Master’s thesis

Should a company pursue high extra-financial (ESG) performance to optimize its valuation and have privileged access to financing?

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Introduction

Early on, I developed an interest in the corporate world and their development strategies, which led me to pursue a bachelor's degree in business and public administration. This deliberately broad program allowed me to study in-depth the different components of a company and how they interact to ensure long-term business sustainability.

After my first two years of university, driven by a strong interest in numbers and financial matters, I decided to specialize in finance and accounting. My goal was to build a well-rounded professional profile with financial, accounting and legal knowledge, in order to pursue a career in investment banking (M&A division), assisting companies in their strategic operations.

Understanding that experience in financial auditing is a key step in a finance career, I completed the first part of my professional gap year in financial auditing at Ernst & Young. This internship helped me develop critical thinking, technical skills and exposure to various industries (oil, pharmaceutical, construction, etc.).

Subsequently, I completed the second part of my gap year in M&A at Transactions & Cie, an independent Paris-based investment bank specializing in supporting family-owned businesses in the Small & Mid-cap segment. By actively participating in multiple financial transactions (LBO, IPO, financing, etc.), I was able to assist the teams from origination to closing. A final internship at Natixis Partners, an international investment bank focused on Mid & Large-cap transactions, rounded off my training. Following this end-of-study internship, I decided to join Natixis Partners full-time as a junior investment banker.

Throughout my academic and professional course, I have observed a growing focus on ESG issues in society, particularly within the financial sphere. Whether at university or in the companies I worked for, it became evident that ESG considerations have become omnipresent and represent a real challenge for businesses. Investors are no longer simply seeking profitability but are also considering environmental protection and social welfare in their investment decisions.

Today, companies face constant pressure from shareholders, employees, customers, and public bodies to improve their ESG performance. This performance, often evaluated through an ESG score, as we will discuss later in this thesis, has become a significant differentiator among companies in the same industry. The rising interest in ESG criteria has fueled the growth of socially responsible investment (SRI) funds and venture capital (VC) funds focused on socially responsible businesses.

In light of the climate emergency, certain international regulations, such as the 2015 Paris Agreement and European initiatives like the 2018 European Commission Action Plan, aim to redirect private capital toward more sustainable investments, systematically incorporate sustainability into daily management and promote long-term finance.

In this context, it seemed natural to focus my thesis on ESG issues. I am convinced that ESG should no longer be seen as a constraint but as an opportunity for value creation, especially in the wake of recent events such as the global Covid-19 pandemic.

Given my career path, I sought to address the following question: ***Should a company pursue high extra-financial (ESG) performance to optimize its valuation and have privileged access to financing?***

To address this issue, the first part of the thesis will examine the rise of ESG criteria and responsible investing. The second part will focus on the growing influence of ESG on companies' fundamental value. In the third part, we will explore the impact of ESG on companies' access to capital. Finally, in the fourth and last part, we will seek to understand whether ESG issues are at the core of M&A transactions in practice, notably through the insights of industry professionals.

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I) The rise of ESG criteria and responsible investment

1) Understanding the concept of ESG

A. The positioning of ESG in the financial industry

In recent years, sustainable finance has experienced rapid growth and the ESG dimension has attracted increasing interest from investors, ranging from institutions to investment funds. Although widely used in financial vocabulary, the concepts of ESG and responsible investment are not always understood by the general public. Due to the emergence of a multitude of forms of sustainable finance in recent years and the wide variety of available investments, it has become difficult to place the notion of sustainable investment within the financial industry. This is precisely one of the objectives set by Riccardo Boffo and Robert Patalano in their report "*ESG Investing: Practices, Progress and Challenges*" (2020), written for the Organization for Economic Co-operation and Development (OECD).

As Boffo and Patalano describe in the table below, ESG investment is positioned between so-called "conventional" investments, focused on maximizing returns for shareholders and "philanthropic" or "social" investments, which seek solely environmental or social benefits.

The scope of sustainable investment

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

Source: "ESG Investing: Practices, Progress and Challenges" (2020), OECD Paris - Riccardo Boffo & Robert Patalano

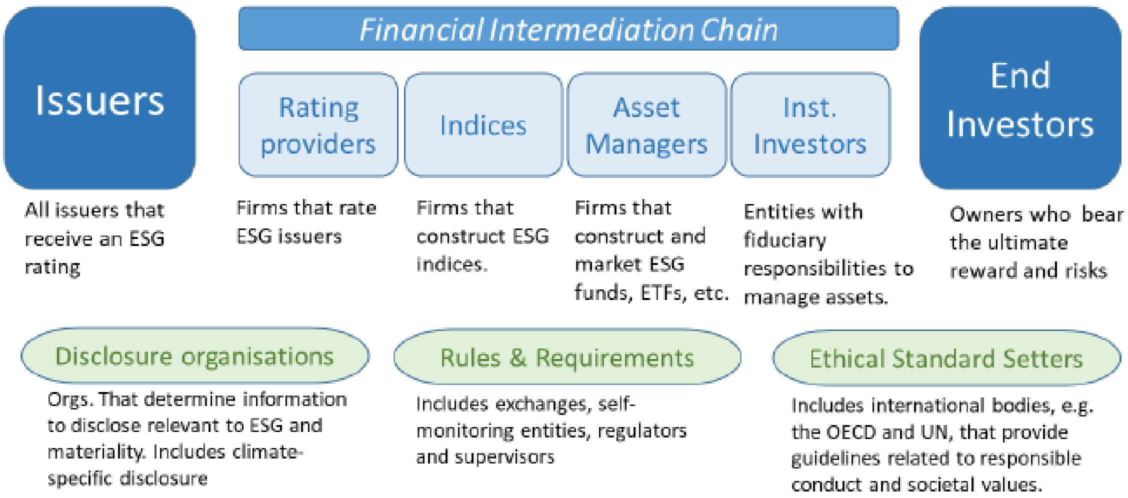
According to this principle, ESG investors assess medium and long-term risks and opportunities by taking environmental, social and governance factors into account. This type of investment incorporates responsible practices, promoting environmental protection and good corporate governance, while still aiming to maximize financial returns.

The challenge we will highlight throughout this thesis is that the enthusiasm for ESG has led to a proliferation of ESG methodologies, with metrics used for responsible investment and impact investment that are not universal and lack transparency.

B. The ESG investment ecosystem

In order to gain a deep understanding of the ESG concept and its environment, it seems essential to introduce the ecosystem in which ESG investment operates. This is precisely what Riccardo Boffo and Robert Patalano did in their report "*ESG Investing: Practices, Progress and Challenges*" (2020). The two economists traced the recent evolution of ESG investment, highlighting the key players who contributed to the institutionalization of the financial sector. This ecosystem, as presented in the diagram below, takes the form of an interconnected network of financial service providers and a multitude of international, private, governmental and non-governmental organizations.

An overview of the ESG financial ecosystem



Source: "ESG Investing: Practices, Progress and Challenges" (2020), OECD Paris - Riccardo Boffo & Robert Patalano

These actors, although of different natures, all directly or indirectly influence the emerging practices of ESG investment.

The financial intermediation chain

The first actors to be part of the ESG ecosystem are the "**issuers**". Playing the role of supplying securities (equities, debts) to financial markets, they have become the first link in the "**financial intermediation chain**". This is because investors, rating agencies and NGOs are increasingly demanding information from issuers and paying more attention to environmental, social and governance issues.

At the heart of the ESG ecosystem, "**rating agencies**" are tasked with evaluating the issuers of ESG securities (equities, debts) by assigning them ESG scores. The methods for calculating ESG scores, which we will discuss later in this thesis, vary by agency but generally involve a weighting system for a multitude of metrics. The main ESG rating agencies include Bloomberg, Thomson Reuters and MSCI.

Rating agencies also work alongside "**ESG index providers**" who enable continuous monitoring of the ESG performance of various tracked portfolios. These indices are frequently used by "**asset managers**" in their passive and active management of ESG funds and ETFs. Having become highly influential in the overall management of ESG portfolios, ESG indices have become true benchmarks. So influential, in fact, that even "**institutional investors**" (insurance companies, banks, pension funds), who are bound by fiduciary duties (acting with honesty and good faith in the interests of their beneficiaries), incorporate ESG ratings into their portfolio management.

ESG criteria have even gained the trust of "**public institutions**" (such as central banks), which increasingly integrate them into their portfolio management to ensure long-term financial returns and mitigate risks associated with ecological transition. This growing awareness among public institutions underscores the rising importance of ESG in investments, particularly for actors who, for decades, have financed carbon-intensive industries (automotive, agri-food, plastics, etc.).

ESG regulatory framework and supervision

ESG standards are governed by a multitude of actors who are responsible for ensuring the long-term sustainability of investments. These actors provide ESG framework, guidance and oversight. Many of them are "**disclosure organizations**" (stock exchanges, self-regulatory bodies) whose mission is to determine the ESG-related information to be disclosed and the materiality of that information. Among these organizations, we notably find:

- **The Sustainability Accounting Standards Board (SASB)**, which aims to develop sustainability accounting standards

- **The Global Reporting Initiative (GRI)**, which monitors companies' sustainable development strategies

- **The International Integrated Reporting Council (IIRC)**, which promotes the implementation of periodic integrated reports concerning companies' value creation over time

- **The Taskforce on Climate-related Financial Disclosures (TCFD)**, which defines publication recommendations on corporate governance to reduce climate risks

- **The Climate Disclosures Standards Board (CDSB)**, responsible for creating a global framework for corporate reporting on climate change

“**Market regulators and supervisors**" (including stock exchanges and self-regulatory organizations) are also heavily involved in ESG disclosures. Aware that the ESG dimension is essential for investor protection and financial stability, more and more of them are incorporating ESG issues into their mandates.

Finally, the last group of actors within the ESG ecosystem are the "**ethical and responsible conduct standard-setters**" (including international organizations such as the UN and OECD), whose mission is to establish standards and guidelines for sustainability, responsible conduct and societal values.

C. A definition of ESG by standard-setting bodies

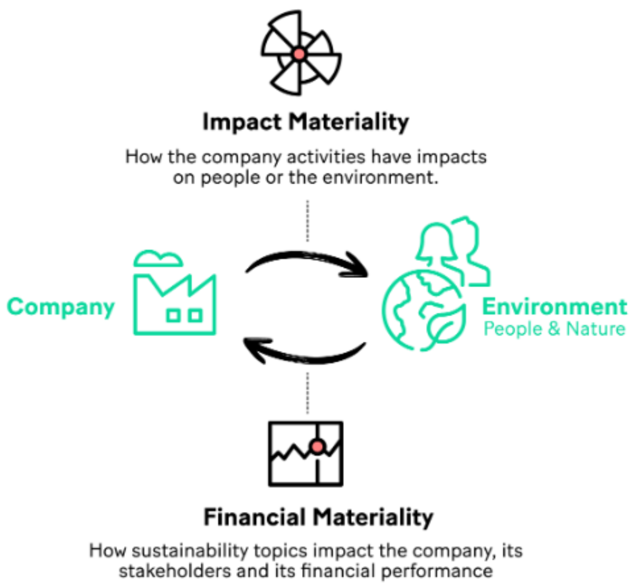
The concept of materiality

Understanding the concept of ESG necessarily involves grasping the "materiality concept". Initially used exclusively in the financial audit sector, it is now employed in the Corporate Social Responsibility (CSR) ecosystem with the standardization and systematization of non-financial reporting.

The materiality concept determines the relative importance of information or an event based on its potential impact on the decisions of users of financial statements. By definition, ESG information and/or data is considered "material" for a company when it is likely to have a significant impact on the company's ability to create financial and non-financial value for itself and all its stakeholders. These stakeholders include investors, creditors, banks, public authorities, partners, etc. This materiality concept has become even more important in the financial landscape since publicly listed companies must disclose all information deemed "material".

In the United States, the concept of materiality is defined by the 1976 U.S. Supreme Court ruling in TSC Industries v. Northway, and its implementation is overseen by the Securities and Exchange Commission (SEC). This ruling stated that "*information is considered material if there is a substantial likelihood that a reasonable person would find it important*". By clarifying the notion of materiality, this ruling had an unprecedented impact in the U.S. on how companies must ensure full transparency in disclosing information to their shareholders.

The European Union has gone even further with the concept of materiality by introducing "double materiality" in 2019 with the Corporate Sustainability Reporting Directive (CSRD). This European directive expands on the concept of single materiality by considering not only the impact on the company's value but also the company's impact on the environment, nature and society. The principle of "double materiality" is illustrated in the diagram below from Euronext.



Source: Euronext

This representation of double materiality reveals a dual logic of materiality. The first is financial materiality, following an "outside-in" logic, which reflects a company's financial exposure to climate change risks. The second has an ESG dimension and follows an "inside-out" logic, focusing on the analysis of an organization's impact on the environment, society and nature.

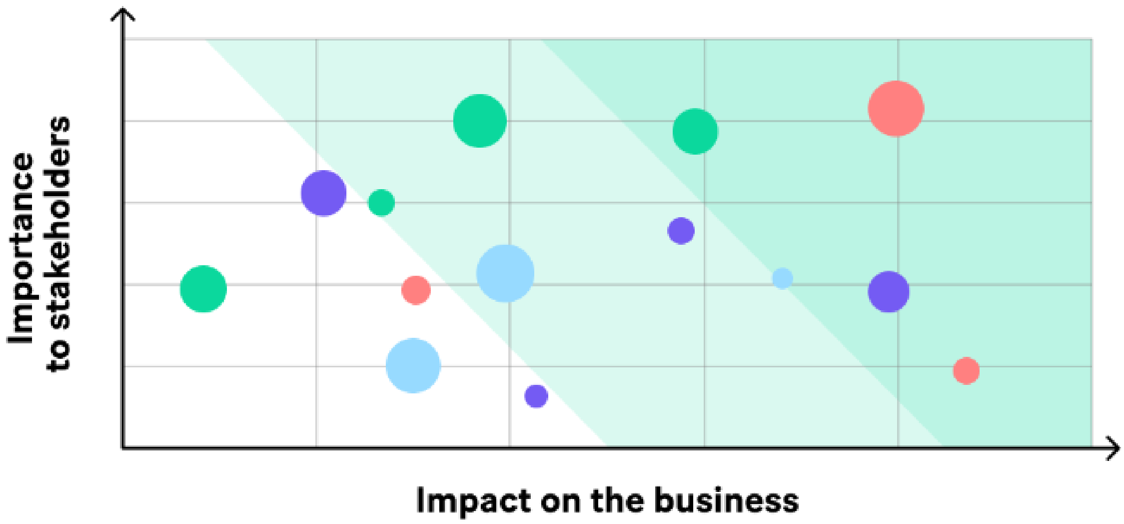
"Double materiality" highlights the limitations of the "single materiality" approach for companies, which might overlook crucial social or environmental information, such as greenhouse gas emissions. This approach can lead to significant elements not being integrated into the company's strategy and performance analysis. Historically, the amount of greenhouse gas emitted by a company was considered immaterial to financial performance, despite its impact on the climate and associated risks.

The "double materiality approach" is essential as it links a company's environmental impacts to risks for its financial performance. This method acknowledges the interconnection between the risks companies face and the sources of those risks, presenting companies not only as victims or beneficiaries but also as contributors to those impacts. Adopting a double materiality approach enables companies to identify new opportunities, better understand and manage risks, and facilitate their transition toward a sustainable business model.

Matrix of materiality

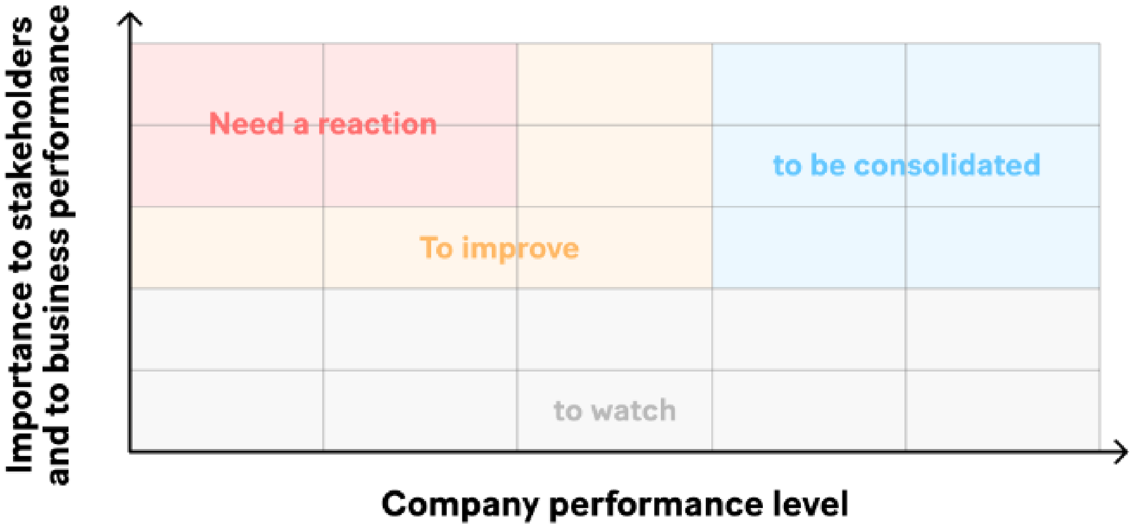
Very often, the analysis of materiality involves the development of a "materiality matrix". Through such a matrix, a company can visually prioritize the ESG issues within its organization and identify the so-called "material" issues. These issues must be monitored by the company and lead to regular reporting. The representation of a materiality matrix differs depending on whether we are dealing with the concept of "single materiality" or "double materiality".

In the case of "single materiality," the matrix is structured with two dimensions: the x-axis representing the importance given to ESG issues by the company and the y-axis representing the importance given to ESG issues by stakeholders (both internal and external).



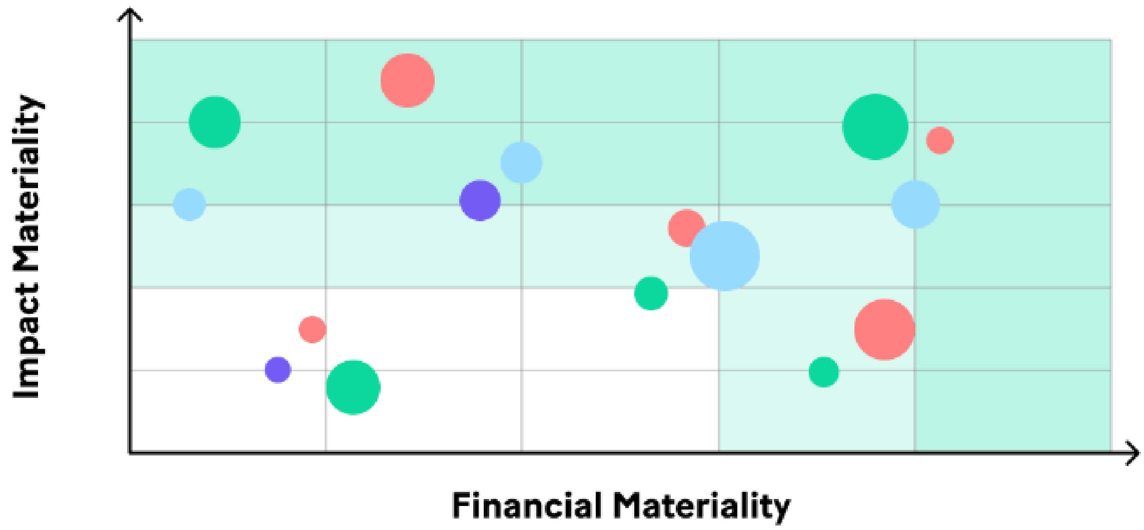
Source: Euronext

This matrix can also include the company's current level of performance regarding a specific ESG issue. This representation is meant to highlight the company's areas for improvement and, if possible, give rise to a Corporate Social Responsibility (CSR) action plan.



Source: Euronext

As for "double materiality," the matrix will most often represent the importance given to ESG issues for the company and its stakeholders on the y-axis (i.e., financial materiality), and the impact of materiality on the x-axis.



Source: Euronext

In the context of "double materiality," we will identify material ESG issues as those that maximize both financial materiality and/or impact materiality.

Task Force on Climate-Related Financial Disclosures (TCFD)

In December 2015, the Financial Stability Board (FSB) launched the "Task Force on Climate-Related Financial Disclosures" (TCFD) to develop climate disclosure standards that could be easily used by a wide range of organizations (across all sectors and locations). Although they are merely recommendations, the TCFD has gained significant support for its initiative. By encouraging consistent and reliable disclosure, the TCFD allows financial markets to better assess and manage climate risks. For business leaders, this means a more accurate evaluation of their own risks as well as those of their partners, while investors benefit from improved information to make capital allocation decisions. The TCFD's recommendations are numerous and focus on four main pillars:

(1) **Governance**: present the governance measures in place to manage climate-related risks and opportunities (board supervision, role of the board, etc.)

(2) **Strategy**: share the resilience of their own strategy in relation to the different climate scenarios presented by the Intergovernmental Panel on Climate Change (IPCC)

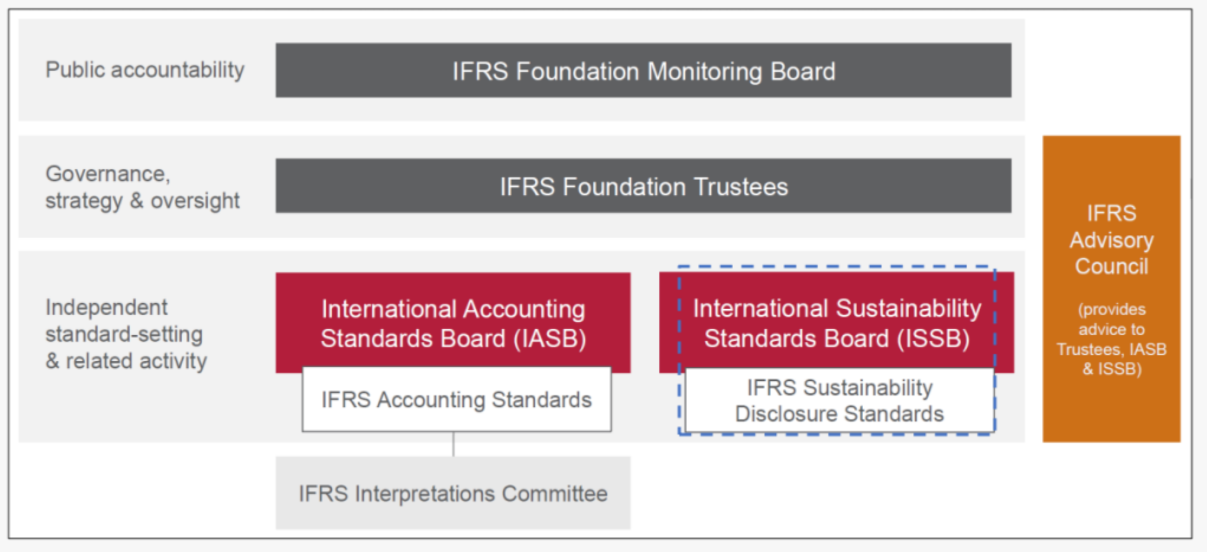
(3) **Risk Management**: describe the process for identifying, assessing and managing climate risks

(4) **Metrics and Targets**: communicate the metrics and targets used for managing climate-related risks and opportunities (scope 1, 2 and 3 emissions)

The TCFD is thus a perfect example of the trend initiated in recent years to harmonize the standards between financial and non-financial reporting. This gradual alignment reflects the growing recognition of the importance of ESG criteria in a company's long-term performance.

Accounting standards

Understanding the concept of ESG also involves examining the definitions established by accounting authorities. In recent years, global accounting authorities have initiated numerous efforts to standardize ESG-related disclosures by companies.



Source: PwC

Announced by the IFRS Foundation at COP26 in 2021, the creation of the International Sustainability Standards Board (ISSB) underscores the commitment of international accounting authorities to establish standards for companies to disclose ESG criteria. Chaired by Emmanuel Faber (former CEO of Danone Group), the creation of the ISSB is significant and stems from growing market pressure for globally consistent and comprehensive sustainability standards.

The main objectives of the ISSB are to **i)** develop global standards that serve as a worldwide benchmark, **ii)** meet the information needs of investors for making informed investment decisions and **iii)** facilitate the interoperability of regulations across global jurisdictions.

The first standards to be published by the ISSB will be IFRS 1 and IFRS 2, which address the disclosure of sustainability and climate-related financial information. In the interest of regulatory consistency, the IFRS 1 & 2 standards are heavily inspired by the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).

D. The regulator’s definition of ESG

According to John Armour in his book "*Principles of Financial Regulation*" (2016), one of the major objectives of financial market regulation is the protection of investors. Applied to the field of ESG, regulation must enable investors to understand the trade-off between meeting ESG goals and the financial profitability of their investments. This understanding of the trade-off is only possible if **i)** ESG statements correspond to real actions that have the desired impact, **ii)** the cost and financial return of these actions are quantifiable and **iii)** the information provided by market participants is easily comparable across companies.

Sustainable Finance Disclosure Regulation (SFDR)

The European regulation "EU 2019/2088", in force since March 2021, aims to require institutional investors to disclose the ESG impact of their investments according to objective and harmonized criteria. As an integral part of the European Commission's action plan, this provision applies to asset managers, financial advisors and other financial market participants.

In practice, regulation 2019/2088 obliges companies to publish all information related to their ESG activities on their websites, financial reports or marketing materials. If necessary, they must also provide explanations for the absence of disclosed information. These provisions are designed to allow investors to compare institutional investors and their products based on scope 1 (direct emissions), scope 2 (emissions from purchased energy) and scope 3 (indirect emissions throughout the value chain).

The second article of the SFDR provides a precise definition of what can be considered a "sustainable investment." A financial investment is thus considered sustainable if and only if:

(1) This investment is made in an economic activity that contributes to an environmental objective

(2) This investment is made in an economic activity that contributes to a social objective

(3) … provided that this investment does not cause significant harm to any of these objectives and that the companies in which the investment is made apply good governance practices

Taxonomy of the European Union

The European regulation "EU 2020/852", in effect since January 2022, complements the SFDR on the environmental aspect of sustainable finance with the aim of **i)** facilitating sustainable investments, **ii)** combating the phenomenon of greenwashing and **iii)** integrating environmental objectives.

To achieve this, any investment within the European Union that claims to have an environmental impact must justify it both qualitatively and quantitatively based on the following sustainability criteria defined by the European Union's taxonomy:

(1) Contribute to one or more environmental objectives defined in the regulation

(2) Do not significantly harm any of these objectives

(3) Comply with the minimum safeguards defined in the regulation

(4) Align with the screening criteria established by the European Commission

Although the concept of CSR and ESG criteria is now widely accepted, the exact origin of these notions remains a subject of debate. For the sake of clarity, I have decided to conclude this first part by exploring the early foundations of these two concepts, through the lens of economic theories and legal aspects.

2) The beginnings of CSR and ESG criteria

A. Evolution of economic theories

For some economists, the first traces of CSR date back to the late 19th century. Among them is American economic historian Daniel A. Wren, who interprets the criticism of the dramatic working conditions of certain British workers of the time as an early form of CSR. At the same time, he also associates this movement with the emergence of corporate philanthropy, notably led by John D. Rockefeller and Cornelius Vanderbilt. Moreover, the rise of paternalism, particularly in Western Europe, shows similarities with what economists would later call CSR.

During the first half of the 20th century, the CSR phenomenon reflected more of an individual sense of social responsibility rather than a true corporate practice. It wasn't until 1953, when Howard Bowen, through his work "*Social Responsibility of the Businessman*" came closer to the modern definition of corporate social responsibility, emphasizing that executives have an obligation to conduct their activities in line with the goals and values of society. This observation perfectly illustrates the paradigm shift that began in the 1920s.

In 1974, Robert Hay and Ed Gray confirmed Howard Bowen's hypothesis by asserting that, at the end of the 19th century, businesses were managed solely with the goal of maximizing profits (referring to the theory of shareholder value maximization). The underlying assumption of this theory is that "to maximize the value of the company, you must maximize shareholder value." The two main questions inherent in such a theory are whether **i)** the interests of other stakeholders are protected and **ii)** these individuals remain motivated to contribute effectively to the company's success. For Hay and Gray, the interwar period saw the emergence of a new form of management that sought not only profit maximization but also the interests of other stakeholders (customers, employees, suppliers, etc.). This period foreshadowed the stakeholder theory developed by Edward Freeman in the 1980s, which emphasized the creation of value for all stakeholders.

In the first half of the 20th century, corporate social responsibility (CSR) was primarily a matter of individual initiatives. After World War II, it gradually evolved into a true corporate practice, although mainly driven by ethical considerations. At that time, no one really thought that CSR could serve profit or be integrated into the pursuit of profit. Morell Heald, in his book "*The Social Responsibilities of Business: Company and Community, 1900-1960*" (1970), defines CSR as the recognition by management of an obligation to society, involving not only the pursuit of economic performance but also the implementation of socially constructive policies and actions.

The Cold War context influenced these reflections, with Eberstadt (1973) suggesting that companies had a social responsibility as anti-communist institutions. This gave rise to the theorization of a new social contract between business and society, as illustrated by the works of William C. Frederick (1960). At that time, the liberal theories of the 1980s were not yet dominant. The role of the state in maximizing collective well-being was widely accepted and profit maximization as the sole objective of the company was not universally adopted. Companies had to incorporate significant ethical considerations into their behavior.

Clarence C. Walton, in his book "*Corporate Social Responsibility*" (1967), redefined this social contract by emphasizing that the close relationship between society and business should never be ignored by executives in the pursuit of their objectives. For Walton, this contract is based on voluntarism rather than coercion. Businesses acknowledge from the outset that this contract will often incur a cost, which they bear in the name of their duty to society.

Finally, this responsibility toward civil society is notably reflected in the consideration of various stakeholders. Harold Johnson, in "*Business in Contemporary Society: Framework and Issues*" (1971), explains that a socially responsible company seeks to balance different interests. Instead of solely aiming for profit maximization, it considers employees, suppliers, intermediaries and others.

The concept of a social contract between businesses and society was reinforced by the publication of "*Social Responsibilities of Business Corporations*" in 1971 by the Committee for Economic Development (CED). This text highlights significant changes in the relationship between businesses and society, emphasizing that companies must now contribute to the general well-being, beyond merely providing goods and services. It outlines three levels of responsibility: the first level focuses on fundamental economic functions such as production and job creation; the second level incorporates environmental concerns, such as climate change, into daily operations; and the third, broader level encompasses wider social responsibilities, such as combating poverty.

This vision of CSR requires businesses to align their actions with the expectations and standards of civil society. In 1975, Prakash Sethi published a book exploring this idea, though the concept of CSR was still poorly defined and difficult to implement concretely. Sethi was among the pioneers in analyzing corporate social performance, seeking to measure and evaluate their social impacts.

Similarly, a study conducted by Eilbirt and Parket in 1973 helped clarify the main themes of CSR in the 1970s. They published statistical data on the number of companies adopting specific policies, such as minority inclusion and environmental protection. They also outlined a more pragmatic form of CSR, rooted in a local context. According to them, CSR should be viewed as an "act of good neighborliness," where businesses have the responsibility to act ethically and responsibly toward their local communities, beyond society as a whole.

The evolution of the CSR concept toward a more practical approach moves away from merely aspiring to ethical behavior. Edwin Epstein (1987) defines CSR as "*the art of producing positive outcomes through corporate decisions on a predefined set of issues, positively affecting the relevant stakeholders*". Thus, CSR is transforming into a tool aimed at achieving concrete results for specific stakeholders.

The ideas of Milton Friedman gained influence during the same period, becoming the dominant economic theory for at least two decades. Friedman criticized the adoption of CSR policies by businesses, stating that "*few trends could so thoroughly undermine the very foundations of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money as possible for their shareholders*". According to him, a company is primarily a legal entity and should not concern itself with ethical considerations. Friedman also argued that allocating corporate resources to anything other than profit maximization conflicts with the shareholders' freedom to receive and manage dividends as they see fit.

The stakeholder theory, formalized by Edward Freeman, quickly overshadowed the concept of "business ethics" that had previously dominated. Freeman argued that companies should be accountable to all their stakeholders, not just their shareholders. The central issue, therefore, became the level of commitment businesses should have toward each stakeholder group. This topic was addressed by Elaine Sternberg in her 1997 book "*Just Business: Business Ethics in Action*" where she strongly criticized limiting a company's mission to mere shareholder value maximization at the expense of stakeholders. It is worth noting that the "business ethics" movement has gained strength over time due to numerous ethical scandals in recent years, including the Enron (2001), Worldcom (2002) and Kerviel (2008) scandals, among others.

Today, CSR is considered a long-term movement, leading to significant internal role changes within companies. Steven Lydenberg, in his book "*Corporations and the Public Interest: Guiding the Invisible Hand*" (2005), praises the benefits of this transformation in Europe and the rest of the world. However, this view is not shared by David Vogel, who, in his book "*The Market for Virtue: The Potential and Limits of Corporate Social Responsibility*" (2005), argues that CSR is not feasible if it neglects the increase in corporate profits.

Thus, the notion remains multidimensional, allowing different actors to derive varied interpretations and practices. The concept remains inherently dynamic and flexible. However, it can be observed that the notion has gradually evolved from an abstract framework, dominated by the idea of ethics, into a concept characterized by a set of practices and processes aimed at creating social and environmental value. As the concept becomes more practical, its integration into the company's operations becomes easier. Consequently, discussions around the financial performance of CSR take on a new dimension.

B. Evolution of the legal framework

In response to the growing importance of environmental issues and the social pressure for more sustainable finance, numerous regulatory and legal provisions related to ESG matters have emerged in recent years. Following the structure of the previous section, this part will analyze the key international laws (notably European) that have shaped the use of ESG criteria.

Sarbanes-Oxley Act or SOX Law (2002)

In the early 2000s, numerous financial scandals erupted in the United States, such as the Enron and WorldCom cases. In response to these issues, the U.S. Congress passed the Sarbanes-Oxley Act (SOX) in July 2002. Named after Paul Sarbanes and Michael Oxley, two U.S. congressmen, this federal law aims to restore investor confidence by strengthening corporate governance and financial transparency for publicly traded U.S. companies, including foreign companies operating in the United States.

Among the main provisions of the Sarbanes-Oxley Act are the prohibition for audit firms from providing both consulting and audit services to the same client (to avoid conflicts of interest), the rotation of external auditors, the creation of audit committees composed exclusively of independent directors and the requirement for a majority of independent directors on boards. Companies must maintain an internal control structure, and CEOs and CFOs must personally certify their company's financial statements. Criminal penalties for fraud can reach up to 25 years in prison.

This law had a global impact due to the central role of U.S. financial markets and its extraterritorial nature. In addition to affecting the largest American companies, the SOX law applies to many non-American companies listed on the New York Stock Exchange. Several countries, including France with its "Loi de Sécurité Financière" (LSF) in 2003, adopted similar legislation to improve corporate governance. SOX improved the quality of financial information and reduced corruption, but its implementation imposes high costs, notably the requirement to maintain an internal control body, which has discouraged some small companies from going public. The effectiveness of this reform was later questioned by Stephen D. Willits and Curtis Nicholls in their study "*Is the Sarbanes-Oxley Act Working?*" (2014). The two economists were unable to demonstrate the reform's effectiveness in terms of profitability for companies (cost-benefit analysis).

European and French legislation on CSR reporting

For companies

France, like many European countries, has gradually adopted laws and regulations requiring certain companies to disclose their non-financial performance. This began with the "Nouvelles Régulations Économiques" (NRE) law in 2001, followed by the "Grenelle 2" law in 2010 and the transposition of the European directive in 2017.

The “NRE” law, enacted on May 15, 2001, aimed to promote financial regulation, competition and corporate governance. It introduced Corporate Social Responsibility (CSR) by formalizing the consideration of sustainable development in the activities of French companies. Article 116 of the NRE law requires publicly listed companies to include information on the social and environmental impact of their activities in their annual reports. However, despite a 2002 decree specifying the content of this information, it was often vague and not certified by an independent third party.

The "Grenelle 2" law, adopted on July 12, 2010, defines the French government's environmental objectives. It includes more than 100 articles covering various areas: buildings and urban planning, transportation, energy and climate, biodiversity preservation, waste management, and ecological governance. This law introduced increased transparency requirements for companies, expanding and enhancing the non-financial reporting obligations established by the NRE law of 2001. One of the key new measures was that ESG information published by companies must now be verified by an independent third-party body.

The provisions of the "Grenelle 2" law have since been replaced by the transposition of a European directive on non-financial reporting. France incorporated this European directive from October 22, 2014, which relates to the disclosure of non-financial information. The directive aims to standardize non-financial reporting practices across EU countries. However, for French companies already compliant with the Grenelle 2 law, this transposition brought few changes.

In addition to legal obligations, international organizations such as the Global Reporting Initiative (GRI) encourage companies to exceed national requirements in non-financial reporting. The GRI aims to create an international standard to guide companies in their financial and non-financial communications.

For institutional investors

The provisions we examined in the previous section only concerned companies. However, in recent years, transparency requirements have also emerged for institutional investors and portfolio managers. One of the key French measures is Article 173 of the "Energy Transition for Green Growth" law, adopted on August 17, 2015. This law imposes transparency requirements on institutional investors and asset managers regarding the integration of ESG criteria into their investment policies and risk management. Article 173 specifically targets institutional investors, including insurance companies, mutual funds, portfolio management companies and pension institutions.

According to Article 173, institutional investors must include in their financial reporting their exposure to climate risks, their level of greenhouse gas emissions, their contribution to ecological transition, etc. Similar to the application principle seen in the section on the Sustainable Finance Disclosure Regulation (SFDR), institutional investors must comply with the provisions of Article 173 but may, with a valid reason, opt out of these requirements.

Although a French measure, Article 173 of the "Energy Transition for Green Growth" law represents a significant legislative innovation as it marked the first time globally that institutional investors were required to publish ESG reports on their activities.

EU “Financing sustainable growth” action plan (2018)

Following the 2015 Paris Agreement on climate change and the 2030 Agenda for Sustainable Development by the United Nations, the entire world must adhere to a more sustainable path for both the environment and the economy. In this context, at the end of 2016, the European Commission requested a group of experts to deliver a report on the development of a sustainable finance strategy for the European Union. This led to the launch of the "Financing Sustainable Growth" action plan in March 2018.

This report aims to align the European financial system with the environmental and financial goals of the 2015 Paris Agreement. Among the measures, four major areas for improvement emerge:

(1) Redirect private and public capital towards more sustainable investments

(2) Systematically integrate sustainability into risk management

(3) Manage financial risks related to climate change

(4) Promote transparency and long-term thinking

To redirect capital flows towards a more sustainable economy, the action plan aims to **i)** establish a unified classification system (taxonomy) for sustainable activities, **ii)** rely on standards and labels for sustainable financial products and **iii)** integrate the concept of sustainability into financial advisory services.

PACTE Law (2019)

In May 2019, French legislation saw the birth of the "PACTE Law" or "Plan d'action pour la croissance et la transformation des entreprises", which introduced numerous ambitious reforms concerning ESG issues and corporate CSR policies.

In Article 61, the PACTE Law introduced a new legal status called "société à mission" (mission-driven company). Aimed at making companies more accountable for their environmental and social impact, the title of "société à mission" indicates that a company uses its economic performance to serve a mission beyond purely economic goals (social, environmental, etc.). To obtain and maintain this status, a company must establish a "raison d'être" (purpose), which outlines its contribution to the collective good. This purpose must be incorporated into the company's statutes.

A company holding the "société à mission" status must set up a specific committee responsible for overseeing the implementation of the predefined objectives. To ensure sufficient oversight and transparency, an independent third-party organization must also be appointed.

Adopting the "société à mission" status brings numerous benefits to companies, starting with an improvement in their reputation among all stakeholders (consumers, investors, partners, etc.). This reputational effect also significantly impacts talent attraction and retention. Additionally, this status can serve as a further motivation to encourage internal innovation and promote long-term performance.

It is worth noting that the "société à mission" status is not unique to France, as other countries have introduced similar legal innovations. For example, the United States first introduced "Benefit Corporations" in Maryland in 2010 and Italy introduced the "Società Benefit" status into Italian law in 2015.

3) ESG: creating value for all stakeholders

A. The social dimension of ESG

As we have seen throughout this first part, it is difficult to define the social dimension of the ESG component. Past and present authors are not unanimous in their definition and two main schools of thought are in opposition. On the one hand, there are those who focus on the financial benefit captured by the company through the creation of social value. On the other hand, there are those who believe that mechanisms are necessary to ensure that companies act in the common interest, even if it diverges from their individual interest (notably the exclusive pursuit of profit).

Social vs. financial value

In the 20th century, the school of thought led by economist Milton Friedman dominated the economic sphere. A strong advocate of the liberalist system, Friedman firmly opposed the consideration of sustainable policies, arguing that it is not possible to simultaneously pursue profits and create social value. Other economists and academics sought to refute Friedman by demonstrating the importance of focusing on the social dimension of businesses, a dimension that does not conflict with the pursuit of profits.

One of the most renowned authors on this topic is British scholar John Elkington, who, through his work "*Cannibals with Forks*" (1997), popularized the concept of the "triple bottom line". This approach was innovative at the time because it proposed that the evaluation of a company's performance should be based on three main criteria:

(1) **People**: the impact of the company's activities on all of its stakeholders (employees, customers, suppliers, etc.)

(2) **Planet**: the impact of the company's activities on the environment (biodiversity, ecological footprint, etc.)

(3) **Profit**: the company's financial profitability, benefiting its shareholders

According to this approach, it is only by balancing these three pillars that a company can achieve optimal and sustainable performance. The concept of value creation encompasses not only value for shareholders but also for society and the environment. This vision directly opposes traditional capitalism, which significantly contributes to environmental degradation (massive use of fossil resources, global warming, etc.). While not necessarily against capitalism itself, John Elkington believes it is urgent to give more weight to social and environmental dimensions to ensure the survival of capitalism.

The concept of the "triple bottom line" is closely linked to the idea of a "social contract" between civil society and businesses. Widely developed by others such as Thomas Donaldson and Lee E. Preston, the idea of a social contract is based on the premise that society expects more from companies than just profit maximization. That said, it remains important to evaluate the financial performance of CSR policies. The question of CSR's profitability is therefore legitimate and will be thoroughly discussed in the third part of this thesis, focusing on the impact of ESG criteria on corporate financing.

B. Shared value: the emergence of a new concept

In 2005, Michael E. Porter and Mark R. Kramer published "*Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility*" in the prestigious Harvard Business Review. Their ambition was to propose a new way of managing businesses, allowing the integration of economic value creation with social value. The social component is no longer seen as a threat to the company but as an opportunity to seize. The goal is not to redistribute existing value differently but to create new wealth.

One of the key elements of shared value is the "redefinition of products and markets" so that they can better address the social and environmental needs of society. Companies are thus encouraged to rethink their products by focusing on the real needs of consumers rather than mass production. This approach will ultimately benefit both consumers and businesses, as companies will see their brand image improve. In addition to redefining products, Porter and Kramer also encourage companies to explore new markets, both in developed and less developed countries.

The second pillar of shared value is the "redefinition of productivity in the value chain." The authors highlight that failing to optimize the value chain can have real consequences on a company's profitability. By rethinking logistics, supply chains, resource use, and working conditions, companies can boost productivity and have a positive impact on society. Many well-known companies, such as Nespresso and Johnson & Johnson, have implemented these practices, resulting in significant improvements in both performance and social impact.

Finally, the last criterion of shared value is the "development of local clusters." Viewed as dynamic centers, companies benefit from maintaining strong relationships with local suppliers and organizations to increase productivity and innovation. By leveraging skilled local labor and infrastructure, businesses can create a favorable ecosystem for their growth.

4) The emergence of Socially Responsible Investment Funds (SRI)

A. A definition of SRI

Socially Responsible Investment (SRI) is a new form of investment that combines the pursuit of financial profitability with the integration of ethical, environmental and governance values. This emerging investment approach has garnered significant interest from private investors, institutional investors and academics. Although widely practiced, SRI lacks universally accepted definitions. According to Julie Salaber in her book "*Ethics in portfolio management*" (2008), SRI is actually a subjective notion that varies depending on geography and the social and economic context of the time.

One key point widely agreed upon by academics and experts is that SRI incorporates non-financial criteria as a complement, not a substitute, to traditional financial criteria in the investment decision process. For simplicity, I will adopt what seems to be the most conventional definition, that of L. Renneboog in "*Socially Responsible Investments: Institutional Aspects, Performance and Investor Behavior*" (2008), which states that "*SRI, unlike conventional investments, applies a set of investment filters to select or exclude assets based on ecological, social, corporate governance, or ethical criteria, and also engages with the local community and shareholder activism*".

B. The beginnings of SRI

Despite early forms of Socially Responsible Investment (SRI) in the 17th century, academics and experts believe that the modern concept of SRI truly emerged in the late 19th century in the United States. At that time, a new social order dominated political life, characterized by moralizing individual behavior, protecting the underprivileged, and redefining the relationship between leaders/industrialists and the public.

Later, in the 1920s, the Catholic Church began investing in social causes. Around the same time, the Quakers (a Christian religious movement) excluded morally reprehensible assets from their investments, such as alcohol, tobacco, weapons and pornography. In 1928, the American Evangelical Church created the Pioneer Fund, the first fund with ethical investment criteria. This fund, open to individuals, had a significant impact on spreading the concept of SRI.

In 1962, for the first time, the United Nations (UN) proposed an economic boycott, targeting apartheid in South Africa. The growing violence of the 1960s (Vietnam, the assassination of Martin Luther King, etc.) made financing arms globally difficult. It was in 1971 that the first major "responsible investment" was established: the Pax World Fund. This fund marked the institutionalization of exclusionary practices and served as a boycott tool.

The 1980s saw a surge in responsible investment, with capital flight becoming a prominent phenomenon. Investors began demanding that their investments be more respectful of social and environmental issues, particularly regarding employee treatment. During this decade, ecological awareness emerged, notably after the Chernobyl nuclear accident (1986) and the Brundtland Report (1987). The latter introduced the concept of sustainable development, which led to the Earth Summit in Rio de Janeiro (1992). The 1990s were marked by the rise of previously unknown concepts such as circular economy, corporate social responsibility and fair trade. The financial sector began incorporating ESG criteria more extensively into its policies.

In the early 2000s, as financial and governance scandals multiplied, it became necessary to clearly define responsible investment. The subprime crisis (2008) only strengthened the rise of ESG in our societies, further fueled by the urgent and ever-present climate threat that looms over the future of our societies.

C. The different faces of SRI

As mentioned in the section dedicated to the definition of Socially Responsible Investment (SRI), SRI is not universally defined and remains a subjective concept. SRI does not have a single form, and all approaches are possible as long as they incorporate ESG criteria into the investment process. Therefore, we will provide a brief overview of the different forms that SRI can take.

The exclusion approach

By definition, this approach involves excluding certain sectors from the investment process, deemed morally unacceptable. This was the approach taken by the Quakers in the 1920s, who prohibited investments in sectors considered reprehensible, such as alcohol and tobacco. The modern version of the exclusionary approach could involve, for example, avoiding investments in polluting sectors like fossil fuels.

Again, investment decisions are subjective and depend on the individuals involved. Investments shunned by Europe for being too polluting may not be seen the same way by developing actors (e.g., China with coal plants). Similarly, some investors may choose not to invest in sectors like defense for moral reasons, while others may consider it essential, especially given current global conditions.

The "best-in-class" approach

In this approach, the focus is no longer on exclusion but on selecting the companies that perform best in terms of ESG within each market sector. Although this approach ensures some level of diversity in investments, it inevitably leads to investments in sectors that may be less respectful of ESG concerns. For example, while the French oil group Total is one of the most advanced oil companies in terms of renewable energy, it remains one of the world's largest emitters of greenhouse gases.

The “best-in-universe” approach

The "best-in-universe" approach is similar to the "best-in-class" approach in that investments are made by selecting companies that perform best both financially and in terms of ESG criteria. However, the "best-in-universe" approach differs in that it does not consider the industry sector. As a result, some sectors may not be selected. As an asset manager, narrowing the range of sectors will inevitably reduce the diversity of the portfolio.

The “best effort” approach

With this approach, investment is directed toward companies that have made recent progress in terms of ESG. The focus is not on selecting the top-performing companies but those that have shown notable improvement over time.

Other investment approaches also exist, such as investing through thematic funds, where funds are allocated to a limited number of sectors. Another example is shareholder activism, where investors acquire a stake in a company to influence its policies or leadership. Often, asset managers use a combination of multiple approaches simultaneously in their investment process.

D. The main labels

With the rise of ESG concerns and Socially Responsible Investment (SRI), the question inevitably arises about the truthfulness of financial institutions, especially investment funds, in adhering to ESG criteria. Since respecting these criteria has become almost essential for investment funds, the temptation to exaggerate compliance is unprecedented. Moreover, there is currently no national or international regulatory body to penalize fraudulent behavior by financial institutions. In the interest of transparency and certification, many SRI labels have emerged in recent years. These labels help reassure investors who may lack the expertise or time to conduct such verifications. Below, we will present the main European SRI labels.

ISR label (France)

This label, created in 2016 by the French Ministry of Economy and Finance, requires investment funds to demonstrate the real impact of their activities on the environment and society. If an investment fund meets the criteria set by the French government, it is awarded the label for a duration of 3 years, during which verification audits will be conducted. As of July 31, 2023, a Novethic study identified nearly 1,354 funds labeled "ISR" (Socially Responsible Investment), representing assets of €783 billion.

Towards Sustainability (Belgium)

This label was created in 2019 by Febelfin, an association of Belgian financial actors. Heavily inspired by the French ISR label, the "Towards Sustainability" label sets a quality standard for sustainable and socially responsible financial products. As of July 31, 2023, a Novethic study identified nearly 771 funds labeled "Towards Sustainability," representing assets of €539 billion.

LuxFLAG ESG (Luxembourg)

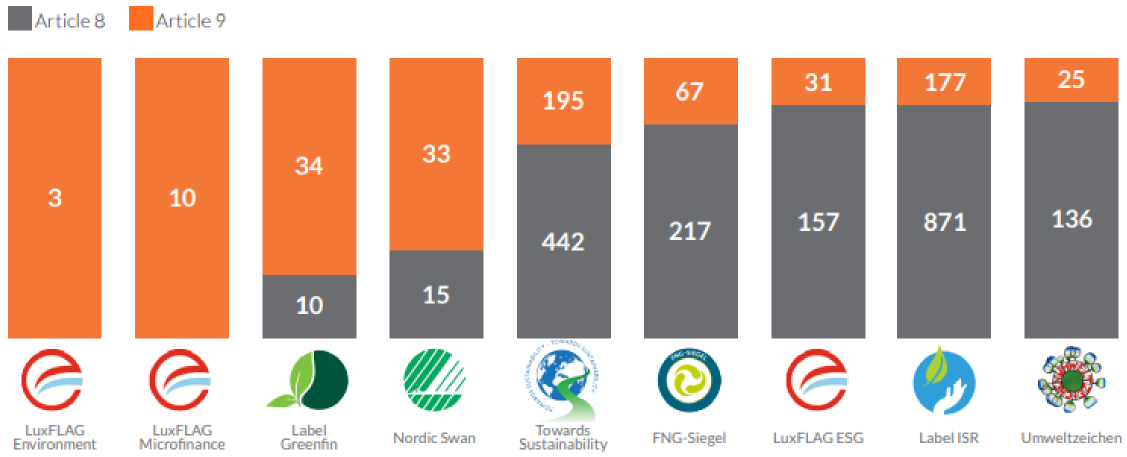
In line with the previous two labels, the "LuxFLAG ESG" label is a Luxembourg-based certification created in 2014, aimed at assuring investors that the investment product adheres to ESG criteria. As of July 31, 2023, a Novethic study identified nearly 246 funds labeled "LuxFLAG ESG," representing assets of €112 billion.

E. The SRI market in Europe

Since 2019, Novethic has published a report on the dynamics of Socially Responsible Investment (SRI) in Europe and an overview of the main European labels. The latest report from Novethic (October 2023) portrays the European market as healthy. As of July 31, 2023, over 2,000 European investment funds were labeled, representing assets of nearly €1,310 billion. Given that the total assets under management in Europe were €19,000 billion across approximately 66,000 funds as of July 31, 2023, the market share of labeled funds is around 10% (in terms of assets under management), a growing but still modest figure.

Since 2021, European regulations require fund managers to classify their fund ranges according to Article 8 or Article 9. This classification determines the regulatory transparency requirements that must be met. Article 9 funds are sustainable funds, meaning they are subject to strict sustainability criteria. As shown in Novethic's graph below, nearly 80% of the funds are classified under Article 8.

Breakdown of approved funds by "SFDR Article" (12/31/2022)



Source: Novethic

The inclusion or exclusion of fossil fuels in European labels is a major point of debate. The trend leans toward excluding companies involved in sectors such as arms, tobacco and fossil fuels. This exclusion was reflected in the underperformance of sustainable funds in 2022, which did not benefit from the strong performance of the energy sector. Labels retain some independence and discretion over which sectors they choose to include. For example, the French Label ISR continues to include companies from the fossil fuel sector (oil and gas) under its certification.

In Europe, there is intense debate surrounding the definition of companies in ecological transition and the assessment of the credibility of their transition efforts. There is growing interest in funds that combine green and transitional activities in the European market. Studies indicate a significant shift in 2021, when climate transition funds began competing with low-carbon funds and those focused on climate solutions. Since 2022, climate transition funds have dominated fundraising, surpassing funds dedicated to climate solutions and green bonds. Labels such as Austria's Umweltzeichen and Germany's FNG-Siegel are beginning to incorporate transition criteria into their frameworks to reflect this evolution.

In summary, in the first part of this thesis, we presented the framework for integrating ESG criteria within the financial sector. Having become essential pillars in the financial industry, these criteria pose both challenges and opportunities for all market players, including rating agencies, portfolio managers and public institutions. These actors must have a deep understanding of the ESG environment to navigate a financial sector undergoing significant transformation. However, as we have seen, the financial sector is still struggling to harmonize ESG methodologies to ensure full comparability of data. To address this, regulators have increased their interventions in recent years, aware that sustainable investment is necessary to ensure the overall stability of financial markets. Following this introductory framework, we are now prepared to address, in the second part, the question of the influence of ESG criteria on corporate valuation.

II) The influence of ESG on the fundamental value of companies

After defining the scope of ESG and its growing importance in our society, the second part of this thesis will focus on understanding the real influence of ESG factors on corporate valuation. According to audit and consulting firm PwC and its study "*The Role of ESG Criteria for Financial Directors in M&A Operations*" (December 2023), strong ESG performance creates value for companies. In fact, 65% of the companies surveyed indicated that ESG performance leads to upward valuation adjustments, thus influencing a company's overall valuation.

In this section, we will discuss this finding based on studies and reports from economists. We will begin by reviewing the fundamental method of corporate valuation: the discounted cash flow (DCF) method.

1) Valuing a company by the fundamental value

To date, there are numerous methods for valuing a company, depending on whether one bases the valuation on the company's assets, comparables (market or transaction-based), cash flows, investments, etc. Although most of these methods rely on financial assumptions, the ultimate goal is to achieve a valuation that is as rational as possible.

Studies like the one conducted by Copeland, Koller, and Murrin in "*Valuation: Measuring and Managing the Value of Companies*" (1991) demonstrated a clear correlation between a company's market capitalization and its level of cash flows. In other words, investors believe that "cash is king," and their main concern is not immediate liquidity but rather the future growth of the company's cash flows.

These studies led to the development of the Discounted Cash Flow (DCF) method, which values a company by discounting its future cash flows. Considered one of the primary valuation methods, most studies on the impact of ESG on the fundamental value of companies, which we will explore later in this thesis, use the DCF method.

For the sake of clarity, I believe it is essential to dedicate the first part of this section to presenting the key concepts and foundations of the DCF method. The goal of this introductory part is not to delve deeply into the DCF method but rather to present its theoretical framework so that a reader without a strong financial background can understand the reasoning used throughout this thesis. For simplicity's sake, certain financial subtleties will be deliberately omitted.

A. The theorical approach to DCF

The fundamental principle of the Discounted Cash Flow (DCF) method is that the value of a company is determined by the future cash flows it can generate. In other words, as illustrated by the formula below, the present value of a given company is equal to the sum of its future cash flows, discounted by a specified discount rate.

$$\boldsymbol{Value} = \sum_{t=1}^{\infty} \frac{\boldsymbol{CFt}}{(\mathbf{1}+\boldsymbol{r})^{t}}$$

$\boldsymbol{CFt}$: cash flow in the period t
$\boldsymbol{r}$: discount rate reflecting the risk and the time factor of the estimated cash flows

The discount rate used takes into account the "time value" of money, meaning that one euro today is worth more than one euro in the future. This phenomenon is explained by:

(1) The uncertainty risk regarding the amount of future cash flows

(2) The possibility of investing this money at an interest rate to generate returns

This approach theoretically requires knowing the lifespan of the company being evaluated. However, in practice, it is impossible to have such information. Therefore, the common practice is to project future cash flows indefinitely. This assumption is justified by the fact that:

(1) Companies generally have a long lifespan (considered “eternal”)

(2) The impact of long-term cash flows becomes negligible in the short term (due to inflation, risk and the preference for immediate consumption

$$\boldsymbol{Value} = \sum_{t=1}^{N} \frac{\boldsymbol{CFt}}{(\mathbf{1}+\boldsymbol{r})^{t}} + \mathbf{TV}$$

N: explicit forecast period
$\boldsymbol{CFt}$: cash flow in the period t
$\boldsymbol{r}$: discount rate reflecting the risk and the time factor of the estimated cash flows

In principle, the DCF formula is divided into two-time horizons:

(1) **The explicit forecast period**: typically lasting between 3 and 5 years, this period corresponds to the duration of the company's business plan

(2) **The terminal value**: this term represents the value of the company from the end of the explicit forecast period to infinity (it can be likened to the sale value of the company at the end of the projection)

B. The components of DCF

Generation of future cash flows

One of the key steps in the DCF method is calculating the generation of cash flows over the entire projection period. By definition, these cash flows are the funds available to all the company's capital providers, namely the shareholders (equity) and creditors (debt). These cash flows are generated from the company's core activities and are generally derived starting from EBIT, from which adjustments are made to obtain actual cash flows rather than accounting figures.

Below is the detailed formula for the generation of “Free Cash-Flows”:

EBIT
(-) Figurative taxes
(=) **NOPAT**
(+) D&A
(-) Change in NWC
(-) CAPEX
(=) **Free Cash-Flow (Unlevered)**

The Terminal Value

As defined earlier, the terminal value represents the value of the company at the end of the explicit forecast period. The terminal value is closely related to the Gordon Shapiro concept, which states that future cash flows will continue to grow at a constant rate in perpetuity. This concept is illustrated by the formula below:

$$\boldsymbol{Value = \sum_{t=1}^{N} \frac{CFt}{(1+r)^t} + \frac{CFn\,(1+g)}{(r-g)(1+r)^N}}$$

N: explicit forecast period
$\boldsymbol{CFt}$: cash flow in the period t
$\boldsymbol{r}$: discount rate reflecting the risk and the time factor of the estimated cash flows
$\boldsymbol{CFn}$: normalized cash flow
$\boldsymbol{g}$: growth rate

It is also possible to calculate the terminal value in a DCF model using the "exit multiple" method. In this approach, the terminal value is calculated by applying a multiple to a financial metric (typically EBITDA).

The growth rate

Used when calculating the terminal value, the growth rate of future cash flows is the rate at which cash flows are likely to grow in perpetuity. Generally ranging between 1% and 3%, the growth rate can be obtained from public sources (such as Damodaran) or calculated based on the "Reinvestment rate" or "Return on Capital”.

The discount rate

The discount rate, used throughout the DCF method, is essential to ensure that cash flows calculated at different periods are homogeneous and comparable. In the context of the DCF, the discount rate used will be the "Weighted Average Cost of Capital" (WACC). The WACC refers to the expected return of all capital providers (shareholders and creditors), taking into account the risk inherent to the asset.

Below is the formula for the "Capital Asset Pricing Model" (CAPM):

$$\boldsymbol{E(Ri) = Rf + \beta(RPm)}$$

$\boldsymbol{E(Ri)}$: expected return for an individual security (Cost of Equity)
$\boldsymbol{Rf}$: rate of return available on a risk-free security as of the valuation date
$\boldsymbol{\beta}$: beta
$\boldsymbol{RPm}$: risk premium

Several financial elements make up the CAPM:

(1) **The risk-free rate**: corresponds to the return on a risk-free asset (such as government bonds)

(2) **Beta**: represents market/ systemic risk

(3) **The risk premium**: the expected return of a security in excess of the risk-free rate

Finally, the value obtained using the DCF method is directly the enterprise value with the following formula:

$$\boldsymbol{Value\ of\ the\ firm = \sum_{t=1}^{N} \frac{FCFFt}{(1+WACC)^t} + \mathrm{TV}}$$

N: explicit forecast period
$\boldsymbol{\mathrm{F}CFFt}$: free cash-flows to firm
WACC: weighted average cost of capital
$\boldsymbol{TV}$: terminal value

C. The DDM method, a variant of DCF

The Dividend Discount Model (DDM) is a model very similar to the DCF method, with the key difference being that it focuses not on cash flows going to all capital providers (shareholders and creditors), but exclusively on flows going to the equity holders (shareholders). In other words, the discounting applies not to cash flows from the company's operations, but to the dividends paid to shareholders.

Below is the detailed formula for the generation of "Free Cash-Flow to Equity" (FCFE):

Net income
(+) D&A
(-) Change in NWC
(-) CAPEX
(+) Net borrowing
(=) **Free Cash-Flow to Equity**

For the sake of consistency, the discount rate will not be the same as in the DCF method (WACC) but rather the "cost of equity" (Ke), which corresponds to the expected return required by shareholders. The formula for the cost of equity is illustrated below:

$$\boldsymbol{Ke = Rf + RP}$$

$\boldsymbol{Ke}$: cost of equity
$\boldsymbol{Rf}$: rate of return available on a risk-free security as of the valuation date
$\boldsymbol{RP}$: risk premium

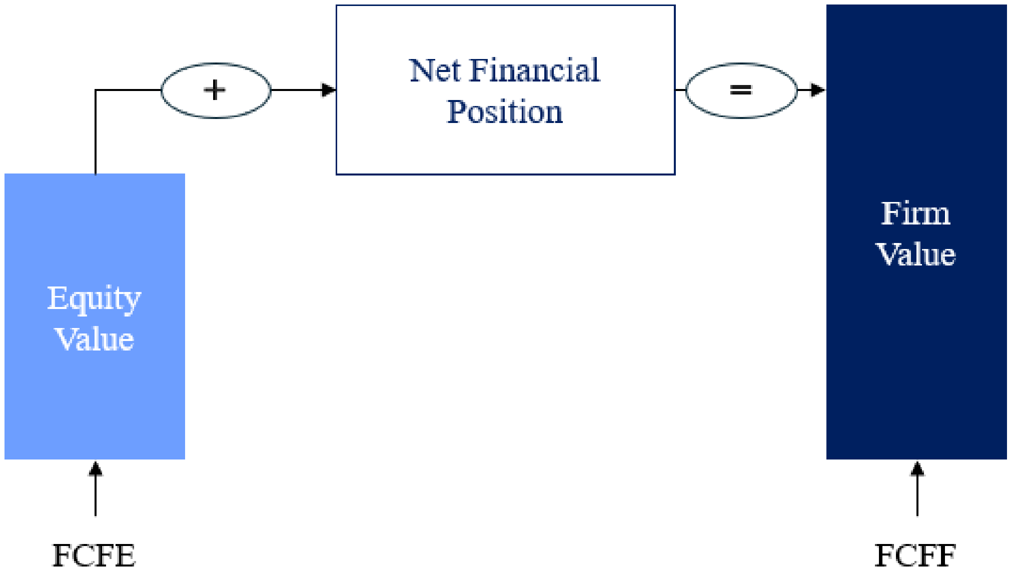
Thus, the final result obtained by the DDM method will not be the "enterprise value" but rather the "equity value," with the following formula:

$$\boldsymbol{Value\ of\ equity = \sum_{t=1}^{N} \frac{FCFEt}{(1+Ke)^t} + \mathrm{TV}}$$

N: explicit forecast period
$\boldsymbol{FCFEt}$: free cash-flows to equity
Ke: cost of equity
$\boldsymbol{TV}$: terminal value

D. The simplified bridge between Equity Value and Enterprise Value

Thus, there are two ways to obtain the "equity value" of a company: the direct method (Equity Value) and the indirect method (Enterprise Value). The relationship between these two concepts is commonly referred to as the "bridge" between EqV and EV. In practice, this bridge involves various adjustments. For simplicity, we will only consider "net financial debt" as the adjustment between Enterprise Value and Equity Value. The following illustration represents, in a simplified manner, the relationship between the value attributable to all stakeholders (Enterprise Value) and the value attributable to shareholders (Equity Value).



2) ESG criteria applied to a company's fundamental value

After reviewing the key components of company valuation based on fundamental value, the second part will focus on understanding the initial impacts of ESG criteria on the drivers of fundamental value presented in the previous section.

The first element impacted is the "growth" of the business plan. If consumers turn toward the company's ESG products, sales volume and market share increase. So far, consumer preferences translate similarly to non-ESG (or "brown") products.

This attraction to the company's ESG products will eventually affect the company's "profitability". Unlike non-ESG products, profitability improves in the longer term. In the short term, costs are higher, but only in the long term can profitability be fully realized. It is reflected throughout the company's value chain with **i)** stronger employee loyalty, **ii)** higher-quality suppliers, **iii)** more resilient supply chains, etc.

Consumer preference for ESG products will also impact the third driver of fundamental value, "investment efficiency". The ESG nature of products will follow a similar profitability logic. In other words, investments in ESG products may be more expensive than non-ESG ones, but their long-term profitability will ultimately be higher. As with profitability, investment efficiency is also seen in the long term, with future benefits including more efficient production assets, lower pollution, greater employee safety, etc.

Finally, the use of ESG products will have a significant impact on the last driver of fundamental value: "risk." Prioritizing compliance with ESG criteria will lead to better overall risk management. With reputational risk under control, it becomes easier for the company to access financing, as lenders offer better financial terms. In addition, there are more subsidies available from public institutions (local, regional, national governments, the European Union, etc.). As a result, the company's cost of capital is reduced.

In purely theoretical terms, the ESG dimension is integrated into the fundamental approach to valuing a company in three scenarios:

(1) If the company's stock value is equal to the discounted value of all the company's cash flows, the stock will have a zero return (NPV = 0)

(2) If the stock has a premium for its ESG component without any of the fundamental value drivers being impacted, the stock will have a negative return (NPV < 0)

(3) If the stock does not have an ESG premium but is a source of value, the stock is undervalued and will have a positive return (NPV > 0)

The consideration of the ESG component can manifest differently in the investment process depending on the nature of the investors. An "active" investor, such as an investment fund or pension fund, will typically incorporate the ESG dimension into their valuation method upfront, before making any investment decisions. Conversely, a "passive" investor, such as ethical funds, will adjust the weight of a security within a portfolio based on its alignment with ESG criteria.

3) The theoretical impact of ESG on a company's fundamental value

A. Better long-term profitability

The first theoretical impact of the ESG component on company valuation is better expected long-term profitability. This is, in any case, what Alex Edmans demonstrates in his book "*Grow the Pie*" (2020).

Edmans believes that it is only by thinking in the long term that we can maximize the value for all stakeholders, and therefore, the value for companies. ESG practices thus become beneficial both for society as a whole and for the sustainable profitability of companies.

Edmans goes even further in his reasoning by developing the concept of "Pieconomics" based on the principle that a company can both satisfy shareholders and society by maximizing the economic value of the company, rather than thinking solely in terms of current wealth distribution.

Edmans' analyses confirm the results seen previously, namely that the adoption of an ESG strategy for companies allows for significant employee loyalty, customer retention, and better management of regulatory and reputational risks. These claims confirm that a company adopting strong ESG practices will be less impacted in the event of an economic crisis. Edmans adds that, like management quality or the capacity for innovation, ESG issues must be an integral part of an investment decision. In conclusion, he points out that implementing an ESG strategy is not only morally justifiable but also economically beneficial for the company.

B. Reducing exposure to risks

The second theoretical impact of ESG on a company's fundamental value is the mitigation of risks affecting the financial health of the company. Dunn, Fitzgibbons and Pomorski examine this point in their study "*Assessing Risk Through Environmental, Social and Governance Exposures*" (2018). This empirical study, based on nearly 5,000 companies, attempts to demonstrate a potential link between companies' ESG exposure and the statistical risk of their stocks.

By analyzing the volatility of company stock values, the authors made the following discoveries:

(1) Companies with low ESG scores have up to 15% higher volatility

(2) The betas (a measure of an asset's risk) of companies with poor ESG performance are up to 3% higher than the betas of companies with better ESG scores

(3) Social and governance scores show a stronger correlation with risks compared to environmental scores

Consequently, this study demonstrates that ESG scores provide future indications of the statistical risks of investments, beyond traditional risk models. By nature, companies that perform poorly in terms of ESG are associated with a higher future risk. This study thus warns investors and encourages them to turn towards companies that respect ESG criteria in order to build more efficient and resilient portfolios.

C. A share price less sensitive to market downturns

Recent studies have analyzed how shareholder activism in terms of ESG can impact the sensitivity of stock prices during market downturns. Among these analyses is Hoepner theory, "*ESG Shareholder Engagement and Downside Risk*" (2019). To support his theory, Hoepner used two financial risk indicators:

(1) **The Value at Risk (VaR)**: a statistical measure assessing the risk of a loss in value of a portfolio, based on a given probability and time horizon

(2) **The Lower Partial Moment (LPM)**: a measure used to assess the risk of potential value losses of a portfolio under a certain threshold

The results of this study demonstrated that companies with shareholders firmly committed to respecting the ESG dimension drastically reduce the risk of a decline in their stock value in a bearish market context. This phenomenon aligns with previous conclusions, which state that companies performing well in the ESG domain are perceived as better prepared to manage future crises.

D. Strengthening market positioning

Bénabou and Tirole, in their work "*Individual and Corporate Social Responsibility*" (2010), demonstrate how ESG criteria can serve as a means for companies to strengthen their position in the market.

Although initially costly or complex to implement, the authors show that ESG criteria can enhance the company's reputation. This market image significantly impacts customer loyalty, employee motivation and investor attraction. It can become a competitive advantage for the company, which is perceived as an entity meeting the expectations of its customers and investors through sustainable and ethical business practices. Philanthropic actions and social initiatives are also ways to strengthen the company's reputation and visibility in the market.

E. Boosting consumer appeal and employee productivity

As previously mentioned, studies have shown that ESG practices, through psychological and sociological mechanisms, generally have a beneficial impact in attracting consumers. Among these studies, the works of David P. Baron (2001, 2008) demonstrated that consumers are increasingly concerned about environmental and social issues and are turning more toward products with an ethical dimension. This observation is well known to experts in the agri-food sector, who are now obliged to embrace circular economy practices and organic farming to enhance their brand image and differentiate themselves from competitors.

According to Baron, the ESG dimension also impacts employee productivity. By nature, employees are more motivated to work for organizations that share values close to their own. A company with a positive societal impact attracts highly qualified and more productive individuals who are not merely seeking a job. These employees, proud to belong to such organizations, are more committed to pursuing the company’s goals. Baron even goes so far as to prove that this improvement in employee well-being greatly contributes to reducing employee stress.

F. The ability to avoid potential litigation

The analysis conducted by Eccles, Ioannou, and Serafeim in "*The Impact of Corporate Sustainability on Organizational Processes and Performance*" (2014) examines the impact of ESG policies on the performance of U.S. companies that have adopted a sustainability policy. Two samples of companies are compared: those adopting a sustainability policy and those that are not sensitive to this dimension. This study highlights that a sustainable policy enables companies to reduce the risk of litigation, as it influences:

(1) **Governance structure**: specific committees are created and executives are compensated based on sustainability metrics

(2) **Stakeholder engagement**: relationships are based on transparency, trust and cooperation

(3) **Time horizon of strategy**: investors have a long-term vision and the company communicates more about its long-term objectives

4) Applying fundamental analysis

After defining the theoretical framework of ESG, it seems important to understand how practitioners integrate the ESG component, particularly in the field of investment. According to the CFA Institute's study "*ESG in Equity Analysis and Credit Analysis*", practitioners do not fully grasp the concept of "ESG integration," as they indirectly use ESG integration techniques in their investments. By "ESG integration," we mean the explicit and systematic inclusion of all material ESG factors (those with a high probability of occurrence) in the investment decision. The integration of ESG criteria into fundamental analysis varies across companies, as illustrated by the CFA Institute's study within the agri-food sector.

The impact of ESG risks and opportunities in the agri-food sector

Company	Type of risk/ Opportunity	Risk/ Opportunity Characteristics	Integration Technique
ABF, exposed to unhealthy food trends through its grocery business	Shift in customer preferences and demand	Already ongoing trend with long-term implications; severity and probability known and significant	Revenue growth rates for the specific cash flows (DCF model) and terminal growth rate to reflect long-term exposure
Coca-Cola European Partners, exposed to sugar taxes being passed in several jurisdictions	Shift in regulations (sugar tax)	Known event and known tax levels that will materialize through a shock at a specific point in time and increased volatility	Modeled through cost implications in the specific cash flows (DCF model), considering product portfolio, geographic exposure, demand elasticity, pricing power and cross-product elasticity
Benchmark, exposed to weather variability and its impact on artemia production	Market risk through the sourcing of raw materials	Unknown timing but potential severity and impact known, based on past weather events	Modeled through growth rates for revenue and an increase in the discount rate to capture the relatively high-risk profile with unknow timing
Monsanto, exposed to several reputational and litigation risks linked to GMOs	Multiple	Risks that are hard to quantify and predict in terms of probability and timing; more of an overall "sentiment"	Modeled through the discount rate used in Monsanto-BSAF takeover valuation

Source: « ESG in equity analysis and credit analysis", CFA Institute

This case study confirms that investors incorporate ESG factors into their valuation models, adjusting **i)** the growth rates of future revenues, **ii)** operational costs and **iii)** discount rates. However, the study points out that not all investment decisions are necessarily influenced by ESG considerations and profitability may sometimes be prioritized over adherence to ESG criteria.

ESG integration is presented here as a means to anticipate sector or company-specific risks while ensuring superior returns by focusing on the long term. It does not require major changes in investment processes but involves incorporating new ESG data into traditional models. ESG factors are increasingly integrated into corporate valuation methods, influencing both equity and credit investment decisions.

5) Climate risk and asset value

To understand the impact of ESG criteria on a company's value, it is useful to study the ESG risks that weigh on the company. By ESG risks, we primarily refer to the climate risks affecting an organization. If markets are efficient, any material financial risk a company faces should be reflected in its stock price. The issue is that, in the absence of information regarding climate risks, many assets may be overvalued as they fail to account for these risks. According to the "Financial Stability Oversight Council", three main climate risks can be distinguished:

(1) **Physical risks**: potential risks and damages to a company's assets due to climate change (droughts, storms, etc.)

(2) **Transition risks**: risks related to a company's misalignment with environmental objectives (e.g., the 2015 Paris Agreement). Transition risks include **i)** the risk of changes in the cost structure of a project due to ecological transition (e.g., rising oil prices) and **ii)** the risk of regulatory changes forcing a costly transition (e.g., carbon tax).

(3) **Liability risks**: future litigation risks aimed at compensating for the company's poor carbon footprint

A. The case of stranded assets

By "stranded assets," we mean assets that have lost their economic value or utility before the end of their originally planned lifespan. These assets have indeed undergone depreciation and/or devaluation due to regulatory, technological, environmental changes, etc. Many industries and companies are affected, and as a result, the value of their assets may decline, which in turn, may lead to a drop in their own valuation.

The 2015 Paris Agreement has increased the risk of devaluation of fossil fuel assets. This is because the agreement aims to limit the rise in temperature to 1.5°C above pre-industrial levels. According to experts, such a provision would require the permanent abandonment of fossil fuels such as coal, oil and gas. Likewise, many investment plans would not reach profitability if these measures were fully implemented.

The threat of stranded assets doesn't just concern companies but also institutional players, starting with banks. According to the Institut Rousseau, in 2021, the top 11 banks in the Eurozone hold nearly €532 billion in fossil fuel assets (equivalent to the GDP of Belgium). The exposure of these banks to stranded assets is such that, in the event of fossil fuel asset losses, about 95% of the banks' equity is, on average, absorbed. In an extreme scenario of a complete abandonment of fossil fuels, all these banks would be declared bankrupt. One of the European banks most exposed to this risk is the French bank Crédit Agricole. It could indeed face bankruptcy if it suffers a 60-70% loss in the value of its fossil fuel assets. It is thus clear that such a risk would have a systemic effect on the entire global financial system.

In reality, the challenge with stranded assets is that there are no decisions that can guarantee the preservation of their value. If a decision is made to completely phase out fossil fuels and comply with the Paris Agreement, a significant number of systemic entities will be declared bankrupt, starting with oil producers and banks heavily exposed to fossil fuels. Conversely, if no action is taken to meet the Paris Agreement goals, the looming climate catastrophe will create substantial physical risks for company assets. Although the future consequences for asset values are inevitable, the financial sector does not seem to fully acknowledge this risk.

The question that comes to mind is the following: *what solutions can be implemented to limit the impact of the future devaluation of fossil fuel assets?* In practice, only public intervention has the capacity to mitigate the damage. The few possible solutions are as follows:

(1) Purchase of stranded assets by a National Central Bank

(2) Purchase of stranded assets by the European Central Bank (ECB) (a solution recommended by the Institut Rousseau, similar to quantitative easing)

(3) Purchase of stranded assets by a public entity on credit (with the public entity being progressively reimbursed through the dividends initially intended for the shareholders of the impacted companies)

B. Assets that are difficult to value

In her work "*Market Myopia's Climate Bubble*" (2021), Madison Condon highlights the difficulty of assessing climate risks in financial markets. This article, published in the renowned Utah Law Review (2022), demonstrates that markets fail to adequately connect financial assets with climate models. To support her thesis, Condon uses six main arguments:

(1) A lack of granular data at the asset value

According to Condon, given the new climate challenges our society faces, market participants need access to new information that allows for a more detailed and long-term assessment of climate risks that could eventually impact the company. By granular information, the author refers to:

- Data on the geographical location of assets
- The origin and route of the supply chain
- The source and quantity of raw materials used for operations (water, electricity, gas, etc.)
- The company's exposure to potential stranded assets

Although these are essential data for asset valuation, Condon even demonstrates that such information is often missing from annual reports or universal registration documents of publicly traded companies.

(2) Valuation methods less suited to current challenges

In addition, according to the author, traditional risk evaluation methods have become obsolete. These traditional methods are outdated for several reasons:

- **Models are built on historical data**: Condon points out the inconsistency of using historical data to predict future risks, especially since upcoming climate events will be unprecedented, with no real historical parallels. Therefore, on this argument alone, it seems impossible to evaluate the scale of future climate risks.

- **Models assume continuity**: by their nature, these models assume that past climate conditions will remain unchanged in the future. However, with global warming intensifying, climate conditions are constantly evolving, making traditional evaluation methods ineffective.

- **Models do not include physical and transition risks**: the models generally do not account for physical risks (natural disasters) and transition risks (regulatory, technological changes, etc.).

(3) Misaligned managerial incentives

It is the responsibility of management to disclose the climate risks facing the company, particularly due to their privileged access to information. However, as Condon points out, management has no personal incentive to reveal the company's true exposure to climate risks, as these risks would negatively impact the company's stock price and, consequently, its valuation. Managers typically have a variable portion of their compensation tied to the company's stock value. In the event of a loss in value, shareholders are likely to call for a change in management.

As a result, some corporate strategies are contrary to the climate commitments of the Paris Agreement. For example, some oil companies continue to explore new oil reserves.

(4) Shareholder short-termism and the structural limits of the market

Condon also highlights the short-termism of shareholders, most of whom hold shares for only a few years (between 3 to 5 years for private equity funds and hedge funds). As a result, the traditional valuation method (DCF) is limited because:

- Nearly 80% of a portfolio's value comes from discounting the terminal value, in other words, from discounting cash flows with a time horizon exceeding 5 years

- The sectors most exposed to climate risks (energy, real estate, etc.) have a valuation that heavily depends on cash flows expected over a very long term (approximately 20 years). By then, the physical risks will be real.

(5) Market biases and misinformation

Although climate issues are real and confirmed by many experts, this perception is not shared by all market players. For instance, institutional investors, as shown by Philipp Krueger in "*The Importance of Climate Risks for Institutional Investors*" (2019), are nearly 60% who believe that global warming will not reach 2°C by 2100.

This contrasts with scientific findings. Recent scientific studies show that even if all signatory countries to the Paris Agreement met their respective commitments, global warming would still be at least 2.8°C by 2100. This blindness among some market actors is evident in their investment management, which is often not aligned with the Paris Agreement.

(6) Capturing the regulators

Finally, Condon explains the difficulty in evaluating climate risks in financial markets by noting that regulatory bodies are influenced by systemic market players, such as banks. These players, having no incentive to implement measures that would reduce their exploitation of fossil assets, engage in lobbying campaigns with regulators.

Such manipulation practices have been extensively used by groups like Monsanto, who sought to continue their toxic activities by exerting pressure on regulatory bodies and the political class.

C. An unprecedented need for regulation

Given the still excessive freedom granted to systemic market players, regulatory intervention has never been more necessary, especially considering the limited time and resources available to combat climate change.

This argument has been strongly supported by Farmer in "*Sensitive Intervention Points in the Post-Carbon Transition*" (2019). According to the author, a modest public intervention at the right moment can generate enormous impacts and accelerate the transition to a post-carbon world. It all hinges on identifying "sensitive intervention points," meaning identifying critical moments in economic, technological and political systems where minor regulatory actions can have extremely beneficial effects.

Currently, the mere credible threat of regulation could trigger a drastic drop in the value of "brown" assets, potentially leading to a financial crisis, highlighting the importance of preemptively considering appropriate regulation.

In conclusion, based on valuation methods such as Discounted Cash Flow (DCF), it is evident that ESG standards increasingly impact the fundamental value of companies. The influence of ESG factors affects long-term profitability, risk management and company sustainability. A company performing well in ESG terms will generally be less exposed to market fluctuations, reduce its regulatory and reputational risks, and thus see its valuation increase. In traditional valuation methods, this translates into adjustments to future revenue growth rates, operational costs and discount rates. However, assessing the impact of climate risks on a company's asset valuation is often challenging due to a lack of granular data, outdated evaluation methods and social behaviors not aligned with ESG issues. Therefore, while the impact of ESG standards on company valuation is real, their full integration into valuation methods would require regulatory intervention. In the next section, we will explore the impact of ESG on companies' access to financing.

III) The impact of ESG on companies' access to financing

1) ESG ratings, a major influence on access to capital

A. Extra-financial ratings

The emergence of Socially Responsible Investment (SRI) is at the origin of the creation of an extra-financial rating system. Not limited to the financial aspect alone, this rating evaluates companies and public bodies (States, local authorities, banks, etc.) based on their ESG policies. The implementation of such a rating allows the comparison of the ESG performance of various issuers.

The company is then evaluated based on its alignment with environmental, social and governance issues. As we will see in this section, each area of analysis results in an evaluation according to different criteria (transparency, innovation, communication, etc.) and is weighted to obtain a final score. This evaluation is carried out by independent third-party organizations, which are extra-financial rating agencies and SRI fund management companies. It allows management companies to develop SRI or thematic funds by integrating both the issuers' ESG best practices and their financial performance.

The extra-financial rating can be carried out at the request of investors, as part of an investment process, in order to estimate the ESG performance of the target company. It can also be requested by a company that wishes to know its positioning in terms of ESG compared to the competition. This is now possible as more and more companies measure and communicate on their ESG performance.

The ESG scores attributed by rating agencies to a financial security and/or a company have become essential for investors. The reason being, it has been found that ESG ratings remain the primary means of utilizing ESG information by investors. This finding is confirmed in the study by Samuel M. Hartzmark & Abigail B. Sussman "*Do Investors Value Sustainability? A Natural Experiment Examining Ranking and Fund Flows*" (2019), fund movements react strongly to the ESG ratings of mutual funds, constructed from the ESG ratings of the companies present in the funds' portfolio. Similarly, according to the analysis by Amel-Zadeh & George Serafeim "*Why and How Investors Use ESG Information?*" (2017), nearly 82% of investment professionals reported using the ESG information provided by ESG rating agencies in their investment procedures.

Extra-financial rating agencies

As previously mentioned, rating agencies are independent third-party organizations whose purpose is to assess the environmental, social and governance performance of a company or public entity. This analysis results in the assignment of an ESG score across the three ESG pillars: environment, social and governance. Since these areas are not considered in financial ratings, ESG ratings are highly regarded by the largest investors. It is not uncommon, in addition to the work done by rating agencies, for large companies and fund managers to have their own internal ESG analyses.

It should be noted that some rating agencies are generalists and evaluate companies, public and private entities regardless of their characteristics. This is particularly the case with the British rating agency Vigeo Eiris, a subsidiary of Moody's. However, it is not uncommon to find specialized agencies, either **i)** based on the size of the company or **ii)** focused on a specific ESG dimension.

Unlike financial rating agencies, extra-financial rating agencies are paid by investors rather than issuers. However, companies can request a detailed evaluation of their ESG practices from certain agencies. This approach, known as "solicited rating" allows them to understand their position in terms of social responsibility.

B. ESG score: Methodology

To establish their scores, ESG rating agencies analyze the three fundamental pillars of ESG and how well the evaluated company adheres to them:

(1) **Environment**: meeting current needs without compromising the ability of future generations to meet their own
Examples of criteria used: climate change, biodiversity, metal management, water management, etc.

(2) **Social**: promoting a more "just" society, including fostering better wealth distribution, diversity, gender equality, employee well-being, etc.
Examples of criteria used: rise of populism, "gilets jaunes" (yellow vests in France), etc.

(3) **Governance**: ensuring that company governance bodies are transparent and consider the impact of their activities on all stakeholders
Examples of criteria used: role and composition of boards of directors, management compensation and oversight, company ethics, reputation, etc.

To conduct these assessments, rating agencies use a variety of sources. First, there are financial and extra-financial reports published by the companies they evaluate. Among these sources are "universal registration documents," "10-K and 10-Q reports" (US), "CSR reports," etc. Stakeholder reports (NGOs, unions, etc.) are also a valuable source for rating agencies, as they can highlight investigations into fraudulent practices that negatively impact on the company's reputation. Lastly, media outlets serve as another critical source.

The evaluation criteria vary from one agency to another due to the lack of standardized guidelines for sustainable development. In general, these agencies rely on major international conventions and encompass the three ESG criteria.

The main ESG index providers

Pillar	Thomson Reuters	MSCI	Bloomberg
Environmental	Resource Use	Climate Change	Carbon Emissions
	Emissions	Natural resources	Climate effetcts
	Innovation	Pollution & waste	Pollution
		Environmental opportunities	Waste disposal
			Renewable energy
			Resource depletion
Social	Workforce	Human capital	Supply chain
	Human rights	Product liability	Discrimination
	Community	Stakeholder opposition	Political contributions
	Product responsibility	Social opportunities	Diversity
			Human rights
			Community relations
Governance	Management	Corporate governance	Cumulative voting
	Shareholders	Corporate behavior	Executive compensation
	CSR strategy		Shareholders' rights
			Takeover defence
			Staggered boards
			Independent directors

Sources: Refinitiv, MSCI, Bloomberg

As previously mentioned, each rating agency has its own calculation method. Without going into the details of these calculations, I found it interesting to briefly summarize the methodologies used by the rating agencies MSCI, Refinitiv and Sustainalytics.

(1) **MSCI**: a quantitative model based on 37 key ESG questions and analysts' opinions

(2) **Refinitiv**: a quantitative model combining ESG measures reported by companies and the company's ESG-related news available in the media (includes 178 ESG measures)

(3) **Sustainalytics**: measures the company's exposure and media coverage. It is an absolute comparison (allowing comparison of different industries), shared with the evaluated company to validate the accuracy of the study

The limitations of ESG scores from rating agencies

Despite the common goal of identifying companies that have adopted the best ESG practices, the methods used can vary significantly between rating agencies. According to the report by Berg "*Aggregate Confusion: The Divergence of ESG Ratings*" (2020), there is actually low consistency in ESG ratings from one agency to another, unlike what can be observed with credit rating agencies. The reasons for this divergence are numerous and can stem from **i)** the data used, **ii)** the scope of ESG categories, **iii)** the method of measuring categories, **iv)** the weighting of metrics and **v)** a significant degree of subjectivity.

Given these divergences, many stakeholders, including stock exchanges, are advocating for the standardization of corporate ESG reporting. Among them, the well-known NASDAQ has proposed 30 ESG metrics (10 for each pillar) to report on a company's ESG performance. However, efforts remain insufficient and many institutions recognize that there is still no convergence on ESG standards, making these divergences a new challenge to be addressed in sustainability efforts.

Thus, given the transitional state of the ESG rating system, the question arises about the fairness of defining the notion of ESG by the market. In other words, should the definition of a "good" ESG criterion be up to investors? Rating agencies? Or the companies themselves?

2) The notion of performance

A. General definition of performance

Before even questioning the performance related to ESG issues, it seems important to return to the very definition of performance. The notion of performance refers to achieving a measurable result within a competitive framework. Within a company, performance is reflected in the degree of accomplishment of the objectives pursued. A company's performance implies that it is both effective and efficient. For a business, performance refers to the elements that contribute to improving the value-cost ratio. In other words, it means achieving the set objectives while minimizing the resources used.

The notion of performance for a company is not short-term but, on the contrary, corresponds to the continuous and long-term achievement of the objectives and results defined in the company's strategy. To be performant, a company must create favorable conditions for the people within the organization to be able and willing to achieve these objectives. In the financial sphere, value creation is understood as profit growth, thus constituting a measure of success. In practice, it is a key indicator that investors use to decide on potential investments or to monitor the value of an existing investment.

Financial performance

One of the primary dimensions of a company's performance to which we can refer is financial performance. By financial performance, we mean the company's ability to achieve its financial goals and thereby generate profits. A large part of financial performance analysis uses financial ratios to evaluate:

(1) **Profitability**: the ability of a company to generate profits through its sales, assets and equity (operating margin, return on investment, etc.)

(2) **Solvency**: the ability of a company to generate sufficient resources to meet its financial obligations in the short, medium and long term (debt ratio, interest coverage ratio, etc.)

(3) **Liquidity**: the ability of a company to quickly convert its assets into cash to pay off short-term debts (current ratio, quick ratio, etc.)

(4) **Growth**: the ability of a company to expand and develop over a given period (revenue growth, profitability growth, market share growth, etc.)

Social performance

The social dimension of performance can be defined as the results achieved by a company in areas that do not directly pertain to its economic activity. The Social Performance Task Force (SPTF), a nonprofit organization working for social performance management, defines social performance as "*the effective implementation of an institution's social mission in line with social values*".

For some, social performance is defined as an additional commitment beyond the legal and economic obligations of the company. This is notably the definition of social performance given by José Allouche and Patrice Laroche in "*A Meta-Analytical Investigation of the Relationship Between Corporate Social and Financial Performance*" (2005). It emphasizes the need for companies to meet their obligations towards stakeholders and integrate the social component into their daily management. Among the indicators of social performance are employee satisfaction, tenure, etc.

Governance performance

Since the governance scandals of the 1990s-2000s, the governance dimension of corporate performance has become central to discussions. Today, leaders are expected not only to comply with and interact with governmental institutions but also to uphold certain ethical standards in their management practices.

A company will be evaluated from various perspectives, including:

(1) **Ethics**: implementing ethical standards in daily governance and business practices

(2) **Risk management:** establishing risk management policies to identify, assess and address risks

(3) **Regulatory compliance**: adhering to the laws and regulations relevant to the company's activities

(4) **Transparency**: providing reliable and high-quality information in financial reports and maintaining communication with all stakeholders

(5) **Social engagement**: initiating or participating in programs that support social causes

Environmental performance

Finally, as we have demonstrated throughout this thesis, environmental performance has become a crucial issue for corporate management. Today, every company is required to meet environmental standards and limit the environmental impact of its activities. It is important to note that environmental performance is not limited to simply reducing the negative impacts of the company on its environment but also includes its positive actions on the environment.

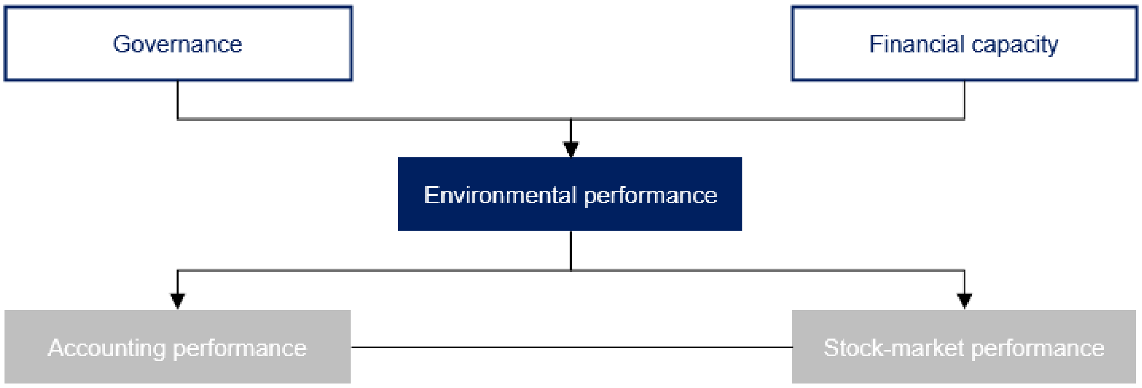
There are numerous methods available today to assess the environmental performance of an organization. These start with the use of environmental indicators such as greenhouse gas emissions, energy consumption (water, electricity, gas), raw material usage, etc. These indicators are particularly used to evaluate the environmental progress made by companies and their compliance with environmental regulations.

Other methods for measuring environmental performance include the use of carbon footprint assessments (identifying emission sources, raising awareness, proposed solutions, etc.), environmental audits, environmental certifications and more.

B. The interconnection between corporate governance, environmental performance and financial performance

Studies on overall corporate performance highlight the interconnection between corporate governance, environmental performance and financial performance. Shahzad, Mousa and Sharfman, in "*The implications of slack heterogeneity for the slack-resources and corporate social performance relationship*" (2016), demonstrated that environmental performance is closely linked to financial performance. In 2005, Doonan also showed that strong environmental performance is driven by good corporate governance, characterized by sustainable and ethical practices.

Such an interconnection between these concepts is summarized in the illustration below:



It is within this theoretical framework that we will explore, in this section, the main works of economists and experts regarding the relationships between these different concepts.

Financial capacity and environmental performance

As mentioned earlier, a company's financial capacity measures its ability to meet short, medium and long-term financial commitments. Numerous criteria are used to assess this capacity, including the amount of assets, debt levels, R&D spending and past profitability.

Within the conceptual framework presented earlier, one of the first highlighted interconnections is the positive influence of financial capacity on environmental performance. Authors such as Doonan (2005) have shown that one of the main factors driving environmental performance is the financial resources available to a company. Companies with significant financial resources tend to invest more in environmental responsibility. Clarkson, in "*Environmental Reporting and its Relation to Corporate Environmental Performance*" (2011), even found that R&D spending intensity is positively correlated with environmental performance.

However, the effect of company size on environmental performance is controversial. On the one hand, authors like Clarkson (2011) identified a negative size effect on a company's environmental performance, while others, such as Bansal (2005), demonstrated a positive effect of size on sustainability and CSR issues. One thing is certain, as Brammer and Millington assert in "*Does it pay to be different? An analysis of the relationship between corporate social and financial performance*" (2008), large companies are more capable of making donations, thereby significantly improving their social performance. Financial debt may even have a positive effect on the communication of information concerning environmental performance.

Corporate governance and environmental performance

According to Barney & Mackey in "*Corporate Social Responsibility and Firm Performance*" (2007), financial resources alone cannot guarantee effective environmental performance. They must be accompanied by good corporate governance to be truly productive and enable environmentally responsible management. Numerous empirical studies have also confirmed the direct correlation between corporate governance and environmental performance.

According to Judith L. Walls' work "*Corporate governance and environmental performance: is there really a link?*" (2012), three aspects of governance play a crucial role in environmental performance: **i)** ownership structure, **ii)** the board of directors and **iii)** management. The involvement of top management in environmental management, assessment and control even has a positive impact on a company's environmental performance, as noted by Doonan (2005).

Environmental performance and financial performance

Recent studies have also demonstrated a close relationship between environmental performance and financial performance in companies. This is particularly the case with Ambec and Lanoie in "*Environmental and Economic Performance of the Firm*" (2009), who analyzed nearly 12 empirical studies on the link between environmental and economic performance. Based on various financial measures (return on assets, return on equity, etc.) and environmental indicators (ISO certifications, environmental standards, etc.), 9 studies show that strong environmental performance leads to higher financial returns and lower capital costs, 2 studies show no correlation and only 1 study presents a negative correlation.

These studies reveal that strong environmental performance has a significant positive impact on a company's stock market and accounting performance, with the positive effect being more pronounced on the company's accounting performance.

3) The performance of Socially Responsible Investment funds

After defining the different facets of a company's performance, we will now focus primarily on the company's financial performance, specifically its economic and stock market performance. The goal is to understand the nature of the relationship between a company's social performance and its financial performance. This inquiry relates to the theoretical debate between the "shareholder theory" (influenced by Milton Friedman) and the "stakeholder theory" (advocated by R. Edward Freeman).

A. The impact of CSR issues on financial performance

The impact in terms of profitability

According to classical economic theories, taking ESG issues into account has a negative effect on corporate profitability. Milton Friedman argued that integrating considerations other than the sole pursuit of profitability cannot contribute to achieving profit. Some economists, like Boutin-Dufresne in "*The risks associated with socially responsible investment*" (2002), support Friedman by emphasizing that the cost of implementing ESG practices can negatively impact profitability in the short to medium term. This idea has been repeated multiple times to demonstrate that SRI funds do not outperform returns achieved by traditional comparable funds. This is notably the case of Pérez (2002), who argues that achieving superior profitability while imposing an additional constraint is difficult to realize.

The concept of "agency theory" also supports the arguments of classical economic literature. This theory, strongly promoted by Friedman, asserts that a manager is tasked with maximizing profits on behalf of shareholders. Therefore, an enterprise's focus on ESG issues would divert managers from their primary mission and negatively affect investment profitability. The proposed solution is that managers should contribute to ESG issues personally or through foundations rather than internally within the company.

Over the past few decades, classical economic literature has been challenged by the emergence of new schools of thought, primarily represented by "stakeholder theory." As mentioned earlier in this thesis, stakeholder theory assumes that considering all stakeholders is an effective way to reduce transaction costs with these same parties. Jensen & Meckling (1976) introduced the concept of agency theory, which views the company as a collection of contracts and its competitiveness and economic performance depend on reducing the costs of implementing these contracts. In line with agency theory, Bengt Holmström in "*Moral Hazard in Teams*" (1982) argued that a company that adopts HR policies that consider the individual interests of employees will reduce recruitment costs and increase profitability due to employee loyalty. Finally, Krueger & Summers in "*Efficiency Wages and the Inter-Industry Wage Structure*" (1988) added the importance of paying employees slightly above market wages to reduce turnover and associated costs, thereby reducing the overall wage bill.

The impact in terms of risk

The impact of considering ESG issues on a company's financial performance must also be analyzed in terms of risk. Once again, theorists do not unanimously agree on the consequences in terms of risk. Among the theories supporting the harmful effect of ESG issues on profitability and investment risk, we find the argument by Christophe Revelli & Jean-Laurent Viviani in "*The determinants of the effect of SRI on financial performance*" (2011), stating that limiting investments to ESG-compliant companies reduces the number of selected companies, increases their relative weight in the portfolio, and thus reduces the portfolio's diversification. Referring to Markowitz's work "*Portfolio Selection*" (1952), reducing a portfolio's diversification increases its volatility and, consequently its risk.

Similar to the impact on investment profitability, the trend over the past few decades has been to show that investing in companies with strong ESG performance can significantly reduce investment-related risk. This is because a company that respects its environment will be less exposed to scandals (financial, social, environmental, etc.). The reduction in risk is also accompanied by a reduction in uncertainty related to the investment. Indeed, by adopting more transparent communication with all stakeholders, companies reduce the information asymmetry between company management and financial investors. As Daniel Ellsberg demonstrated in "*Risk, Ambiguity, and the Savage Axioms*" (1961), an investor will prefer a "risky" investment with known probability over an "uncertain" investment. Thus, the attractiveness of ESG investments is justified by the search for lower risk and/or reduced uncertainty. In theory, companies with a strong ESG dimension would be less sensitive to various scandals. This is evidenced by major scandals of the 21st century, such as Enron or Wirecard, which could have been avoided if those companies had implemented strong ESG practices.

It is well established that the majority of significant stock price fluctuations for companies are price declines rather than increases. Numerous studies, notably those by economist Philipp Krueger (2009), have shown that a positive event has a modest impact on stock prices, while a negative event can lead to a significant drop in stock price, especially if the bad news is related to ESG. These studies highlight once again that a strong ESG policy leads to reduced stock price volatility and a decrease in risk.

Creditors have an interest in reducing the risk of a company's stock price decline. The reason is that creditors' gains are limited to the repayment of their position. However, they are highly exposed to stock price decreases resulting from a loss of business. This asymmetry in exposure sheds light on the relationship between ESG practices and the cost of financing for companies. According to Sharfman & Fernando in "*Environmental Risk Management and the Cost of Capital*" (2008), companies that perform well in terms of ESG are perceived as less risky by creditors, thus reducing the credit spread and the cost of capital for companies. In other words, they argue that ESG performance should be inversely related to the credit spread. This view, however, was not shared by all theorists, including Bauer and Hann in their study "*Corporate Environmental Management and Credit Risk"* (2010). According to Bauer and Hann, there is indeed a positive correlation between a company's engagement in ESG and its cost of financing (credit spread). Their study shows that companies that have heavily invested in ESG borrow at higher rates. Although counterintuitive, the authors argue that ESG investments are seen as additional costs by creditors, who therefore demand a higher return.

Can we speak of a positive correlation?

Based on the studies presented earlier, it seems difficult to draw a definitive conclusion about the nature of the correlation between the implementation of ESG issues and a company's financial performance. According to the recent study by Barnett & Salomon, "*Does it pay to be really good? addressing the shape of the relationship between social and financial performance*" (2012), the relationship follows a "U-shaped" curve and is therefore not a "linear" relationship. In other words, from a financial perspective, it is better for a company not to implement an ESG policy at all than to invest moderately in one. Only companies with a strong ESG policy will achieve the best financial performances.

According to Barnett & Salomon, if a company wants to maximize its financial performance, it must invest seriously, rigorously and for the long term in order to improve its ESG standards and thereby gain the trust of all stakeholders. This is what Barnett & Salomon referred to as "stakeholder influence capacity."

B. The difficulties of the analysis

The analysis of the correlation between ESG performance and financial performance is, in reality, more complicated than it seems. This is because numerous factors influence the studies and can have significant effects on their final results. For this reason, I decided to dedicate a section of my thesis to presenting these biases.

The influence of cash holdings

The amount of cash holdings is undoubtedly one of the most significant biases in studying the effects of ESG issues on a company's financial performance. By nature, the value of a security is heavily influenced by the supply and demand around that security. Since SRI funds have rapidly growing assets and companies with high ESG standards are limited in number, SRI funds compete and are willing to pay a premium to acquire the security. This phenomenon mechanically creates an outperformance for ESG securities, where profitability is driven by both dividends paid and the increase in stock value.

The overvaluation of ESG securities by investors creates a second bias, which is the discrepancy between the valuation of these securities and their returns. The return on a security is determined by its risk in an efficient market, leading one to believe that the securities in question are less risky. However, this phenomenon is only observable during periods of growth in SRI assets and will disappear once the fund size stabilizes, leading to a downward adjustment in the price of these securities.

The loyalty of ethical investors

Authors such as Jégourel & Verdié in their book "*The behavior of ethical investors: between commitment and pragmatism*" (2012) explored the behavior of ethical investors, meaning those who integrate ESG issues into their decision-making. The authors demonstrate that the investment decisions of ethical investors rely on a delicate balance between ethical considerations and financial ambitions. Although the behavior of ethical investors is influenced by economic conditions, Jégourel & Verdié assert that a significant portion of ethical investors are more concerned with the company's actual activities than with the profitability of their investments. Unlike so-called traditional investors, ethical investors are willing to make concessions on the financial performance of their investments over the long term.

Such loyalty from ethical investors is a real opportunity for the companies concerned, allowing them to implement their strategy without being constantly constrained by their shareholders. The loyalty of ethical investors is also a boon for SRI funds, as they are not forced to pursue arbitrage policies to compensate investors who wish to leave the fund. Additionally, with fewer investment movements, portfolio management becomes easier for fund managers.

Finally, Jégourel and Verdié have shown that ethical investors are more resilient than traditional investors in the face of losses. However, in the case of gains, the behavior of both types of investors is relatively similar.

The importance of good financial performance

As we have seen previously, some authors argue for the existence of a positive correlation and the need to generate sufficient ESG performance to maximize financial performance. However, once again, this correlation between a company’s ESG performance and its financial performance is not unanimously agreed upon by theorists.

Those advocating for the opposite effect highlight the idea that it is not the adherence to ESG issues that leads to good financial performance, but rather the financial resources that enable a company to improve its ESG performance. This is particularly the case for researchers Kraft & Hage, who in "*Strategy, Social Responsibility, and Implementation*" (1990), demonstrated that a company’s financial resources determine the amount of investment dedicated to ESG. In other words, the decision to invest more in ESG is not automatic for managers and is only possible if the company's finances allow it.

The development of an expertise

Although implementing an ESG policy is costly for the company, it is important to consider the long-term benefits it can provide. Beyond the expected financial benefit of an ambitious ESG policy, Rob Bauer introduced in "*Empirical Evidence on Corporate Governance in Europe: The Effect on Stock Returns, Firm Value and Performance*" (2005) the concept of "expertise" that a company active in the ESG field can develop.

In his study, Bauer demonstrated that a pioneering company engaging in an ambitious ESG policy will inevitably face obstacles and unforeseen costs. With experience, companies active in ESG develop skills and expertise that allow them to effectively integrate ESG issues into their overall strategy. Through this knowledge, the company will have better risk management and better control over the costs inherent in implementing this strategy. As a result, the company can ensure a certain level of financial profitability. The expertise, considered an "intangible asset," will allow the company to stand out from the competition and increase its long-term valuation.

The behavior of investors

Apart from the expected profitability, investors are often seeking the utility that an ethical investment can provide them. This pursuit is called the "attribution theory" in psychology and was studied by Tirole & Benabou in "*Incentives and Prosocial Behavior*" (2006). According to the authors, some investors are willing to lower the expected returns in favor of the positive image that the investment can bring them. These so-called "intrinsic" incentives include personal satisfaction or the desire to adhere to certain values and aim to enhance the image and reputation of the investor. Such motivations tarnish the image of so-called "traditional" investments and encourage investors to shift towards more ethical investments.

In conclusion, this section demonstrates the lack of consensus on the relationship between ESG performance and financial performance of companies. Some authors, like Barnett & Salomon, have introduced the notion of a non-linear relationship. In reality, it is entirely conceivable that there is no direct and systematic causal link between the two phenomena. This is precisely what McWilliams and Siegel developed in "*Corporate Social Responsibility: A Theory of the Firm Perspective*" (2001). On the one hand, the authors show that the costs and benefits associated with an ESG strategy often balance each other out, meaning the CSR dimension ultimately has no effect on financial performance. On the other hand, the authors highlight the complexity of factors influencing a company's financial performance, with the ESG dimension being seen as just one factor among many. According to them, an ESG policy is a strategic choice that does not necessarily admit a direct causal link with financial performance.

4) ESG ratings and financial returns

After presenting the framework of ESG ratings and how they work, we will focus in this section on the financial returns of securities that receive an ESG rating. The key issue is as follows: *can we speak of a correlation between an ESG rating of a stock and its financial returns?* Numerous studies have been conducted on this correlation, but few have been able to establish the possibility of a real causal link between a stock's ESG rating and its financial returns.

Among these studies, Cornell & Damodaran in "*Valuing ESG: Doing Good or Sounding Good?*" (2020) explored this issue by analyzing whether companies with high ESG ratings generate superior value creation for investors.

The authors' first observation is that securities with high ESG ratings do not generate risk-adjusted returns that are superior to traditional securities. As discussed earlier in this thesis, the authors note that it is not uncommon for investors to accept reduced returns in exchange for an improved image or personal satisfaction. Therefore, a good ESG rating for a stock does not necessarily translate into superior financial performance compared to a stock without a strong ESG rating.

Cornell & Damodaran also highlight the effect of demand on the price of ESG securities. The enthusiasm surrounding these securities tends to mechanically increase their price, thus reducing their profitability. In the long term, the financial returns of these securities may not allow investors to achieve sufficiently high financial performance.

Finally, the authors draw attention to the need to distinguish between companies that genuinely work towards improving social and environmental conditions and those that claim to generate a positive impact on ESG dimensions without it being reflected in their financial statements. In other words, every investor must exercise caution before investing to avoid being lured by high ESG ratings that could conceal financial underperformance.

Cornell & Damodaran ultimately conclude that it is difficult to establish a real correlation between a stock's ESG rating and its financial returns for the following reasons:

(1) It is challenging to correlate a common ESG metric with a stock's price

(2) If applicable, it would be necessary to demonstrate a causal link between the metric and the increase in the stock's price

(3) This assumes that the hypothesis of efficient markets holds true

In 2020, the financial group Bloomberg also examined the financial performance of ESG indices by comparing it to the financial performance of non-ESG indices. To do so, Bloomberg studied the period from April 2011 to December 2019 and calculated **i)** annualized returns, **ii)** annualized volatility and **iii)** the Sharpe ratio for four indices related to the main providers of ESG and non-ESG indices.

Volatility, calculated using the standard deviation, is a measure of the magnitude of fluctuations in the price of a financial asset - in other words, a measure of its risk. The formula for the standard deviation, calculated as the square root of the variance, is provided below:

$$\sqrt{\frac{1}{n}\sum_{i=1}^{n}(xi - \bar{x})^2}$$

n: sample size
x_i: i^e sample value
$\bar{x}$: sample mean

By nature, a security or portfolio with a high standard deviation will be riskier due to greater uncertainty in its returns. Conversely, a security or portfolio with a lower standard deviation indicates that its returns are closer to the mean and, therefore, more certain.

The Sharpe ratio, on the other hand, is used to measure the past and future performance of an investment relative to its risk. The formula for the Sharpe ratio is shown below:

$$\boldsymbol{S = \frac{R - Rf}{\sigma}}$$

$\boldsymbol{R}$: average return of the security or portfolio
$\boldsymbol{Rf}$: return of a risk-free investment (usually government bonds)
$\boldsymbol{\sigma}$: volatility of the security or portfolio, measured by the standard deviation

A high Sharpe ratio means that the security or portfolio offers an attractive return relative to the risk taken. Conversely, a low Sharpe ratio indicates that the return on the security or portfolio does not sufficiently compensate for the risk taken.

The results of Bloomberg's study and their interpretation are illustrated in the tables below:

The performance of non-ESG indices (april 2011 to december 2019)

	Sustainalytics STOXX Global ESG Leaders	**MSCI World ESG Leaders**	**Refinitiv Global ESG Equal Weighted Index**	**Robeco SAM S&P Global 1200 ESG**
Annualized return	7.94%	9.13%	7.44%	9.02
Annualized volatility	12.33%	12.13%	11.96%	12.10%
Sharpe Ratio	0.59	0.70	0.57	0.69

Source: Bloomberg

The performance of ESG indices (april 2011 to december 2019)

	Sustainalytics STOXX Global ESG Leaders	**MSCI World ESG Leaders**	**Refinitiv Global ESG Equal Weighted Index**	**Robeco SAM S&P Global 1200 ESG**
Annualized return	6.15%	9.11%	8.64%	9.13
Annualized volatility	14.64%	11.87%	13.13%	12.10%
Sharpe Ratio	0.38	0.72	0.61	0.70

Source: Bloomberg

The conclusions that can be drawn from Bloomberg's study align with those of Cornell & Damodaran, namely that it is difficult to establish a causal link between ESG ratings and the financial returns of a given security. The performance of various indices does not show a financial outperformance of ESG indices compared to non-ESG indices. The volatility of the indices is relatively similar and the Sharpe ratios do not differ significantly enough to draw a conclusion.

So far, the studies presented have not established a causal link between ESG ratings and financial returns. However, some rating agencies and investment banks have published reports showing that there is indeed a correlation between the two phenomena. Starting with Deutsche Bank, which published a study titled "*ESG and financial performance: aggregated evidence from more than 2000 empirical studies*" (2016). Synthesizing the results of nearly 2,200 studies, Deutsche Bank demonstrates that about 90% of the studies reviewed show a non-negative relationship between ESG performance and corporate financial performance. A large portion of these studies even show a positive relationship between the two dimensions.

American bank Morgan Stanley also analyzed the financial performance of ESG indices, notably in its study "*Sustainable Funds Outperform Peers in 2020 During Coronavirus*" (2020). Morgan Stanley examines the performance of sustainable funds in the U.S. compared to their peers for the year 2020, marked by the coronavirus pandemic. The study reveals that sustainable funds outperformed their peers with approximately 4.3% excess returns for the year 2020. These results demonstrate the ability of sustainable funds to ensure good financial returns while reducing risks during periods of market instability. Additionally, the greater stability of sustainable funds may offer real competitive advantages over the long term.

The limitations of ESG scores

Some critics of the idea of a causal link between ESG ratings and financial performance question the reliability and consistency of ESG scores. The study by Berg, "Aggregate Confusion: The Divergence of ESG Ratings" (2020), highlights the relative reliability of ESG scores and their variability. According to Berg, ESG ratings provide "noisy" information that may not be fully reflected in the price of financial assets. The main argument presented by Berg is the divergence of ESG scores between different rating agencies for the same company or security. As previously discussed in this thesis, each rating agency has its own methodology and weighting system. The lack of standardization in ESG score calculations results in significant discrepancies, creating "noise" for investors who struggle to gauge the true ESG performance of a security or company. The risk of uncertainty surrounding ESG scores is that they may not accurately reflect the value of the stock or company. As a result, an investor relying on ESG scores might make a suboptimal or contradictory investment decision.

The risks of conflicts of interest between ESG rating agencies and the companies they evaluate have raised serious concerns for many years. In theory, ESG rating agencies are supposed to act independently when assessing companies' social, environmental and governance performance. In practice, conflicts of interest can sometimes compromise the integrity of rating agencies. These agencies may be heavily influenced by their business relationships with the companies they evaluate. The risk is that ESG ratings may be more favorable for companies with which the rating agencies have close ties. The same conflict of interest may arise when shareholders of a company being evaluated hold shares in an ESG rating agency. In such cases, the ESG scores attributed to these companies are likely to be higher. The lack of objectivity in certain ESG rating agencies can have real consequences on financial markets, particularly the bond market. As mentioned earlier, ESG scores play a role in determining a company's financing conditions, and these potential conflicts of interest can lead to a misallocation of financial resources.

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The risk of conflicts of interest is compounded by the phenomenon of revising ESG scores by organizations such as Refinitiv. Berg in "*Is History Repeating Itself?*" (2021), analyzes the reasons for the rewriting of ESG data by Refinitiv and their impact on investment decisions. One of the primary consequences of revising historical data is the obsolescence of investment analyses based on that data. Additionally, the company's image can be significantly affected. Again, the authors rightly question the reliability and objectivity of ESG ratings if they are subject to change. They emphasize the need for greater transparency and stability in ESG methodologies.

The studies "*How Wall Street Is Gaming ESG Scores*" and "*Gaming ESG Ratings*" (2021) by Bloomberg reveal how some companies artificially improve their ESG scores. By examining the ESG scores assigned by the MSCI rating agency, Bloomberg found that companies have some leeway in choosing their ESG strategies. MSCI allows companies to improve their ESG ratings by selecting less stringent, "policy"-oriented, rather than "results"-oriented, indicators, and those that are less focused on the "environmental" dimension of ESG. Among the various measures that can improve a company's ESG score are employee satisfaction surveys, the publication of ESG reports without real constraints, the adoption of an ethical business charter, and the creation of an ESG committee, among others. Once again, these studies highlight the biases in the ESG rating system, which still relies on simple company declarations that manage to bypass the constraints of rigorous evaluation.

However, it is important to understand that the noise generated by the divergence in ESG scores can create opportunities for financial returns. This is demonstrated by Gibson in "*ESG Rating Disagreement and Stock Returns*" (2019). His study shows that stocks with significant disagreement in ESG ratings exhibit higher returns. Gibson justifies this higher return by the uncertainty caused by the disagreements, which prompts investors to apply a higher risk premium in the asset valuation, thereby lowering the purchase price.

5) The limitations of ESG investing

Hong & Kacperczyk and their study "*The Price of Sin: The Effects of Social Norms on Markets*" (2009) explored the limitations of ESG investing, particularly by comparing it to so-called "brown" assets or "sin stocks" companies. By definition, a brown asset is an asset belonging to an industry with a negative impact on the environment, often related to fossil fuels. A "sin stock" company refers to a company associated with socially controversial sectors like alcohol, tobacco, etc.

Hong & Kacperczyk observed the undervaluation of sin stocks. Indeed, as more institutional investors and ESG funds turn to ESG investments, demand for brown assets decreases. Despite this undervaluation, the authors find that brown assets generate excess returns. This is because the sale of brown assets causes their prices to drop. Investors, unconcerned with ESG issues, buy brown assets at advantageous prices. However, since these assets continue to produce significant cash flows, their profitability is higher than that of ESG assets. Thus, Hong & Kacperczyk demonstrate that incentives to invest ethically are not incorporated into the price of brown assets

It is thus legitimate to question whether shareholder activism can accelerate the transition to ESG assets. Berg tried to answer this question in his study "*ESG Confusion and Stock Returns: Tackling the problem of noise*" (2021). To do this, he asked whether a shareholder who encourages a company to adopt an ESG strategy to achieve a good ESG score could later better value their stock. The answer is no. According to him, ESG scores are not the only way to incentivize investors to include ESG issues in stock valuations. Shareholder activism can accelerate the sale of polluting activities, but it is also necessary that the buyers do not further exploit these assets and/or are monitored by public bodies.

Thus, as we have seen in this third part, although ESG scoring has become a key indicator for ethical investors, there is currently no consensus on the existence or non-existence of a correlation between ESG performance and financial performance, and hence, the financing of companies. The influence of ESG performance on long-term profitability remains debated, particularly due to its cost. The risks of overvaluation of ESG assets and occasional issues with rating agencies do not interest all investors. Therefore, given the complexity of ESG's influence on company profitability and the lack of experimental analysis in this field, it seems difficult to establish any link between ESG performance and access to capital. To complete our analysis of this paper's issue, we will examine the role of ESG issues in M&A operations.

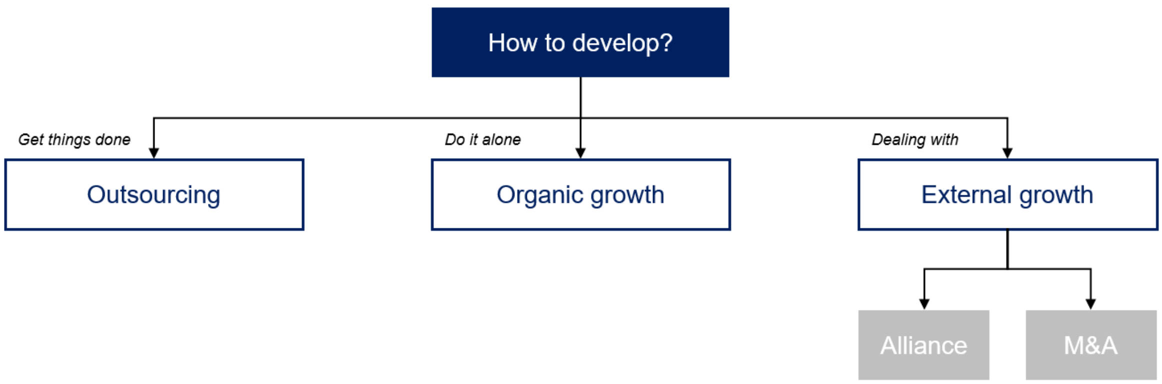
IV) The growing influence of ESG criteria in M&A transactions

1) M&A acts as a growth vector for companies

M&A, an acronym for "Merger & Acquisition" refers to legal operations aimed at combining or taking control of target companies through the purchase or exchange of financial securities (acquisition). They can also be defined as a pooling of assets or economic interests (merger). During this complete or partial transfer of the company's assets, all elements constituting the target company's assets and liabilities are transferred to the buyer. This phenomenon will result in, on the one hand, the dissolution (without liquidation) of the absorbed company and, on the other hand, an exchange of social rights.

By nature, all companies are obliged to generate revenue from their activities to survive. Without additional investments to promote the development of their business, a company's growth is nearly impossible. Thus, during its lifetime, a company will very likely need to engage in an M&A operation. Depending on the desired level of involvement, the company has several options listed in the diagram below:

The various growth options for a company



As illustrated by the diagram above, a company has three main growth options:

(1) **Outsourcing**: the action of outsourcing a task and/or secondary activity to an external company

(2) **Organic Growth**: developing an activity based on the company's internal resources

(3) **External Growth**: expanding the business through external acquisitions (M&A) or alliances with partners

As we will see in the next section, these merger and acquisition processes are driven by various factors, which may be financial, strategic or competitive.

2) The motivations for executing a transaction for a company

Improving the performance of the target

In this strategy, the acquirer undertakes the transaction with the belief that it can drastically reduce the costs of the target, thereby increasing margins and cash flows. However, before proceeding with such an operation, the acquirer must carefully select the target company and have a thorough understanding of its industry. Indeed, these strategies are only effective when applied to companies with low margins and a low return on investment (ROIC). This is particularly true when the goal is to improve the margins and cash flows of a target that already has high margins and cash flows.

This strategy, commonly known as "Build-Up," is also frequently pursued by private equity funds in their "Leverage Buy Out" (LBO) operations to increase the value of their target by reducing its costs. Generally, private equity funds implement a "Build-Up" strategy in three stages: **i)** investing in an established company within a specific sector, **ii)** subsequently conducting several "Build-Up" transactions within the same sector to create a leading player and **iii)** ultimately selling the group under the best possible conditions.

A prime example is the LBO conducted by Blackstone for the acquisition of Equity Office & Hilton in 2007. Purchased for nearly $26 billion, the Hilton hotels were at that time losing momentum and generating a low operational margin. Leveraging Hilton's management, Blackstone successfully improved both the profitability of the Group and its market share.

Obtaining privileged and/ or faster access to the market

Very often, small and medium-sized innovative companies struggle to reach their full potential due to difficulties accessing the market. Indeed, these companies often lack the necessary resources to ensure their products' presence in all available markets, thereby limiting their optimal growth. A merger then becomes a relevant solution, allowing the acquirer to use its large-scale sales capabilities to boost the target's product sales, while potentially increasing its own revenue. This transaction thus offers the target the opportunity to access new markets more quickly and at a lower cost.

This is how the Decathlon Group and the startup Sportihome formed a partnership in 2021. Offering accommodation near sports activities, Sportihome can benefit from Decathlon's large customer base to popularize its services. The Decathlon Group, in turn, has the exclusive right to offer its sports products to Sportihome users

Consolidate and/ or diversify the offering

This type of strategy primarily concerns mature markets, where leading companies struggle to expand their presence in their traditional market, and mid-sized companies find it difficult to compete with market leaders. In a mature market, acquiring market share must come at the expense of a competitor, making organic growth challenging. It then becomes advantageous to seek external growth to increase market share and potentially achieve economies of scale. This strategy involves altering the "business mix" of companies either to consolidate their offering or to diversify it. This strategy has become even more relevant in recent crises, such as COVID-19, where finding new markets is complicated.

The acquisition of Direct Energie by the Total Group in 2018 is a perfect example. By acquiring Direct Energie for €1.4 billion, the oil group Total gains control of the leading alternative electricity supplier and works towards becoming one of the future champions of green electricity.

Acquire skills and/ or technologies more quickly and at a lower cost

When a company operates in a market where innovations require substantial investments and entail high costs, a merger and acquisition (M&A) transaction proves to be an optimal solution. It allows for quicker and less expensive access to these innovations compared to a complete in-house development. Additionally, it prevents a competitor from acquiring the technology or the company from having to pay royalties to the company that developed the innovation. However, it is essential not to overvalue the target company during the transaction to avoid paying more than expected for the desired market share.

This is the case of Facebook, which in 2018 acquired WhatsApp for nearly $19 billion. Mark Zuckerberg's company did not hesitate to purchase WhatsApp, a messaging service with one of the largest daily user bases (far surpassing the competition). Moreover, this acquisition will address Facebook's slowdown, particularly among teenagers.

Exploit economies of scale

Engaging in a merger or acquisition (M&A) is often motivated by opportunities for economies of scale, which are one of the main ways to create value. In other words, the goal of the transaction is to increase the size of the production tool, allowing it to approach a critical size so that the unit production cost decreases. Although this is easily understandable, such a transaction requires a sufficient level of caution. For instance, a merger can be very attractive when a large company decides to acquire a smaller company with which it already collaborates and shares synergies. However, caution is necessary when two large companies consider a transaction solely to benefit from economies of scale. This may seem paradoxical, as two large companies enjoy a certain stability. However, they often already operate with nearly maximum economies of scale, making value creation through the transaction nearly impossible. In reality, a Wharton School study has highlighted that M&A transactions motivated solely by cost reduction often fail because they achieve cost reductions lower than those achieved by companies that remain independent.

For example, in 2007, the groups "Gaz de France" and "Suez" decided to merge to address the major changes in the energy sector of the early 2000s. By joining forces, the two groups created a global energy leader, capable of competing with the American leaders in the sector.

Acquiring young and high-growth companies

This motivation is probably the most captivating for an acquirer, but also the most complex to implement, as it requires identifying a young company with promising assets for significant future growth. It is crucial to understand that such a strategy demands a rigorously defined managerial approach. The acquirer must be willing to invest in the early development stages of the target, accept that some investments may fail, and possess the ability and patience necessary to support the young company's growth. This strategy is notably widely adopted in the Tech sector, where large groups regularly acquire promising young startups.

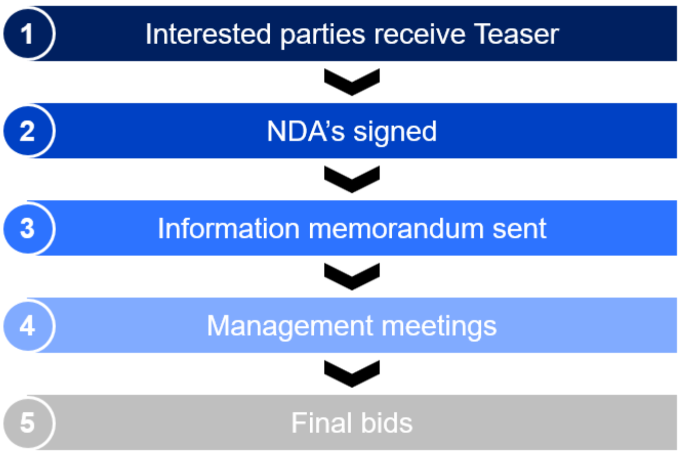
Since its creation 35 years ago, Alphabet Group (parent company of Google) has invested nearly $30 billion in more than 250 companies. Although it has partially invested in world-class companies such as Motorola Mobility and the Pixel division of HTC, the Group's growth strategy is strongly based on the recurring acquisition of the most innovative young companies in the Tech sector.

3) The M&A transaction process

Before discussing the impact of ESG criteria on the progression of M&A operations, it seems important to briefly present the classic course of an M&A transaction, even though it does not follow a fixed procedure or predetermined schedule. This is because each case differs in the sense that the client's profile changes, the client's expectations vary, and the economic context in which the operation will be conducted is rarely static. Additionally, since the timeline is organized by advisory investment banks, much of the organization is at the discretion of these intermediaries. Nonetheless, we will attempt to present the main stages of an M&A process, more specifically a sales process, which represents the majority of transactions.

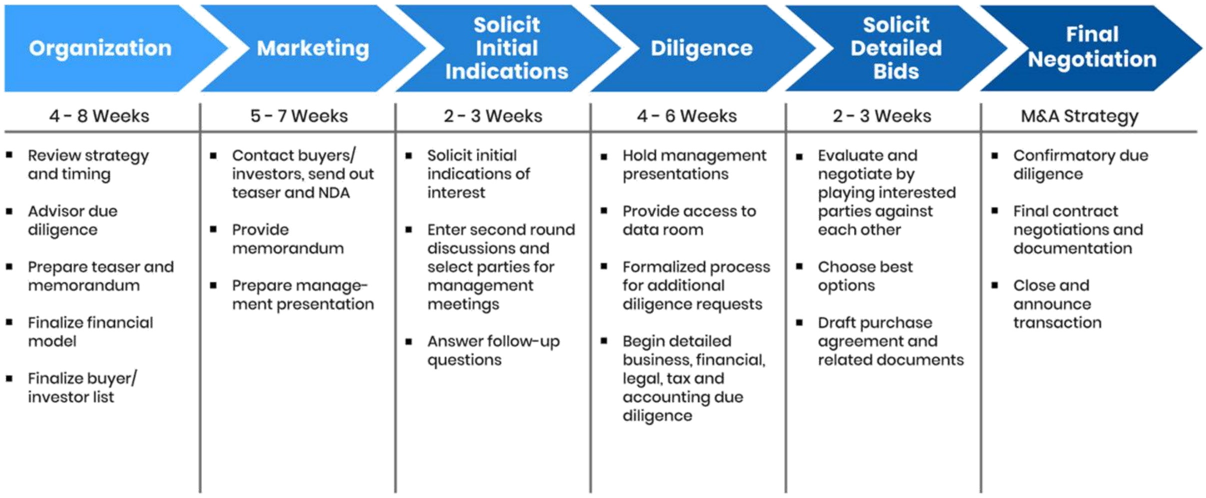
As illustrated by the diagram below, we often consider the progression of an M&A process as a funnel. At the start of the operation, many potential buyers are likely to come forward, and this number will decrease as more information is revealed and specifics are explored. Potential buyers who do not meet the requirements set by the seller and their advisors will be eliminated at each stage of the process. In the end, the goal is for only one buyer to remain, who fully satisfies the sale conditions set by the seller and is motivated to see the operation through to completion.

The course of an M&A process



The duration of an M&A process also varies greatly depending on the scale of the operation, the economic context, the responsiveness of the stakeholders, etc. One thing is certain: an M&A transaction can be exhausting and last several months or even years. Added to this is the need for financial, accounting, commercial and legal expertise to successfully carry out the transaction. Therefore, it is quite natural to advise a company looking to sell its business or pursue external growth to rely on financial and legal advisors.

The main stages of an M&A transaction (sell-side mandate)



(1) Origination phase

The first phase of an M&A transaction is not represented in the diagram above and is generally referred to as the "origination phase." During this phase, an investment bank, through a commercial document called a "pitch," tries to convince the selling company to entrust them with the sales mandate. Two possibilities are then envisaged: the first is that the investment bank initiates the approach and submits the idea of a potential M&A transaction. The second, more common scenario is that the company issues a Request for Proposal (RFP) to a more or less limited number of investment banks. After several weeks of pitch preparation and debrief meetings/calls with the prospective company, the latter must select one or several investment banks (in which case it is called a "co-mandate") to successfully carry out the transaction. Once the advisors are chosen, the investment bank signs an execution mandate with the company. This mandate outlines the scope of the bank's mission, the setting of its fees (fixed or variable) and more.

(2) Organization and marketing phase

The second step of an M&A process is the "organization phase". Clients often underestimate this phase and are convinced that the information available on their website is sufficient to attract potential buyers. However, this phase is critical and requires the expertise of an investment bank to make the best use of the available information so that potential investors can accurately assess the company's true value.

Based on the information provided by the company, the advisory investment bank will initiate several tasks:

i. **Preparation of strategic documentation**: specifically, the drafting of the "teaser" (an anonymous presentation of the target aimed at sparking the interest of potential buyers) and the preparation of the "information memorandum" (a confidential, highly detailed document covering the marketing, legal, financial aspects, and the market of the company)

ii. **Valuation of the target**: the target's valuation will be based on a business plan (prepared or not by the investment bank). This valuation serves as a guideline for the client of the investment bank and will not be included in the IM.

iii. **Preparation of a list of potential buyers**: the bank will create, based on its sector knowledge and contacts, a preliminary list of buyers who may be interested in the transaction. Initial formal or informal inquiries are made by the bank with these buyers to assess the level of interest in the transaction.

In my opinion, it is important to emphasize that the phase of identifying potential buyers and making initial contact with them is crucial to the success of the operation. This phase is, in fact, a delicate balance between "strategy" and "commercial capability." Very often, the investment bank will first distinguish between "strategic buyers" (industrial players) and "financial buyers" (Private Equity funds). The reason is that an industrial player may benefit from significant synergies, which could potentially result in an acquisition premium.

Moreover, industrial buyers generally have a long-term investment mindset, without the immediate goal of reselling to realize a quick profit. Investment funds, on the other hand, seek significant returns within the next 3 to 5 years. They won't benefit from synergies (unless in a build-up situation within their portfolio) and will be less inclined to pay an acquisition premium. Additionally, owners may be reluctant to engage with competing companies due to fears of disclosing confidential information. These considerations often influence the composition of the buyer list, although the use of information can be controlled.

In addition to this distinction, there is the sensitive nature of the process, with a duty of confidentiality towards the entire market, as well as suppliers, customers, employees, and other local stakeholders.

i. **Transmission of the "teaser" accompanied by an "NDA" (Non-Disclosure Agreement) to selected potential buyers**: the teaser's objective is to spark the interest of potential buyers. If their interest is confirmed, they must sign the "NDA" to continue the M&A process.

ii. **Transmission of the "information memorandum" and a "process letter"**: potential buyers who have signed the NDA receive the information memorandum and the process letter (which outlines compliance expectations, the content of the "Letters of Intent," and the deadline requirements). These documents will serve as a basis for the potential buyers to decide whether they wish to submit a "Letter of Intent".

(3) Reception of initial offers

After the "marketing phase," the investment banker strives to collect the first "Letters of Intent" (LOIs). An LOI typically includes an indication of the proposed price and structure for the investment, the main conditions for proceeding, various logistical and legal questions to be resolved, as well as a brief description of the buyer's background, their experience with similar transactions, management expertise, and financial resources. This approach aims to create a competitive dynamic, encouraging the best proposals to be submitted simultaneously, allowing for comparison and narrowing down the options. After reviewing the LOIs, the investment bank, in collaboration with its client, selects the most credible companies to move forward in the process.

(4) Due Diligence and discussion phase

Based on the LOIs, the company and its advisory bank invite the most promising buyers to meetings and site visits, where the company's management has the opportunity to elaborate on the company's strategy and future objectives. These meetings allow for in-depth discussions and a detailed analysis of aspects not fully covered in the memorandum. This process is highly appreciated by both buyers and sellers. Sellers can get to know each potential buyer better and determine which one would be the ideal partner for the company's future development. On the other hand, buyers use these exchanges to clarify points of concern and assess the ability of the current management to potentially govern the company after the acquisition.

This Due Diligence phase also marks the opening of the "data room," an electronic platform managed by the investment bank and supplied by the target's financial, legal, and environmental advisors. The data room contains a wealth of confidential information about the target (legal, tax, financial, operational, etc.). The sell-side investment bank is tasked with managing the "Q&A" phases, acting as an intermediary between the seller's and buyer's advisors.

(5) Reception of binding offers and final negotiations

Following the Due Diligence phase, the remaining potential buyers are invited to submit a "binding offer" (LOF), which includes numerous terms such as the acquisition price and the strategy they intend to implement. Based on these binding offers, the target company and its advisors make a final selection and inform the selected potential buyer of the exclusivity of future discussions. During this phase, legal advisors play a key role, as the final contracts (such as the put option, etc.) are highly technical documents requiring a thorough understanding of legal matters. For an investment bank, the deal is considered "closed" only when the sale contract is signed and the "fees" have been received.

4) The role of ESG criteria in M&A transactions

As we mentioned in the previous sections, recent years have witnessed a significant rise in the importance given to ESG factors. In the face of the climate emergency, it now seems difficult not to consider them. The ESG dimension is reshaping the strategy, operations, and business plans of companies. It is clear that all companies are concerned, regardless of their size and sector. The consulting and audit firm PwC recently explored this phenomenon through a study titled "*The role of ESG criteria for finance departments in M&A transactions*" (December 2023). Due to its thoroughness and recent nature, we will base part of our reasoning on this study.

The first observation we can make is that the vast majority of companies take ESG criteria into account in their daily management. These criteria are no longer exclusively reserved for CSR teams but now concern most of the company's functions (finance, tax, HR, etc.). According to PwC, nearly 77% of the companies surveyed pay particular attention to ESG issues, while 23% admit that they do not include the ESG dimension in their investment or divestment decisions. However, although the importance of ESG criteria is widely shared today, the level of expertise in these areas leaves much to be desired. This is revealed by PwC's study, which states that 85% of the companies surveyed believe that their teams are not sufficiently trained on ESG issues. This is why many companies still rely on external advisors to assist them in their ESG Due Diligence.

Recently, it has been the turn of M&A players to become truly aware of the importance of ESG issues within their process. Like companies, the majority of investment bankers today express sensitivity to the ESG dimension, particularly since the post-Covid-19 period (2021). Nearly 77% of M&A professionals surveyed by PwC consider ESG in their process. This figure is twice as high as that obtained in pre-Covid surveys. However, like companies, investment bankers face a real lack of mastery over ESG issues. According to PwC, less than 50% of M&A advisors track ESG KPIs within their own firms. Indeed, investment banks lack data and methodology to differentiate potential deals based on ESG criteria.

The ESG component is now an integral part of the classic M&A process (see previous section), from the origination phase to the closing phase. Some specialists even go so far as to say that there can be no deal without ESG. PwC's study shows that ESG is the reason for 51% of M&A process abandonments by companies. The data room, a platform for information exchange between seller and buyer advisors, is becoming increasingly important as nearly 77% of the companies surveyed require the inclusion of ESG information in the data room. This sentiment is shared by M&A advisors, who seek more qualitative and quantitative ESG data in the data room. Within the data room, the "environmental" criterion is the most closely monitored, with a preference for the target’s carbon emission level.

As previously presented in our dissertation, there is now significant attention on standard-setters. Many of the reforms must focus on harmonizing ESG data to allow for comparisons between players, especially as each rating agency has its own methodology. The European regulation "Corporate Sustainability Reporting Directive" (CSRD), mentioned in previous sections, aims to harmonize ESG practices within the M&A sector.

5) The opinions of industry professionals

In order to move beyond the often overly theoretical framework of this type of analysis, I found it interesting to conduct interviews with professionals in the field (investment bankers, investors) to understand, in practice, the growing influence of ESG criteria within M&A transactions. The objective of these interviews was to foster a discussion with the respondents and allow for freedom of expression. Given their significant experience in the sector and daily privileged access to confidential M&A process data, the testimony of these professionals seems crucial to understanding the real impact of ESG criteria on the value and financing of companies.

For practical reasons and to avoid taking too much of the respondents' time, I deliberately designed questions for discussions lasting no more than 10 to 20 minutes. When preparing the questions to ask my respondents, I assumed I would tailor them to the specific profile of the interviewee. Naturally, ESG issues are not experienced in the same way by an investment banker (responsible for selling a company) and an investor (responsible for buying a company). Therefore, the questions were divided into two groups, as presented below.

- **Questions for investors** (Group 1)

- *Do you consider ESG performance a key criterion when evaluating an investment target? And how do you manage this during the target's assessment?*

- *Have you ever passed on a financially attractive investment target due to poor ESG performance?*

- *Do you introduce improvement plans if ESG issues are raised during the investment process? Do you formalize these objectives in legal documents (GAP? Earn-out? etc.)?*

- *Do you believe that good ESG performance can reduce investment risk?*

- *Do you think a company with poor ESG performance could be an interesting target due to the leverage ESG improvements might offer?*

- *Would you be willing to value a company higher if it has strong ESG performance? If so, what would be a fair premium?*

- *Do you systematically conduct ESG due diligence during the audit phase?*

- **Questions for investment bankers** (Group 2)

- *How do you think ESG criteria impact the M&A process?*

- *Do you consider ESG performance a key factor when potential buyers evaluate an investment target?*

- *Have you ever seen a potential investor back out of a financially attractive investment target due to poor ESG performance?*

- *Do you value a company higher if it demonstrates strong ESG performance? If so, what premium would you add?*

Group 1

A. Clément HENOT – PE ANALYST – OMNES CAPITAL

1. Do you consider ESG performance a key criterion when evaluating an investment target? And how do you manage this during the target's assessment?

"We take ESG criteria into account, but it is not our primary focus. Currently, there is a significant movement around ESG in general, but we are mainly focused on the environmental aspect.

However, if the targeted companies operate in sectors incompatible with ESG (such as oil and gas, tobacco, etc.), we do not invest in them.

The reasons for this decision are as follows:

- First, it's a matter of image for the fund. We do not want to be seen as an opportunistic investment structure
- Second, we must consider the subscribers. Whether individual or corporate, subscribers have constraints that we need to respect
- Lastly, these sectors are not in a growth phase, making the exit from such investments challenging.

I should clarify that this is in no way due to regulatory constraints".

2. Have you ever passed on a financially attractive investment target due to poor ESG performance?

"It depends. We do not invest in sectors incompatible with ESG criteria, as mentioned above. However, once this step is passed, ESG criteria no longer play a decisive role in the feasibility of the transaction".

3. Do you introduce improvement plans if ESG issues are raised during the investment process? Do you formalize these objectives in legal documents (GAP? Earn-out? etc.)?

"No, we are investors and we do not intervene in the operational management of the company".

4. Do you believe that good ESG performance can reduce investment risk?

"I would say no, we cannot ignore the surrounding context, and few companies meet all the ESG criteria.

We are not yet mature enough on ESG issues. Each company can influence its performance to some extent, but overall, the competitive environment seems to have more weight in risk assessment".

5. ***Do you think a company with poor ESG performance could be an interesting target due to the leverage ESG improvements might offer?***

"It depends on whether it concerns operations or not. For example, if a developer switches from concrete to wood in their production processes and this allows them to enter new markets, then yes, it can be a value creation lever.

Moreover, as mentioned earlier, a fund is not there to manage a company. The initiatives must come from the manager and the company itself".

6. ***Would you be willing to value a company higher if it has strong ESG performance? If so, what would be a fair premium?***

"From a global ESG perspective, no, but from an environmental perspective, yes, because ecology and the circular economy are omnipresent today. The environmental aspect is dominant. There is still strong momentum towards sustainable development.

The key is to ensure an exit under good conditions. When these exits are secured, valuations naturally increase".

7. ***Do you systematically conduct ESG due diligence during the audit phase?***

"Most of the time, we conduct ESG due diligence. We do not always integrate them into our decisions during the transaction, but we use the results to develop improvement plans after the deal is closed, particularly regarding social issues such as the social climate, governance, and workplace well-being.

Therefore, we carry out ESG due diligence, but it does not determine the completion of the transaction".

B. Elsa ABOUKRAT – PE ANALYST – FIVE ARROWS

1. *Do you consider ESG performance a key criterion when evaluating an investment target? And how do you manage this during the target's assessment?*

"Recently, we have been systematically conducting ESG due diligence. Many audit and strategy consulting teams, like those of the Big Four, which have even created dedicated divisions, are strengthening their expertise in this area.

ESG audits have become common among investment funds, and we systematically conduct them during the audit phases. However, it remains difficult to carry them out in highly competitive bidding processes. In such cases, we postpone these audits until after the deal is signed.

We also conduct a carbon assessment, and I believe that in five years, all investment players in Paris will be doing the same.

Subscribers, in particular, are strongly pushing for these practices. They want to see concrete evidence of how commitments on these issues translate into real actions.

Subscribers also have their own constraints, which encourages everyone to make progress along the value chain.

I also believe that the entire market is moving in this direction, at least all the players who manage money on behalf of third parties".

2. *Have you ever passed on a financially attractive investment target due to poor ESG performance?*

"No, because even if we start from a low base, it's the evolution and progress on these topics that matter. In fact, it can even serve as an additional marketing lever for investors. From a marketing perspective, a management company can highlight these aspects to attract more funds, especially during periods when raising capital is more challenging.

I would also say that there are certain sectors we avoid, like defense, gambling, etc."

3. *Do you introduce improvement plans if ESG issues are raised during the investment process? Do you formalize these objectives in legal documents (GAP? Earn-out? etc.)?*

"Yes, we do. We can set up clauses to implement ESG action plans, for example with additional bonuses for managers if ESG objectives are met. We sometimes include clauses aimed at establishing ESG action plans".

4. *Do you believe that good ESG performance can reduce investment risk?*

"Obviously, because it increases the chances of better performance, making the company more attractive and easier to sell. As a result, the sale will be at a higher price".

5. ***Do you think a company with poor ESG performance could be an interesting target due to the leverage ESG improvements might offer?***

"As mentioned earlier, it can represent an additional marketing lever to attract investors".

6. ***Would you be willing to value a company higher if it has strong ESG performance? If so, what would be a fair premium?***

"No, it's better to start from a low level on ESG issues and put in place measures to improve. However, some funds will probably do it.
If the company improves its ESG performance, it will become more attractive and sell better.
We are seeing a race among funds to include mission-driven companies in their portfolios, and the B-Corp certification is more demanding and takes longer to obtain than a simple mission-driven company status.

Article 9 funds can also obtain labels, with Article 9 being an example, but it is restrictive, and many impact funds are not classified as Article 9.
All funds have recruited ESG managers.

This trend has accelerated over the past two years. There have even been cases of talent poaching, such as someone from Price being recruited by a fund, which serves as an excellent marketing argument to raise an additional 100 million."

7. ***Do you systematically conduct ESG due diligence during the audit phase?***

"As mentioned earlier, we conduct ESG due diligence".

C. Hugo BARRAL-CADIERE – PE ANALYST – GARIBALDI PARTICIPATIONS

1. Do you consider ESG performance a key criterion when evaluating an investment target? And how do you manage this during the target's assessment?

"Yes, we place great importance on the ESG dimension at Garibaldi Participations.

A few years ago, this question might have seemed legitimate. Today, it seems risky for an investment fund to enter the capital of a target without real ESG ambitions.

One only has to look at the explosion in the number of specialized consulting firms in recent years to realize the enthusiasm around ESG.

I believe that social and environmental VDDs (Vendor Due Diligence) are becoming just as important as financial VDDs.

Today, the main barrier could be the cost associated with implementing a social or environmental VDD. Nevertheless, these due diligences must, in my opinion, be systematic to avoid any unpleasant surprises."

2. Have you ever passed on a financially attractive investment target due to poor ESG performance?

"It all depends on what you consider poor ESG performance.

In reality, I haven't encountered this situation since joining Garibaldi Participations.

We are multisectoral investors, but we do not invest in controversial sectors such as the oil and gas industry, etc.

I genuinely believe we couldn't invest in a company without sufficient ESG performance, even if it is profitable.

As investors, one of our concerns is to anticipate the 'exit' phase by investing in companies that will be attractive in 5 to 7 years. Given the growing importance of ESG, an attractive company will inevitably have to demonstrate good ESG performance."

3. Do you introduce improvement plans if ESG issues are raised during the investment process? Do you formalize these objectives in legal documents (GAP? Earn-out? etc.)?

"Yes, these clauses have become quite common in a process.

For almost all the companies in our portfolio, improving ESG performance is an integral part of the company's strategy. Encouraging managers to achieve these objectives is in our best interest."

4. ***Do you believe that good ESG performance can reduce investment risk?***

“Yes, without a doubt.

By nature, an investment fund will invest in companies capable of ensuring a certain rate of return and therefore, attractive companies due to their overall performance (ESG and financial)”.

5. ***Do you think a company with poor ESG performance could be an interesting target due to the leverage ESG improvements might offer?***

"Possibly, but such an investment requires several assumptions.

Firstly, the target company's management must have a genuine desire to improve the company's ESG performance.

Additionally, a precise and realistic ESG plan must be established.

Finally, it is necessary to assess whether the cost of such an ESG strategy is worthwhile for an investment fund over a 5-year horizon".

6. ***Would you be willing to value a company higher if it has strong ESG performance? If so, what would be a fair premium?***

"Yes, to a reasonable extent.

We award premiums to profitable companies. I don't see why we couldn't do the same for the ESG dimension.

We find that companies in our portfolio with strong ESG performance are generally more profitable or show higher growth. An ESG premium at purchase thus does not represent a significant risk for such companies, as the investment fund should theoretically be able to capitalize on this performance upon exit."

7. ***Do you systematically conduct ESG due diligence during the audit phase?***

"Yes, we have been doing this for some time now."

Group 2

A. Adrien OLIVEREAU – M&A ASSOCIATE – NATIXIS PARTNERS

1. How do you think ESG criteria impact the M&A process?

"I would say that the profession has evolved, or at least is in the process of evolving. We are simply adding an additional layer to the process, perhaps a bit more complexity, but it does not seem to be an obstacle to the feasibility of a transaction.

This may require new skills, which we see in investors. More and more, they are integrating specialists in ESG performance evaluation and post-transaction integration into their teams.

Investors are therefore frequently using ESG performance arguments to justify halting the study of a company.

Furthermore, I think that evaluating ESG performance remains largely a matter of judgment. As with any new development, the outlines are still unclear. Everyone knows what it is about, but the assessments remain subjective. We will revisit this in two years".

2. Do you consider ESG performance a key factor when potential buyers evaluate an investment target?

"I think that, unfortunately, ESG remains primarily a question of image. Investment funds aim to create value by increasing their internal rate of return (IRR), whereas ESG criteria seem to pertain more to public perception.

Often, decisions are still made based on the appraisal of a sector rather than on the intrinsic ESG performance of the company itself. For example, we encountered a case where the executives were imprisoned despite the company specializing in energy savings. The deal was approved because the sector met ESG criteria, even though the executives were involved in illegal activities.

I think that once the sector is validated, ESG criteria lose their importance in terms of feasibility. Why forgo a financially attractive target, especially since it is always possible to implement improvement plans after the transaction?"

3. Have you ever seen a potential investor back out of a financially attractive investment target due to poor ESG performance?

"Yes and no. I think there are investors who do not wish to delve deeper into certain files. We are frequently told that the sector meets the underwriters' requirements.

However, no, because as mentioned earlier, it is a very subjective issue, related to the appraisal of one sector compared to another.

Ultimately, the goal remains the same. So, yes, this can deter some investors."

4. ***Do you value a company higher if it demonstrates strong ESG performance? If so, what premium would you add?***

"It is still relatively subjective. We always compare the company to a similar sample. What I do first is to see if the sector is sensitive to ESG criteria, if the market is moving to take these issues into account, and if the company is ahead of others. In that case, yes, I add a premium.

Moreover, I also think that companies that are ahead, especially in terms of environmental criteria, are better valued due to their attractiveness."

B. Hubert BERANGER – M&A VICE PRESIDENT – DC ADVISORY

1. How do you think ESG criteria impact the M&A process?

"At DC Advisory, we are very attentive to these issues. We first ensure the well-being of our employees in their workplace. We are therefore resolutely committed to these topics.

Regarding the companies we advise on for sale, we have not observed any significant impact to date. We have never found that buyers have turned away from companies due to ESG performance falling short of expectations.

The majority of our transactions are sales to industrial or corporate players, which is certainly different for funds. Funds, in particular, are more sensitive to these criteria. We are witnessing the emergence of impact funds or green funds."

2. Do you consider ESG performance a key factor when potential buyers evaluate an investment target?

"As mentioned earlier, buyers are not yet very attentive to these aspects, in our opinion. However, these topics are emerging and will become increasingly important in the future. I even think it is our responsibility to encourage our clients to consider these criteria. Manufacturers will also gradually integrate these criteria into their considerations.

What is certain is that a challenge awaits us. I don’t know how long it will take, but it will eventually happen."

3. Have you ever seen a potential investor back out of a financially attractive investment target due to poor ESG performance?

"No, not for manufacturers at least. We will see how this evolves in upcoming dual-track processes."

4. Do you value a company higher if it demonstrates strong ESG performance? If so, what premium would you add?

"It is our responsibility to introduce these changes into the evaluations we perform. However, it remains quite difficult to translate these performances into financial terms. Moreover, I believe that in very competitive sales processes, it would be relevant to highlight the company's performances."

C. Quentin ROCHER – M&A ANALYST – ROTHSCHILD & CO

1. How do you think ESG criteria impact the M&A process?

"These criteria are increasingly influencing sales processes. However, I believe they are mostly present at the beginning of the dossier review, during go/no-go decisions. Furthermore, these criteria seem to be more sector-based rather than focused on studied and quantified ESG performance criteria. It is also important to note that this trend is much more pronounced among financial buyers, especially funds.

We are going through a period of change where these issues are becoming crucial for everyone. Social issues are gaining increasing importance in companies, and younger people are becoming more selective in choosing their employers.

Finally, I think it is still unclear. We talked about it a lot today, but it will be interesting to assess the situation in two years. We are already seeing that funds are hiring more and more ESG analysts."

2. Do you consider ESG performance a key factor when potential buyers evaluate an investment target?

"I think it depends on the culture of the purchasing company. Many companies have not yet understood the importance of these issues.

There are also companies whose strategy is to strengthen their skills in these areas and who seek to integrate companies that are advanced in this field."

3. Have you ever seen a potential investor back out of a financially attractive investment target due to poor ESG performance?

"We are currently selling a company specializing in the fintech/financial services sector. Despite the measures in place to verify client identities and track transactions, it remains difficult to determine the origin of the funds and their future use.

In this context, we are looking for a financial buyer. It is true that many funds are increasingly concerned with social performance criteria.

We have also observed that funds receive many investment opportunities, which may lead them to add criteria to differentiate targets".

4. Do you value a company higher if it demonstrates strong ESG performance? If so, what premium would you add?

"I find it complicated because these aspects are rarely quantifiable in a simple way, and the evaluation tools we use are very numbers-focused. ESG scores are mostly presented with publicly traded companies. We do not have an ESG rating system for small-cap companies."

V) Structured response to the Thesis issue

As a reminder, the aim of this thesis is to address the following question: ***Should a company pursue high extra-financial (ESG) performance to optimize its valuation and have privileged access to financing?*** To achieve this, we have strived throughout this thesis to highlight the main challenges and opportunities related to the integration of ESG criteria in the financial sector.

That is why we devoted the first part of this thesis to understanding the evolution and integration of ESG criteria within the financial industry. Still in a maturation phase, ESG has become a cornerstone of modern investment. The expectations around ESG have become so strong in such a short time that the ESG ecosystem is in constant flux. This dynamic, while necessary from an environmental perspective, makes the application of ESG criteria challenging. As we have seen, the financial sector suffers from a high diversity of ESG metrics and a lack of transparency that regulators are struggling to address. The involvement of regulators is all the more important as the future of responsible investing depends greatly on their ability to standardize ESG practices, thus avoiding greenwashing phenomena. These ongoing efforts have become essential for ESG criteria to become uncontested global standards.

Due to the exponential enthusiasm surrounding ESG, our analysis in the second part focused on whether ESG performance influences company valuation. This thesis demonstrates that ESG criteria are increasingly integrated into business valuation methods. This consideration is a means of anticipating the company's growth, the risks it is exposed to, and its future market positioning. It does not require major changes in investment processes but rather adjustments to the growth rate of future revenues, operational costs, and discount rates. However, as we have seen, one of the major challenges in financial markets is anticipating the impact of climate risk on company valuation. Ignoring this risk would lead to overvaluation of certain assets and increase the risk of stranded assets. Indeed, the transition to a sustainable economy could lead to significant devaluation of these assets, with systemic consequences for the entire financial system. However, it is currently difficult to assess climate risks due to the lack of asset-level data, the obsolescence of certain valuation methods, the misalignment of some managers with ESG issues, and the critical absence of regulation. In this context, regulatory intervention has become essential to manage this transition in an orderly manner and avoid a global financial crisis related to stranded assets.

After discussing the influence of ESG performance on company valuation, we explored in the third part whether maximizing ESG performance facilitates access to capital. Indeed, in recent years, socially responsible investment (SRI) funds have become more widespread, and non-financial ratings provided by rating agencies have become key indicators for ethical investors seeking a subtle balance between profitability and ethics. However, when questioning the impact of ESG practices on company profitability, we realized that there is currently no consensus on whether a correlation exists between ESG performance and financial performance. Some studies demonstrate a positive correlation between strong ESG performance and better long-term profitability, while others suggest that this relationship is not systematic. The debates even go further, questioning the perceived risk reduction for shareholders and creditors due to adherence to ESG criteria. Indeed, some economists argue that adhering to ESG criteria represents an additional cost that must be borne. Added to this is the risk of potential overvaluation of ESG securities due to high demand and sometimes questionable practices by rating agencies, which do not encourage investors to finance ESG performance. Thus, this thesis demonstrates that while ESG criteria have become essential in the financial landscape, their influence on company profitability remains complex and multidimensional, making it impossible to definitively establish their positive impact on companies' access to capital. Many questions remain unanswered: *Are we capable of having a consistent rating system? Can we empirically establish a correlation between ESG ratings and financial outperformance? And more generally, is there a causal link between ESG performance and financial performance?*

Finally, in a fourth and final part, we completed our analysis by examining the role of ESG criteria within M&A transactions. Our findings indicate that the influence of ESG criteria within companies is undeniable, extending to all functions of an organization and their financial advisors, such as investment bankers. The integration of ESG dimensions into an M&A process has become a norm, to the extent that the failure to consider these criteria can lead to the abandonment of a transaction, as illustrated by the fact that 51% of M&A processes are abandoned due to ESG criteria. Although this awareness has become widespread, many companies and M&A professionals lack mastery of ESG issues due to a lack of training and appropriate tools. This is confirmed by industry professionals through their testimonies.

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