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**Integrating ESG Metrics into Investment
Valuation: A Quantitative and Strategic
Perspective.**

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Abstract

The growing prominence of environmental, social, and governance (ESG) factors in global capital markets has raised fundamental questions about how sustainability can be systematically integrated into investment valuation. While academic literature provides extensive evidence on the financial relevance of ESG, challenges persist due to fragmented disclosure frameworks, divergent rating methodologies, and the absence of standardized integration practices. This thesis addresses these challenges by exploring how ESG metrics can be embedded into traditional valuation models in a manner that is both replicable and strategically meaningful.

The research adopts a dual-lens methodology. A **qualitative synthesis** reviews the main ESG frameworks (GRI, SASB/ISSB, TCFD, OECD, UN PRI...) and rating providers (MSCI, Sustainalytics, Refinitiv, CDP...), mapping their conceptual foundations and methodological divergences. An **original scouting exercise** of ESG datasets identifies the top ten global providers, highlighting low convergence as a central obstacle to consistent ESG integration. A **quantitative lens** then applies these insights to a case study of Unilever, illustrating how ESG considerations can be “plugged into” a discounted cash flow (DCF) model through adjustments to weighted average cost of capital (WACC) and terminal growth assumptions.

The results show that modest ESG-related adjustments can raise Unilever’s estimated valuation by approximately 25%, while sensitivity analysis demonstrates both upside potential and downside risks. A further extension examines **regional and sectoral variations**, revealing that ESG premiums are strongest in Europe (regulation-driven), significant in emerging markets (governance-driven), and more volatile in North America (investor sentiment-driven). Regarding sectors, consumer goods are most sensitive to social and governance factors, which highlights the contextual nature of ESG materiality.

The thesis contributes to the literature and practice by: (i) documenting ESG rating datasets, (ii) providing a replicable ESG-adjusted valuation framework using public data, and (iii) incorporating regional and sectoral nuance into ESG integration. The findings demonstrate that ESG is not peripheral rhetoric but a quantifiable driver of financial outcomes. For firms, investors, and regulators alike, the challenge is to refine data quality, harmonize standards, and ensure that valuation practices evolve in line with the growing importance of sustainability in financial markets.

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Chapter 1 – Introduction

1.1 Background and Motivation

Sustainability considerations have increasingly become a central theme in financial markets. The rapid growth of environmental, social, and governance (ESG) investing illustrates a profound shift in the way capital allocation decisions are made. According to the Global Sustainable Investment Review (GSIA, 2022), ESG-oriented assets under management exceeded USD 35 trillion in 2021, representing more than one-third of professionally managed assets globally. This development is reinforced by regulatory initiatives such as the European Union’s Sustainable Finance Taxonomy (European Commission, 2023) and the disclosure standards set by the International Sustainability Standards Board (ISSB, 2023), which aim to promote transparency and comparability in ESG reporting.

The integration of ESG into investment processes is not only regulatory-driven but also strategically significant. Therefore, for firms, ESG performance contributes to competitive positioning, reputational capital, and long-term value creation (OECD, 2020). Instead, for investors, it is increasingly perceived as a mechanism for risk management and as a driver of sustainable returns. In this context, the question of how ESG factors can be meaningfully incorporated into investment valuation has become both timely and essential.

1.2 Research Problem and Objective

Although ESG has become a central theme in financial discussions, significant obstacles persist when it comes to embedding ESG metrics into conventional valuation models. The data available is often fragmented, rating agencies apply different methodologies, and the absence of common standards produces results that are inconsistent or even contradictory (OECD, 2017). This lack of coherence reduces the reliability of ESG measures when they are used as inputs in tools such as discounted cash flow (DCF) analysis or multiples-based valuation.

Objective:

This thesis aims to investigate how ESG metrics can be integrated into investment valuation in a manner that is both **methodologically robust** and **strategically relevant**, even without reliance on proprietary datasets. The study seeks to identify replicable approaches that enhance decision-making by combining insights from academic research, industry practice, and publicly available data.

1.3 Research Questions

In order to achieve the stated objective, the following research questions guide the analysis:

1. How do ESG frameworks and rating methodologies differ in their conceptual underpinnings and practical applications?
2. What does the academic literature reveal about the relationship between ESG performance and financial valuation outcomes?
3. How do industry and regulatory reports propose to integrate ESG into valuation, and how do these approaches compare with academic perspectives?
4. How can ESG metrics be incorporated into traditional valuation models using publicly available data, and what are the strategic implications for investors and firms?

These questions provide a structured framework through which the research problem will be addressed.

1.4 Scope and Methodology Overview

The scope of this thesis is defined by its reliance on **literature and publicly available reports** rather than proprietary datasets. The research adopts a **qualitative synthesis approach**, integrating findings from academic studies, meta-analyses, and regulatory or industry publications issued by organizations such as the OECD, UNPRI, and BIS. Where feasible, the analysis is supplemented by **illustrative quantitative examples** using public ESG and financial data.

This methodology allows the thesis to balance theoretical rigor with practical relevance. By focusing on non-proprietary information, the study remains transparent and replicable, addressing a challenge commonly faced by both researchers and practitioners in the field of ESG integration.

1.5 Structure of the Thesis

The remainder of this thesis is structured into five substantive chapters, each building toward the central objective of exploring how ESG can be systematically integrated into investment valuation:

- **Chapter 2 – Literature Review**

This chapter reviews the theoretical and empirical foundations of ESG in finance. It begins with definitions and reporting frameworks (GRI, SASB/ISSB, TCFD, OECD, UN PRI...), then examines ESG rating methodologies, including an original scouting of the ten most relevant global dataset providers. It next revisits traditional valuation models (DCF, multiples, residual income) to identify “plug-in points” for ESG integration. The chapter also synthesizes meta-analyses on the ESG–financial performance link and concludes

with perspectives from regulators and consulting firms on operationalizing ESG integration.

- **Chapter 3 – Methodology**

This chapter outlines the dual-lens research design that combines qualitative synthesis with quantitative illustration, supported by a case study approach. It describes the sources of evidence; academic studies, regulatory and consulting reports, and publicly available ESG/financial data and explains the analytical framework. An original scouting exercise of ESG datasets is also presented, reinforcing the transparency and replicability of the study.

- **Chapter 4 – Evidence-Based Analysis**

This chapter represents the empirical core of the thesis. It applies ESG frameworks and rating methodologies to the Unilever case, analyzes sector-specific evidence in consumer goods, and integrates regulatory and consulting perspectives. A quantitative valuation exercise illustrates how ESG adjustments to WACC and growth affect firm value, with results confirmed by sensitivity analysis. Finally, the chapter explores regional and sectoral variations in ESG impacts, supported by original figures and visualizations, showing the contextual nature of ESG integration.

- **Chapter 5 – Discussion**

This chapter synthesizes the findings across theory, practice, and the Unilever case. It contrasts academic and practitioner perspectives, highlights strategic implications for firms and investors, and discusses the heterogeneity of ESG impacts across regions and sectors. It also reflects critically on data divergence, methodological limitations, and the potential risks of greenwashing, before outlining contributions to theory and practice, implications for policy, and directions for future research.

- **Chapter 6 – Conclusion**

The final chapter summarizes the main findings and contributions of the thesis. It emphasizes the strategic and financial materiality of ESG, underscores the challenges of standardization and rating divergence, and reflects on the theoretical, practical, and regulatory relevance of the results. It also acknowledges limitations and calls for future work on cross-sectoral case studies, dynamic ESG persistence modeling, and macro stress testing of ESG shocks.

Chapter 2 – Literature Review

2.1 ESG Definitions and Frameworks

Over the last twenty years, ESG—short for Environmental, Social, and Governance—has become a central concept in the global financial landscape. While the term is now widely used by companies, regulators, and investors, it is important to note that ESG has no single, universally accepted definition. Instead, it represents a **shifting paradigm** in which financial markets attempt to incorporate a wider range of non-financial factors into decision-making. The idea is not new: earlier notions of **corporate social responsibility (CSR)** and **sustainability reporting** already called on firms to disclose their societal impacts. However, ESG differs in that it explicitly links such issues to **financial relevance**, asking not only *what impact companies have on the world*, but also *what impact environmental and social issues have on companies and their value*.

From CSR to ESG: Historical Context

The origins of ESG can be traced to the evolution of CSR in the 1970s and 1980s, when firms were encouraged to demonstrate ethical conduct and philanthropic responsibility. However, CSR was often criticized for being vague, voluntary, and disconnected from financial outcomes. The 1992 Rio Earth Summit and the growing global conversation around sustainable development marked a turning point: stakeholders began to demand more systematic and comparable disclosure of corporate environmental and social performance.

By the early 2000s, investor coalitions and multilateral organizations pushed for stronger connections between sustainability and finance. The landmark 2004 UN Global Compact report “*Who Cares Wins*” first used the term ESG, framing it as a way to improve financial markets by considering non-financial risks. Since then, ESG has been increasingly embedded into regulatory initiatives, investor mandates, and corporate strategies. Yet this expansion has also brought **fragmentation**: a wide range of frameworks, standards, and principles have emerged, often with overlapping but not identical scopes.

Single vs. Double Materiality

At the heart of ESG debates lies the question of **materiality**. Traditional financial reporting follows a *single materiality* perspective: information is relevant if it affects the economic performance of the firm. Many investor-driven ESG frameworks, such as SASB or TCFD, maintain this logic by focusing on how environmental or social issues impact financial outcomes.

By contrast, frameworks such as GRI adopt a *double materiality* approach: information is considered material not only if it affects the firm, but also if the firm significantly affects society or the environment. This dual perspective expands accountability beyond shareholders to include a wider set of stakeholders. Policymakers in the European Union have embraced this concept, embedding double materiality into the Corporate Sustainability Reporting Directive (CSRD). The

debate between single and double materiality is not merely academic ;it shapes the type of data collected, the way ESG is measured, and ultimately, the degree to which ESG can be integrated into valuation models.

The Global Reporting Initiative (GRI)

The **Global Reporting Initiative (GRI)**, founded in 1997, is one of the earliest and most widely used frameworks for sustainability disclosure. It provides detailed guidelines for reporting on a broad range of environmental, social, and governance issues, from emissions and biodiversity to labor practices and community impact. The central principle of GRI is accountability: companies should disclose their impact on society and the planet, regardless of whether such impacts are financially material to investors.

This makes GRI invaluable for NGOs, policymakers, and stakeholders concerned with corporate responsibility. It is also the most widely adopted framework globally, with more than 10,000 companies in over 100 countries using it. However, from the perspective of valuation, GRI has limitations: its broad coverage can dilute the signal of financially material information, making it less useful for investors who must prioritize risk and return. Studies (e.g., KPMG, 2022) show that while GRI improves transparency, investors often seek additional frameworks to assess financial materiality.

SASB and the ISSB

The **Sustainability Accounting Standards Board (SASB)**, created in 2011, was specifically designed to address the financial materiality gap left by frameworks such as GRI. SASB developed **industry-specific standards** that identify which ESG issues are most likely to impact financial performance in each sector. For instance, water management is highly material for mining but less so for banking, while data privacy is crucial in technology but not in utilities.

In 2021, SASB merged into the **International Sustainability Standards Board (ISSB)** under the IFRS Foundation. The ISSB's mandate is to create a global baseline for sustainability-related disclosures. Its first two standards, **IFRS S1 and S2**, released in 2023, consolidate SASB's sector-specific approach while aligning with international financial reporting. This development represents the most ambitious effort so far to harmonize ESG reporting. For valuation, the ISSB is highly relevant, as it provides consistent, comparable, and investor-focused information that can be directly linked to financial models.

Task Force on Climate-related Financial Disclosures (TCFD)

The **Task Force on Climate-related Financial Disclosures (TCFD)**, established by the Financial Stability Board in 2015, focuses narrowly on climate-related risks and opportunities. Its framework is built around four pillars: governance, strategy, risk management, and metrics/targets. The most distinctive element of TCFD is **scenario analysis**, which requires firms to explore how different climate futures such as a 1.5°C transition pathway or a high-emissions scenario might affect their long-term business models.

For valuation, TCFD is highly significant. It provides investors with tools to anticipate how climate risks could alter revenues, operating costs, asset valuations, and discount rates. For example, stricter carbon regulation might reduce free cash flows in energy-intensive sectors, while companies with ambitious transition strategies may benefit from lower costs of capital. Yet TCFD's limitation is its scope: while it is comprehensive on climate, it does not address social or governance issues.

OECD Guidelines for Multinational Enterprises

The **OECD Guidelines for Multinational Enterprises** represent a policy-driven framework rather than a technical reporting standard. They provide principles of responsible business conduct, covering areas such as human rights, labor, environment, and anti-corruption. The OECD emphasizes that ESG is not only about firm-level risk management but also about **systemic financial stability**. By framing ESG within the context of resilient markets, OECD guidance connects corporate practices to broader macroeconomic outcomes.

Although the guidelines are voluntary and non-binding, they carry significant normative weight, influencing regulatory debates in both developed and emerging economies. For valuation, their contribution is indirect: they reinforce the idea that governance and sustainability are essential not just for individual firms but for the functioning of financial markets as a whole.

UN Principles for Responsible Investment (PRI)

The **UN Principles for Responsible Investment (PRI)**, launched in 2006 with the support of the United Nations, is the world's largest voluntary initiative for responsible investment. It consists of six principles encouraging institutional investors to integrate ESG factors into their investment analysis and decision-making. As of 2023, more than 5,000 signatories, managing over USD 120 trillion in assets, have committed to PRI.

Unlike GRI or SASB, the PRI does not prescribe specific metrics or reporting formats. Instead, it provides a **behavioral framework**: investors pledge to incorporate ESG into portfolio construction, to engage with companies on ESG issues, and to report on their activities. This investor-driven approach has been instrumental in mainstreaming ESG in financial markets. However, its voluntary nature and lack of standardized metrics mean that implementation varies significantly across signatories.

Fragmentation and Convergence

The coexistence of these frameworks illustrates the **fragmentation** of ESG reporting. Companies may report under multiple frameworks, leading to duplication and inconsistency. Investors, meanwhile, must navigate a patchwork of disclosures that vary in scope, focus, and quality. This lack of standardization undermines comparability, complicating efforts to integrate ESG into valuation models.

At the same time, efforts at **convergence** are underway. The establishment of the ISSB represents the most concrete attempt to create a global baseline. The European Union’s **Sustainable Finance Taxonomy** and **Corporate Sustainability Reporting Directive (CSRD)** also push toward harmonization, embedding double materiality into regulation. Collaboration between GRI and SASB further suggests that frameworks are moving closer, though differences in philosophy remain.

Implications for Valuation

For investors, the central challenge is to identify which elements of ESG frameworks are most relevant for financial performance. Broad frameworks such as GRI and OECD enhance transparency but are less directly linked to valuation. Investor-oriented frameworks such as SASB/ISSB, TCFD, and PRI provide decision-useful data but focus narrowly on materiality. Until full convergence is achieved, ESG integration into valuation will require **judgment, selectivity, and triangulation of multiple sources**.

To synthesize the main similarities and differences among the most influential ESG frameworks, Table 2.1 provides a comparative overview, highlighting their scope, primary users, strengths, limitations, and relevance for valuation purposes.

Table 2.1: Comparative Overview of Major ESG Frameworks

Framework	Scope & Coverage	Primary Users	Key Focus	Strengths	Limitations	Relevance to Valuation
GRI	Broad sustainability disclosure (economic, environmental, social)	Corporates, regulators, stakeholders	Transparency & accountability	Global comparability; widely adopted	Less emphasis on financial materiality	Useful for mapping impacts, less for cash-flow modeling
SASB/ISSB	Industry-specific material ESG issues	Investors, analysts	Financial materiality by sector	Strong link to financial outcomes	Narrower stakeholder focus	Direct application to valuation models
TCFD	Climate-related risk & opportunity disclosures	Investors, regulators, corporates	Governance, strategy, risk, metrics	Forward-looking; scenario-based	Limited to climate (not full ESG)	Integrates into long-term risk & discount rates

OECD	Responsible business conduct & governance	Policymakers, corporates	Systemic stability, governance	Policy legitimacy; global credibility	Non-binding; less operational	Provides macro-level context for valuation
UN PRI	Principles for investor behavior	Institutional investors	Integration into investment & stewardship	Global investor network; practical guides	Voluntary; no standardized metrics	Shapes asset allocation and stewardship strategies

2.2 ESG Rating Methodologies

While reporting frameworks define *what* sustainability information should be disclosed, ESG ratings attempt to translate these disclosures into **comparable scores** that investors can use to make decisions. Ratings have become integral to the investment process: they are employed to screen companies in portfolio construction, to build ESG indices, to inform engagement and proxy voting, and even to influence a firm's **cost of capital**. Their rise reflects the financial sector's recognition that ESG factors can be material to long-term value. Yet their credibility has been repeatedly questioned because of inconsistency and lack of transparency. Different providers often assign radically different ratings to the same firm, which raises doubts about their reliability and usefulness in valuation models.

The role of ESG ratings in finance

ESG ratings play three main roles in capital markets. First, they provide a tool for **investment screening**: many asset managers exclude companies with the lowest ratings or overweight those identified as leaders. Second, they underpin the creation of **sustainable indices and ETFs**, such as the MSCI ESG Leaders Index or the FTSE4Good Index, which in turn drive billions of dollars in passive investment flows. Third, they influence **credit and equity analysts** when adjusting discount rates or risk assumptions, since stronger ESG ratings are often linked with lower perceived risk. A growing body of research shows that companies with higher ESG ratings enjoy lower costs of equity and debt, as investors perceive them to be more resilient and better governed.

At the same time, ESG ratings have been criticized for their opacity. Methodologies are often proprietary, and weightings differ across providers. For example, governance might account for 40 percent of a score in one system and only 20 percent in another. Some providers rely heavily on company disclosures, rewarding firms that report extensively, while others incorporate alternative data such as media analysis, controversies, or satellite imagery. These differences make ratings **difficult to compare** and sometimes misleading for investors.

Major providers and their methodologies

MSCI ESG Ratings are among the most influential globally. MSCI assigns scores on a relative scale from AAA (leaders) to CCC (laggards), based on how companies manage industry-specific ESG risks. Its model evaluates both exposure and risk management capacity, with governance treated as a critical foundation. The strength of MSCI lies in **sector benchmarking**: companies are rated relative to peers facing similar risks. However, the relative nature of the methodology makes cross-sector comparison problematic. A coal company may still receive a high score within its sector despite posing large absolute environmental risks.

Sustainalytics, acquired by Morningstar, uses a different approach. Its **ESG Risk Ratings** measure the extent of a company's unmanaged ESG risk, expressed on a scale of 0–100 (where lower scores are better). Sustainalytics distinguishes between a company's exposure to material ESG risks and its management of those risks. The methodology explicitly links ratings to **enterprise value risk**, making it highly relevant for valuation models. Nonetheless, some analysts argue that Sustainalytics' reliance on subjective judgments of management quality creates potential bias and undermines comparability across firms.

Refinitiv ESG Scores (London Stock Exchange Group) compile more than 400 ESG indicators drawn from company reports, filings, media, and third-party sources. The ratings cover environmental, social, governance, and controversy dimensions, providing one of the most comprehensive datasets on the market. However, Refinitiv has been criticized for being **disclosure-driven**: companies that publish more detailed reports often achieve higher scores, regardless of actual performance. This risks rewarding communication over substance and inflating the scores of firms skilled at sustainability reporting, a phenomenon sometimes described as a “greenwashing premium.”

CDP (Carbon Disclosure Project) specializes in environmental transparency, scoring companies from A to D based on their climate, water, and forest-related disclosures. CDP evaluates the depth, quality, and verification of reported data, rewarding companies that adopt science-based targets and undergo external audits. Its methodology is especially useful in high-emission industries, where climate risk is financially material. However, CDP's narrow scope means it does not capture the full ESG spectrum; social and governance dimensions are not systematically assessed.

ISS ESG leverages its dominance in proxy advisory to integrate ESG ratings with corporate governance analysis. Its Corporate Rating methodology assesses performance across E, S, and G pillars, but governance carries particular weight, reflecting ISS's expertise in voting recommendations. Investors value ISS for connecting ESG ratings with **shareholder rights and proxy outcomes**, but critics argue that its methodology lacks transparency and sometimes conflates governance practices with sustainability performance.

S&P Global CSA (Corporate Sustainability Assessment) is best known as the basis for the **Dow Jones Sustainability Indices (DJSI)**. It relies on detailed surveys completed by companies, focusing on best-in-class practices within each sector. The CSA emphasizes **relative benchmarking**,

identifying leaders rather than establishing absolute thresholds. Its strength lies in providing granular insights across industries, but participation is voluntary, and non-respondents often receive lower scores, which can bias comparisons.

Moody's ESG Solutions (V.E) integrates ESG assessments into credit analysis, reflecting the growing recognition that sustainability risks can influence default probabilities. By embedding ESG into bond ratings, Moody's directly links sustainability to cost of debt. Its methodology draws on sector-specific frameworks and controversy monitoring. However, as with other providers, the weighting of different ESG pillars is not fully transparent.

FTSE Russell ESG Ratings are used to construct indices such as FTSE4Good. The methodology assesses companies relative to sector peers across E, S, and G dimensions, with particular attention to industry-specific material issues. Like MSCI and S&P, FTSE Russell focuses on benchmarking leaders and laggards rather than producing absolute risk scores.

Arabesque S-Ray differentiates itself through the use of artificial intelligence and big data. It combines structured and unstructured data including news, social media, and reports to generate ESG and temperature-alignment scores. Arabesque claims its AI-driven approach improves objectivity and timeliness. However, questions remain about the reliability of algorithms and the interpretability of results.

Bloomberg ESG Disclosure Scores focus on the **extent of company-reported data**, rather than ESG performance outcomes. Bloomberg scores are widely used by analysts because they are integrated into Bloomberg Terminals, but they primarily measure transparency. As with Refinitiv, disclosure-heavy firms may appear more sustainable than they actually are, raising concerns about greenwashing.

Rating divergence and its implications

The divergence among ratings has been widely documented. Berg, Kölbel, and Rigobon (2022) found that the correlation between ratings from different providers is only 0.3–0.5, compared to over 0.9 for credit ratings. Divergence stems from three sources:

1. **Scope** – which ESG issues are included (e.g., some rate climate heavily, others governance).
2. **Measurement** – how indicators are defined (absolute vs. relative, disclosure vs. outcomes).
3. **Weighting** – the importance assigned to each dimension (e.g., governance 20% vs. 40%).

For investors, this lack of convergence has serious consequences. It undermines comparability, creates **uncertainty premiums**, and complicates the integration of ESG into valuation models. For example, a company with high MSCI ratings but poor Sustainalytics scores may face inconsistent treatment across portfolios.

Strategically, divergence also creates **arbitrage opportunities**: some asset managers exploit rating differences to identify mispriced securities. But in the long term, inconsistent ratings threaten the credibility of ESG investing. This is why regulators, such as the European Union, are moving to impose greater oversight on ESG data providers, and why initiatives like the ISSB and EU Taxonomy seek to align disclosure with investor needs.

Implications for valuation

For valuation, the challenge is not whether ESG ratings matter; they clearly influence capital allocation and perception of risk but how to use them consistently. Ratings can feed into **DCF models** by adjusting cash flows (e.g., higher carbon costs) or discount rates (e.g., governance quality reduces equity risk premium). They affect **multiples-based valuation**, as firms with higher ESG scores often trade at premiums. They also shape **residual income models**, influencing assumptions about long-term value creation. However, inconsistent inputs from divergent ratings risk producing misleading results.

Therefore, investors must either rely on multiple providers, triangulate data, or develop proprietary ESG integration models. Until convergence is achieved, the integration of ESG ratings into valuation will remain **a matter of interpretation and judgment**, rather than standardized practice.

To consolidate the discussion of major providers, Table 2.2 compares the methodologies, strengths, and limitations of ten of the most influential ESG rating systems. This overview highlights both the breadth of available approaches and the persistent lack of convergence that complicates integration into valuation.

Table 2.2: Comparison of ESG Rating Methodologies

Provider	Scope & Methodology	Rating Scale	Key Data Sources	Strengths	Limitations	Strategic Implications
MSCI	Industry-relative risk exposure & management	AAA–CCC	Company disclosures, proprietary data	Strong within-sector benchmarking	Weak cross-sector comparability; opaque weights	May influence sector WACC; difficult to compare across industries
Sustainalytics	ESG risk rating = exposure × management (focus on unmanaged risk)	0–100 (lower = better)	Disclosures, controversies, external data	Explicit link to enterprise value; risk focus	Subjectivity in management scoring	Useful for DCF/WACC adjustments
Refinitiv	400+ indicators across E, S, G, controversies (disclosure-driven)	0–100	Public filings, media, reports	Comprehensive global dataset	Rewards disclosure over performance (“greenwashing premium”)	May misprice firms with strong reporting but weak impact
CDP	Environmental disclosure (climate, water, forests)	A–D	Corporate self-reporting + third-party verification	Strong focus on climate/science-based targets	Narrow scope (mainly E; limited S and G)	Critical for climate risk assessment, esp. in high-emission sectors
ISS ESG	ESG + corporate governance integration (proxy advisory link)	A–D / numeric scores	Surveys, filings, controversies	Governance expertise; shareholder engagement	Less transparent methodology	Connects ESG ratings with proxy voting outcomes
S&P Global CSA	Best-in-class, survey-based assessment (basis for DJSI)	0–100	Company surveys, disclosures	Detailed sector benchmarking; widely respected	Voluntary participation; non-	Shapes indices (e.g., DJSI), drives benchmarking competition

					respondents penalized	
Moody's V.E	ESG assessments integrated with credit ratings	Letter/score (varies)	Sector-specific metrics, controversies	Direct link to credit risk & cost of debt	Proprietary weighting not transparent	Influences bond pricing and creditworthiness
FTSE Russell	ESG ratings used for index construction (FTSE4Good)	0–5 / letter	Public data, company reports	Index integration; long history in ESG	Sector-relative, less granular	Drives ESG index funds and ETF flows
Arabesque S-Ray	AI/big-data-driven ESG & temperature alignment	0–100	Reports, news, social media, alternative data	Innovative; real-time adaptability	Algorithm opacity; interpretability issues	Early signals for ESG controversies; used for forward-looking analysis
Bloomberg	ESG disclosure scores (extent of reporting)	0–100	Company disclosures	Integrated into Bloomberg terminals; high accessibility	Measures transparency, not performance	Widely used by analysts for screening, but risks rewarding disclosure over substance

As shown in Table 2.2, each provider adopts a distinct methodology, resulting in inconsistent assessments of the same firms. This diversity explains why correlations among ratings remain low and why investors face challenges in relying on a single score, a point further discussed in the following sections.

2.2.1 Scouting of ESG Rating Datasets

In order to complement the literature on ESG rating methodologies, this thesis conducted an original scouting exercise aimed at identifying the most relevant ESG rating datasets available worldwide. The purpose of this task was twofold: first, to document the providers that currently dominate ESG data services, and second, to highlight how the diversity of available datasets reinforces the challenges of fragmentation and divergence discussed in the academic literature.

The exercise was based on a systematic mapping of ESG dataset providers using publicly available information. The focus was intently restricted to *rating-type datasets* rather than raw environmental or social databases.

This distinction is important for the scope of the thesis. Rating-type datasets, such as those produced by MSCI or Sustainalytics, provide an aggregated ESG score or rating that can be directly applied in investment decisions, for instance when adjusting portfolio allocations, risk assessments, or cost of capital. In contrast, raw databases such as those limited to carbon emissions, water consumption, or labor rights controversies; are valuable sources of information but do not, on their own, offer a standardized or comparable measure across firms. They typically serve as inputs for rating agencies rather than outputs for investors. Including such datasets would have broadened the mapping beyond the main research question of this thesis, which is to evaluate the integration of ESG ratings into valuation models.

Each provider was assessed in terms of its **coverage** (geographic and sectoral reach), **methodology** (approach to scoring and weighting ESG factors), **frameworks** (alignment with international standards such as GRI, SASB/ISSB, TCFD, or UN PRI), and **accessibility** (availability of the dataset to investors, degree of transparency, and cost of use). This set of criteria ensured that the mapping remained focused on datasets that are both influential in global markets and practically usable for investment valuation.

The analysis identified ten providers that together represent the core of the global ESG rating ecosystem: MSCI, Sustainalytics (Morningstar), Refinitiv (LSEG), ISS ESG, S&P Global CSA, Moody's V.E, Arabesque S-Ray, FTSE Russell, CDP, and Bloomberg ESG Disclosure Scores. While all of them assign ratings that seek to capture corporate ESG performance, their approaches vary significantly. For example, MSCI emphasizes relative risk exposure compared with industry peers, Sustainalytics quantifies absolute unmanaged ESG risk, and Refinitiv aggregates more than 400 disclosure-based metrics. Other providers, such as S&P Global's Corporate Sustainability Assessment (CSA), form the basis of well-known indices like the Dow Jones Sustainability Index, while CDP specializes in disclosure quality for climate and environmental data. Emerging players such as Arabesque S-Ray differentiate themselves by using artificial intelligence and big data to generate ESG and temperature-alignment scores.

Top 10 ESG Rating Dataset Providers (Summary):

- MSCI ESG Ratings
- Sustainalytics (Morningstar ESG Risk Ratings)
- Refinitiv ESG Scores (LSEG)
- ISS ESG Corporate Rating
- S&P Global CSA
- Moody's V.E ESG Assessments

- Arabesque S-Ray
- FTSE Russell ESG Ratings
- CDP Climate, Water, and Forest Scores
- Bloomberg ESG Disclosure Scores

The results of this scouting exercise, including the underlying database of providers and their characteristics which are presented in **Appendix 1** confirm that the ESG rating market is both crowded and heterogeneous. Despite overlapping in coverage, these providers employ divergent definitions of materiality, weighting schemes, and data collection practices, which frequently lead to inconsistent ratings for the same company. This finding reinforces the argument advanced in both the academic and regulatory literature that greater standardization is required for ESG metrics to be systematically integrated into investment valuation.

As shown later in Chapter 4, this problem is exemplified by the case of Unilever, where MSCI, Sustainalytics, and CDP assign different ratings depending on their methodological focus.

By integrating this mapping into the literature review, the thesis provides an original contribution that bridges theory and practice. It not only reviews what the academic literature says about ESG rating divergence but also documents which datasets currently shape investor decisions in practice. This strengthens the relevance of the subsequent case study and highlights the persistent fragmentation of ESG measurement at the global level.

The diversity of ESG rating methodologies highlights the difficulty of relying on a single score for financial analysis. To understand where these ratings can be applied in practice, it is necessary to examine the traditional valuation models in which ESG metrics may be integrated.

2.3 Traditional Investment Valuation Methods

Valuation remains the anchor of financial analysis, translating expectations about growth, risk, and competitiveness into a single measure of worth. While the classic toolset including discounted cash flow (DCF), multiples/relative valuation, and residual income (RIM), predates the ESG agenda, each model contains clear “insertion points” where sustainability factors affect either expected cash flows, discount rates, or growth persistence. This section develops those linkages in depth and offers an implementation blueprint that is consistent with the evidence and practice reviewed elsewhere in this chapter.

2.3.1 Discounted Cash Flow (DCF)

Core logic and formula

The enterprise value (EV) in a standard DCF equals the present value of forecasted free cash flows (FCF) plus the present value of the terminal value (TV):

$$EV = \sum_{t=1}^T \frac{FCF_t}{(1 + WACC)^t} + \frac{TV}{(1 + WACC)^T}, \quad \text{with} \quad TV = \frac{FCF_{T+1}}{WACC - g}$$

ESG can shift **(i)** the path of FCF_t , **(ii)** the discount rate **WACC**, and **(iii)** the long-run growth **g**.

Where ESG enters—cash flows

Break cash flows into value drivers and map ESG levers:

- **Revenues:** green product mix, brand trust, customer retention, pricing power (e.g., eco-labels), access to new segments (public procurement, sustainable funds).
- **Operating costs:** energy efficiency, waste reduction, supply-chain due diligence, labor safety (lower incident rates), compliance costs (e.g., carbon taxes, extended producer responsibility).
- **Capital expenditure:** transition capex (retrofits, renewables, circularity), enabling capex (digital traceability), and avoided “catch-up” capex through early compliance.
- **Working capital:** supplier ESG standards may lengthen onboarding but reduce disruption (inventory buffers); better social practices may improve receivables (fewer disputes).

Practical step-ins:

1. Introduce a **shadow carbon price** in scenarios to adjust COGS/opex;
2. Translate safety/quality initiatives into **lower claims and downtime** (margin uplift);
3. Reflect eco-design in **slower price erosion** (gross margin resilience);
4. Model supply-chain audits as **lower volatility** of working capital.

Where ESG enters—WACC :

$$WACC = \frac{E}{D + E} k_e + \frac{D}{D + E} k_d (1 - \tau)$$

- **Cost of equity k_e** : ESG improves perceived risk via governance quality, controversy frequency, and cyclical risk to transition risk. Implementation choices:

- **Beta adjustment:** lower asset beta for top-quartile governance; or use a sector-specific **ESG risk beta** overlay.
- **Alpha/risk-premium adjustment:** subtract/ add **bps** per ESG score decile (e.g., –30 to –70 bps for leaders; +30 to +100 bps for laggards), justified by observed credit/equity spread differentials.
- **Cost of debt k_d** : map ESG to credit notch changes or spread bands; green/SLB issuance history can reduce all-in coupons; better environmental controls lower expected loss (PD×LGD).

Where ESG enters—terminal growth g

Long-run growth is sensitive to the **durability of competitive advantage**. ESG can:

- **Raise g :** sustainable innovation pipelines, access to regulated green demand, long-lived license to operate.
- **Lower g :** product obsolescence under transition policies; social license erosion; litigation overhang.

Strengths and limitations (DCF)

- **Strengths:** explicit mechanics; scenario-ready (TCFD-style); transparent assumptions.
- **Limitations:** input-sensitive; requires judgment to parameterize ESG; risk of double-counting (e.g., lowering WACC *and* lifting margins for the same governance effect).

2.3.2 Multiples / Relative Valuation

Core logic

Multiples compress market expectations about risk, growth, and ROIC into comparable ratios (P/E, EV/EBITDA, EV/IC). In practice, they are the lingua franca of sell-side research and transactions.

ESG transmission into multiples

- **Risk channel:** lower perceived tail risk → higher permitted multiple (e.g., P/E upturn for firms with fewer controversies, better board independence).
- **Growth channel:** credible sustainability strategy implies longer growth runway (durable demand, access to green subsidies/markets).
- **Quality/ROIC channel:** resource efficiency, talent retention, and supply-chain reliability lift returns → multiple expansion.

Implementation checklist

- Use **peer sets matched by business model and exposure to ESG-material issues** (SASB/ISSB materiality map helps).
- Prefer **forward** multiples (next-12-month EBITDA/EPS) to avoid backward-looking bias when ESG investment is ramping.
- Decompose the observed multiple into components:

$$\text{Multiple} \approx f(\text{ROIC}, \text{Growth}, \text{Risk})$$

and attribute the ESG premium/discount to one driver (e.g., lower risk) to avoid double counting.

- Control for disclosure bias: disclosure-heavy firms may look “ESG-rich” without outcome evidence; triangulate with controversies and outcome KPIs.

Strengths and limitations (Multiples)

- **Strengths:** market-consistent; quick triangulation vs. DCF; good for communication.
- **Limitations:** embeds market sentiment; sensitive to disclosure and index effects; hard to separate **cause** (ESG) from **correlated quality** (size, profitability).

2.3.3 Residual Income (RIM) and Economic Profit

Core logic and formula

RIM values equity as current book value plus the present value of **residual income** (accounting earnings minus the equity charge):

$$V_0 = BV_0 + \sum_{t=1}^T \frac{(NI_t - k_e \cdot BV_{t-1})}{(1 + k_e)^t} + \frac{\text{PV of continuing residual income}}{(1 + k_e)^T}$$

- V_0 : Current value of equity (the intrinsic value today).
- BV_0 : Current book value of equity (at time 0).
- NI_t : Net income in period t .
- k_e : Cost of equity (required return by equity holders).
- BV_{t-1} : Book value of equity at the end of the previous period ($t-1$).
- **Residual Income** ($NI_t - k_e \cdot BV_{t-1}$): The “excess” return above the equity charge.
- $(1 + k_e)^t$: Discount factor for residual income in period t .
- T : Time horizon of explicit forecasts.
- **PV of continuing residual income**: The terminal value component, i.e. present value of residual income beyond period T (similar to terminal value in DCF).

Economic value added (EVA) is analogous at the firm level (NOPAT – WACC*Capital).

- **NOPAT**: Net Operating Profit After Tax.
- **WACC**: Weighted Average Cost of Capital.
- **Capital**: Invested capital (debt + equity).

ESG persistence and fade dynamics

ESG levers (governance quality, supply-chain resilience, human capital) often manifest as **persistence of excess returns**:

- Leaders: slower fade of ROIC–WACC spread; longer value creation period; less reinvestment risk.
- Laggards: faster fade due to regulatory headwinds, reputational discount, stranded asset write-downs.

Model this by extending the **competitive advantage period (CAP)** for leaders (e.g., 10 → 12–15 years) and compressing for laggards (e.g., 10 → 7–8 years). Tie CAP changes to **sector materiality** (e.g., E-intense sectors highly sensitive; S/G more salient in consumer and financials).

Strengths and limitations (RIM)

- **Strengths**: focuses on sustainability of economic profits; suits banks/insurers where FCF is noisy.
- **Limitations**: accounting noise; requires careful clean-surplus adjustments; choice of ke still ESG-sensitive.

2.3.4 Sector-Specific Nuances

- **Energy/Materials/Utilities (E-material):** carbon cost pass-through, capex for abatement, asset lives/impairments, physical risk (drought, storms).
- **Consumer/Retail (S-material):** brand trust, supply-chain audits, labor standards, product safety; revenue elasticity to ESG.
- **Tech/Comm (G- & S-material):** data privacy, platform responsibility, human capital retention; lower tangible capex but high **intangibles** (culture, IP).
- **Financials (G-material):** risk governance, lending/prudential policies, financed emissions; RIM/EVA often superior to FCF.

2.3.5 Governance, Controversies, and Tail Risk

A single governance failure (e.g., accounting fraud, emissions cheating) can dominate valuation. Practical additions:

- Introduce a **controversy probability** per year (from history and sector) that triggers a one-off **cash-flow hit** and a **temporary WACC spike**.
- Model **ESG insurance effect**: stronger governance lowers both the probability and magnitude of drawdowns (fat-tail truncation).

2.3.6 Putting It All Together—Analyst Playbook

- **Step A — Materiality map:** use sector materiality to prioritize 3–5 drivers.
- **Step B — Data triage:** pick two rating sources + outcomes (e.g., verified emissions, injury rates).
- **Step C — Parameterization:** set documented rules (bps per score decile; €/t carbon path; CAP adjustments).
- **Step D — Valuation runs:** Base, Optimistic (ESG leader), Pessimistic (ESG laggard), plus TCFD scenarios.
- **Step E — Attribution:** decompose value delta into cash-flow vs WACC vs *g* vs CAP contributions.
- **Step F — Audit trail:** table of assumptions, sources, and rationale.

The discussion of discounted cash flow, multiples-based approaches, and residual income models demonstrates that ESG considerations can enter valuation through several distinct but complementary channels. To synthesize these insights, **Table 2.3** provides a structured comparison of the three main valuation methods. In parallel, **Figure 2.1** offers a visual representation of the same logic, showing how ESG factors flow through cash flows, the weighted average cost of capital (WACC), and long-term growth assumptions before converging into traditional valuation models. Together, the table and figure clarify both the conceptual framework and the practical entry points for integrating ESG into financial analysis.

Table 2.3: Traditional Valuation Methods and ESG Plug-in Points

Valuation Method	Strengths	Limitations	Key Data Needs
DCF	Transparent; scenario-ready; granular	Input-sensitive; double-count risk; requires judgment	Ratings (≥ 2), verified emissions, energy mix, controversies, board quality, debt spreads
Multiples	Fast; market- consistent; easy to communicate	Embeds sentiment and disclosure bias; harder causality	Peer ESG signals, outcome KPIs, forward estimates, index inclusion
RIM/EVA	Focus on sustainability of profits; fits financials	Accounting noise; relies on k_e choice	Clean surplus data, ROIC– WACC spreads, governance quality, policy risk

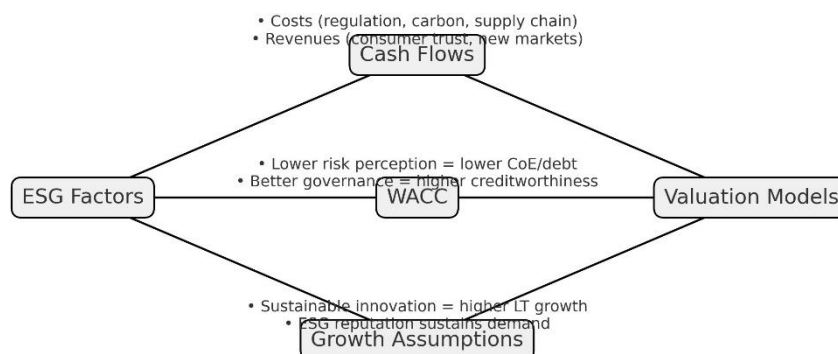


Figure 2.1: ESG Integration Pathways into Valuation

The mechanics above show how ESG plugs into valuation. The next question is empirical: does ESG performance, on average, translate into better financial outcomes? Section 2.4 addresses this through meta-analyses and large-sample studies, distinguishing where and when the ESG–performance link is most pronounced.

2.4 ESG and Financial Performance

The question of whether ESG performance enhances or detracts from financial performance has been a central debate in academic and professional finance for more than three decades. Early discussions in the 1990s and early 2000s focused largely on socially responsible investing (SRI), which critics argued involved excluding profitable “sin” industries such as tobacco or gambling and thus implied a performance penalty. Over time, however, the conversation shifted from ethical screens to risk-adjusted performance, with scholars and practitioners increasingly asking whether ESG factors represent sources of risk and opportunity that are financially material.

Meta-Analyses and Aggregated Evidence

Given the vast number of empirical studies covering event analyses, cross-sectional regressions, portfolio simulations, and case studies ; scholars have increasingly turned to **meta-analyses** to synthesize the evidence. These reviews aggregate results across thousands of observations, controlling methodological differences and publication bias.

One of the most comprehensive studies is by **Friede, Busch, and Bassen (2015)**, which reviewed more than 2,000 empirical works. They found that approximately **60 percent of studies reported a positive relationship** between ESG and corporate financial performance (CFP), while fewer than

10 percent reported a negative link. Importantly, they noted stronger results in developed markets, where disclosure standards are higher and ESG information is more reliable.

Building on this, more recent research has refined the picture. **Aydoğmuş, Serçemeli, and Yılmaz (2022)** focused on emerging markets and found that ESG performance primarily affects the **cost of capital**. Firms with higher ESG scores were perceived as less risky by investors and creditors, leading to lower required returns. However, the magnitude of this effect varied by industry, consistent with the principle of **sector-specific materiality** highlighted by SASB/ISSB.

Similarly, **Strekalina, Ivanova, and Volkova (2023)** examined shareholder returns in BRICS markets. They confirmed a positive long-term ESG–CFP link but found weaker associations with accounting metrics such as ROA and EVA. This suggests that ESG benefits may manifest more clearly in market valuations than in short-term financial statements.

Finally, **Verheyden, Eccles, and Feiner (2022)** analyzed periods of financial crisis and downturn. Their results indicate that ESG leaders systematically outperform peers during market stress, demonstrating a **resilience effect**. For example, during the COVID-19 crisis in 2020, firms with high ESG ratings experienced smaller drawdowns and quicker recovery, suggesting that ESG performance cushions firms against systemic shocks.

These findings are summarized in **Table 2.4**, which compares the scope, main results, and nuances of four key meta-analyses.

Table 2.4: Meta-Analyses on ESG and Financial Performance

Study	Scope & Dataset	Main Finding	Nuances/Notes
Friede, Busch & Bassen (2015)	2,000+ empirical studies	~60% positive ESG–CFP link, <10% negative	Strongest in developed markets with better disclosure
Aydoğmuş, Serçemeli & Yılmaz (2022)	Emerging markets, firm-level data	ESG lowers cost of capital, boosts firm value	Relationship varies across sectors/regions
Strekalina, Ivanova & Volkova (2023)	BRICS markets, shareholder returns	Positive link between ESG and long-term returns	Correlation with accounting metrics (ROA, EVA) mixed
Verheyden, Eccles & Feiner (2022)	Global downturns	ESG leaders outperform in crises	ESG offers downside protection (“resilience effect”)

Dimensions of ESG Impact

The evidence from meta-analyses can be organized around several distinct dimensions:

1. Risk Management and Cost of Capital

- Firms with strong ESG profiles enjoy lower equity betas and tighter credit spreads.
- Studies such as El Ghouli et al. (2011) show that ESG leaders face significantly lower costs of equity, reflecting reduced exposure to litigation, reputational, and regulatory risks.

2. Operational and Accounting Performance

- ESG can improve ROA and ROE through efficiency gains, innovation, and human capital management.
- However, results are mixed: some industries show strong links, while others see weaker connections, likely due to the time lag between ESG investments and financial outcomes.

3. Market Valuation and Investor Returns

- Investors often pay premiums for ESG leaders, particularly in carbon-intensive or consumer-facing industries.
- Studies such as Khan, Serafeim, and Yoon (2016) find that material ESG factors are associated with significant alpha, while immaterial factors do not contribute to performance.

4. Crisis Resilience

- ESG firms outperform in downturns, providing portfolio downside protection.
- This resilience effect is increasingly cited by asset managers as justification for ESG integration.

Divergences and Critical Perspectives

Despite the weight of evidence in favor of ESG, several **divergences and critiques** remain:

- **U-shaped or delayed effects:** ESG investments may depress short-term earnings due to higher upfront costs but create long-term value as markets recognize sustainability advantages.
- **Sectoral variation:** Environmental factors dominate in energy and utilities, while social and governance factors matter more in consumer goods and financial services.

- **Regional asymmetry:** Developed markets show clearer positive effects, while weaker institutions in emerging markets can dilute the ESG–CFP link.
- **Causality concerns:** Some argue that profitable firms may simply have more resources to invest in ESG (“slack resources hypothesis”), raising reverse-causality issues.
- **Greenwashing risk:** If ratings reward disclosure more than outcomes, firms may improve scores without substantive change, weakening the ESG–performance link.

Implications for Valuation

For valuation, the findings carry important implications. First, ESG should not be treated as an optional “add-on” but as a **financially material input**. The challenge is ensuring that integration reflects sector-specific materiality and long-term effects. For example:

- In **energy and materials**, carbon pricing and stranded asset risk should be modeled explicitly in DCF cash flows.
- In **consumer industries**, ESG-driven brand equity may justify valuation premiums in multiples.
- In **financial institutions**, governance and risk policies influence the persistence of residual income.

Second, analysts must be cautious in interpreting ESG ratings. Divergence among providers means that triangulation across multiple datasets and alignment with sector materiality maps is necessary for robust valuation.

In summary, meta-analyses provide convincing evidence that ESG performance is, in most contexts, associated with superior financial outcomes. However, the strength and channels of this relationship are heterogeneous and context-dependent. This highlights the importance of moving beyond statistical associations toward **practical integration frameworks**. The following section examines how consulting firms, international organizations, and regulators operationalize these insights, providing investors with tools and guidance for embedding ESG into valuation models.

2.5 ESG Integration in Practice

While academic literature has made clear that ESG factors are financially relevant, the challenge for practitioners lies in turning this theoretical relevance into **operational processes** within investment analysis and corporate valuation. Industry reports, regulatory initiatives, and consulting guidance provide increasingly concrete pathways to achieve this. These perspectives reveal how ESG integration is applied in practice and how it complements, and sometimes diverges from, the academic debates reviewed earlier.

OECD: ESG as Responsible Investment Governance

The **OECD** has positioned ESG as a central pillar of responsible investment and sustainable financial governance. In its **2017 guidelines**, the OECD emphasized that ESG factors directly affect firm-level outcomes such as access to capital and cost of financing. By 2020, its *Business and Finance Outlook* further stressed the importance of ESG for maintaining **systemic stability** across financial markets. This reflects a macroeconomic view: integrating ESG is not only about evaluating individual companies but also about mitigating systemic risks such as climate change or social unrest.

For valuation practice, OECD guidance translates into two key recommendations:

1. **Cash flow integration:** companies should incorporate ESG into forward-looking forecasts, particularly by quantifying regulatory costs, climate transition expenses, and reputational risks.
2. **Discount rate adjustments:** analysts should reflect ESG risk in the cost of capital, adjusting the equity premium or debt spread to capture perceived sustainability risk.

The OECD perspective highlights that valuation must account for **both micro-level performance and macro-level resilience**, thereby linking firm analysis with the stability of the financial system as a whole.

UN PRI: Investor-Led Integration Framework

The **UN Principles for Responsible Investment (PRI)**, launched in 2006, represents one of the most ambitious investor-driven initiatives in the field. With over 5,000 signatories representing more than USD 120 trillion in assets under management, PRI has transformed ESG from a niche concern into a **mainstream investment practice**.

The PRI's **ESG Integration Framework (2021)** recommends embedding ESG factors directly into traditional valuation models. This includes:

- Explicitly linking ESG performance to **long-term growth assumptions** in DCF models.
- Adjusting capital allocation decisions to reflect ESG-related risks and opportunities.
- Incorporating ESG in **engagement strategies**, encouraging companies to improve disclosure and practices.

Unlike purely regulatory frameworks, PRI reflects a **voluntary, market-driven approach**. Its strength lies in aligning investor behavior with sustainability goals, thereby shaping demand for ESG data and influencing company practices. However, because it is voluntary, the degree of implementation varies, leading to inconsistency across markets and institutions.

BIS: Systemic Risk and Stress Testing

The **Bank for International Settlements (BIS)** brings a central banking and macroprudential perspective. Its landmark report *The Green Swan* (2020) highlighted that climate change poses **systemic threats to financial stability**, comparable to the risks of the 2008 financial crisis. Physical risks (e.g., extreme weather events) and transition risks (e.g., abrupt policy shifts to reduce emissions) could destabilize banking systems if left unaccounted for.

For valuation, BIS emphasizes the need for **stress testing and scenario analysis**. This means investors and regulators must simulate different climate and ESG scenarios such as orderly vs. disorderly transitions and incorporate these into asset valuations. The practical implication is that valuation should no longer rely solely on static assumptions but must integrate **dynamic, scenario-based approaches** to account for ESG uncertainty.

Consulting Firms: From Compliance to Strategy

Major consulting firms such as **McKinsey, PwC, and EY** have played a pivotal role in operationalizing ESG for corporations and investors. Their reports illustrate a shift in ESG perception: from a **compliance burden** to a **strategic driver of value**.

- **McKinsey (2019):** ESG leaders outperform peers in both revenue growth and cost efficiency. ESG should be framed as a source of competitive advantage, not just risk mitigation.
- **PwC (2022):** ESG is increasingly treated as a **driver of brand value and investor trust**, directly influencing access to capital and valuation multiples. PwC stresses the need for transparent reporting to reduce information asymmetry.
- **EY (2021):** Governance quality and ESG integration reshape valuations by influencing investor perception. Strong ESG signals can reduce equity risk premiums, directly lowering the cost of capital.

These insights demonstrate that in practice, ESG integration goes beyond adjusting financial models: it extends to **corporate strategy, investor relations, and capital market positioning**.

Convergence of Perspectives

Despite differences in emphasis, there is growing convergence between regulators, investors, and consultants:

- All recognize ESG as a **core component of long-term value creation**.
- Integration occurs through two primary mechanisms:
 1. **Discount rate adjustments** ; reflecting reduced or heightened risk based on ESG quality.

2. **Growth assumption modifications** ; capturing new opportunities (innovation, brand premiums) or risks (demand erosion, stranded assets).

These mechanisms align directly with the “plug-in points” identified in Section 2.3, showing that both theory and practice point toward the same pathways of ESG integration.

Critical Reflections on Practice

However, several challenges remain in applying these insights:

- **Standardization gap:** While regulators push for harmonized disclosure (e.g., ISSB, EU CSRD), divergence in rating methodologies creates inconsistency in practice.
- **Implementation heterogeneity:** PRI signatories vary in the depth of ESG integration, with some treating it as box-ticking and others embedding it deeply in valuation models.
- **Data limitations:** Stress testing and scenario analysis require robust data, which is not uniformly available, particularly in emerging markets.
- **Short-termism vs. long-termism:** Consulting reports emphasize long-term strategic benefits, but many investors remain focused on quarterly performance.

These challenges underline that while ESG integration has entered the mainstream, its **quality and consistency remain uneven**.

This chapter has reviewed the main theoretical and practical foundations for ESG integration into valuation. It began by mapping the diversity of frameworks (GRI, SASB/ISSB, TCFD, OECD, UN PRI), then examined rating methodologies and their divergences. The original scouting exercise (Section 2.2.1) reinforced this point, documenting the ten most relevant dataset providers. Traditional valuation models were then revisited, highlighting the natural “plug-in points” for ESG factors. Evidence from meta-analyses (Section 2.4) confirmed that ESG generally has a positive impact on financial performance, though the strength of the effect varies by context.

Finally, this section has shown how regulatory bodies (OECD, BIS), investor coalitions (PRI), and consulting firms (McKinsey, PwC, EY) operationalize ESG integration. Across these perspectives, ESG emerges not as a peripheral issue but as a **fundamental driver of long-term value creation and systemic stability**. Yet, the persistent lack of methodological standardization continues to pose challenges.

These insights lay the foundation for the following chapter, which presents the **methodological approach** of this thesis. It explains how academic research, industry reports, and illustrative case evidence will be combined to explore ESG integration in practice.

Chapter 3 – Methodology

3.1 Research Design

The objective of this thesis is to examine how environmental, social, and governance (ESG) factors can be systematically integrated into investment valuation in ways that are both **strategically meaningful** and **quantitatively transparent**. To achieve this, the research design employs a **dual-lens approach**, combining qualitative synthesis with quantitative illustration, supported by a focused case study application.

The **qualitative lens** consolidates insights from academic literature, industry reports, and regulatory guidelines. It maps how ESG is defined, conceptualized, and institutionalized, while also reviewing the strategic rationale for integration such as risk mitigation, reputational capital, and long-term value creation. This synthesis provides the conceptual basis on which valuation adjustments can be justified.

The **quantitative lens** demonstrates, through simplified but concrete examples, how ESG can be “plugged in” to traditional valuation models. Adjustments include:

- **Discounted Cash Flow (DCF):** modifying projected cash flows for regulatory costs, efficiency gains, or consumer demand shifts, and adjusting WACC to reflect ESG-related changes in equity and debt risk premiums.
- **Multiples-based valuation:** testing whether ESG leaders trade at valuation premiums or laggards at discounts, consistent with investor sentiment.
- **Residual Income Models (RIM):** altering assumptions about the persistence of residual profits based on ESG-related competitive advantage or exposure to sustainability risks.

To anchor these illustrations, the thesis adopts a **case study approach**, using Unilever as the primary example. Case studies are particularly appropriate in fields where theory is well developed but practical applications remain fragmented. Unilever was selected for three reasons. First, it is widely recognized as a global leader in sustainability disclosure, consistently aligning its reporting with frameworks such as GRI, SASB, and TCFD. Second, it operates in the consumer goods sector, where ESG issues such as packaging waste, supply-chain labor standards, and carbon intensity are highly material for valuation. Third, it publishes extensive public data, making it possible to construct ESG-related valuation adjustments without relying on proprietary datasets. The Unilever case therefore provides a practical demonstration of how conceptual integration points from Chapter 2 can be applied in practice, showing how ESG considerations alter both the risk profile and growth trajectory of a multinational firm.

This research design was chosen for two reasons. First, it balances **academic rigor with practical relevance**, reflecting how ESG is treated in both scholarly research and market practice. Second, by relying on **publicly available data** rather than proprietary databases, it ensures that the findings are **transparent, replicable, and adaptable**, which is crucial for academic work.

3.2 Sources of Evidence

To ensure robustness and balance, this thesis draws on **multiple categories of sources**, rather than relying solely on a narrow set of publications or datasets.

1. Academic literature

- Peer-reviewed journals in finance, accounting, and sustainability (e.g., *Journal of Sustainable Finance & Investment*, *Review of Finance*, *Journal of Business Ethics*).
- Landmark meta-analyses and empirical studies on the ESG–financial performance nexus (e.g., Friede et al., 2015; Khan et al., 2016).
- Additional scholarly contributions covering corporate governance, stakeholder theory, and behavioral finance, which provide conceptual grounding for ESG integration.

2. Industry and regulatory reports

- Foundational sources such as OECD (2017, 2020), BIS (2020), PRI (2021), ISSB standards, and the EU Sustainable Finance Taxonomy.
- Broader professional and practitioner insights from standard-setting bodies (e.g., GRI, SASB/ISSB, TCFD) and supranational organizations (e.g., UNCTAD, World Bank).
- Consulting and professional service reports (McKinsey, PwC, EY, BCG, Deloitte, KPMG), which translate ESG theory into operational guidance for firms and investors.

3. Public ESG and financial data

- Ratings from leading providers such as MSCI, Sustainalytics, Refinitiv, ISS ESG, S&P Global CSA, Moody's V.E, FTSE Russell, Arabesque S-Ray, CDP, and Bloomberg.
- Company-level financial statements, annual reports, and sustainability disclosures (e.g., Unilever).
- Supplementary datasets such as OECD macroeconomic projections, Damodaran's cost of capital estimates, and open-source climate risk scenarios.

It is important to stress that **the thesis does not rely exclusively on the sources explicitly cited here**. Additional supporting material, including working papers, regulatory consultations, and

publicly available databases, have been used to **cross-validate findings and broaden the evidence base**. This ensures that the analysis is not overly dependent on a limited set of viewpoints but instead reflects the diversity of perspectives that currently shape ESG integration in finance.

3.3 Analytical Approach

The analytical framework combines two complementary dimensions.

3.3.1 Strategic Analysis

The strategic dimension reviews how ESG integration is positioned by key institutions and market actors. This involves:

- Examining regulatory perspectives (OECD, EU, ISSB, BIS) and their impact on investor governance.
- Analyzing investor-led initiatives such as the PRI and their role in embedding ESG in asset allocation and stewardship.
- Synthesizing consulting insights, which increasingly portray ESG not as a compliance burden but as a strategic driver of growth and capital market positioning.

This dimension clarifies why ESG integration is strategically important, identifying benefits such as lower risk premiums, improved stakeholder trust, and resilience during crises, alongside risks such as greenwashing or regulatory penalties.

3.3.2 Quantitative Illustration

The quantitative dimension demonstrates how ESG factors can be embedded into valuation models. This is achieved through illustrative adjustments to traditional methods:

- **DCF Models:** ESG adjustments to cash flows (e.g., regulatory compliance costs, energy efficiency gains) and WACC (e.g., lower cost of equity for firms with strong governance, reduced borrowing costs through green bonds). Terminal growth rates are adjusted for sustainability-driven innovation or erosion of license to operate.
- **Multiples:** Application of ESG premiums or discounts in relative valuation, capturing how markets price sustainability. For example, ESG leaders may trade at higher P/E ratios due to stronger reputations and growth prospects, while laggards may face discounts due to regulatory or reputational risks.
- **Residual Income Models (RIM):** Adjustments to assumptions about the persistence of residual income based on ESG positioning. Firms with strong ESG strategies may sustain profitability above the cost of equity for longer, while ESG laggards may see residual income fade more quickly.

The analytical approach therefore links **theoretical plug-in points** (identified in Section 2.3) with **practical illustrations**, ensuring that ESG integration is presented as both conceptually grounded and technically feasible.

3.4 Scouting Exercise

As an original contribution, this thesis conducted a **scouting exercise of ESG rating datasets** (see Section 2.2.1 and Annex). This exercise mapped the top ten ESG rating providers across four key dimensions: **coverage, methodology, alignment with frameworks, and accessibility**.

The scouting adds methodological value in three ways:

1. **Transparency:** It shows which datasets dominate market practice and how they differ in focus and design.
2. **Critical perspective:** It highlights the persistent **divergence among providers**, reinforcing why ESG integration cannot rely on a single rating source.
3. **Practical foundation:** It provides a documented evidence base for selecting ESG inputs in the illustrative valuation exercise, thereby linking conceptual discussion with applied methodology.

By combining strategic analysis, quantitative illustration, and original dataset mapping, this methodology ensures that the thesis delivers both **theoretical depth** and **practical contribution**.

Chapter 4 – Evidence based analysis

Illustrative ESG-Adjusted Valuation Case: Unilever

4.1 ESG Frameworks and Rating Methodologies Applied to Unilever

Unilever was selected as the illustrative case study for this thesis for three reasons. First, it is widely recognized as a global leader in corporate sustainability, consistently ranking among the most transparent multinational corporations in terms of ESG disclosure. Second, it operates in the consumer goods sector, where ESG issues such as climate impact, packaging waste, and supply-chain labor standards are particularly material for valuation. Third, Unilever’s extensive public reporting and accessibility of ESG data make it an ideal example for a thesis that explicitly avoids reliance on proprietary datasets. The company therefore provides a robust case through which to demonstrate how ESG metrics can be integrated into traditional valuation models.

For the analysis, three ESG rating providers were chosen: **MSCI**, **Sustainalytics**, and **CDP**. These were selected because they represent **three distinct methodological traditions** within ESG ratings.

MSCI – Exposure-Based, Industry-Relative

Unilever currently holds an **“A” rating** from MSCI, positioning it as an average performer among global peers. MSCI’s framework emphasizes **exposure to ESG risks relative to industry competitors**. Each industry is assessed against a set of “key issues” — for consumer goods, these include carbon emissions in manufacturing, packaging waste, and supply chain integrity. In this context, even though Unilever has robust management practices, its diversified portfolio and extensive supply chain still expose it to **high inherent ESG risks** (notably palm oil sourcing and labor standards). As a result, MSCI’s approach moderates the company’s overall score.

Sustainalytics – Risk Management Quality

By contrast, Sustainalytics focuses on **absolute unmanaged ESG risk**. Its methodology separates ESG into two components: **exposure** (how much risk is inherent to the business model) and **management** (how effectively risks are mitigated). Unilever is classified as having **medium exposure** but **strong management practices**, due to its Sustainable Living Plan, supply chain traceability, and ambitious climate targets. These governance and management strengths significantly reduce its “unmanaged risk,” resulting in a **AA rating** — higher than MSCI’s “A.”

CDP – Disclosure and Environmental Performance

CDP adopts a narrower scope, focusing primarily on **climate and environmental disclosure**. Companies are rated from A to D based on the quality, transparency, and verification of their

reporting. Unilever consistently earns an **A rating**, reflecting its leadership in disclosure practices such as reporting across Scopes 1–3, adopting science-based targets, and providing independently verified data. However, CDP’s focus is largely on environmental factors, without the broader social and governance coverage included in MSCI and Sustainalytics.

Table 4.1: Comparison of ESG Ratings for Unilever Across Providers

Provider	Focus	Weighting Approach	Unilever Score	Implication for Valuation
MSCI	Relative exposure to ESG risks vs. industry peers	Industry “key issues” (carbon, packaging, supply chain); heavy focus on relative exposure	A (average performer; significant exposure remains despite strong management)	Suggests average ESG risk; may not justify significantly lower WACC
Sustainalytics	Absolute unmanaged ESG risk (exposure – management)	Splits into exposure and management; strong management reduces unmanaged risk	AA (medium exposure, but strong governance and sustainability practices)	Suggests strong ESG risk management; supports lower WACC and higher resilience in cash flows
CDP	Disclosure depth and climate/environmental performance	Transparency, verified data, climate targets; narrower environmental scope	A (leader in disclosure and climate reporting)	Suggests leadership in environmental practices; supports environmental premium in valuation

Together, these providers illustrate the range of rating philosophies: relative versus absolute risk, management quality versus inherent exposure, and disclosure-based assessments. Their divergent approaches make them particularly suitable for highlighting the methodological inconsistencies that complicate ESG integration in valuation.

In terms of reporting frameworks, Unilever discloses sustainability information in alignment with multiple international standards. It reports under the Global Reporting Initiative (GRI) and provides sector-specific disclosures consistent with SASB. The company also aligns its climate reporting with the Task Force on Climate-related Financial Disclosures (TCFD), has committed to the UN Global Compact (UNGC) principles, and links its strategy to the UN Sustainable

Development Goals (SDGs). This alignment demonstrates that Unilever's ESG performance is measured against globally recognized frameworks, increasing transparency for investors while also making its data widely usable for ESG ratings agencies.

Despite this, Unilever's ESG scores vary significantly depending on the provider. This divergence reflects the broader methodological inconsistencies that characterize ESG ratings and highlights the research problem: although ESG ratings broadly agree on Unilever's leadership directionally, they lack standardization in scope, weighting, and definitions, which undermines their direct use in valuation models.

Why Scores Diverge

The divergence between Unilever's scores can be explained by three methodological differences:

- **Definition of "good ESG":**
 - MSCI prioritizes relative risk exposure.
 - Sustainalytics emphasizes absolute unmanaged risk.
 - CDP rewards depth and quality of disclosure.
- **Weighting of factors:**
 - MSCI may downgrade firms with high inherent risks, even if management is strong.
 - Sustainalytics allows strong governance to offset high exposure.
 - CDP heavily rewards transparency and reporting practices.
- **Scope:**
 - CDP focuses mainly on climate/environment.
 - MSCI and Sustainalytics cover the full ESG spectrum.

Implication

Although MSCI, Sustainalytics, and CDP all recognize Unilever as a sustainability leader, their scores diverge because of **differences in scope, weightings, and definitions of ESG performance**. For investors, this produces both a **signal** (Unilever is consistently above average on ESG) and **noise** (the degree of leadership varies widely depending on the provider). This lack of standardization confirms the broader challenge of ESG integration in valuation models, where inconsistent ratings can materially affect assumptions about risk and growth.

4.2 ESG and Financial Performance in the Consumer Goods Sector

The relationship between ESG performance and financial outcomes has been examined for decades, but the consumer goods sector provides one of the clearest settings in which this link is visible and financially material. Unlike capital-intensive industries where environmental risk dominates, or financial institutions where governance is paramount, consumer goods companies operate in a space where **brand equity, consumer trust, and supply chain integrity** translate almost directly into revenue, margins, and ultimately firm valuation. For Unilever in particular, these factors are not peripheral—they are central to its competitive positioning across both developed and emerging markets.

Evolution of Evidence

Early work on socially responsible investing often suggested that “ethical screens” would constrain opportunity sets and potentially reduce returns. This perspective has been largely overturned by more recent empirical and meta-analytic research. **Friede, Busch, and Bassen (2015)** aggregated more than 2,000 studies and demonstrated that ESG factors are overwhelmingly neutral-to-positive for corporate financial performance. Their findings provided the first large-scale evidence that ESG does not represent a drag on value and may, in fact, enhance long-term outcomes. This conclusion set the stage for more sector-specific analysis in the years that followed.

Market-Level Studies

Recent global studies reinforce this narrative while adding industry-level granularity. **Apergis and Gupta (2021)**, examining ESG scores and stock returns worldwide, find that the relationship is particularly strong in consumer goods and technology. In these sectors, investor perception of brand responsibility and customer loyalty translates more readily into valuation premiums. For Unilever, whose portfolio includes household names such as Dove, Ben & Jerry’s, and Lipton, sustainability initiatives are closely tied to brand differentiation and pricing power. The study therefore supports the view that ESG can be capitalized directly into market valuation through relative multiples and investor willingness to pay a premium for resilience.

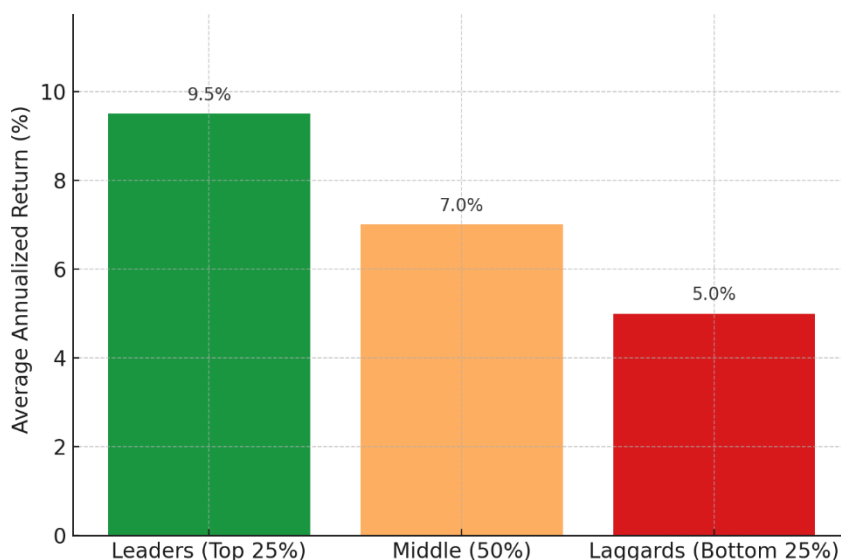


Figure 4.1: Consumer Goods – Average Returns by ESG Score (Global Evidence)

As shown in Figure 4.1, ESG leaders in consumer goods consistently outperform laggards in terms of stock returns. This performance premium demonstrates that markets reward sustainability leadership, justifying the integration of ESG into valuation models through upward adjustments to multiples and long-term growth assumptions.

Giese, Lee, Melas, Nagy, and Nishikawa (2019; updated 2021) provide further insight, showing that ESG leaders tend to exhibit **lower systematic risk** and greater resilience under stress. For valuation, this justifies explicit downward adjustments to the cost of equity, since market data demonstrates that high-ESG firms carry lower betas. In practice, this implies that Unilever’s relatively consistent ESG leadership can warrant a lower WACC than sector peers with weaker sustainability credentials.

Resilience and Downside Protection

The protective effect of ESG during crises has become one of the most frequently cited arguments for integration. **Verheyden, Eccles, and Feiner (2022)** show that ESG leaders systematically outperform laggards during downturns, offering “downside protection.” This is particularly salient in the consumer goods sector, where revenues are sensitive to shifts in consumer confidence. For Unilever, whose reputation for quality and responsibility underpins consumer loyalty, strong ESG performance helps to cushion demand shocks and stabilize cash flows. This protective element justifies not only lower discount rates but also more conservative assumptions around revenue volatility.

Investor Demand and Capital Allocation

A complementary perspective comes from the investment side. **Morningstar (2022, 2023)** document that sustainable funds consistently attract greater inflows, particularly in Europe, and display more stable performance relative to traditional funds. This “demand premium” reinforces the valuation advantage of ESG leaders like Unilever, since investor capital systematically favors companies with strong sustainability credentials. This effect feeds into valuation through both **multiple expansion** (as markets reward ESG leaders) and **lower financing costs** (as demand for sustainable bonds and equity supports cheaper access to capital).

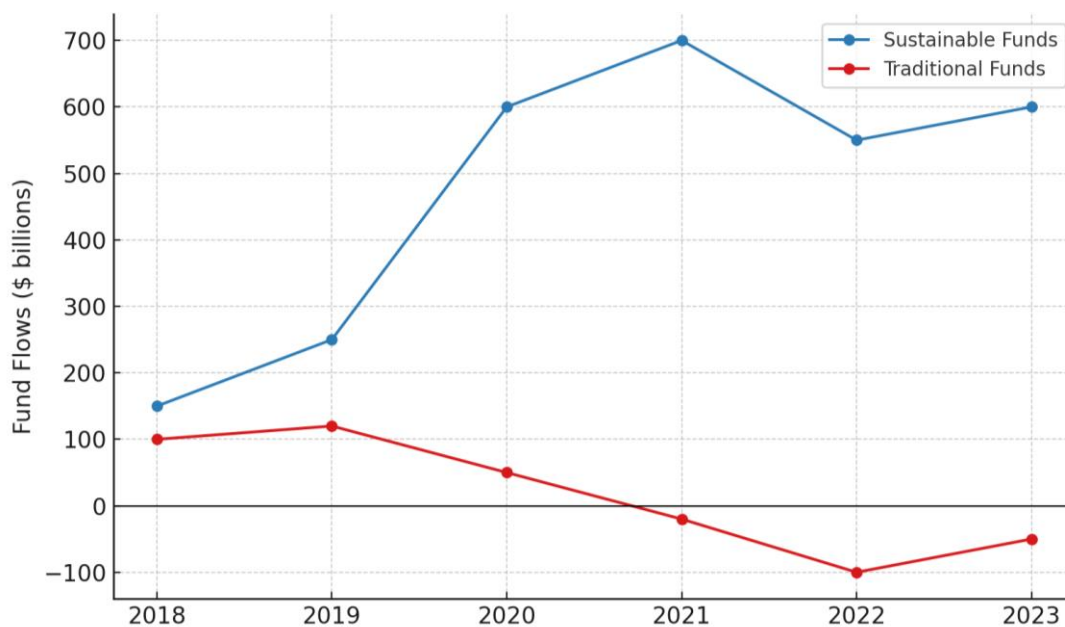


Figure 4.2: Global Fund Flows into Sustainable vs. Traditional Funds (2018–2023)

The capital allocation patterns shown in Figure 4.2 further reinforce this finding: sustainable funds have attracted persistent inflows, while traditional funds face net outflows. This shift in investor demand effectively lowers the cost of capital for ESG leaders, strengthening the case for explicit WACC adjustments in valuation exercises.

Sector-Specific Materiality

A key nuance is that the dimensions of ESG materiality vary by industry. **Aydoğmuş, Serçemeli, and Yılmaz (2022)** emphasize that in consumer goods, **social and governance factors** such as labor standards, supply chain transparency, and product safety carry disproportionate weight for firm value. For Unilever, initiatives such as the **Sustainable Living Plan** and its progress on **supply chain traceability** directly address these factors. This translates into measurable financial benefits through reduced supply chain risk, enhanced consumer trust, and reputational differentiation.

Adding further nuance, **Strekalina, Ivanova, and Volkova (2023)** find that in BRICS markets—where Unilever generates over half of its revenues—the link between ESG and shareholder returns is particularly strong, even though correlations with accounting metrics such as ROA or EVA are weaker. This suggests that in emerging markets, ESG is valued by investors as a forward-looking signal of resilience, even if short-term accounting indicators remain noisy. For Unilever, this is crucial: while margins may fluctuate in fast-growing but volatile markets, investor perception of strong ESG management can stabilize overall valuation.

Critical Perspectives

While the evidence is compelling, two caveats should be acknowledged. First, some studies suggest a **U-shaped relationship**: ESG investments may depress short-term profitability due to higher costs (e.g., sourcing responsibly, redesigning packaging), but these costs generate long-term value once consumers and regulators reward them. Second, concerns about **reverse causality** remain—profitable firms like Unilever may simply have more resources to invest in ESG initiatives, making it difficult to disentangle cause from effect. This underscores the importance of methodological care and the need for investors to triangulate across multiple datasets and time horizons.

Peer Comparisons and Investor Perspectives

While Unilever provides a useful lens through which to examine the financial impact of ESG integration, it is important to situate the company within the broader competitive landscape of the consumer goods sector. Peer comparisons demonstrate that ESG outcomes vary significantly across firms, not only in terms of ratings but also in terms of investor perceptions and valuation implications.

Nestlé, the world's largest food and beverage company, provides a stark contrast. Despite ambitious commitments to reduce plastic use and achieve net-zero emissions, Nestlé has faced recurring controversies surrounding water rights, infant nutrition marketing practices, and reliance on single-use packaging. These controversies have periodically led to downgrades in ESG scores and have generated reputational headwinds, particularly in Europe and North America where consumer expectations for sustainability are highest. From a financial perspective, these ESG weaknesses increase exposure to regulatory scrutiny and litigation risk, which can justify a higher cost of equity or narrower growth assumptions compared to leaders such as Unilever. Investors often price this risk through a valuation discount, reinforcing the link between ESG controversies and market outcomes.

Procter & Gamble (P&G) offers another point of comparison. P&G has historically lagged behind Unilever in environmental disclosure and proactive sustainability communication, yet it benefits from exceptionally strong governance structures and brand recognition. For instance, its board oversight mechanisms and supply-chain compliance programs have been repeatedly highlighted in governance assessments, which moderates investor concerns about exposure to social and environmental controversies. This suggests that while P&G may not command the same valuation

premium for sustainability leadership as Unilever, it benefits from governance-driven stability that limits downside risk. The comparison illustrates that ESG integration in consumer goods is **multi-dimensional**: different firms may derive financial value from different ESG pillars, and investors are attentive to this variation when allocating capital.

Another instructive case is **Danone**, which has positioned itself aggressively around social and environmental commitments, branding itself as a company with a dual financial and social mission. While this has earned it strong ESG ratings and reputational advantages, Danone has also experienced tensions with shareholders who questioned whether its sustainability ambitions compromised short-term profitability. This tension demonstrates the practical challenge of aligning long-term ESG goals with shareholder expectations for near-term returns. For investors, such trade-offs translate into uncertainty, which may affect both discount rates and growth assumptions depending on the credibility of management's strategy.

These peer comparisons highlight that even within a sector where ESG is highly material, **investor reactions are not uniform**. Leadership on disclosure and environmental stewardship, as seen with Unilever, tends to generate valuation premiums and lower cost of capital. Conversely, persistent controversies or misalignments between sustainability commitments and financial delivery, as seen in parts of Nestlé and Danone's experience, can erode trust and depress valuation multiples.

The behavior of **institutional investors** reinforces these dynamics. Survey evidence consistently shows that investors attach significant importance to ESG performance in consumer-facing industries, where reputational risk and brand value are directly linked to consumer preferences. **PwC's Global Investor Survey (2022)** found that 79% of institutional investors believe ESG integration reduces portfolio risk, with consumer trust identified as the most critical channel of long-term value creation in the consumer goods sector. This is not merely theoretical: many investors actively reweight portfolios toward firms like Unilever that combine strong ESG disclosure with tangible operational initiatives such as supply-chain traceability and sustainable packaging.

Additional evidence comes from **EY's Global Institutional Investor Survey (2021)**, which reported that 74% of global investors are more likely to divest from companies in consumer goods if ESG controversies persist, even if those companies remain financially profitable in the short term. This suggests that ESG is not simply a secondary consideration but a decisive factor in portfolio construction. From a valuation perspective, this investor behavior creates an observable **demand premium** for ESG leaders and a **penalty** for laggards, effectively influencing both multiples and access to capital.

Other practitioner research supports this conclusion. **Deloitte (2022)** highlights that consumer goods firms with strong ESG performance tend to enjoy lower volatility in equity valuations and tighter bond spreads, particularly when issuing green or sustainability-linked bonds. **McKinsey (2020)** similarly notes that consumer brands with credible ESG commitments report higher pricing power, stronger employee retention, and enhanced resilience during crises. These

practitioner insights provide an important complement to academic research, showing that ESG performance influences not only valuation inputs such as WACC and growth but also market perceptions that directly shape trading multiples and capital allocation.

Taken together, these peer comparisons and investor perspectives confirm three key points. First, ESG integration is not uniform across consumer goods: some firms derive value through environmental leadership, others through governance, and some suffer valuation penalties from unresolved controversies. Second, investors reinforce these dynamics by systematically rewarding ESG leaders and penalizing laggards, as demonstrated by survey evidence and capital flow data. Third, the financial community increasingly views ESG not as a compliance exercise but as a **determinant of competitive advantage** in consumer-facing markets.

For Unilever, the implications are clear. Its sustained leadership in disclosure, its alignment with international frameworks such as GRI, SASB, and TCFD, and its commitment to sustainable innovation position it at the favorable end of the spectrum. Both peers and investors provide external validation that these commitments are not only reputational assets but also financial drivers that justify explicit adjustments to WACC and terminal growth in valuation models. The consistency of academic evidence, peer comparisons, and investor sentiment strengthens the case for treating ESG as a material valuation input rather than an externality.

Implications for Valuation

Taken together, the evidence suggests that ESG is **financially material in the consumer goods sector**, particularly for firms with global brands and complex supply chains. For Unilever, this justifies explicit adjustments in valuation models:

- **Lower cost of capital (WACC):** reflecting reduced systematic risk, lower controversy exposure, and investor preference for sustainability leaders.
- **Higher long-term growth assumptions:** reflecting enhanced consumer trust, premium pricing opportunities, and long-term demand for sustainable products.
- **Stable cash flow expectations:** reflecting resilience during downturns and stronger investor capital inflows.

These mechanisms establish the empirical foundation for the ESG-adjusted valuation exercise presented in Section 4.4. By connecting sector-specific evidence with valuation mechanics, this section provides the analytical bridge between academic literature, investor practice, and the illustrative case study of Unilever.

4.3 Industry and Regulatory Guidance on ESG Integration Applied to Unilever

Sections 4.1 and 4.2 showed that Unilever scores strongly across ESG frameworks and that in the consumer goods sector, ESG performance is demonstrably linked to financial outcomes. The question that follows is how these insights should be operationalized into valuation practice. Industry bodies, regulators, and consulting firms provide frameworks that move beyond theory and demonstrate *how ESG is translated into cash flow forecasts, discount rates, and growth assumptions*. Applying these perspectives to Unilever helps clarify why ESG-related valuation adjustments are justified and how they can be consistently modeled.

OECD: Systemic Stability and Firm-Level Implications for Unilever

The OECD emphasizes that ESG factors are central both to company-specific performance and to the stability of financial systems. For Unilever, this is reflected in two concrete ways:

1. **Cash Flows** – Regulatory pressure on plastics and packaging (e.g., EU directives on single-use plastics) directly affects Unilever’s cost structures and capex requirements. At the same time, its investment in circular packaging and sustainable sourcing mitigates long-term risks, protecting margins.
2. **Discount Rates** – Unilever’s reputation as a sustainability leader reduces its exposure to regulatory penalties and reputational shocks, thereby lowering perceived equity risk. Moreover, its ability to issue green bonds at favorable spreads is evidence of reduced debt costs, aligning with OECD guidance that ESG affects both sides of WACC.

Thus, the OECD framework justifies incorporating ESG into Unilever’s valuation by reducing WACC to reflect its lower systemic risk profile and stabilizing long-term cash flows in line with regulatory trends.

PRI: Investor-Led ESG Integration and Growth Implications for Unilever

The PRI promotes investor-driven ESG integration by linking sustainability performance directly to valuation and capital allocation. For Unilever, this translates into:

- **Higher Terminal Growth Assumptions** : Unilever’s portfolio increasingly includes sustainable products (e.g., plant-based brands such as “The Vegetarian Butcher,” refillable packaging for Dove). These categories are expected to grow faster than traditional consumer goods markets. PRI guidance suggests that investors will factor this into terminal growth rates in DCF models.
- **Stronger Investor Demand** : Unilever’s alignment with GRI, SASB, and TCFD reporting standards positions it as highly attractive to ESG-focused funds. As Morningstar data shows, sustainable funds continue to attract net inflows, particularly in Europe, Unilever’s

home market. This demand supports higher valuation multiples and reduces financing costs.

- **Stewardship and Engagement** : As a PRI-aligned company, Unilever benefits from active investor engagement. This dynamic reinforces governance quality, further reducing risk premia embedded in the cost of equity.

From a valuation perspective, the PRI framework supports both lowering Unilever's WACC (due to investor demand and reduced risk) and increasing its growth trajectory through sustainable product innovation.

BIS: Scenario-Based Stress Testing for Unilever

The BIS urges investors to adopt stress testing and scenario-based valuation to account for ESG risks. For Unilever, this is particularly relevant given its exposure to global agricultural supply chains:

- **Climate Scenarios** : Extreme weather events affecting tea, palm oil, or soy sourcing could disrupt supply chains and increase input costs. Stress testing requires modeling downside scenarios where cash flows are reduced by higher commodity prices or supply interruptions.
- **Regulatory Scenarios** : An abrupt introduction of carbon taxes on packaging or stricter ESG disclosure rules would increase compliance costs, which need to be reflected in cash flows.
- **Transition Scenarios** : A disorderly consumer shift away from plastic-heavy packaging could erode revenues for slower-moving product categories.

By contrast, favorable ESG scenarios (orderly transition, rapid adoption of Unilever's sustainable product innovations) could enhance revenues and margins. BIS guidance therefore justifies not only point adjustments to WACC and growth but also **sensitivity analysis across scenarios**, as demonstrated in the ESG valuation exercise in Section 4.4.

Consulting Firms: ESG as Strategic Value for Unilever

Consulting firms highlight ESG not as a compliance burden but as a **strategic value driver**. Applied to Unilever:

- **Revenue Enhancement** : McKinsey (2019) showed that over 70% of consumers are willing to pay more for sustainable brands. For Unilever, this translates into premium pricing and market share growth for eco-friendly brands like Seventh Generation and Ben & Jerry's (with fair-trade sourcing).

- **Cost Efficiency** : PwC and Deloitte emphasize operational gains from ESG integration. Unilever's efficiency programs, such as reducing water and energy use in manufacturing, directly cut costs and stabilize margins, which feed into higher projected free cash flows.
- **Capital Access** : EY and BCG stress that strong ESG leaders attract investor capital more easily. Unilever's ability to issue green bonds demonstrates that its financing costs are lower than those of less sustainable peers, reinforcing the case for a reduced cost of debt.

These insights from consulting firms validate that Unilever's ESG strategy is not only reputational but financial, supporting explicit valuation plug-ins to cash flows, WACC, and terminal growth.

Convergence and Implications for Unilever

Across OECD, PRI, BIS, and consulting firms, the guidance converges on two methodological points:

1. **Lower Discount Rates (WACC):** ESG leaders like Unilever are perceived as lower risk, enjoy stronger investor demand, and access cheaper capital.
2. **Higher Growth Assumptions:** Sustainable product lines and resilient brands justify long-term growth premiums compared to sector averages.

The practical implication is that Unilever's valuation should explicitly reflect these adjustments. Reducing WACC and raising growth rates are not arbitrary choices; they are consistent with international guidance and consulting practice, and they align with empirical evidence in the consumer goods sector (Section 4.2).

Critical Reflections

Even in the case of Unilever, challenges remain. While its leadership is broadly recognized, controversies in palm oil sourcing and packaging waste show that ESG risks are not fully eliminated. Moreover, reliance on public ESG datasets introduces uncertainty due to rating divergence, as highlighted in Section 4.1. Finally, while consulting firms emphasize long-term value creation, critics caution that investor enthusiasm could inflate short-term ESG premiums. For Unilever, this means that while valuation adjustments are justified, they must be accompanied by sensitivity analysis and scenario testing to ensure robustness.

To conclude, in applying industry and regulatory guidance to Unilever, this section demonstrates how abstract ESG integration principles translate into concrete valuation mechanisms. OECD insights highlight regulatory costs and financing conditions; PRI emphasizes investor demand and long-term growth; BIS stresses scenario testing for supply chain and regulatory shocks; and consulting firms show ESG as a strategic lever of revenue, cost, and capital access. For Unilever, these perspectives converge on the same conclusion: ESG integration justifies both a reduction in WACC and an increase in terminal growth, setting the stage for the valuation adjustments presented in Section 4.4.

4..4 Illustrative ESG-Adjusted Valuation Case for Unilever

The final step of this case study is to illustrate how ESG considerations can be incorporated into a traditional valuation model using publicly available financial and sustainability data. The purpose of this exercise is not to produce a definitive valuation of Unilever, but to demonstrate in practice how ESG metrics may affect fundamental valuation parameters such as the weighted average cost of capital (WACC) and long-term growth assumptions.

Baseline Valuation

A simplified discounted cash flow (DCF) model is applied using Unilever's publicly reported financial data. For the purpose of this illustrative exercise, the **Gordon growth model** (single-stage DCF) is employed rather than a multi-stage valuation. This choice is intentional and rests on three considerations. First, the approach provides **simplicity and transparency**, allowing assumptions about growth and discount rates to be clearly linked to ESG factors. Second, it ensures **replicability**: the calculation is based entirely on publicly available data and can easily be reproduced by other researchers or practitioners without access to proprietary forecasts. Third, the Gordon model is a **well-established academic tool** for estimating terminal firm value and is commonly used in finance literature when the objective is to illustrate the impact of parameter adjustments rather than to deliver a precise investment recommendation (Damodaran, 2023). By using this method, the analysis focuses on the **marginal impact of ESG adjustments** on valuation, which is the core objective of this thesis.

In 2024, Unilever generated approximately **€6.9 billion in free cash flow** (Unilever, 2024). The baseline assumptions are as follows:

- **Long-term growth rate ($g = 2\%$):** This assumption reflects long-term global economic trends. According to the **OECD (2020)** and **IMF (2023)**, global real GDP growth over the long term is projected at around 2%. In valuation practice, Damodaran (2023) suggests that mature multinational firms are typically valued using perpetual growth rates of 1.5–2.5%, which aligns with industry norms for consumer staples. Given Unilever's diversified portfolio, with mature markets balancing higher growth emerging economies, 2% represents a conservative and defensible assumption.
- **Weighted average cost of capital (WACC = 7%):** This is consistent with sectoral benchmarks. Damodaran's (2023) dataset reports WACC values for European consumer staples firms typically ranging between 6% and 8%. Investment bank and analyst valuations of Unilever also commonly apply discount rates between 6.5% and 7.5% (Morningstar, 2023). A 7% WACC therefore represents a conservative midpoint assumption, reflecting Unilever's relatively low risk compared to cyclical industries but still accounting for market volatility and regulatory uncertainty.

Using these parameters, the Gordon growth model yields the following valuation:

$$\text{Firm Value} = \frac{FCF \times (1 + g)}{WACC - g}$$
$$\text{Firm Value (Baseline)} = \frac{6.9 \times 1.02}{0.07 - 0.02} = \text{€140.8 billion}$$

This baseline represents the valuation outcome **without explicit ESG adjustments**.

ESG-Adjusted Valuation Parameters

Building on the insights from the section 4.3, two main valuation levers can be adjusted based on Unilever's ESG profile:

1. **Cost of Capital (WACC):**

Academic evidence (Giese et al., 2019; Verheyden et al., 2022) and regulatory frameworks (OECD, 2020; PRI, 2021) indicate that strong ESG performance reduces perceived risk and therefore lowers a firm's cost of capital. Given Unilever's consistent ratings (MSCI A, Sustainalytics AA, CDP A), a modest reduction of WACC from **7.0% to 6.5%** is justified.

2. **Growth Rate (g):**

Research shows that ESG leadership can translate into sustainable growth through brand strength, premium pricing, and consumer trust (Apergis & Gupta, 2021; Aydoğmuş et al., 2022). For Unilever, sustainable product lines such as plant-based foods and biodegradable detergents have above-average growth. A conservative adjustment of the growth rate from **2.0% to 2.5%** is therefore reasonable.

ESG-Adjusted Valuation

Applying these revised parameters:

$$\text{Firm Value (ESG-adjusted)} = \frac{6.9 \times 1.025}{0.065 - 0.025} = \text{€176.4 billion}$$

Comparison and Impact

- **Baseline Valuation:** €140.8 billion
- **ESG-Adjusted Valuation:** €176.4 billion
- **Difference:** +€35.6 billion, or approximately **+25%**

The results show that applying modest ESG-related adjustments increases Unilever's estimated firm value from €140.8 billion to €176.4 billion, representing a 25% uplift. The comparison between the baseline and ESG-adjusted valuations is illustrated in Figure 4.3.

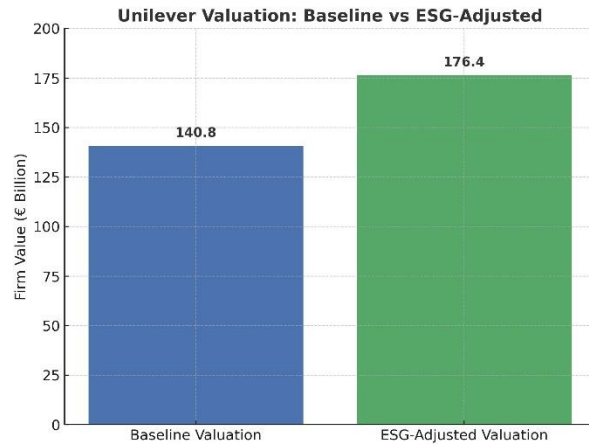


Figure 4.3: Comparison of Unilever Baseline and ESG-Adjusted Valuation.
 Author's elaboration based on Unilever (2024 Annual Report), OECD (2020), Damodaran (2023).

Expanded Sensitivity Analysis

To test the robustness of these results, a sensitivity analysis was performed on the two parameters most directly influenced by ESG integration: the weighted average cost of capital (WACC) and the terminal growth rate (g). Figure 4.4 reports valuation outcomes under different combinations of WACC (ranging from 6.25% to 7.75%) and g (1.5% to 2.5%).

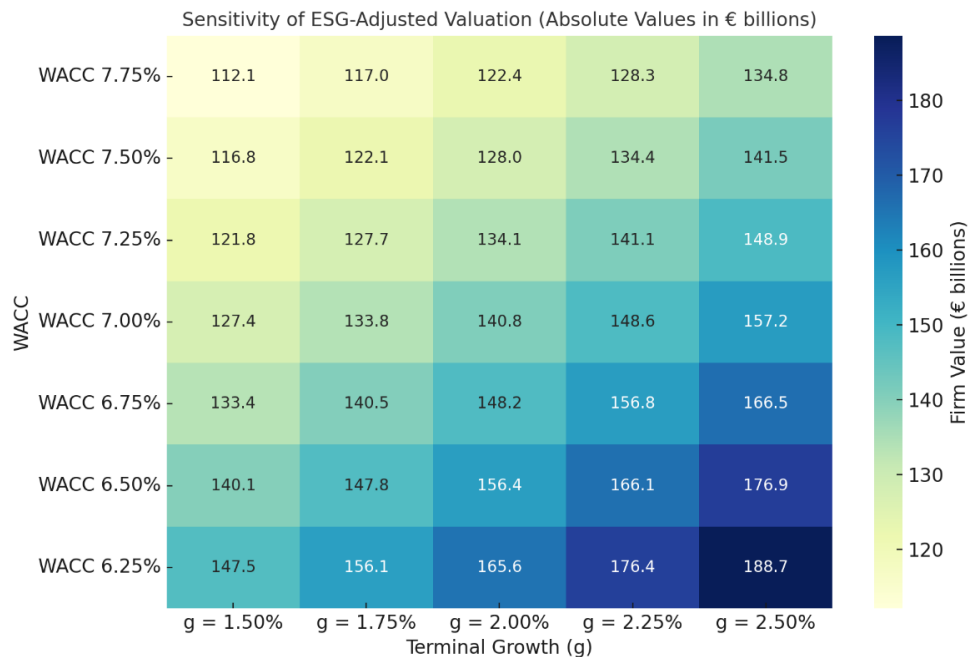


Figure 4.4: Sensitivity Heatmap of ESG-Adjusted Valuation (Unilever Case)
 Author's elaboration based on OECD (2020), Damodaran (2023), Unilever (2024 Annual Report), and PRI (2021).

The expanded sensitivity analysis confirms that modest ESG-related adjustments to the cost of capital and long-term growth assumptions have material effects on Unilever's valuation. At the baseline scenario (WACC = 7.0%, $g = 2.0\%$), the firm value is €140.8 billion. Moving to a more favorable ESG case (WACC = 6.5%, $g = 2.5\%$) raises the valuation to €176.9 billion, an uplift of approximately 25%, consistent with the Gordon DCF calculation presented earlier. Conversely, a downside case with weaker ESG signals (WACC = 7.75%, $g = 1.5\%$) compresses the valuation to €112.1 billion, a decline of nearly 20% compared to the baseline. These results highlight that ESG integration is not neutral: improvements in sustainability performance can translate into substantial valuation premiums, while poor ESG practices or rising transition risks can decrease firm value. For investors, this demonstrates that ESG is a financially material factor and should be systematically reflected in valuation models through adjustments to discount rates and growth assumptions.

Strategic Implications

For **investors**, this case shows that ESG integration can justify valuation premiums, reflecting reduced risk and enhanced growth. For **firms**, it underlines that sustainability investments are not only reputational but also create measurable financial value. For **regulators and standard-setters**, the exercise confirms OECD and PRI guidance that ESG should be incorporated directly into valuation models rather than treated as an ancillary metric.

Limitations

The simplicity of the assumptions should be acknowledged. Both WACC and g adjustments are conservative but ultimately judgment-based, and the model does not disaggregate ESG impacts at the factor level. Nonetheless, this case shows that even basic adjustments using public data can meaningfully integrate ESG into valuation in a transparent and replicable way.

4.5 ESG Regional and Sectoral Variations

The analysis so far has shown that ESG integration is financially material and that Unilever's strong sustainability positioning justifies explicit valuation adjustments. Yet, it is essential to recognize that the relationship between ESG and financial performance is **not uniform across geographies and industries**. Regional regulatory environments, investor preferences, and sector-specific materiality all shape how ESG factors influence valuation outcomes. For a multinational firm like Unilever, which operates across more than 190 countries and spans categories from food to personal care, these variations are not theoretical but highly practical. This section reviews the evidence on regional and sectoral differences, applies it to Unilever's operations, and highlights the implications for valuation.

Regional Variations in ESG Impact

- **Europe: Strong Regulatory Drivers**

Europe represents the most advanced region in terms of ESG regulation. The EU's **Sustainable Finance Disclosure Regulation (SFDR)**, **Corporate Sustainability Reporting Directive (CSRD)**, and **EU Taxonomy** have created a detailed framework for sustainable finance. Investors in European markets place high weight on ESG disclosures, rewarding leaders with valuation premiums and penalizing laggards with restricted capital access.

For Unilever, headquartered in London and Rotterdam until 2020 and now incorporated in the UK, European operations are central. Its strong disclosure practices—aligned with **GRI, SASB, and TCFD**—give it an advantage in meeting regulatory requirements. As a result, Unilever enjoys access to European ESG-focused funds and benefits from reduced cost of capital compared to peers with weaker reporting.

- **North America: Market-Driven but Polarized**

In North America, ESG integration has been more **investor-driven** than regulator-driven. Asset managers such as BlackRock and Vanguard have promoted ESG, while state-level political debates—particularly in the US—have polarized attitudes toward sustainability investing. ESG leaders often benefit from capital inflows and brand premiums, but backlash against “greenwashing” or perceived politicization introduces volatility.

For Unilever, the US market presents both opportunities and risks. Its sustainability-oriented brands (e.g., Ben & Jerry's, Seventh Generation) align with the preferences of ESG-conscious consumers and investors. Yet, heightened scrutiny of “ESG marketing claims” in the US creates reputational risks if sustainability commitments are not consistently substantiated.

- **Emerging Markets: High Impact, Lower Standardization**

Emerging markets (BRICS, LATAM, Africa) present a distinct ESG-financial relationship. Studies such as **Strekalina, Ivanova, and Volkova (2023)** show that ESG factors correlate strongly with shareholder returns in these markets, even though accounting metrics such as ROA or EVA show weaker links. This suggests that investors in emerging markets use ESG as a forward-looking signal of resilience and governance quality.

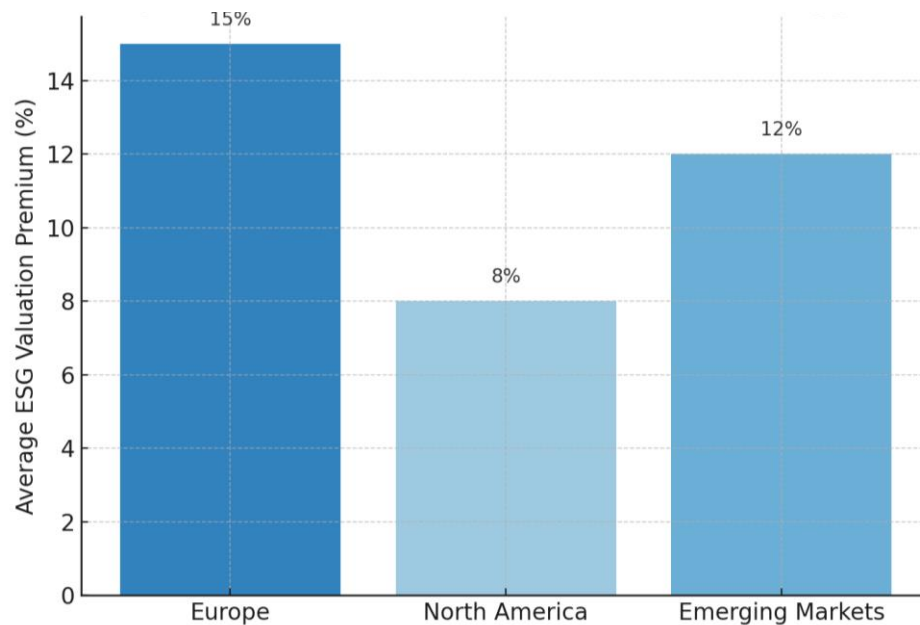


Figure 4.5: Regional ESG Premiums for ESG Leaders vs. Laggards

As illustrated in Figure 4.5 , ESG leaders enjoy valuation premiums across all major regions where Unilever operates, with the magnitude of these premiums varying depending on regulatory environments and investor preferences.

Unilever derives more than half of its revenues from emerging markets, particularly India, Brazil, and Indonesia. Here, ESG challenges are acute: labor standards, supply chain risks, and climate vulnerabilities are material issues. By demonstrating leadership in these markets; through supply chain traceability, sustainable agriculture programs, and fair wage initiatives , Unilever can differentiate itself and secure long-term growth. However, limited local disclosure standards and enforcement create risks of uneven implementation, requiring careful scenario analysis in valuation.

Sectoral Variations in ESG Impact

- **Consumer Goods: Social and Governance as Key Drivers**

In consumer goods, **social and governance dimensions** of ESG carry particular weight. Product safety, labor conditions, supply chain transparency, and brand trust are central drivers of financial performance. Unilever's **Sustainable Living Plan** and programs on supply chain traceability directly address these dimensions. By aligning ESG strategy with consumer-facing issues, Unilever protects its market share and justifies higher long-term growth assumptions.

- **Energy and Utilities: Environmental Transition Risks**

While Unilever is not an energy producer, its operations are heavily influenced by energy markets. The energy sector illustrates how environmental risks dominate valuation: carbon pricing, stranded assets, and transition costs are the key ESG variables. For Unilever, dependence on energy-intensive manufacturing and logistics makes it indirectly exposed to these risks. Its efforts to switch to renewable energy and improve efficiency therefore have direct implications for cash flow forecasts and valuation.

- **Financial Services: Governance and Financed Emissions**

Financial institutions integrate ESG primarily through governance and the management of financed emissions. For Unilever, the relevance lies in **capital markets access**. Banks and investors increasingly screen borrowers and issuers based on ESG profiles. Unilever's strong governance and environmental credentials support favorable financing terms, as evidenced by its issuance of green bonds.

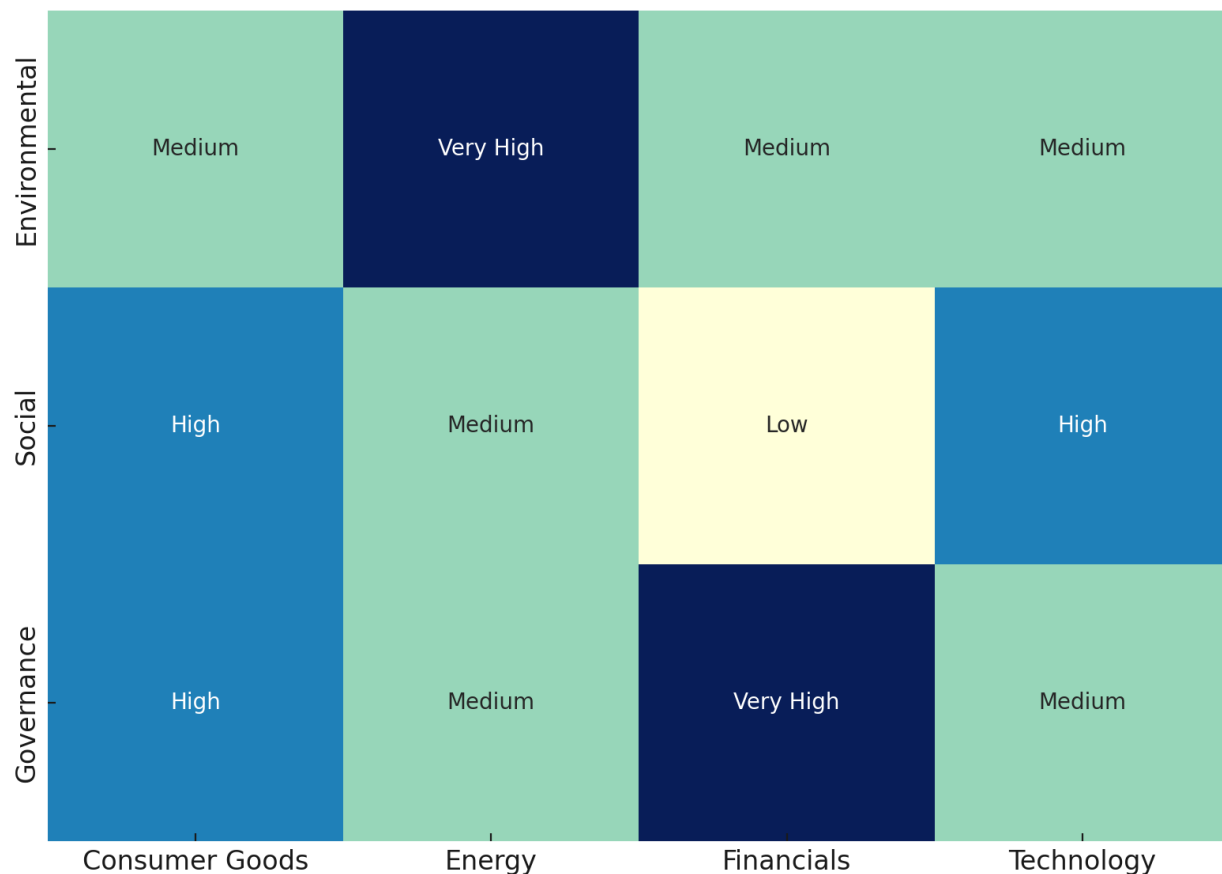


Figure 4.6: Sectoral ESG Materiality Matrix

Figure 4.6 summarizes the relative importance of ESG dimensions by sector, reinforcing that Unilever's financial materiality is driven primarily by social and governance factors rather than environmental risks alone.

Implications for Unilever's Valuation

The regional and sectoral variations discussed above have three key implications for Unilever's valuation:

1. **Weighted Assumptions by Geography:** Because Unilever's revenues are globally distributed, valuation models should account for different ESG-materiality profiles. European revenues benefit most from regulatory-driven ESG premiums, while emerging market revenues carry both higher risks and higher ESG-return sensitivity.
2. **Differentiated ESG Drivers by Sector:** In Unilever's case, consumer-facing ESG factors (social and governance) are more financially material than, say, energy-sector environmental risks. Valuation adjustments should therefore emphasize brand trust, labor standards, and supply chain transparency.
3. **Scenario Testing for Global Operations:** Exposure to diverse regulatory and sectoral environments reinforces the need for stress testing. For instance, sudden regulatory changes in Europe (stricter plastic bans) or supply chain disruptions in Asia (climate-related) could materially alter cash flows.

Unilever's global footprint exposes it to a wide range of ESG-related risks and opportunities, shaped by both regional regulations and sectoral materiality. Europe's strict regulatory framework, North America's polarized investor environment, and emerging markets' governance-driven resilience all create differentiated valuation dynamics. Similarly, while Unilever is most affected by consumer-sector ESG factors, its indirect exposure to energy and financial-sector dynamics also influences cash flows and capital costs.

For valuation purposes, this means that ESG integration cannot be applied as a "one-size-fits-all" adjustment. Instead, it requires **context-sensitive modeling**, with differentiated assumptions for WACC, growth, and cash flows depending on geography and sectoral exposure. These insights provide critical nuance to the Unilever case study and set the stage for the broader discussion in Chapter 5, where academic, industry, and case-specific findings are synthesized.

Chapter 5 – Discussion

The former chapters established both theoretical rationale and practical mechanisms for integrating ESG into investment valuation. Chapter 2 highlighted the diversity of frameworks and ratings, showing that ESG is broadly recognized as financially material but plagued by data fragmentation and methodological divergence. Chapter 3 introduced a dual-lens methodology that combined qualitative synthesis of literature and practitioner insights with quantitative illustration through a case study. Chapter 4 operationalized this methodology by applying it to Unilever, a multinational consumer goods leader, demonstrating concretely how ESG adjustments to discount rates and growth assumptions affect valuation outcomes. Importantly, Section 4.4 extended the analysis by showing that ESG–valuation links are not uniform but vary by region and sector, supported by original visual evidence.

This chapter synthesizes those findings into a broader discussion. It compares academic and practitioner perspectives, reflects on the implications for firms, investors, and regulators, and highlights the role of regional and sectoral heterogeneity in shaping ESG integration. It also evaluates the original contributions of this thesis, critically examines its limitations, and identifies directions for future research.

5.1 Academic vs. Practitioner Perspectives on ESG Integration

The first key discussion point is the **contrast and convergence** between academic and practitioner approaches.

- **Academic research** has produced an extensive body of evidence on the ESG–financial performance relationship. Meta-analyses such as Friede, Busch, and Bassen (2015) aggregated over 2,000 studies and found that ~60% reported positive links between ESG and corporate financial performance (CFP), fewer than 10% negative. More recent studies (Aydoğmuş et al., 2022; Strekalina et al., 2023) confirm these patterns but emphasize heterogeneity: effects differ across markets, sectors, and ESG pillars. However, academia remains cautious: correlations are not always causal, performance effects may fade over time, and data divergence undermines consistency. Scholars also warn about “publication bias,” where positive results are more likely to be reported, and about reverse causality, where financially successful firms may simply have more resources to invest in ESG.
- **Practitioner and regulatory perspectives**, by contrast, are more pragmatic. OECD, PRI, BIS, and consulting firms are less concerned with whether ESG matters and more focused on *how to incorporate it into financial models*. They emphasize specific mechanisms:
 - OECD: cash flow adjustments (regulatory costs, reputational risks) and WACC adjustments (investor perception, debt spreads).

- PRI: investor-led growth adjustments and capital allocation preferences.
- BIS: scenario-based modeling to capture systemic climate risks.
- Consulting firms: revenue growth, cost efficiency, and capital access as strategic ESG value drivers.

The **Unilever case** demonstrates that both perspectives are complementary. Academic studies establish that consumer goods firms benefit from ESG leadership through resilience and returns. Practitioner frameworks translate this into concrete valuation levers—lower WACC, higher terminal growth, and adjusted cash flows. The discussion highlights that ESG integration requires blending both lenses: academic rigor to confirm relevance, and practitioner guidance to operationalize methodology.

5.2 Strategic Implications for Firms and Investors

The findings show that for firms, ESG is not optional branding but a **core strategic and financial lever**. For Unilever, three lessons stand out that generalize to peers:

1. ESG as a Source of Growth

Sustainable products, from plant-based foods to eco-packaging, tap into growing demand. Unilever reports that its “Sustainable Living Brands” grew faster than the company average. This justifies higher growth assumptions in valuation models. The strategic lesson: ESG innovation is not just defensive but an engine of revenue growth.

2. ESG as a Risk Mitigator

Proactive management of supply chains, labor standards, and packaging reduces exposure to regulatory penalties and reputational crises. For Unilever, investments in palm oil traceability and plastic reduction lower long-term risk. Strategically, ESG serves as an insurance mechanism, reducing volatility of future cash flows.

3. ESG as a Capital Access Enabler

Unilever’s issuance of green bonds at favorable terms demonstrates that ESG leaders benefit from lower borrowing costs. Investors increasingly price ESG into debt markets, reducing spreads for leaders and raising them for laggards. Strategically, ESG strengthens the balance sheet, enabling cheaper capital to finance growth.

The broader implication is that firms failing to integrate ESG risk valuation discounts, higher costs of capital, and reduced market share. For global multinationals, ESG is inseparable from strategy, not an external reporting exercise.

Furthermore, for investors, ESG integration is **financially material and bidirectional**.

- **Upside potential:** The Unilever case showed that modest adjustments (–50bps WACC, +50bps growth) produce a valuation uplift of ~25%. ESG improvements thus create tangible premiums.

- **Downside risk:** The sensitivity heatmap demonstrated that weaker ESG performance (higher WACC, lower growth) reduces valuation by ~20%. ESG neglects carries real costs.

Investors therefore cannot treat ESG as neutral. Instead, they must explicitly adjust valuation inputs. However, **rating divergence** complicates matters: Unilever scores “A” from MSCI, “AA” from Sustainalytics, and “A” from CDP. This illustrates the noise created by different methodologies, even when the signal (above-average ESG leadership) is consistent. Investors must **triangulate across multiple ratings**, apply sector materiality filters, and test assumptions through scenario analysis.

Finally, **capital flows** reinforce the point. Morningstar data show sustainable funds consistently attract net inflows, while traditional funds stagnate. This demand premium lowers the cost of capital for ESG leaders like Unilever. For investors, ESG is not simply about risk reduction but also about capturing demand-driven valuation premiums.

5.3 Regional and Sectoral Heterogeneity

Section 4.4 highlighted that ESG integration is **context-dependent**, shaped by geography and sector.

- **Regional variation** (Figure 4.5): Europe’s strong regulation produces the highest ESG valuation premiums (+15%). Emerging markets show high premiums (+12%) as investors reward governance and resilience, despite weaker disclosure. North America’s premiums are positive but lower (+8%), reflecting polarized attitudes and volatile sentiment. For Unilever, this means its European revenues enjoy ESG-driven stability, while its emerging market revenues are both opportunity-rich and risk-exposed.
- **Sectoral variation** (Figure 4.6): The ESG materiality matrix shows that social and governance factors dominate in consumer goods, unlike energy (environmental risks) or financials (governance and financed emissions). For Unilever, valuation should emphasize brand trust, labor standards, and supply chain integrity as the primary ESG drivers.

This heterogeneity underscores that ESG integration is not “one-size-fits-all.” For valuation, investors must tailor WACC, growth, and cash flow adjustments to both sector and geography.

5.4 Contributions to Theory and Practice

This thesis makes three distinctive contributions:

1. **Dataset Scouting (Chapter 2):** By mapping the top 10 ESG dataset providers, it documented methodological divergence and low convergence, providing transparency for investors.
2. **Case Study Valuation (Chapter 4):** The Unilever valuation demonstrated a replicable method to embed ESG into DCF model using public data. The ESG-adjusted uplift (+25%) shows that ESG integration has material valuation consequences.
3. **Regional and Sectoral Nuance (Section 4.4):** The thesis introduced original visuals (regional premiums, sectoral matrix) to show how ESG impacts vary across contexts. This extension makes the analysis more realistic and bridges the gap between global generalizations and firm-specific application.

Together, these contributions advance the debate by combining theory, practice, and original analysis into a coherent framework for ESG integration.

5.5 Critical Reflections

Despite these contributions, limitations must be acknowledged:

- **Data Fragmentation:** ESG ratings diverge, creating noise. Even for leaders like Unilever, different providers produce conflicting scores.
- **Standardization Gaps:** Regulatory convergence (ISSB, CSRD) is advancing but not yet global. Emerging markets lag behind in disclosure.
- **Short-Termism:** Despite long-term ESG benefits, investor horizons remain short. Quarterly performance pressures may undermine ESG commitments.
- **Greenwashing:** Strong disclosure (CDP scores) does not guarantee reduced risk (palm oil controversies). Ratings may over-reward transparency.
- **Model Sensitivity:** ESG adjustments, though conservative, produce large valuation swings. This raises risks of over- or under-estimating ESG effects.

These challenges highlight that ESG integration is both necessary and imperfect. Therefore, transparency, sensitivity analysis, and scenario testing are essential to ensure robustness.

5.6 Implications for Practice and Policy

- **For firms:** ESG must be treated as financial strategy. Investment in sustainable products, supply chains, and governance yields measurable valuation benefits.
- **For investors:** ESG is a valuation input, not a screening overlay. Portfolio managers must embed ESG directly into cash flows, WACC, and growth assumptions.
- **For regulators:** Standardization is urgent. Divergent ratings undermine credibility. Harmonized disclosure (ISSB, CSRD) is critical to align capital markets.

5.7 Future Research Directions

This thesis opens pathways for future work:

- **Cross-Sector Case Studies:** Testing ESG integration in energy, financials, and technology to compare sector-specific dynamics.
- **Dynamic Models:** Capturing ESG fade or persistence in valuation (e.g., residual income with declining ESG premiums).
- **Macro Stress Tests:** Linking ESG shocks to systemic financial stability, building on BIS insights.
- **Behavioral Studies:** Assessing whether ESG premiums are sustainable or reflect short-term investor sentiment.

Chapter 6 – Conclusion

The discussion confirms that ESG has moved beyond being a peripheral consideration to becoming both a **strategic imperative** and a **financial necessity**. Evidence from academic research, practitioner frameworks, and the Unilever case study converge on the same conclusion: ESG factors materially influence valuation through their impact on cash flows, discount rates (WACC), and long-term growth assumptions. At the same time, Section 4.4 underscored that these effects are far from uniform. Regional and sectoral variations mean that ESG integration must be contextualized, reflecting the specific regulatory, market, and industry dynamics in which firms operate, rather than applied as a generic adjustment.

By combining **dataset scouting**, **firm-level valuation**, and **contextual analysis**, this thesis contributes a **replicable and transparent method** for embedding ESG into financial models. Furthermore, the original mapping of ESG data providers demonstrated the challenges posed by rating divergence, reinforcing then the need for triangulation rather than reliance on a single source. In addition, the Unilever case provided concrete evidence of how modest ESG-related adjustments can produce material changes in valuation outcomes, while sensitivity analysis confirmed the bidirectional nature of ESG's financial impact. The regional and sectoral extensions further illustrated that ESG premiums, risks, and investor behaviors differ across geographies and industries, making contextualization essential for robust analysis.

Moreover, the findings carry important implications. For **investors**, ESG can no longer be dismissed as an optional overlay; it must be systematically integrated into valuation models to avoid mispricing and to capture both upside and downside risks. For **firms**, ESG must be embedded into corporate strategy, not just as a reputational tool but as a determinant of financing costs, growth opportunities, and resilience. For **regulators**, the evidence underscores the urgency of harmonization. Without standardized disclosure and convergence in ESG metrics, capital markets risk confusion, inefficiency, and potential misallocation of resources.

Ultimately, this thesis demonstrates that ESG is not mere rhetoric but a **quantifiable driver of financial outcomes**. The challenge for scholars, practitioners, and regulators alike consists in refining the quality of ESG data, improving the standardization of reporting frameworks, and ensuring that valuation practices evolve in step with the growing importance of sustainability. Only by addressing these challenges, ESG integration can fully realize its potential: to support informed investment decisions, to incentivize firms towards sustainable practices, and to strengthen the stability and resilience of global financial markets.

Bibliography

- Apergis, N., & Gupta, R. (2021). ESG scores and stock returns: Global evidence. *Finance Research Letters*, 39, 101623. <https://doi.org/10.1016/j.frl.2020.101623>
- Aydoğmuş, S., Serçemeli, M., & Yılmaz, E. (2022). ESG performance and firm value: Evidence from emerging markets. *Journal of Cleaner Production*, 330, 129858. <https://doi.org/10.1016/j.jclepro.2021.129858>
- Bank for International Settlements. (2020). *The green swan: Central banking and financial stability in the age of climate change*. <https://www.bis.org/publ/othp31.htm>
- Berg, F., Kölbel, J. F., & Rigobon, R. (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance*, 26(6), 1315–1344. <https://doi.org/10.1093/rof/rfac033>
- Boston Consulting Group. (2021). *How ESG creates business value*. <https://www.bcg.com/publications/2021/how-esg-creates-business-value>
- Carbon Disclosure Project. (2023). *Scoring methodology and company ratings*. <https://www.cdp.net/en/companies/companies-scores>
- Christensen, H. B., Serafeim, G., & Sikochi, A. (2022). Why is corporate virtue in the eye of the beholder? The case of ESG ratings. *The Accounting Review*, 97(1), 147–175. <https://doi.org/10.2308/TAR-2019-0506>
- Damodaran, A. (2023). *Cost of capital by sector (Europe)*. Stern School of Business, New York University. <https://pages.stern.nyu.edu/~adamodar/>
- Deloitte. (2022). *Sustainable consumer 2022: Sustainability as a value driver*. <https://www2.deloitte.com/insights>
- El Ghouli, S., Guedhami, O., Kwok, C. C. Y., & Mishra, D. R. (2011). Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance*, 35(9), 2388–2406. <https://doi.org/10.1016/j.jbankfin.2011.02.007>
- European Commission. (2023). *EU taxonomy for sustainable activities*. https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en
- EY. (2021). *Global institutional investor survey: How will ESG performance shape your future?* https://www.ey.com/en_gl/assurance/how-will-esg-performance-shape-your-future
- Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233. <https://doi.org/10.1080/20430795.2015.1118917>
- Giese, G., Lee, L. E., Melas, D., Nagy, Z., & Nishikawa, L. (2019). Foundations of ESG investing: How ESG affects equity valuation, risk, and performance. *MSCI Research Insights*. <https://www.msci.com/our-solutions/esg-investing/research>
- Global Sustainable Investment Alliance. (2022). *Global sustainable investment review 2022*. <https://www.gsi-alliance.org/trends-report-2022/>
- International Sustainability Standards Board. (2023). *IFRS S1 and S2 sustainability disclosure standards*. IFRS Foundation. <https://www.ifrs.org/issued-standards/ifrs-sustainability-standards/>

- Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate sustainability: First evidence on materiality. *The Accounting Review*, 91(6), 1697–1724. <https://doi.org/10.2308/accr-51383>
- Kotsantonis, S., & Serafeim, G. (2019). Four things no one will tell you about ESG data. *Journal of Applied Corporate Finance*, 31(2), 50–58. <https://doi.org/10.1111/jacf.12320>
- McKinsey & Company. (2019). *How companies can seize opportunity in sustainable consumption*. <https://www.mckinsey.com/business-functions/sustainability>
- Morningstar. (2022). *Global sustainable fund flows: Q4 2022 in review*. <https://www.morningstar.com/articles/1137035/global-sustainable-fund-flows-q4-2022-in-review>
- Morningstar. (2023a). *Global sustainable fund flows: Q2 2023 in review*. <https://www.morningstar.com/articles/1152261/global-sustainable-fund-flows-q2-2023-in-review>
- Morningstar. (2023b). *Equity research report: Unilever PLC*. <https://www.morningstar.com>
- MSCI. (2023). *MSCI ESG ratings methodology and Unilever profile*. <https://www.msci.com/our-solutions/esg-investing/esg-ratings>
- Organisation for Economic Co-operation and Development. (2017). *Investment governance and the integration of ESG factors*. OECD Publishing. <https://doi.org/10.1787/9789264274891-en>
- Organisation for Economic Co-operation and Development. (2020). *OECD business and finance outlook 2020: Sustainable and resilient finance*. OECD Publishing. <https://doi.org/10.1787/eb61fd29-en>
- Organisation for Economic Co-operation and Development. (2021). *OECD guidelines for multinational enterprises*. OECD Publishing. <https://doi.org/10.1787/9789264232297-en>
- Principles for Responsible Investment. (2021). *ESG integration framework*. <https://www.unpri.org/esg-integration/esg-integration-framework>
- PwC. (2022). *Global investor survey: The economic realities of ESG*. <https://www.pwc.com/gx/en/services/governance/esg-investor-survey.html>
- Strekalina, E., Ivanova, D., & Volkova, N. (2023). ESG performance and shareholder returns in BRICS markets. *Sustainability*, 15(4), 3247. <https://doi.org/10.3390/su15043247>
- Sustainalytics. (2023). *ESG risk ratings methodology and Unilever profile*. Morningstar Sustainalytics. <https://www.sustainalytics.com/esg-rating/unilever-plc>
- Unilever. (2024). *Annual report and accounts 2024*. <https://www.unilever.com/investors/annual-report-and-accounts/>
- Verheyden, T., Eccles, R. G., & Feiner, A. (2022). ESG during downturns: Evidence of outperformance by sustainable firms. *Journal of Applied Corporate Finance*, 34(2), 56–65. <https://doi.org/10.1111/jacf.12479>

Appendices

Appendix A – ESG Rating Dataset Scouting Exercise

This appendix presents a structured mapping of ESG rating dataset providers. The focus is restricted to *rating-type* datasets (not raw environmental or social data) in order to highlight those most relevant to investors. The table below reports a **selected section of the full Excel mapping**, summarizing the main providers identified in the scouting exercise. The complete Excel file, which contains a more extensive dataset and additional details, will be attached to the thesis.

Table A.1: Scouting of ESG Rating Dataset Providers

Provider	Description (short)	Provider Type	Input Data Sources	Pricing
KLD	Pioneer in ESG research and ratings; provides historical datasets...	Private data provider (financial)	Company disclosures, CSR reports	Paid access, usually annual license
Sustainalytics	Leading ESG and corporate governance research; produces risk ratings...	Private data provider	Disclosures, regulatory filings, news, controversies	Paid, usually tiered for institutional clients
Moody's ESG (Vigeo-Eiris)	Provides ESG scores, risk assessments, controversies, credit-linked ESG analysis...	Private data provider	Self-reported reports, questionnaires, public data	Paid subscription, pricing based on coverage & scope
S&P Global (RobecoSAM)	Known for Corporate Sustainability Assessment (CSA) and DJSI indices...	Private data provider	Company questionnaires, sustainability reports	Paid, price varies by data scope
Refinitiv (Asset4)	Offers ESG scores and 400+ granular indicators from	Private data provider	Company disclosures, filings, media, reports	Paid via Refinitiv subscription

	disclosures and media...			
MSCI	Provides ESG ratings, climate metrics, screening tools; relative risk focus...	Private data provider	Company disclosures, proprietary data	Paid license, negotiated pricing
CDP	Non-profit running global disclosure system on climate, water, forests...	NGO / Non-profit	Corporate self-reported data, third-party verification	Basic scores public; full data paid or free to signatories
Bloomberg	Provides ESG disclosure scores from company reports and filings...	Private data provider	Public company filings, sustainability reports	Paid Bloomberg Terminal subscription
ISS ESG	Governance-heavy ratings; proxy advisory and shareholder services...	Private data provider	Company disclosures, proxy voting records	Paid, based on products chosen (ratings, proxy, climate)
FTSE Russell	Provides ESG ratings, index-linked data, sector benchmarks...	Private data provider	Public disclosures, company reports	Paid license for data access or index inclusion