have a univocal definition, due to its multifaced nature (Lyon & Montgomery, 2015), but generally it can be defined as a practice of intentionally or not intentionally releasing false or misleading information with respect to the environmental (or more generally sustainability) impact of a company or a product. Even if the concept of greenwashing is associated to misrepresentation, mislabeling, mis-selling and mispricing, they must be considered as final symptoms (ESMA, 2022). As in many industries, greenwashing became a critical issue also in the financial sector. The growing demand for ESG investments and the fast evolution of markets combined with the lack of adequate transparency and comparability, and of expertise on ESG matters by actors in the investment value chain creates room for greenwashing, with potential negative impacts on sustainable-oriented investors (ESMA, 2022). Marcus Björksten manages one of Europe's best-performing sustainable funds and during an interview warned that "Greenwashing is a real problem" and that many of the funds that use the ESG label are not as sustainable as they appear. Several popular ESG funds, for example, invest in the world's largest carbon emitters. "Nowadays, every second fund is claiming it is in some way sustainable" (Mooney, 2021). The roots of greenwashing in the financial industry may be searched in the functioning of the investment value chain and in the fast evolving of the regulatory framework, which leaves room for regulatory arbitrage

practices, worsening greenwashing risks for investors (ESMA, 2022).

As a response to the key challenges of the current sustainable finance context in the EU, in February 2022 the European Securities and Markets Authority (ESMA), i.e. the EU's securities markets regulator, published its Sustainable Finance Roadmap 2022-2024, highlighting its sustainable finance priorities: (Boffo & Patalano, 2020):

1. Tackling greenwashing and promoting transparency;
2. Building National Competent Authorities' (NCAs) and ESMA's capacities in the sustainable finance field;
3. Monitoring, assessing and analyzing ESG markets and risks.

5.2.3. ESG ratings

The ESG rating industry is in expansion, but it is still characterized by some concerns. As declared by the MIT project, the problem is that "ESG data is noisy" (Stackpole, 2021), implying a low correlation among ESG methodologies and output ratings of different agencies and a consequent lack of understanding, comparability and transparency (Ilango, 2021; Bullock & Cockfield, 2022). A MIT Sloan School of Management study in 2021 found that the correlation between six prominent ratings agencies[10] on ESG ratings was on average 0.61, whereas the correlation for credit ratings issued by Moody's and S&P was 0.99. These findings suggest that ESG ratings do not properly reflect ESG performance, making it difficult for decision-makers to identify outperformers and laggards (Stackpole, 2021). The study identifies three factors driving ratings divergence: scope, measurement and weights divergence. Contrary to default rating agencies which are authorized and supervised by European Securities and Markets Authority (ESMA), there is not a particular supervision on ESG rating;

[10]KLD/MSCI Stats, Sustainalytics, Vigeo Eiris/Moody's, RobecoSAM/S&P Global, Asset4/Refinitiv, and MSCI

therefore, methodologies used to compute the ESG score can vary. More in detail, first of all, as mentioned above, data sources may be different, contributing to create different rating outcomes (OECD, 2020). Some agencies use publicly available information obtained from companies' documents and disclosures, whereas others take a more proactive and interventionist approach (Bullock & Cockfield, 2022). Secondly, different rating companies may consider different attributes to evaluate E, S or G and even if the same KPI is considered for the evaluation, it may be computed in different ways (OECD, 2020). Lastly, there may be different weights in the different ESG factors (Chatterji et al., 2015; Semenova & Hassel, 2015), depending for instance on the importance they cover in the reference industry (FundsPeople, 2021). In addition, the MIT Sloan School of Management study also mentioned the "rater effect," namely, a firm receiving a high score in one category is more likely to receive high scores in other categories, particularly from that same rater (Stackpole, 2021). As a result, companies often are overrated or underrated with respect to their real impact, due to the aggregation of E, S and G into a single metric, to industry peculiarities, geographical location or company size. This implies mispricing of stocks and bonds, and imprecise inclusion or exclusion of a company in investment strategies (Ilango, 2021). The lack of understanding may be caused also by the absence of uniformity in the output, as different scales are used by agencies in assigning rates. Some valuations are visualized as a number between 1 and 100, associating 1 either to the lowest score or to the highest, others use letters, such as from AAA to CCC or D, others that classify ESG performances into deciles (Zumente & Lāce, 2021; Bullock & Cockfield, 2022), others provide a qualitative description (Bullock & Cockfield, 2022). These concerns that are mentioned in the literature find correspondence also in what market participants say. Sustainalytics conducted a survey from which it has emerged that even if investors often rely on ratings to take decisions, they find them difficult to use and sometimes are frustrated by them (Lopez et al., 2020). Also the European Commission carried out

in 2022 a consultation on "ESG ratings and ESG factors in credit ratings"[11]. Results reveal that despite the large majority of interviewed uses ESG ratings, the market is considered not to be functioning well by more than the 84%. Indeed, almost all respondents think that an intervention is necessary, supporting in around the 80% of the cases a legislative intervention, while non-regulatory intervention in the form of guideline and code of conduct in the remaining cases. Respondents indicated that the main element to address should be "improving transparency on the methodology used by ESG rating providers, followed by avoiding potential conflicts of interests (80%), improving reliability and comparability of ratings (73%), clarifying objectives of different types of ratings (70%), and clarifying what is meant by and captured by ratings (68%)" (European Commission, 2022). Such unsatisfactory functioning of the ESG rating ecosystem has encouraged pressures for regulation and greater transparency (Bullock & Cockfield, 2022). In 2022, some entities, including the ESMA and the Securities and Exchange Board of India, have proposed regulating the ESG ratings sector. However, some rating providers seems to fear regulatory intervention, which, according to them, can slow down innovation, burden time and costs; instead, they claim improvement on the reliability and transparency of ESG ratings to safeguard the wider financial system. In fact, some rating agencies – Sustainalytics, MSCI, S&P Global, Moody's, Fitch and LSEG included – asserted that the intervention should be non-regulatory or even could be "unnecessary", since the market is functioning well. (Bullock & Cockfield, 2022; Ilango, 2021). An analysis conducted in 2021 about the implication of ESG rating uncertainty[12] for portfolio choice and asset pricing, strengthened the idea that ESG uncertainty could have implication for asset allocation, misrepresent the risk-return trade-off, reduce economic welfare and equilibrium asset pricing (Avramov et

[11] 168 responses were received on the online questionnaire, of which the 80% was from EU. Respondents were rated companies (49%), ESG rating users as investors (48%), ESG rating providers (21%), ESG rating users as companies (18%)

[12] Standard deviation of ratings has been used as proxy for ESG rating uncertainty

al., 2021). It emerged also that ESG rating uncertainty reduces investor demand for stocks, especially for those with high ESG ratings, and reduce their active engagement in corporate ESG issues. It seems that rating divergency penalize green firms: only green stocks are perceived to be riskier when uncertainty is high, implying higher cost of capital for sustainable firms and heightening greenwashing risk (Avramov et al., 2021; Ilango, 2021), but brown stocks[13] outperform green stocks[14] only if the rating uncertainty is low (Avramov et al., 2021). Clearly, rating uncertainty impact also the entire market, as to a higher rating uncertainty is associated a higher market premium (Avramov et al., 2021; Gibson Brandon et al., 2021) and lower investor demand for risky assets (Avramov et al., 2021; Gibson Brandon et al., 2021). All these elements contribute to create a barrier to greater adoption of ESG investing. As investors "cannot rely on external ESG sources", because many ESG rating agencies use "black-box algorithms" and do not provide access to the backing data (Livsey quoting Maria Lozovik[15], 2022), variance in methodology and outcomes firstly led to mistrust, pushing even some investors to generate own internal ESG ratings calculations or to undertake own due diligence to understand rating process and methodology (iShares by Blackrock, 2019; Livsey, 2022). In second place, such discrepancies across ESG ratings also affect company managers, who may face less urgency to improve their ESG performance and identify appropriate strategies (Lopez et al., 2020; Livsey, 2022). Companies' future actions and market valuations depend on their assigned valuations, but obtaining mixed signals, this results in underinvestment in ESG improvement activities (Livsey, 2022). Moreover, the dispersion of metrics and methods makes markets less likely to price companies on ESG performance and make it difficult to link executive remuneration to it.

[13] i.e. stocks in the bottom ESG rating quintile

[14] i.e. stocks in the top ESG rating quintile

[15] CEO of Marsham Investment Management

6 | Objectives, data description and research methodology

In order to answer the research questions of this dissertation, it was necessary to inspect the existing literature review concerning the topic. Section 6.1 will provide the research question; then Section 6.2 will describe companies under analysis; finally, Section 6.3 will explain how the database was build.

6.1. Research question

As highlighted from the literature review, E, S and G are becoming more and more important factors to be considered for different stakeholder. Despite this, there are still many concerns and barriers to their adoption. Among the major concerns arisen during the research, it emerged the information asymmetry, mainly caused by problems in the way disclosure can be pursued. This dissertation aims at contributing to the literature about the current level of disclosure of non-financial information, with a particular focus on companies included in the FTSE MIB index. In practice, a database construction and an analysis of collected data was necessary to answer the following research questions:

(i) *What is the level of information provided by non-financial disclosures?*

(ii) *What are the main insights of the information disclosed?*

6.2. Sample and data description

To carry out the empirical analysis, the set of companies belonging to the FTSE MIB index was taken as sample. The FTSE MIB[1] is the most relevant benchmark index of Borsa Italiana (BIt), i.e., the Italian stock market. It is composed by primarily important and highly liquid societies belonging to different industries of the Industry Classification Benchmark[2] (ICB), and which overall represent around the 80% of the internal market capitalization. Such index has operated in Italy since the 1st June 2009, when it substituted the index S&P MIB[3], and it measures the performances of the 40 most-traded Italian stocks belonging to Euronext Milan[4] and Euronext MIV Milan[5] markets, in order to replicate the broad sector weights of the Italian stock market. It is market cap-weighted[6] after adjusting constituents for float[7]; this means that it assigns a specific weight to its components, based on their total market capitalization or market value of their available outstanding shares, after they have been adjusted.

[1]FTSE MIB is the acronym of Financial Times Stock Exchange Milano Indice di Borsa

[2]The Industry Classification Benchmark is a methodology classification of listed companies, with a four-tier structure: it includes 11 industries, 20 supersectors, 45 sectors and 173 subsectors

[3]S&P MIB was an index of Borsa Italiana and it contained the stocks of the 40 Italian major companies listed on the MTA

[4]Since October 2021, Euronext Milan (EXM) has become the new denomination for Mercato Telematico Azionario (MTA), which was the regulated market of Borsa Italiana dedicated to the listing of medium and large companies (https://www.borsaitaliana.it/azioni/mercati/euronext-milan/home/listingonmta.en.htm) where options, convertible bonds, warrants and shares are negotiated

[5]Since October 2021, Euronext MIV Milan (MIV) has become the new denomination for Mercato degli Investment Vehicles (MIV), the regulated market of Borsa Italiana dedicated to investment vehicles

[6]i.e. the index constituents are weighted according to the total market cap or market value of their available outstanding shares

[7]This means that the share counts used in calculating the indices reflect only those shares available to investors rather than a company's total outstanding shares. Float adjustment excludes shares that are held by other publicly traded companies, government agencies, or certain types of strategic shareholders. The value of each constituent reflects the value estimated to be available to investors in the public markets

So, the most important components weigh more on the index value, even if they cannot exceed the 15% of the panel. The 40 constituents are reviewed quarterly, meaning that it is not given that the companies considered in this analysis will remain in the index[8]. The 40 Italian companies included in the FTSE MIB index in December 2022 are listed in Table 6.1.

[8]The FTSE MIB members list under analysis was extracted in September 2022. The constituents review has been done in December 2022, resulting in the exit of Atlantia and the entry of ERG

Company Name	Industry	Supersector
A2a	Utilities	Utilities
Amplifon	Health Care	Health Care
Atlantia	Industrials	Industrial Goods And Services
Azimut Holding	Financials	Financial Services
Banca Generali	Financials	Banks
Banca Mediolanum	Financials	Banks
Banco Bpm	Financials	Banks
Bper Banca	Financials	Banks
Buzzi Unicem	Industrials	Construction And Materials
Campari	Consumer Staples	Food, Beverage And Tobacco
Cnh Industrial	Industrials	Industrial Goods And Services
Diasorin	Health Care	Health Care
Enel	Utilities	Utilities
Eni	Energy	Energy
Ferrari	Consumer Discretionary	Automobiles And Parts
Finecobank	Financials	Banks
Generali Ass	Financials	Insurance
Hera	Utilities	Utilities
Interpump Group	Industrials	Industrial Goods And Services
Intesa Sanpaolo	Financials	Banks
Inwit	Telecommunications	Telecommunications
Italgas	Utilities	Utilities
Iveco Group	Industrials	Industrial Goods And Services
Leonardo	Industrials	Industrial Goods And Services
Mediobanca	Financials	Banks
Moncler	Consumer Discretionary	Consumer Products And Services
Nexi	Industrials	Industrial Goods And Services
Pirelli	Consumer Discretionary	Automobiles And Parts
Poste Italiane	Financials	Insurance
Prysmian	Industrials	Industrial Goods And Services
Recordati Ord	Health Care	Health Care
Saipem	Energy	Energy
Snam	Energy	Energy
Stellantis	Consumer Discretionary	Automobiles And Parts
Stmicroelectronics	Technology	Technology

These 40 Italian companies belong to 9 different industries and 13 supersectors, covering respectively the 81,2% of the total ICB industries and the 65% of the total ICB supersectors. As it is possible to observe from the diagram in Figure , the 30% of the 40 firms lies in the financial industry, of which the 66,7% is represented by banks, the 25% by insurance companies and the 8,3% by financial services providers. The second category by size is represented by industrials, with a presence of 20% on the total; in particular, the big majority – i.e., the 87,5% – belongs to Industrial Goods and Services, while the 12,5% to Construction And Materials. The remaining 50% on the totality is split among the other 7 categories. The analysis was carried out considering the year 2020-2021, whose sustainability reports were the last to be published when the investigation has started. In order to maintain consistency, data about capitalization and shareholder composition of the same time period have been considered.

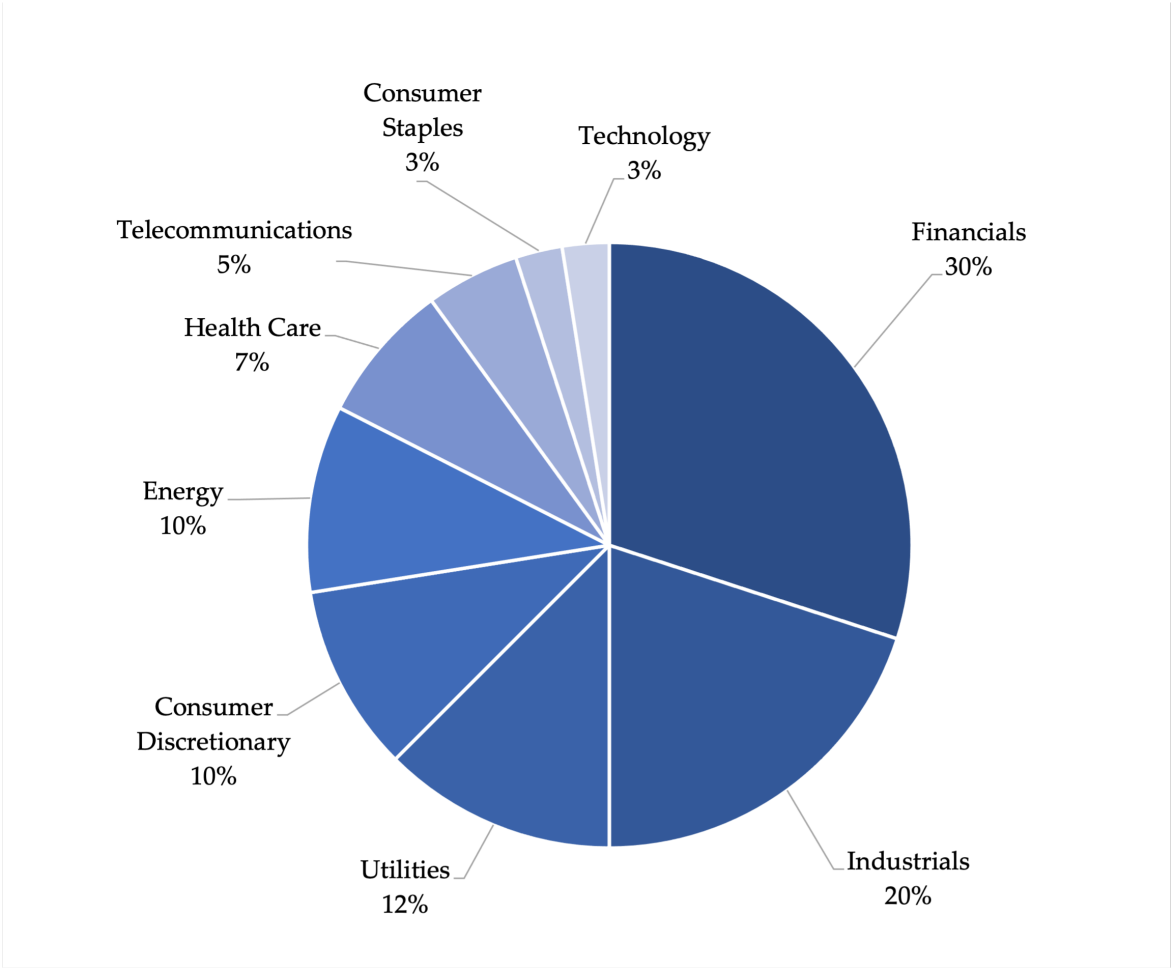

Figure 6.1: Composition of the sample by industry

6.3. Methodology to build the database

The first step of the database construction was the extraction of the list of FTSE MIB constituents, through the website of BIt[9]. The, all the available NFDs published by the companies of the sample (39) were read. For each of the constituents, either from their disclosures or from complementary websites (see Section 6.3.1) the following general information were taken:

- Name

[9]https://www.borsaitaliana.it/borsa/azioni/ftse-mib/lista.html

- Industry
- Supersector
- Market/segment
- Capitalization
- Shareholder composition

Then, other information needed to answer the research question were extracted. More in detail, the sample was mainly analyzed under the following dimensions:

1. SDGs the company contributes to
2. Stakeholders considered
3. Material factors highlighted by the company in the materiality analysis
4. Sustainability indices

Once necessary information was obtained, countless rough data were put into an Excel file and then classified according to their final use. From classified data, it was possible to obtain results and from them to arrive at some conclusions.

6.3.1. Data sources

The main source of data has been the sustainability report, complemented in some cases with specific websites: to gather missing data about the company's performances corporate websites were used, while to collect its general information, BIt and Consob ones were. For each information, the type of data extracted and the methodology followed will be explained in Sections.

General information

Name, supersector, market/segment and capitalization are information always available on the BIt website, f.i. in the section Dati completi. The industry can be easily found in the section Profilo società, but in the 40% of the cases it happened that this section was empty ("Dettaglio profilo società non presente"). It these cases, the industry was derived starting from the supersector – already known – checking the document Industry Classification Benchmark (Equity)[10], downloadable from the FTSE Russel website. The shareholder composition for each company was extracted from the Consob website[11] going through Consob e le sue attività / Soggetti e Mercati / Società Quotate; in this part, it was possible to search for the name of the company and check its Informazioni storiche / Azionariato 31/12/2021. Of each listed direct shareholder, its share on the total ordinary capital was considered; then, in order to establish the percentage of national and international shareholders of the organization, each direct shareholder was checked. Finally, to establish the shareholder dispersion, it was checked the presence of at least a shareholder owning the 10% – or more – of the shares.

Contribution to SDGs

Different global initiatives have been implemented to address the new challenges the world is facing. In September 2015, the General Assembly of the United Nations presented the 2030 Agenda for Sustainable Development, taken as commitment by all the 193 member countries of the United Nation. It includes 17 Sustainable Development Goals (SDGs) that encompass 169 specific targets and more than 240 indicators concerning economic, social and environmental issues. In the big majority of non-financial disclosures, the impacts on SDGs the organization itself is generating are reported. In

[10]https://research.ftserussell.com/products/downloads/ICB_Rules_new.pdf. This link was lastly consulted on the 16th December 2022, when the document was updated to v4.1

[11]https://www.consob.it/web/consob/home

the case under analysis, the 87,5% of the sample has in some way explicitly declared in its sustainability report how it contributes to the 17 SDGs. The remaining 12,5% has not reported their contribution in the document, even if in one case it is available on the company's website and in another on the UN Global Compact website[12]. In order to gather data for the analysis, it has been checked to which SDGs a single organization contributes to, and then, it was counted from how many companies of a certain industry an SDG was mentioned.

Stakeholders

Stakeholders can be defined as "any group or individual that can be influenced by the achievement of the organization's goals" (Freeman, 1984). On the other hand, they can in turn influence directly and indirectly the organization. Stakeholders can be classified according two dimensions: the level of involvement in the organization's activities and the way they are impacted by organization's activities. In the first case, stakeholders can be defined either internal, if they are inside the company (i.e., employees, shareholder, management) or external, if they are outside (i.e., customers, competitors, institutions). In the second case, stakeholders can be directly or indirectly affected, taking respectively the name of primary or secondary stakeholders. The stakeholder analysis is also a preliminary step of the materiality analysis, because in order to assign the level of importance of a certain topic for the stakeholders, they must be previously defined. All the constituents of the FTSE MIB index – without considering Iveco Group – listed their stakeholders. From this, it was possible to aggregate them into 17 categories common to at least two industries, and other industry-specific categories. The 17 categories are the followings: (i) Shareholders and Financial Community (ii) Clients (iii) Employees (iv) Community (v) Environment (vi) Suppliers (vii) Partners (viii) Institutions (ix) Regulators (x) Trade Unions (xi) Media (xii) Competitors (xiii)

[12]https://www.unglobalcompact.org/participation/report/cop/create-and-submit/active/451700

Associations (xiv) Civil Society (xv) Future Generations (xvi) Dealers (xvii) Scientific Community. Each entry has been classified into a category, or in some cases split in two of them; for instance, Supplier and Partners were mainly listed as separate stakeholders, so in the cases in which they were put together, they have been separated in the two different classes.

Material factors

Material factors can be defined as those issues considered most relevant for stakeholder and the organization. The materiality assessment has been always applied in finance, highlighting issues that are essential to an organization's performance. In more recent times, it has been introduced also in sustainability reporting, also thanks to the GRI and the International Integrated Reporting Committee (IIRC). Materials factors are ranked considering two dimensions: the significance of the organization's economic, environmental, and social impacts and their influence on the assessment and decision of stakeholders (GRI). Further to this point, the Universal Standard *GRI 3: Material Topic*s "provides guidance on how determine material topics", making also available "disclosures that the organization uses to report information about its process of determining material topics, its list of material topics and how it manages each topic". In addition, GRI also provides Sector and Topic Standards, which present respectively likely material topics for the considered sector and disclosures for reporting impacts in relation to a specific topic. In order to identify and prioritize factors, the methodology used is the materiality analysis. All the 40 FTSE MIB constituents provided it on their sustainability reports, presenting results in a matrix (i.e., the materiality matrix) in the big majority of the cases, but on few occasions just in the form of bullet points. Since information were provided under qualitative form, the employment of data was not straight forward. In order to make possible data aggregation and comparison, material aspects were classified in different clusters at different granularity, i.e. level of

detail. The following steps were repeated for each industry of the ICB present in the index. First of all, for each company, factors were categorized under five main dimensions: Governance, Social, Environmental, Innovation, Safety & Security. Second of all, when possible, they were put under one of the subclasses. Finally, if suitable, they were categorized under specific topics. These three levels of detail are presented in the following list.

1. Governance
    (a) Conduct integrity
        i. Ethics
        ii. Fight against corruption
        iii. Transparency
        iv. Compliance
        v. Antitrust
    (b) Governance
        i. Governance and strategy
        ii. Risk management
        iii. Corporate solidity
        iv. Taxes
    (c) Financial capital
        i. Economic performance
        ii. Sustainable finance
    (d) Business management

i. Responsible supply chain

ii. Responsible business and product

iii. Partnerships

2. Social

(a) Human Resources

i. Health and safety

ii. Engagement and development of employees

iii. Diversity, equity & inclusion

iv. Workers' rights

v. Well-being and welfare

vi. Labour units

vii. Talent attraction and retention

(b) Customers

i. Customer satisfaction

ii. Responsible marketing

(c) Society

i. Support to local communities

ii. Accessibility and inclusion

iii. Education

iv. Corporate citizenship

3. Environmental

(a) Climate change

i. Direct environmental impact

ii. Indirect environmental impact

iii. Energy consumption

(b) Natural resources

i. Biodiversity

ii. Circular economy

iii. Waste management

iv. Raw material management

v. Water management

vi. Sustainable product

vii. Air quality

4. Innovation

(a) Innovation

(b) DIgitalization

(c) R&D

5. Safety & Security

(a) Information security

(b) Product quality and safety

Once for every company all the material factors have been classified, it has been counted how many times a single aspect has appeared. From this, it was possible to obtain

results.

ESG Rating

As discussed in the literature review, there is a plenty of ESG ratings and indices; for the analysis, only two of the most trusted ones have been considered, because of limited data availability: Standard Ethics and S&P Global DJSI World. In their NFD, FTSE MIB members have reported the sustainability ratings and indices in which they have been included, but in a discretionary way. So, sometimes, they decided not to include a rating in their document, even if they have been evaluated. In order to collect more data than the ones provided by organizations themself, ESG ratings were also extracted from raters' websites, when available.

7 | Results and discussion

In this Section, the findings emerged from the analysis are presented in the following order: firstly, general results about the disclosures and the granularity of information; secondly, the content of the information provided about SDGs, stakeholders, materiality and sustainability indexes.

7.1. Disclosure

In order to answer the research question of this thesis, it was necessary to build a database. As explained before, NFDs have been downloaded, read and exploited to extract information needed. As it is possible to see from the graphs in Table and Table, the big majority of the sample published its NFD as a consequence of being a listed company in Italy (S.p.A), a small percentage pursued a voluntary disclosure and the remaining part published the report as listed in the Netherlands or Luxemburg. Among all these companies, the 69% presented the non-financial disclosure as a separated document, while just the 31% included it in the annual report. In order to deeply analyze this result, the position of the NFD was checked industry by industry (Graph) and it emerged that the Energy is the industry with more percentage of integrated annual reports. In general, this highlights how not an irrelevant percentage still choose to create separated documents for disclosing financial and then non-financial information. This can be considered a symptom of the idea firms still have about non-financial information: something to keep apart from financial information. So, the first result

of the dissertation is the following.

Proposition 7.1. *Companies still prefer to disclosure their non-financial information through a separate document, rather than integrating it with financial one.*

Finally, information granularity concerning the material aspects was analyzed. In order to pursue such study, only material aspects categorized under Governance, Social, Environmental have been considered. Results are presented in the form of percentages, which represents how many firms of the considered industry have mentioned a sub-dimension (Figure) or a specific topic (Figures 7.2, 7.3; 7.4). Furthermore, also the horizontal dimension has been evaluated, considering how many specific topics have been included in the materiality. For what concerns the Governance dimension, its classes are composed by 3 or 4 subdimensions, with the exception of *Financial capital*, which presents only two subdimensions. In general, the level of information concerning the Governance is detailed by many industries just in few specific topics: *Responsible supply chain*, mentioned by almost the totality of companies – with lower level of percentages observed among *Financials* and *Health Care*; *Economic performance*, detailed by almost the totality of the industries – not by *Telecommunications* – with percentages typically higher than 50%; and *Ethics*, mentioned by all the industries – excluding *Consumer Staples* – with heterogeneous percentages. For what concerns the Social dimension, it is evident how in general industries went more into detail, descending up to the third level in all of the cases for *Human resources* and in many for *Society*; these two sub-dimensions presents respectively 7 and 4 different material topics. The *Customer* sub-dimension was typically mentioned less and with just 2 different specific aspects. In the Environmental dimension, *Climate change* was mentioned with three different subclasses: *Direct environmental impact*, which in the big majority of the industries was detailed by at least the 60% of companies; *Indirect environmental impact*, deepened by less than half of the industries; *Energy consumption*, deepened

by all the industries but with lower percentages compared to *Direct environmental impact*. *Natural resources* presented 7 different sub-dimensions but many of them have not been considered by more than an industry. Information became more detailed by industries when talking about *Circular economy* and *Waste management*, even if the presence in single companies' materiality matrix is not particularly high. From these considerations, the following deduction may be asserted.

Proposition 7.2. *The level of information is detailed the most for what concerns the Social dimension, in particular the Human resources; the Environmental dimension is detailed for what concerns some Climate change related aspects, and few Natural resources related ones; the level of information concerning the Governance is detailed for few specific topics, not related to a unique sub-dimension.*

	Conduct integrity	Governance	Financial capital	Business management	Human resources	Customer	Society	Climate change	Natural resources	INDUSTRY AVG
Financials	27%	29%	50%	42%	51%	71%	50%	53%	10%	42%
Industrials	49%	18%	29%	33%	63%	29%	25%	52%	53%	39%
Health Care	40%	8%	33%	22%	67%	67%	50%	53%	31%	41%
Telecommunications	30%	13%	0%	33%	43%	25%	38%	50%	57%	32%
Consumer Discretionary	15%	13%	25%	42%	68%	63%	38%	58%	43%	40%
Energy	35%	13%	25%	42%	54%	13%	31%	56%	38%	34%
Utilities	28%	25%	70%	60%	43%	30%	40%	17%	14%	36%
Consumer Staples	20%	0%	50%	33%	86%	100%	75%	67%	43%	53%
Technology	40%	50%	50%	33%	86%	50%	0%	100%	57%	52%
TOPIC AVG	31%	19%	37%	38%	62%	50%	38%	56%	38%	

Figure 7.1: Subdimensions granularity

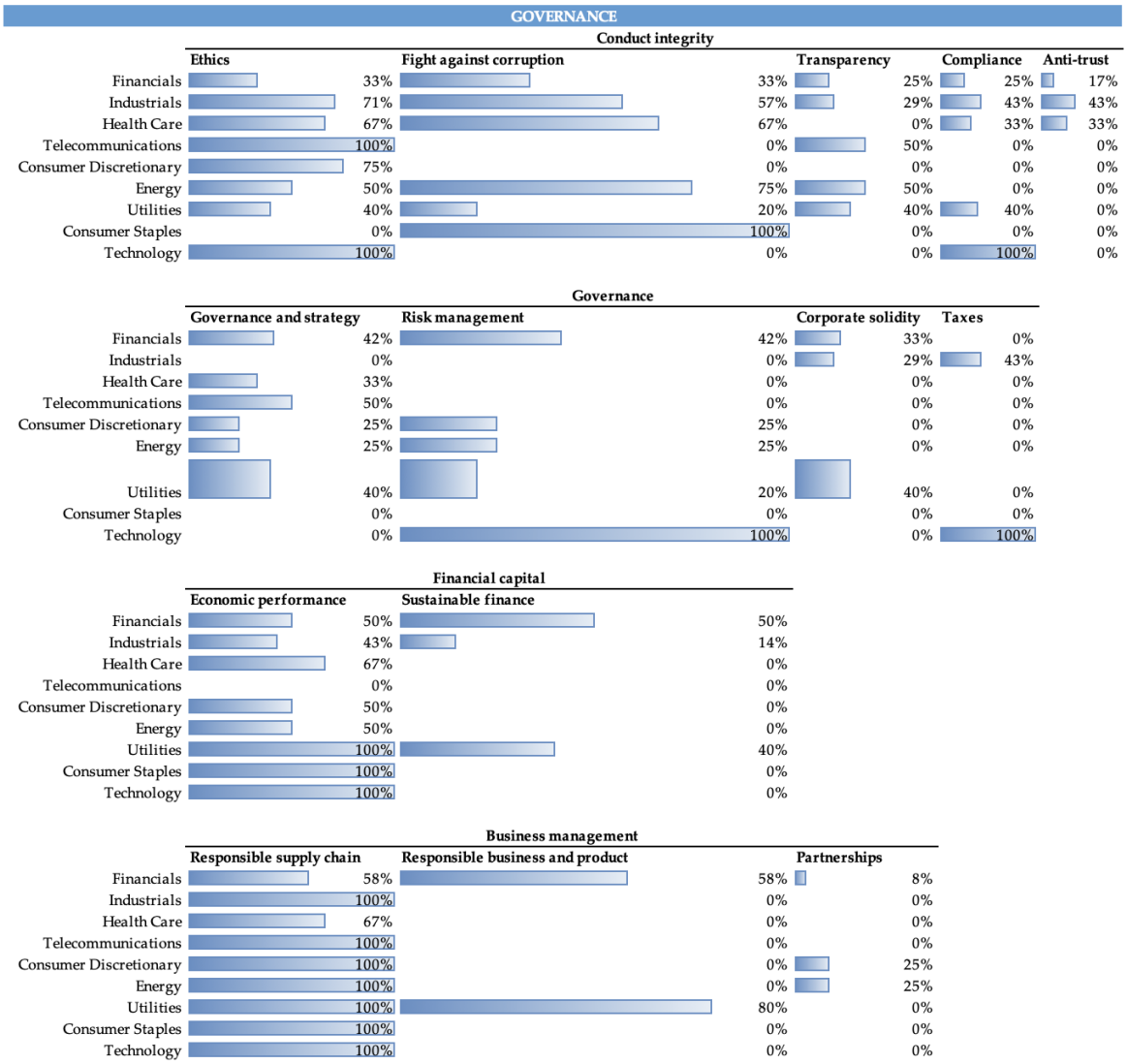

Figure 7.2: Governance pillar granularity

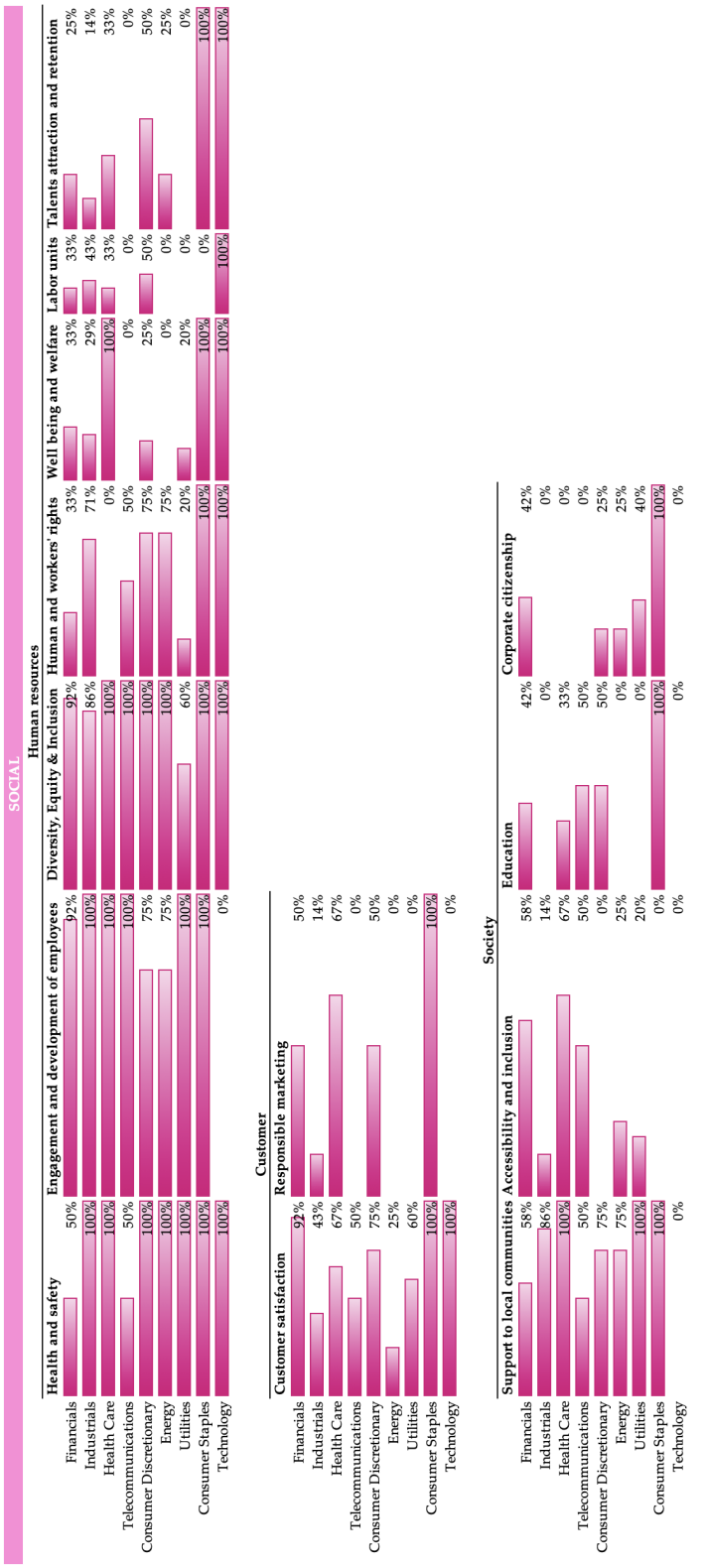

Figure 7.3: Social pillar granularity

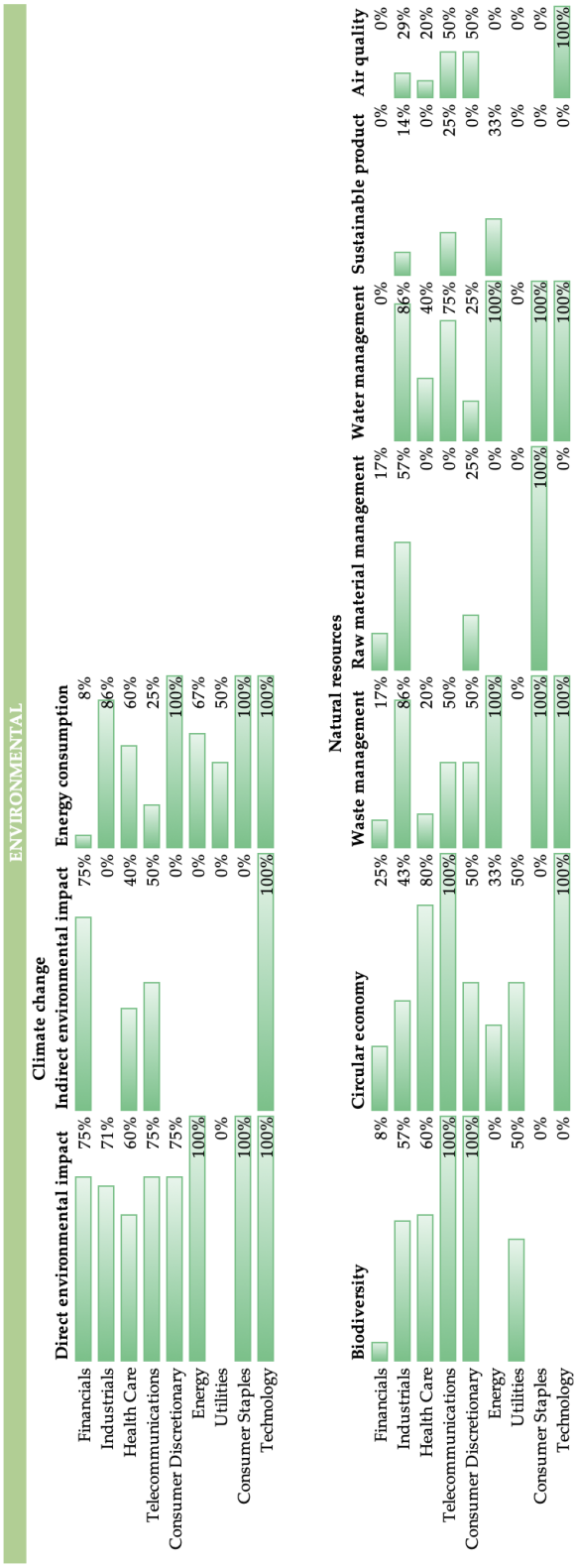

Figure 7.4: Environmental pillar granularity

7.2. Contribution to SDGs

As shown in Figure 7.5, almost all the companies included information about the impacts they had on SDGs in their reports; as explained in Section, in case of lack of such information, data were completed with external sources, to obtain more complete results. In order to ease the understanding of results, a synthetic table listing the 17 SDGs and their relative category was provided in Section 3.2. Considering all the companies without making distinction among industries, all the 17 SDGs have been mentioned by the sample. More in detail, the SDGs mentioned the most – all with percentages of mention higher than the 80% – are number 8, 7, 12, 13 and 4 (namely respectively *Decent work and economic growth, Affordable and clean energy, Responsible consumption and production, Climate action* and *Quality education*). On the contrary, SDGs number 2 and 14 (namely respectively *Zero hunger* and *Life below water*) are the ones less impacted by the sample. Considering the different categories of SDGs (i.e. environmental, social, economic and partnerships), surprisingly environmental SDGs are in general among the less mentioned, with the exclusion of Goal 13 *Climate action*.

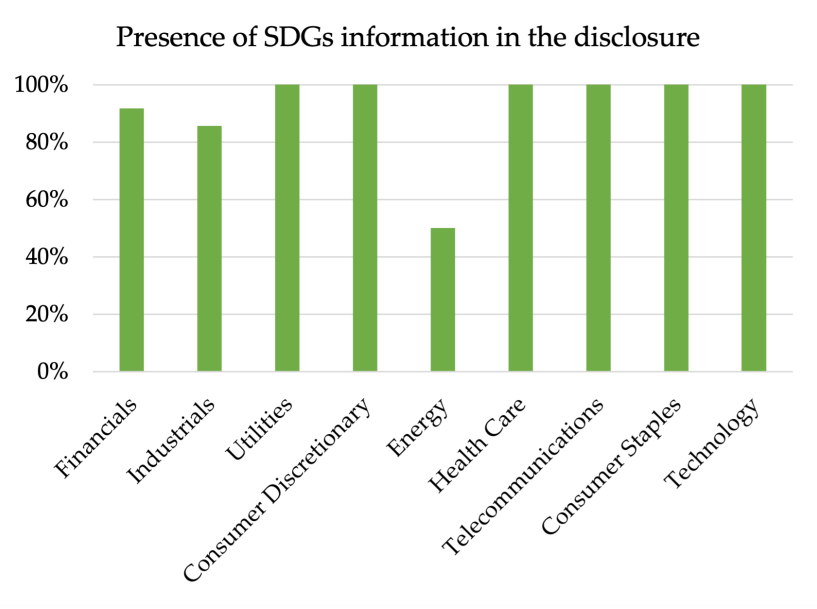

Figure 7.5: Presence of SDGs information in the disclosure

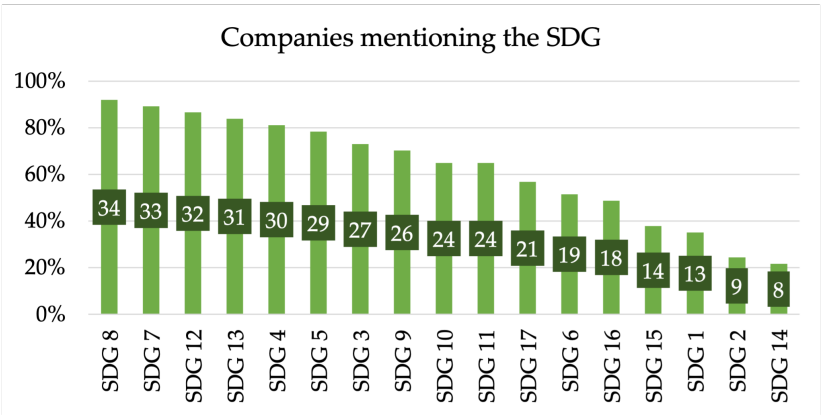

Figure 7.6: Number and percentage of companies mentioning a SDG

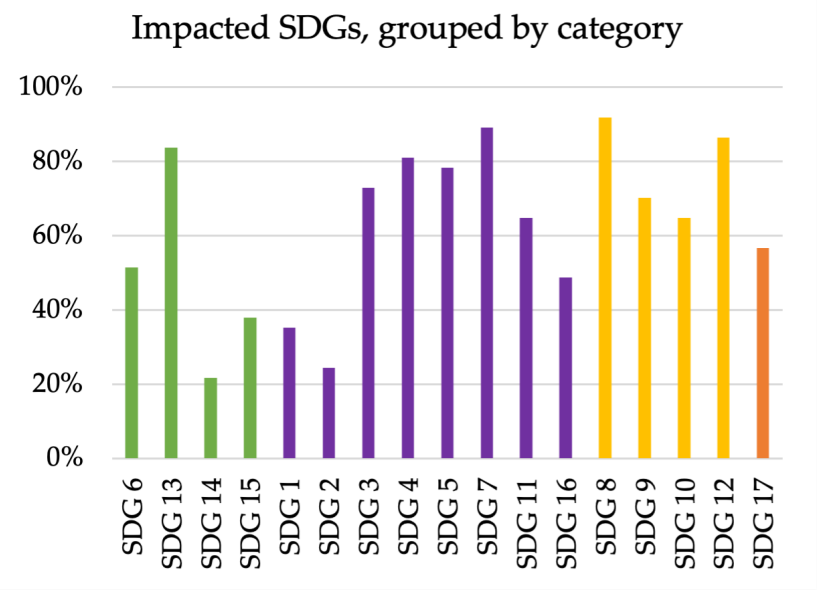

Figure 7.7: SDGs mentioined in the disclosures, grouped by category: green for environmental, purple for social, yellow for economical and orange for partnership goals

More in detail, making a comparison between *Financials* and *Non-financials* (Figure 7.8, it is evident how the uniformity of such results is mainly preserved, with the exception of Goals number 1, 6, 14 and 15: the outcomes represent the *Financials* contributing more to the end of poverty, while *Non-financials* performing better in the other three goals.

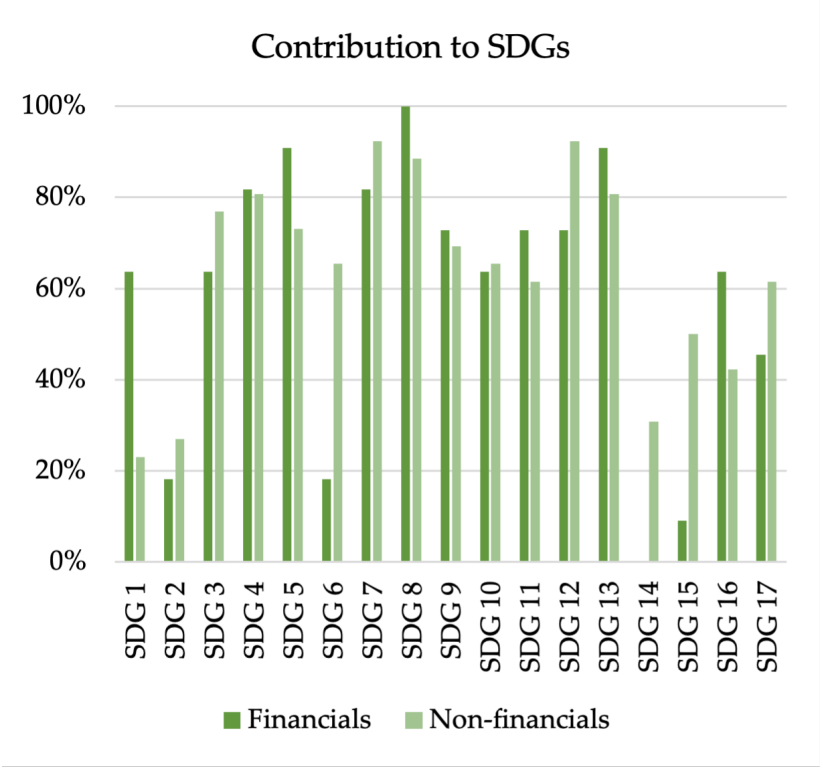

Figure 7.8: Comparison between Financials' and Non-financials' contributions to SDGs

Comparing such findings with investors' attention, it is evident that there is not an alignment. Firstly, only 2/5 of the leading-investment SDGs[1] are impacted by the companies, namely Goal 13 and 7. Secondly, investors increasingly consider natural capital SDGs[2] (i.e. Goal 12, 14 and 15) while among them not only companies generate considerable impacts just on the Goal 12, but also make Goal 14 as one of the less mentioned. From these considerations, the following result is derived.

Proposition 7.3. *The SDGs which companies actually focus on are not completely in line with the ones that mostly guides investment choices.*

[1]From the literature, the SDGs that mostly guides investment choices are Goal 13, 7, 6, 3, 11

[2]From the literature, natural capital SDGs were considered relevant for investment choices for the 24% of investors in 2021 and will be such for the 53% in the following two year

7.3. Stakeholders

Analyzing the stakeholders considered for the construction of the materiality matrix, it emerged that the most mentioned ones were *Shareholders and Financial community, Clients* and *Employees* A first observation may be the followings.

Proposition 7.4. *Clients are one of the most important stakeholder, but among material factors, few topics concern them.*

The graph presented in Figure 7.9 compares stakeholders mentioned by *Financials* and *Non-financials* and some differences between the two may be highlighted: The *Environment* as stakeholder is considered more by *Financials*, even if they have an indirect impact on it compared to other industries. On the contrary, *Suppliers* are considered by just half of the *Financials* and all the *Non-financials*. From this consideration, another issue may be rose.

Proposition 7.5. *Financials do not consider in a prevailing way Suppliers as stakeholders, but this is not in line with their environmental impact, which is mainly attributable to Scope 3 emissions (i.e. those linked to the supply chain).*

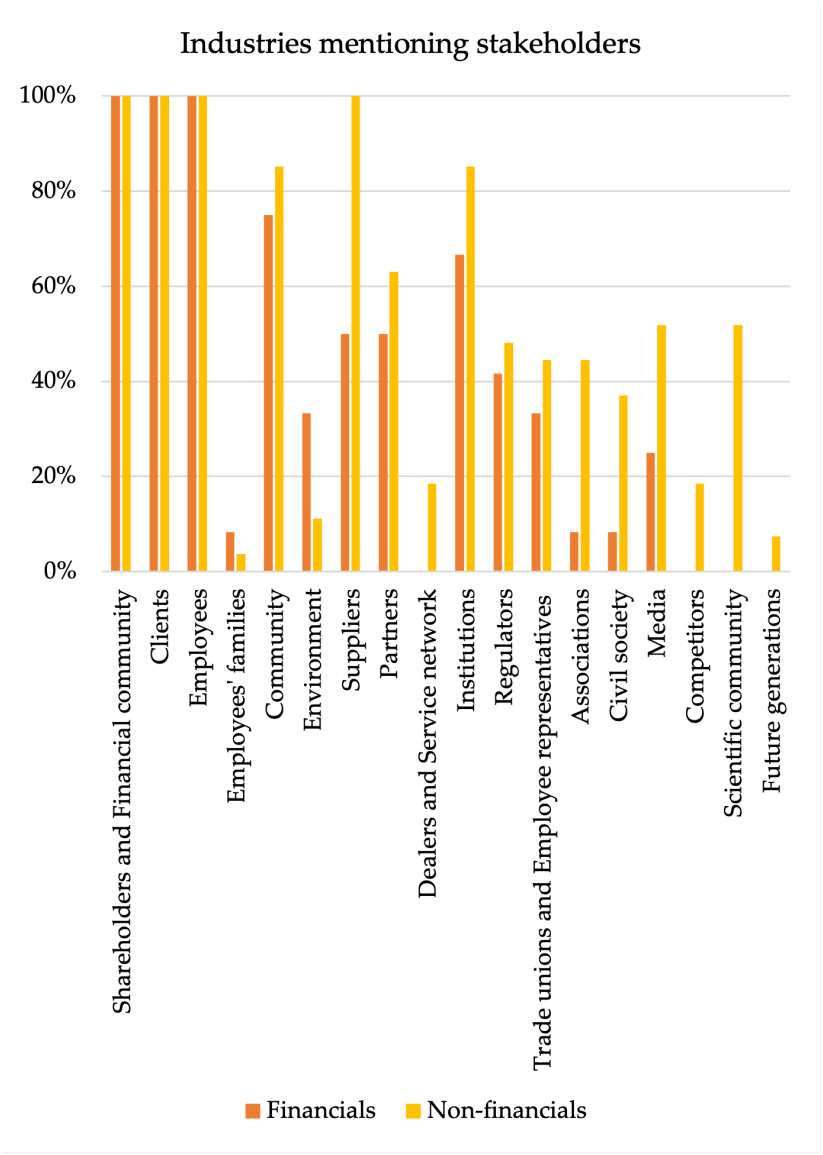

Figure 7.9: Comparison between Financials' and Non-financials' percentage of mentioned Stakeholders

Stakeholders as *Dealers and Service network, Competitors, Scientific community* and *Future generations* are completely neglected by the *Financials*. Also *Non-financials* cited most of them in a small amount, except for the *Scientific community*. More in detail, the highest percentage in which Competitors are incorporated is 33% of the *Health Care* and *Future generations* the 14% of the *Industrials*. *Institutions* and *Regulators* are considered in a relatively homogeneous way both by *Financials* and

Non-financials, but decomposing the *Non-financials* (Figure 7.10), it is possible to see that despite the overall high percentages of all the industries, the *Health Care* do not include much *Institutions* in their stakeholders. Institutions generally are considered by a higher percentage than Regulators, but with the exception of the *Health Care*, that, mentioning them in 100% of the cases and *Institutions* in the 33%, highlights its stronger attention toward the regulatory framework. The stakeholder *Community* is typically cited by at least around the 70% of the companies of an industry, with the exclusion of the category *Telecommunications & Technology*, of which just the 33% of the firms included it. On the contrary, *Civil society* was largely incorporated only in the *Consumer Discretionary & Consumer Staples* and *Telecommunications & Technology* industries. So,

Proposition 7.6. *Firms typically do not perceive the third sector as a stakeholder of interest.*

Lastly, *Trade unions and Employee representatives* are considered in a percentage higher than 50% only by *Consumer Discretionary & Consumer Staples* and *Industrials*.

Proposition 7.7. *The attention toward employees that emerges from the materiality analysis is not met in the linked Stakeholders engaged.*

	Financials	Energy & Utilities	Industrials	Consumer Discretionary & Consumer Staples	Health Care	Telecommunications & Technology
Shareholders and Financial community	100%	100%	100%	100%	100%	100%
Clients	100%	100%	100%	100%	100%	100%
Employees	100%	100%	100%	100%	100%	100%
Employees' families	8%	0%	14%	80%	0%	0%
Community	75%	89%	100%	100%	67%	33%
Environment	33%	0%	0%	20%	67%	0%
Suppliers	50%	100%	100%	100%	100%	100%
Partners	50%	44%	71%	80%	67%	67%
Dealers and Service network	0%	0%	14%	80%	0%	0%
Institutions	67%	100%	86%	80%	33%	100%
Regulators	42%	22%	57%	40%	100%	67%
Trade unions and Employee representatives	33%	44%	57%	60%	33%	0%
Associations	8%	44%	29%	20%	67%	100%
Civil society	8%	33%	29%	60%	0%	67%
Media	25%	33%	57%	80%	33%	67%
Competitors	0%	22%	14%	20%	33%	0%
Scientific community	0%	11%	71%	60%	100%	67%
Future generations	0%	11%	14%	0%	0%	0%

Figure 7.10: Comparison among industries of percentages of mentioned Stakeholders

7.4. Material aspects

The analysis of the material aspects considered by the different industries highlighted that in most of the industries there is a strong attention towards the social aspects, in particular towards *Human resources* and the *Society*; even if the materiality of the *Customer* presented high percentages (in every industry above the 75%, with the exception of the Energy industry), among the Social aspects, it is the one less mentioned in every industry. Most of the industries are composed by 100% of companies that consider as environmental aspects both *Climate change* and Natural resources, apart from the *Financials* and *Telecommunications*, which in many cases (respectively the 67% and 50%) did not consider any topic related to *Natural resources*. Going more in dept, it is possible to see that the low percentage observed in the *Financials* is characterized by a low uniformity in the topics mentioned: there have been cited four different topics by few companies (never higher than the 25%); on the contrary, in the case of the *Telecommunications*, just two topics have been cited by the half of the firms. Such outcome is in line with the one obtained from the SDGs analysis: *Financials* and *Telecommunications* mentioned in a remarkable measure just one of

the SDGs linked to natural resources, while the Goal 14 in the 0% of the cases and Goal 15 respectively in 9% and 50%. For what concerns aspects about the governance, *Conduct integrity* and *Business management* are the most mentioned ones by all the industries. *Governance* and *Financial capital* are in general less considered by the companies. It could be reasonable to think that the cause behind this may be the position of the NFD, as it would be probable that companies that do not integrate financial and non-financial information as see them as two separated entities may avoid inserting such financial aspects in the materiality of the NFD. However, analyzing the companies of the sample, it is not possible to assert that there is a correlation between the position of the NFD and the absence of financial aspects in the materiality, as only around the 30% of the companies with the NFD in a distinct document lack the *Governance* or *Financial capital* issues. Entering more into detail, *Conduct integrity* is mainly considered in terms of Ethics and Fight against corruption, while themes as *Compliance* and *Anti-trust* are in general mentioned by few companies. For what concerns the *Financial capital*, the *Economic performance* is considered a material topic for many companies, while *Sustainable finance* is not particularly felt by most of the companies, with the exception of the 50% of *Financials*, 14% of the *Industrials* and 40% of the *Utilities*. The *Business management* is considered material when talking about the Responsible supply chain, but in very few cases it regarded *Responsible business and product* and even less *Partnerships*. This is certainly not aligned with the 57% of firms declaring their impact on the Goal 17 of the SDGs *Partnerships for the goals*. Regarding material aspects linked to innovation (i.e. *Innovation, Digitalization, R&D*), the generic mentioning of the term *Innovation* is almost always present (except for the *Consumer Staples* industry), *Digitalization* in less than half of the considered industries, and *R&D* only in *Health Care* and *Industrials*, respectively in the 67% and 29% of the cases. For what concerns the Safety & Security, *Informational security* is always considered as material by the different industries and *Product safety* in most of

the cases, both with an average percentage above the 80%. The presented outcomes generate the following propositions.

Proposition 7.8. *It is possible to observe a coherence of impacted SDGs and the material aspects regarding the social and the environmental dimensions; on the contrary, this is not true with the partnerships for sustainable development.*

The following Figures 7.11, 7.12, 7.13, 7.14, 7.14, 7.16, 7.17, 7.18 and 7.19 represent for every industry the percentages of mention of the differnt material subdimensions.

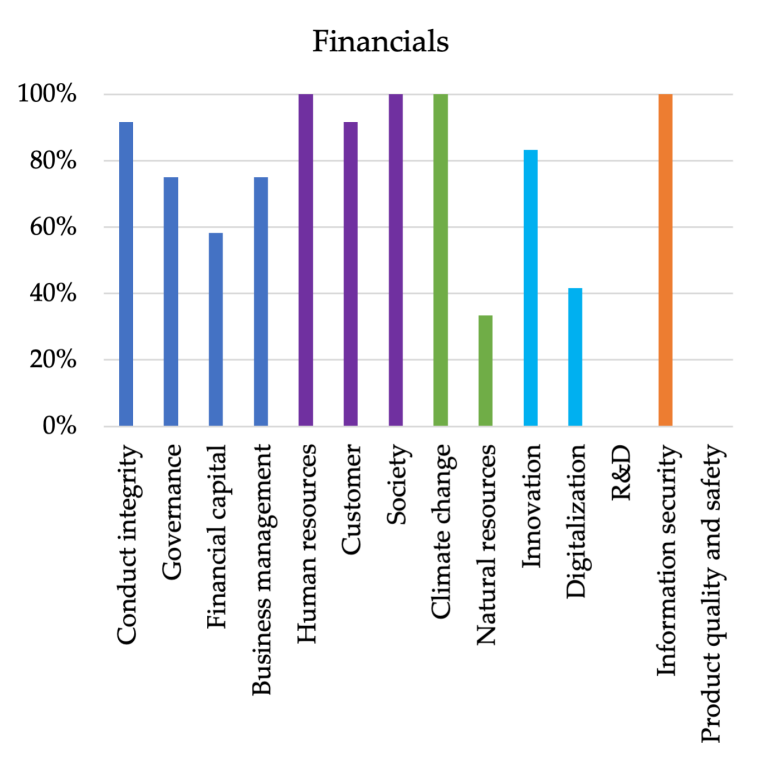

Figure 7.11: Percentages of Financials considering the aspect as material

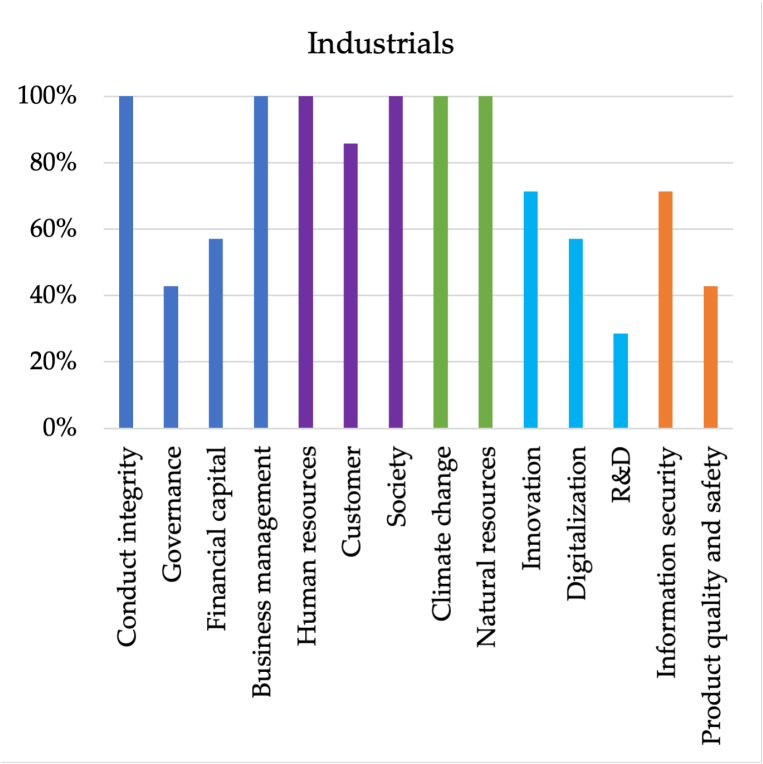

Figure 7.12: Percentages of Industrials considering the aspect as material

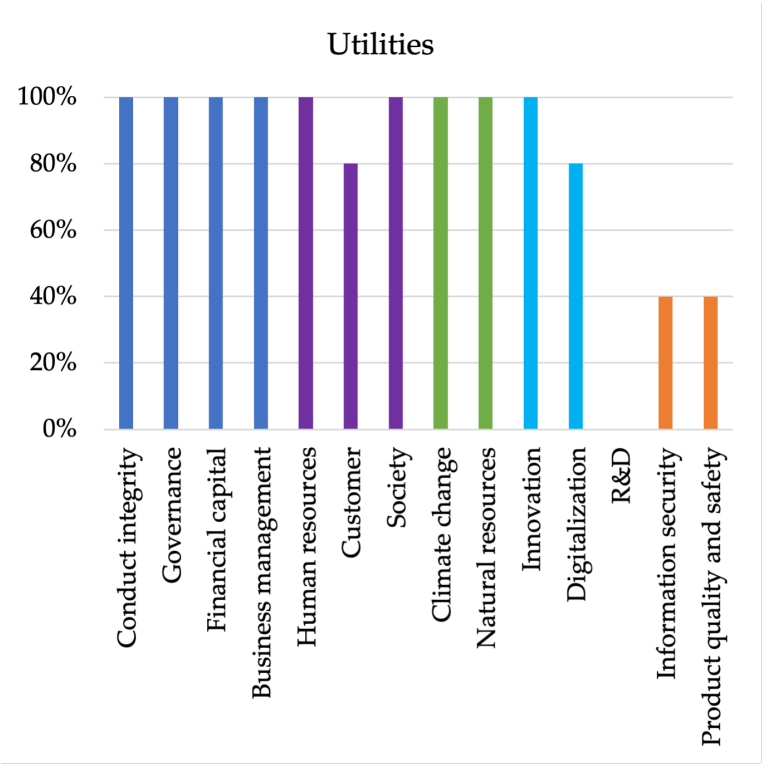

Figure 7.13: Percentages of Utilities considering the aspect as material

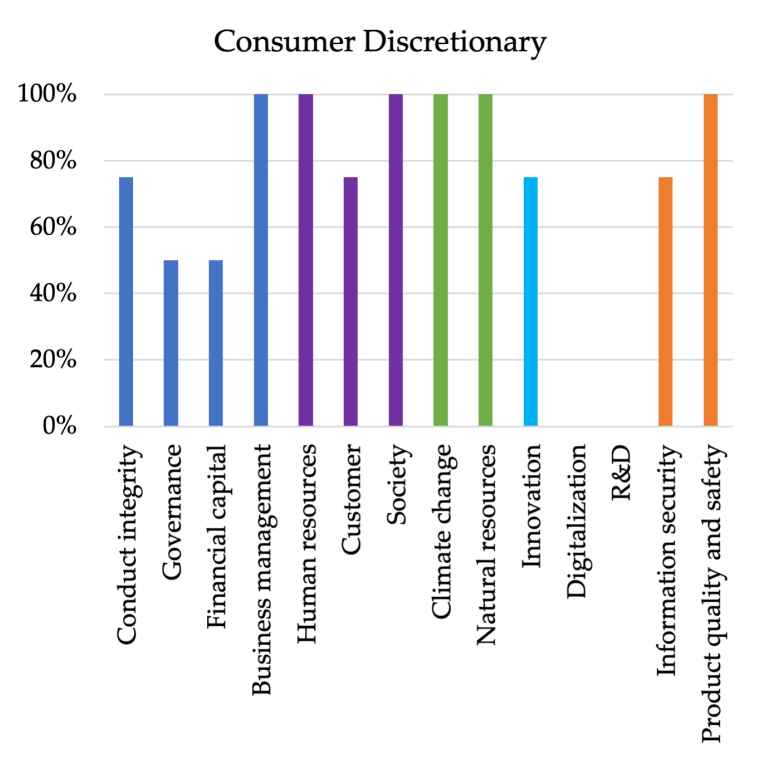

Figure 7.14: Percentages of Consumer Discretionary considering the aspect as material

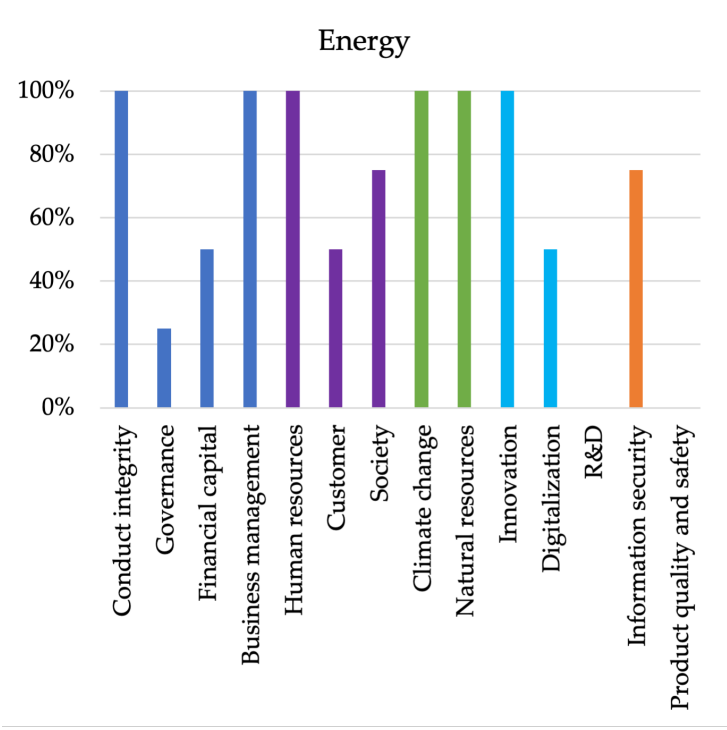

Figure 7.15: Percentages of Energy considering the aspect as material

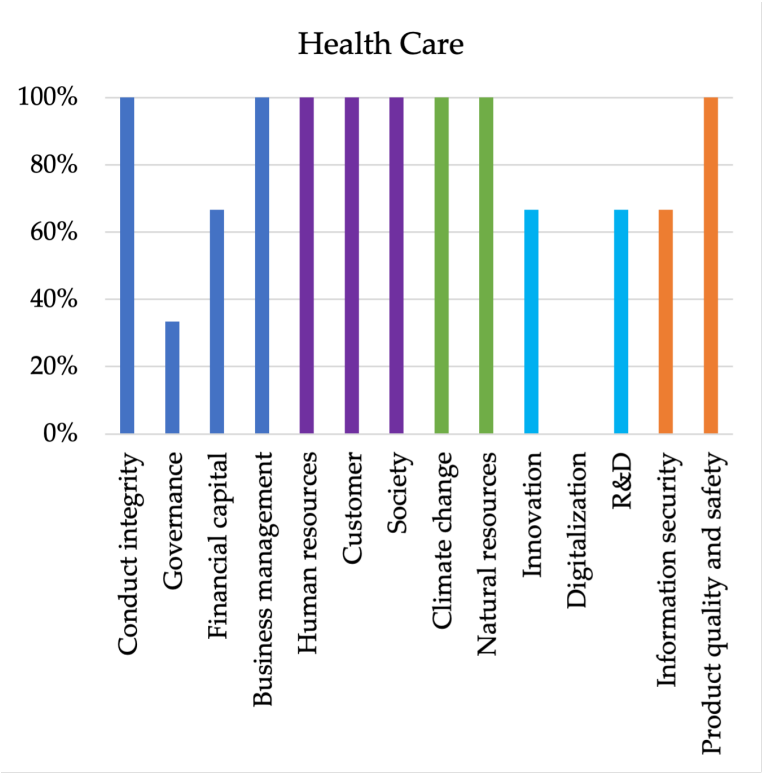

Figure 7.16: Percentages of Health Care considering the aspect as material

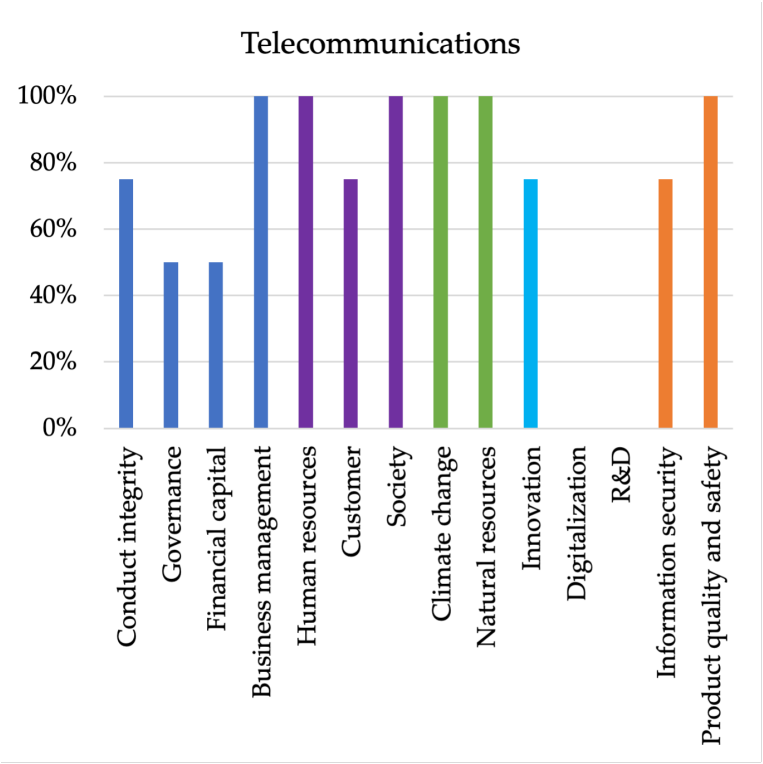

Figure 7.17: Percentages of Telecommunications considering the aspect as material

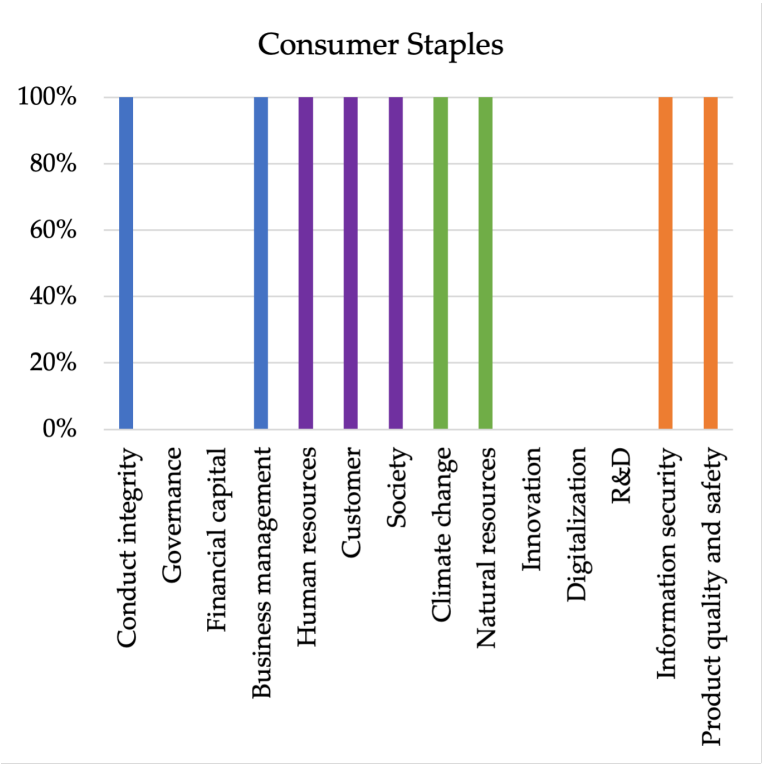

Figure 7.18: Percentages of Consumer Staples considering the aspect as material

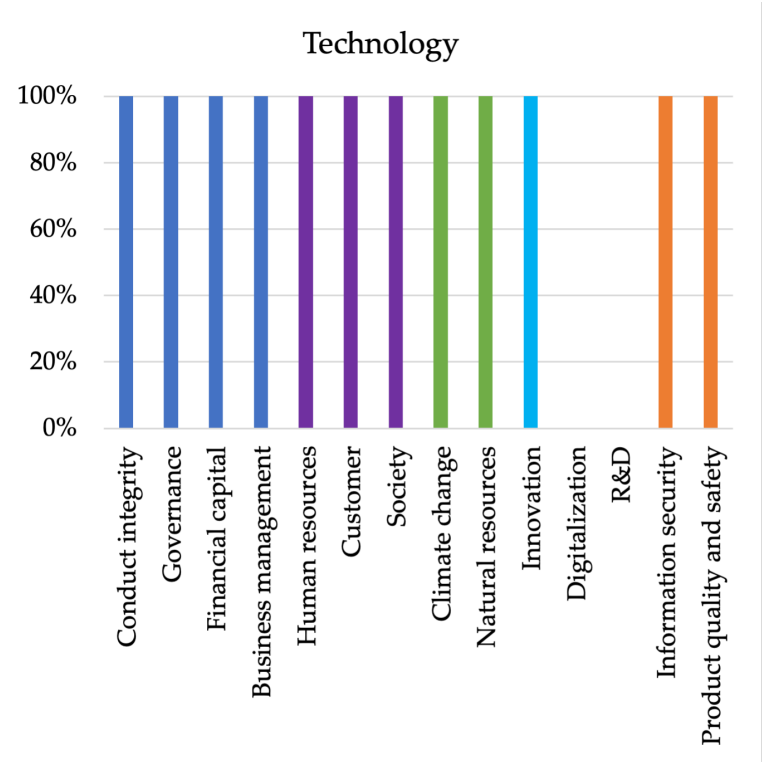

Figure 7.19: Percentages of Technology considering the aspect as material

The following Figures 7.20, 7.21; 7.22, 7.23, 7.24, 7.25, 7.26, 7.27 and 7.28 show different specific topics under each subdimension. Each of them is represented with percentages of mention in every industry.

Governance pillar

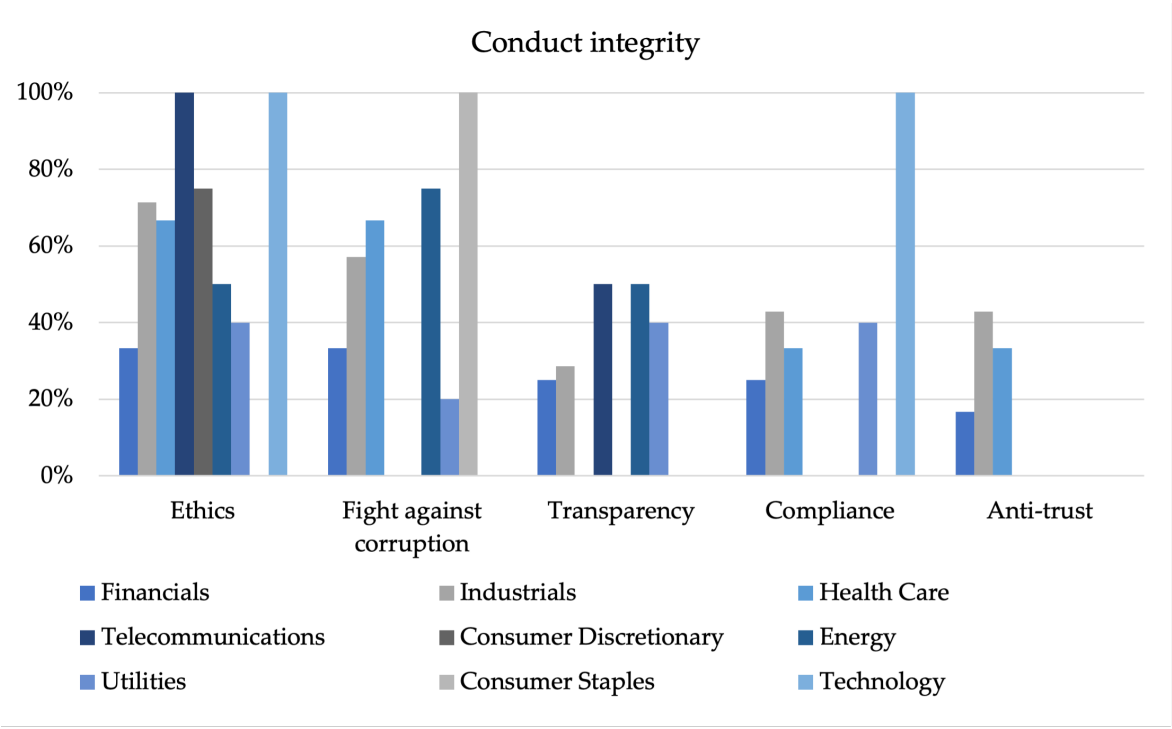

Figure 7.20: Conduct integrity subdimension breakdown

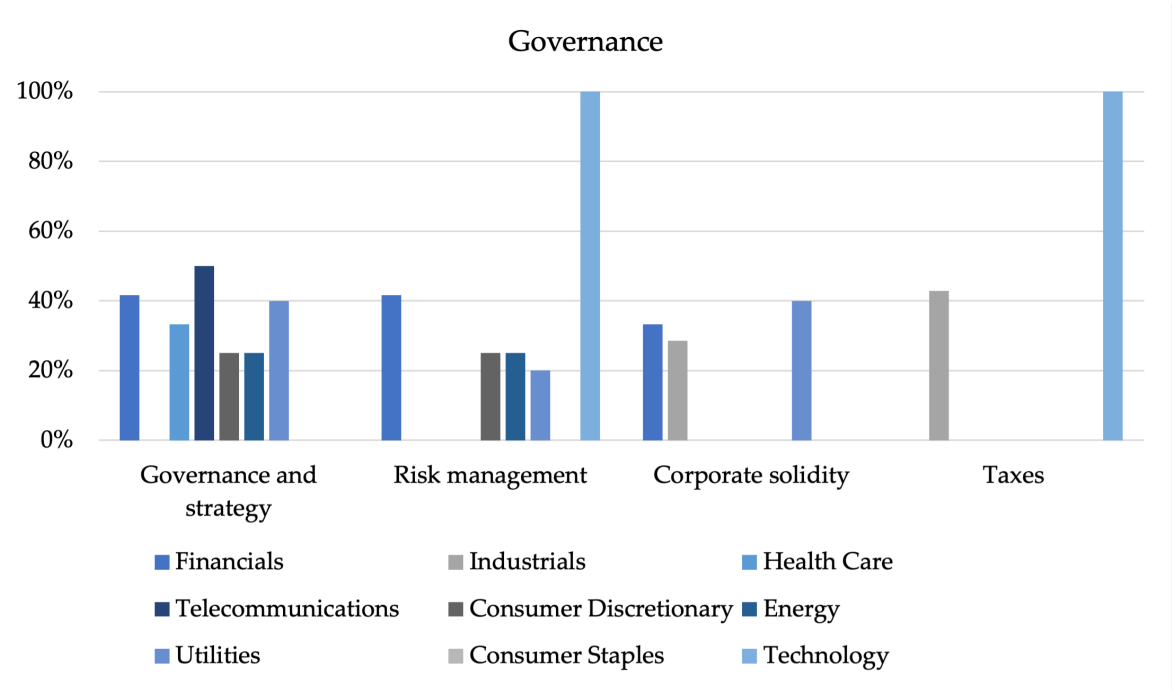

Figure 7.21: Governance subdimension breakdown

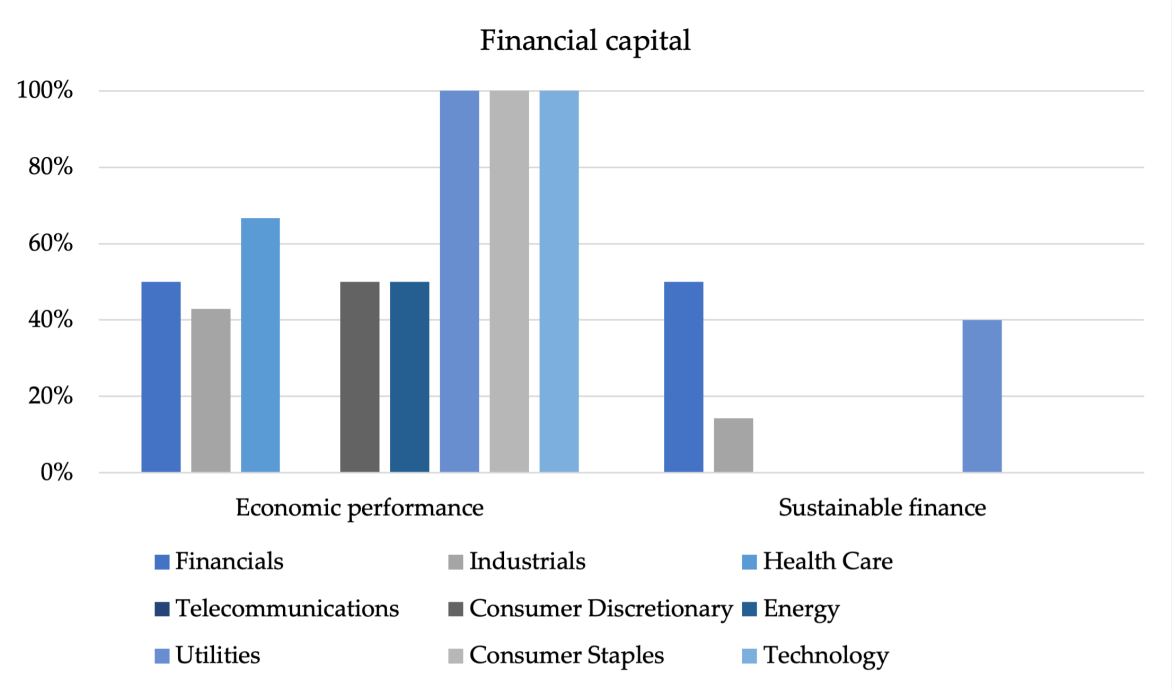

Figure 7.22: Financial capital subdimension breakdown

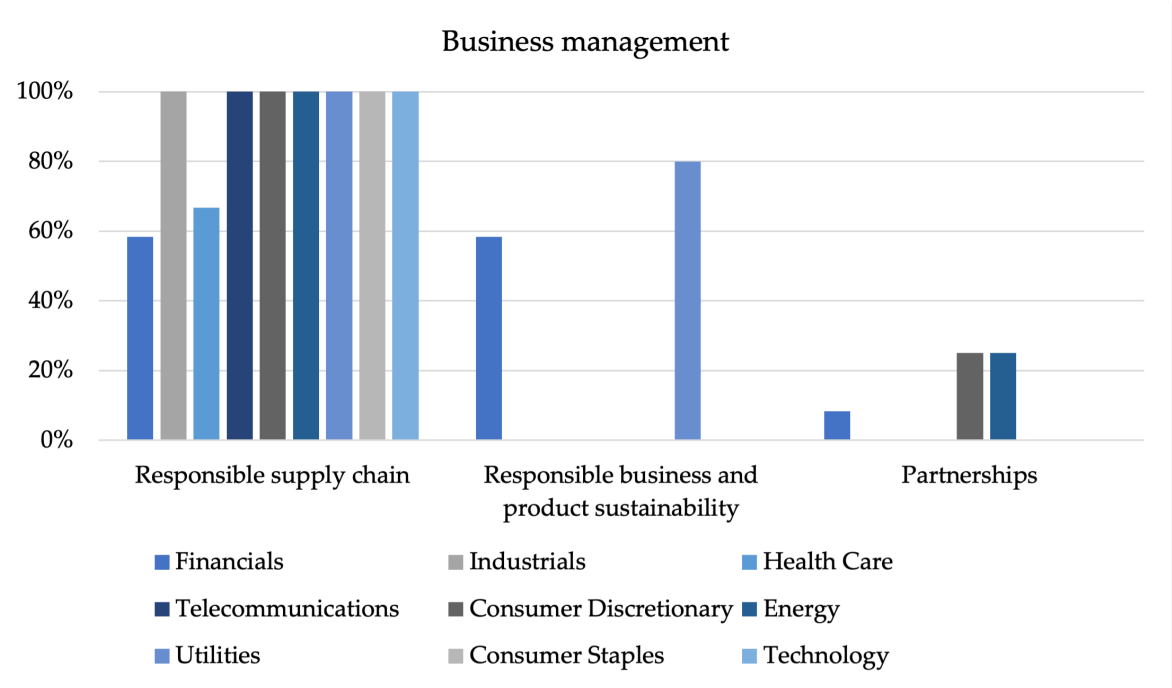

Figure 7.23: Business management subdimension breakdown

Social pillar

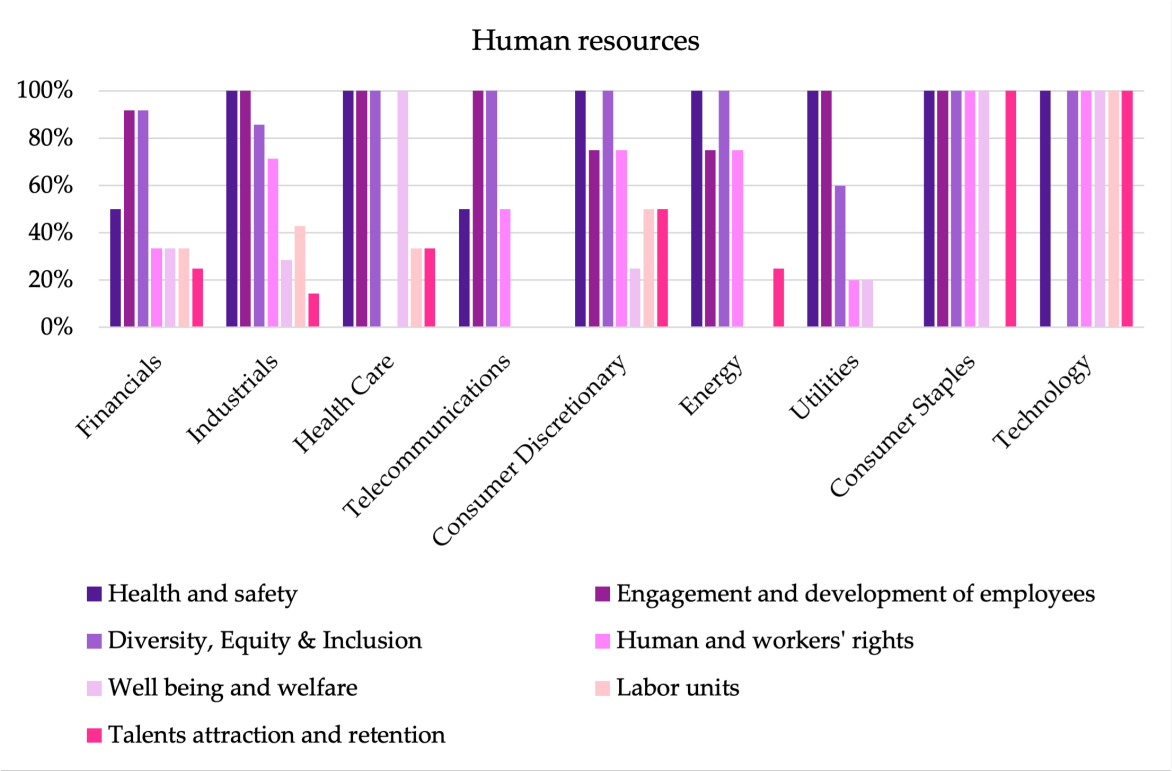

Figure 7.24: Human resources subdimension breakdown

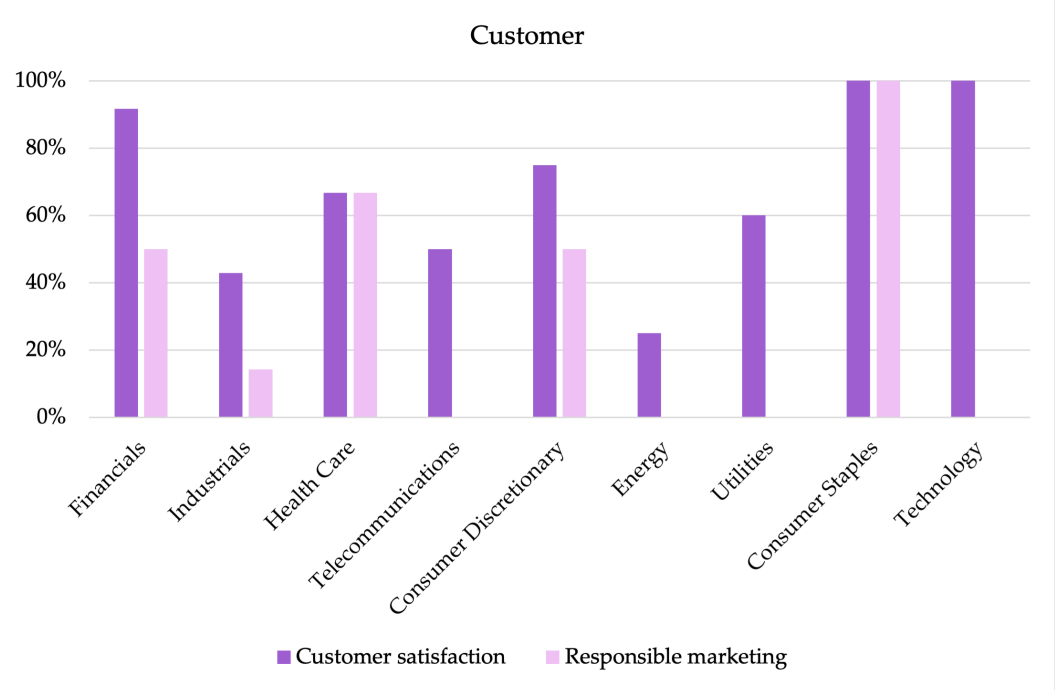

Figure 7.25: Customer subdimension breakdown

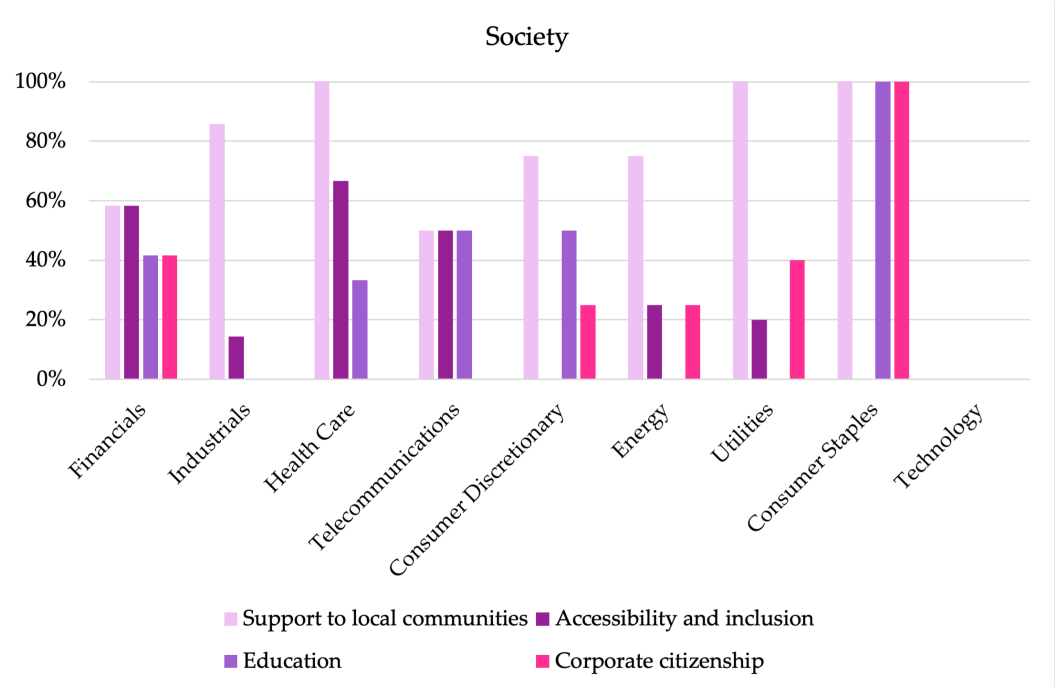

Figure 7.26: Society subdimension breakdown

Environmental pillar

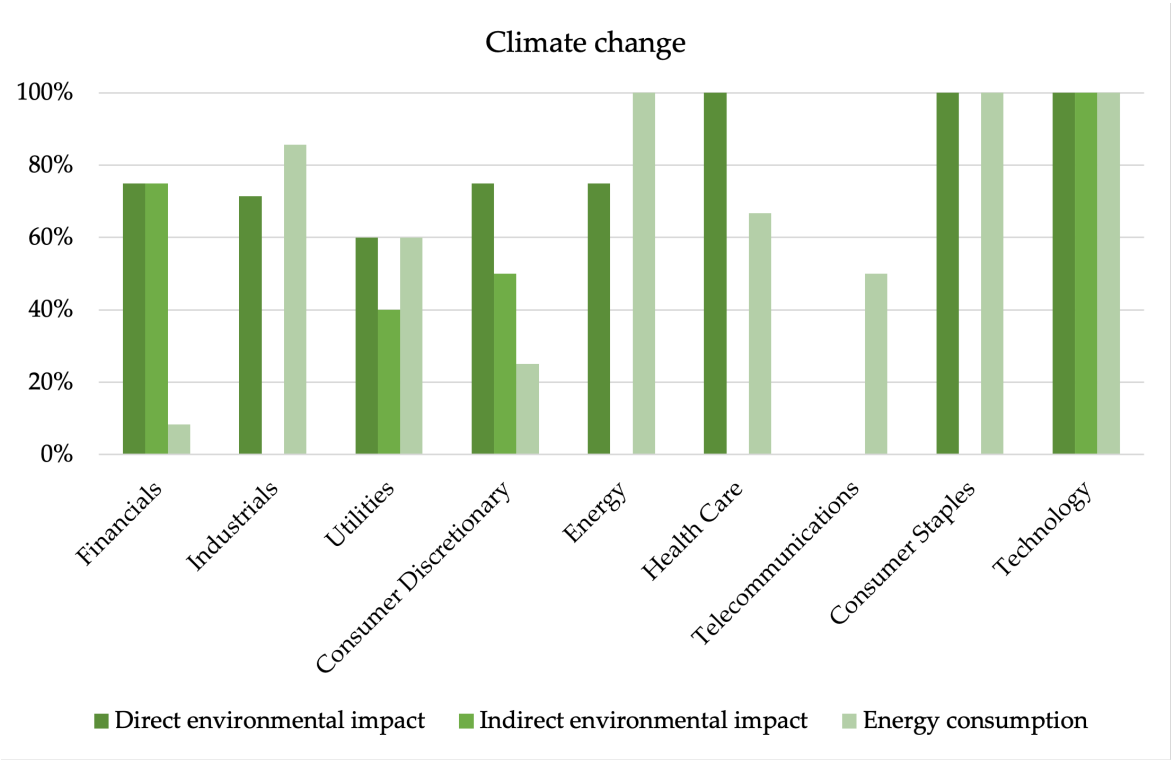

Figure 7.27: Climate change subdimension breakdown

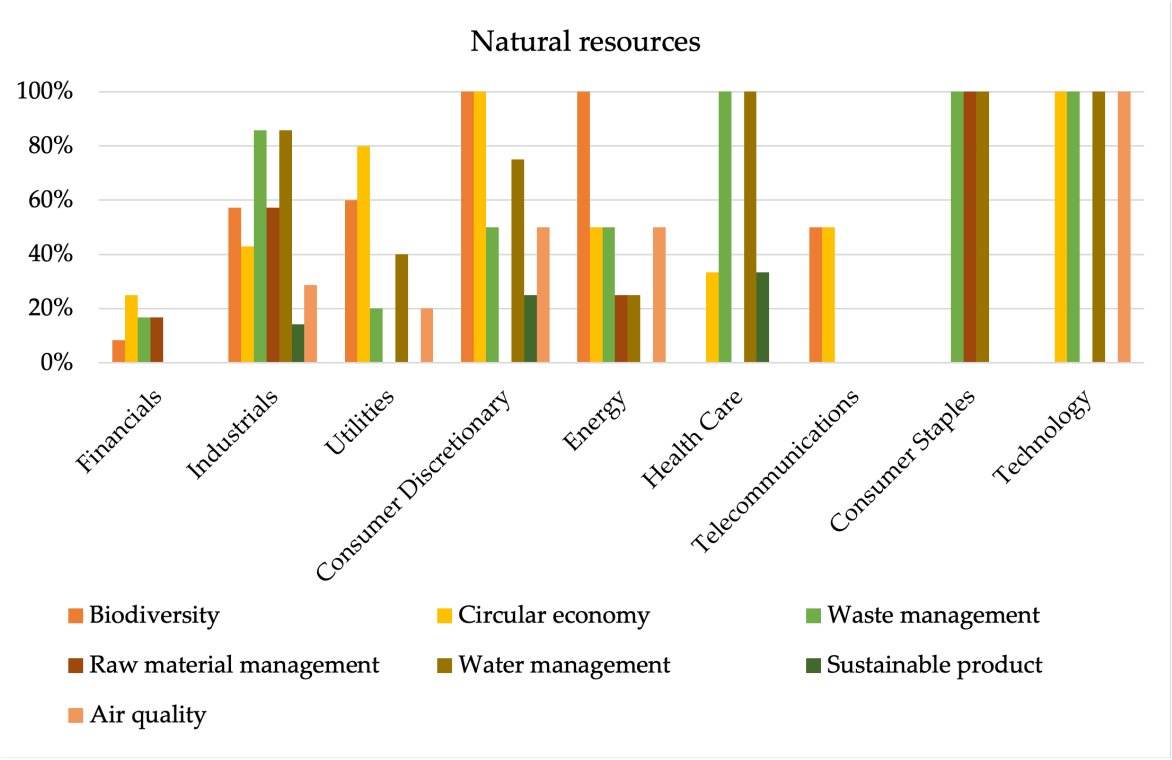

Figure 7.28: Natural resources subdimension breakdown

7.5. Sustainability indexes

Among the disparate ESG ratings, the analysis was conducted on ESG score of S&P Global, Standard Ethics, catching from one side corporate sustainability performances and from the other the level of compliance with international guidelines. For what concerns S&P Global score (Figure 7.29), industries seem to be aligned with their best-in-class, except for *Health Care* and *Consumer Staples*. The highest average score is reported in the Utilities and *Consumer Discretionary*, while the lowest ones in the *Health Care* and *Consumer Staples*. Analyzing Standard Ethics scores (Figure 7.30), it is possible to see that *Financials* and *Technology* are the industries with the best average grade, while *Telecommunications* and *Consumer Staples* with the worst ones, but also *Health Care* and *Consumer Discretionary* did not scored good. From the Figure 7.31, it is possible to deduce that most of the *Financials* have at least an adequate level of compliance, but in general even better than just adequate; two industries, i.e., *Industrials* and Energy, are characterized by a low homogeneity in grades. In particular, the 6 *Industrials* of which the grade has been considered cover 5 different types of level of compliance. From these considerations it emerged that for the sample considered industries' average scores and grades partially correspond: in both of the cases *Health Care* and *Consumer Staples* obtained not good position compared to the other industries. On the other hand, *Consumer Discretionary* firms on average scored better in S&P Global but presented among the worst levels of compliance with international guidelines.

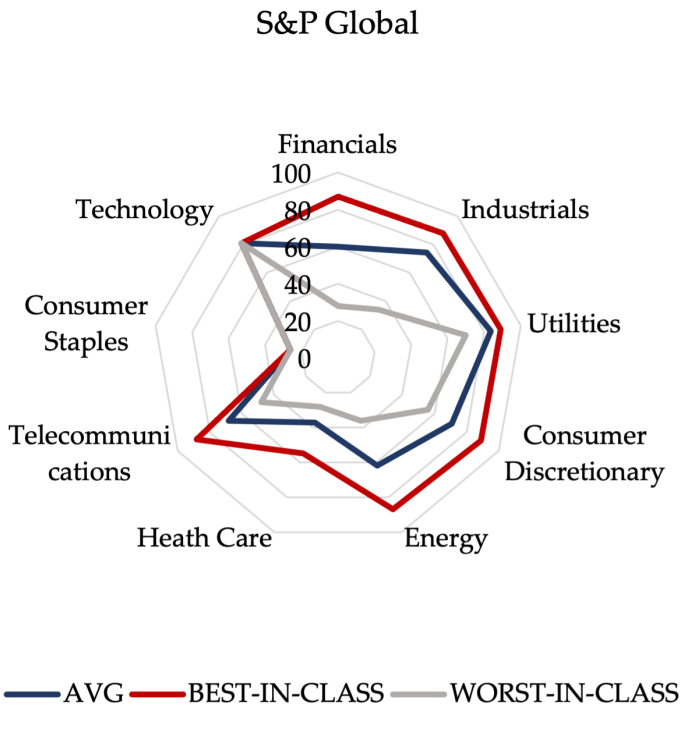

Figure 7.29: Spider chart of S&P Global ESG scores

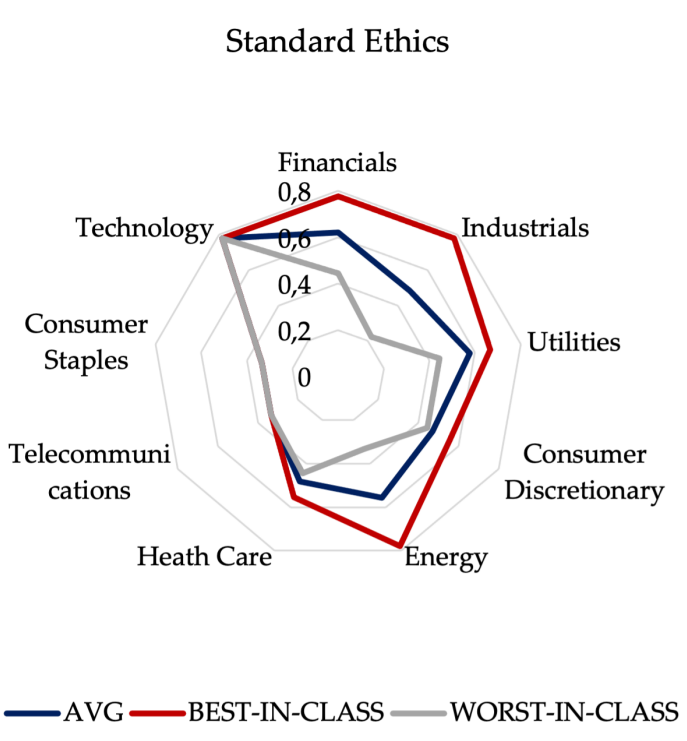

Figure 7.30: Spider chart of Standard Ethics grades

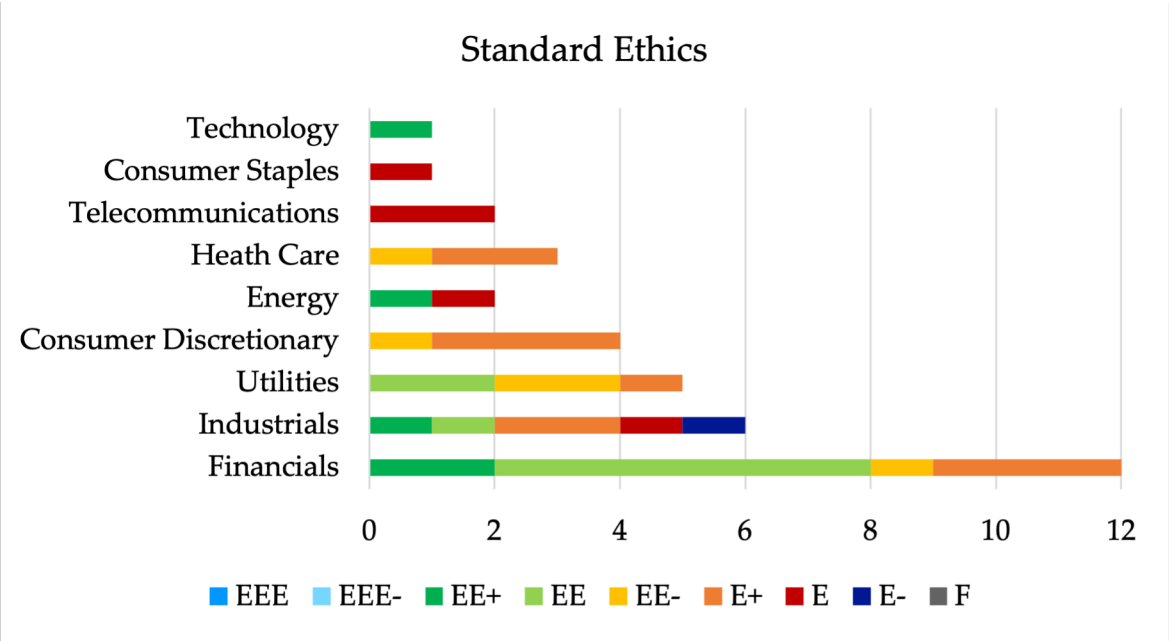

Figure 7.31: Standard Ethics by classes of grade

General information about the companies of the sample was extracted during the data collection. Some of them were useful pursued a cross-topic analysis between shareholder dispersion and the S&P Global Governance score.

The only industries in the sample characterized by firms with a dispersed shareholder were *Financials*, *Industrials* and *Consumer Staples* ones. Of these industries it was searched a relationship with governance aspects. Since the only industry with mixed results of shareholder dispersion was the *Financials*, such analysis was carried out only for it. It has been considered as Governance score the one of S&P Global, as it easily provides scores for each of the dimensions. Since the available data about Governance were of a later period than 2021, the score was considered valid when no relevant changes in the score have been registered since 2021. From this it resulted that firms with a more concentrated ownership on average obtained better results in the Governance score; this may be explained considering that having a dispersed shareholder could generate more agency problems, due to possible higher conflict of

interests between the principals and the agents.

Proposition 7.9. *Financials firms with a more concentrated ownership on average obtained better results in the governance score.*

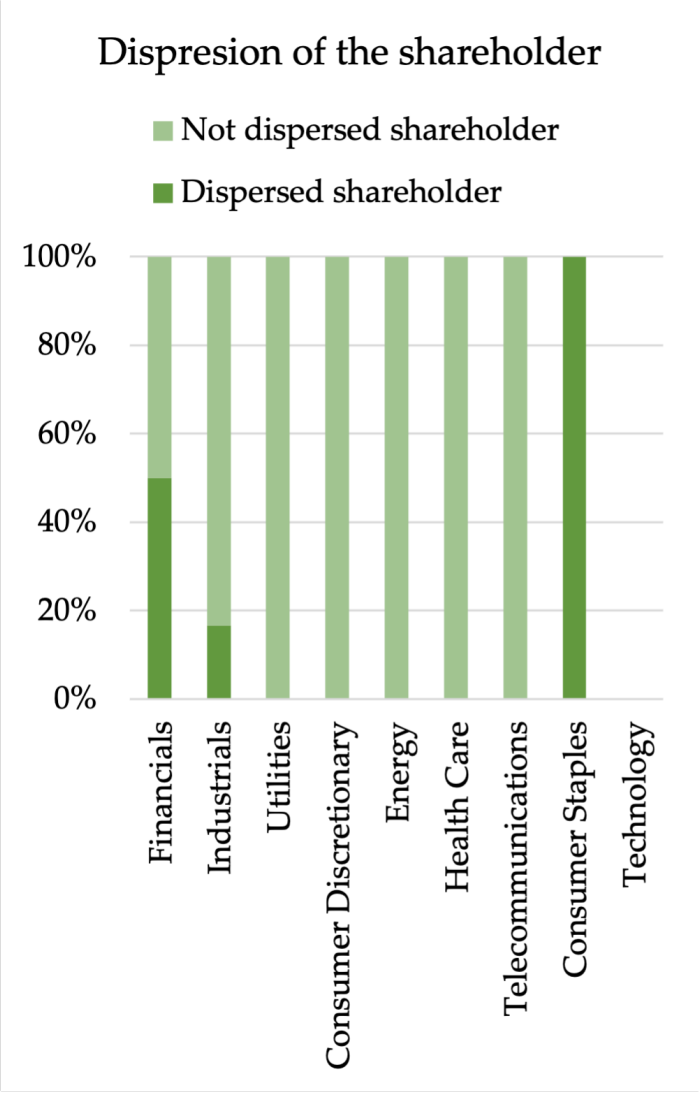

Figure 7.32: Percentage of industry's firms with dispersed shareholder

8 | Conclusions

8.1. Summary of main findings

The main goal of this dissertation was to contribute with novelty to the existing literature on ESG disclosure. Such objective was pursued through an analysis of the non-financial disclosures of the forty companies included in the FTSE MIB index. To perform this study and to answer the research questions, it has been necessary to create a database including the data extracted from the disclosures and complemented by information coming from other sources; then, data have been categorized according to their final employment; lastly, data were used to obtain results. Findings deriving from the study are about the granularity and content of disclosed information, mainly concerning stakeholders, contribution to SDGs and material aspects. A general conclusion obtained along the study is that even if all the index constituents applied the GRI framework for the draft of their sustainability reports, it was intricate to analyze them in a structured way and to straight compare them. This may be due to the discretion in the way information is provided and of course to the nature of information itself, which in many cases is in qualitative form. It emerged a mindset still considering sustainability not as an integrated part, but rather as a complementary one: being able to choose, firms disclose non-financial information through a separate document. Furthermore, some incoherencies came to light among the different sections of reports, such as considering material certain aspects without engaging important linked stakeholders or vice versa. Indeed it has be found that despite the strong attention toward

employees that emerged from the materiality assessment, the engagement of labor units and employees representatives is not high as expected; clients are always considered as a stakeholders to engage, but few material factors regarding them were present in the materiality matrices; *Financials* demonstrated regard for their environmental impact, but not more than half of them considered its supplier for engagement, even if their emissions derive mainly from the supply chain. Despite a general consistency between impacted SDGs and material factors, a low coherence was found for the partnership issue: more than half of the companies declared to contribute to Goal 17, but the partnerships are not considered as a material aspect to include much in the materiality. Thanks to lists of impacted SDGs, it has been possible a comparison with the ones that investors more and more use to direct investments: it emerged a misalignment between the two, as only 2 out of 5 of the SDGs leading investments are impacted by the companies (i.e., Goal 13 and 7), and natural capital SDGs observe a considerable contribution only in the case of Goal 12. For what concerns material aspects, it is possible to assert that among the dimensions under examination the social is the one with a higher level of detail, especially when talking about human resources; also the environmental dimension is explored deeply by firms, but mainly for aspects related to climate change and few to natural resources; governance is often decomposed in detail just for few specific topic, not related to a unique sub-dimension. A further insight about the governance is that among the *Financials* the companies with a concentrated ownership on average obtained better grades in the Governance score, maybe because of lower presence of agency problems. A last consideration to be done is that it has been possible to categorize almost all the material factors under the same sub-dimension for all the different industries – with a small presence of industry-specific aspects; this fact, if from one side facilitated data categorization and analysis, from the other may generate question about the real materiality of mentioned aspects.

8.2. Limitations and recommendations for future research

This dissertation has reached its goals and has achieved results in terms of new insights. However, the granularity and the dept level of the analysis could be improved: 40 Italian listed companies owning to nine different industries were included in the sample. This allowed to pursue the analysis only by sectors, but it might be interesting to further detail it deepening also by subsectors to see more specific insights. This can be done in future research through the enlargement of the sample and the extension of the time period considered, which in this study was of one year, as only sustainability reports of 2021-2022 were analyzed. In addition to just increase the number of the firms considered, the enlargement of the sample might be done either considering big listed companies of other countries, or Italian small-medium enterprises (SMEs), for example those in the Euronext Growth Milan index. In the first case it could be possible to see whether results can be extended to other countries or if there are different outcomes. In the second case new insights about companies of other dimensions may arise; the suggestion is to study SMEs disclosures especially after the 2026, as in that year the amend of the Non-Financial Reporting Directive will be entered into force also for SMEs. Thanks to these kinds of future developments, it could be possible to evaluate trends among years, analyze disclosures of companies belonging to all the eleven industries, obtain new insights about firms with different characteristics (e.g. non-Italian companies or SMEs), and eventually to conduct a more precise analysis also by subsectors.

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A | GRI reporting principles

Reporting Principles for defining report content	
Stakeholder Inclusiveness	The reporting organization shall identify its stakeholders and explain how it has responded to their reasonable expectations and interests.
Sustainability Context	The report shall present the reporting organization's performance in the wider context of sustainability.
Materiality	The report shall cover topics that: • reflect the reporting organization's significant economic, environmental, and social impacts; or • substantively influence the assessments and decisions of stakeholders.
Completeness	The report shall include coverage of material topics and their Boundaries, sufficient to reflect significant economic, environmental, and social impacts, and to enable stakeholders to assess the reporting organization's performance in the reporting period.

Table A.1: GRI Reporting Principles for defining report content and report quality

Reporting Principles for defining report quality	
Accuracy	The reported information shall be sufficiently accurate and detailed for stakeholders to assess the reporting organization's performance.
Balance	The reported information shall reflect positive and negative aspects of the reporting organization's performance to enable a reasoned assessment of overall performance.
Clarity	The reporting organization shall make information available in a manner that is understandable and accessible to stakeholders using that information.
Comparability	The reporting organization shall select, compile, and report information consistently. The reported information shall be presented in a manner that enables stakeholders to analyze changes in the organization's performance over time, and that could support analysis relative to other organizations.
Reliability	The reporting organization shall gather, record, compile, analyze, and report information and processes used in the preparation of the report in a way that they can be subject to examination, and that establishes the quality and materiality of the information.
Timeliness	The reporting organization shall report on a regular schedule so that information is available in time for stakeholders to make informed decisions.

Table A.2: Continuation of A.1

B | ICB industries and supersector

Industry	Supersector
Technology	Technology
Telecommunications	Telecommunications
Health Care	Health Care
Financials	Banks Financial Services Insurance
Real Estate	Real Estate
Consumer Discretionary	Automobilies And Parts Consumer Products And Services Media Retailers Travel And Leisure
Consumer Staples	Food, Beverage And Tobacco Personal Care, Drug and Grocery stores
Industrials	Construction And Materials Industrial Goods And Services
Basic Materials	Basic Resources Chemicals
Energy	Energy
Utilities	Utilities

Table B.1: Industries and supersectors of the Industry Classification Benchmark

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Acronym	Description
AUM	Asset Under Management
BIt	Borsa Italiana
CSR	Corporate Social Responsibility
EU	European Union
ESG	Environmental, Social and Governance
ICB	Industry Classification Benchmark
KPI	Key Performance Indicator
LP	Limited Partnership
NFD	Non-Financial Disclosure
PE	Private Equity
SDG	Sustainable Development Goal
SME	Small-Medium Enterprise
SRI	Social Responsible Investment
UNPRI	United Nations Principles for Responsible Investment