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Gender differences in ESG investment preferences

A literature review of demographic factors in sustainable investing

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ABSTRACT:

The purpose of this thesis is to examine how demographic factors, such as gender, education, and age, influence ESG investment preferences across both developed and emerging markets. Understanding what drives individual investors toward ESG investing has become increasingly relevant as sustainable finance continues to grow. Theories such as social role theory, human capital theory, and socioemotional selectivity theory suggest that these demographic factors shape investment values and behaviour, but empirical evidence shows varying results depending on the market context. In developed markets, the existing literature broadly shows that female, more educated, and younger investors tend to prioritize ESG more than their counterparts. The findings in emerging markets are not the same, since the patterns are weaker or sometimes point in the opposite direction, particularly for gender. Women's reported lower ESG knowledge and financial confidence in these contexts seem to limit their engagement, suggesting that access to financial education plays an important role. The findings show that demographic factors do not work independently and that their effect on ESG preferences is also dependent on the cultural and economic environment in which investors operate.

KEYWORDS: Responsible investing, ESG investing, Behavioural finance, Demographics, Prosocial attitudes, Gender differences

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TIIVISTELMÄ:

Tämän tutkielman tarkoituksena on tarkastella, miten demografiset tekijät, kuten sukupuoli, koulutus ja ikä, vaikuttavat ESG-sijoituspreferensseihin sekä kehittyneillä että kehittyvillä markkinoilla. Ymmärrys siitä, mitkä tekijät ohjaavat yksityissijoittajia ESG-sijoittamiseen, on tullut yhä merkityksellisemmäksi kestävän rahoituksen jatkuvan kasvun myötä. Teoriat, kuten sosiaalisten roolien teoria, inhimillisen pääoman teoria ja sosioemotionaalisen valikoivuuden teoria, viittaavat siihen, että nämä demografiset tekijät muokkaavat sijoitusarvoja ja -käyttäytymistä, mutta empiirinen näyttö osoittaa vaihtelevia tuloksia markkinakontekstista riippuen. Kehittyneillä markkinoilla olemassa oleva kirjallisuus osoittaa laajasti, että naissijoittajat, korkeammin koulutetut sijoittajat ja nuoremmat sijoittajat painottavat ESG-tekijöitä enemmän kuin vertailuryhmänsä. Kehittyvillä markkinoilla tulokset eivät ole samanlaisia, sillä havaitut yhteydet ovat heikompia tai joissain tapauksissa jopa päinvastaisia, erityisesti sukupuolen osalta. Tutkimusten viittaama naisten vähäisempi ESG-tietämys ja heikompi taloudellinen itsevarmuus näissä konteksteissa näyttävät rajoittavan heidän osallistumistaan, mikä viittaa siihen, että talouskoulutuksen saatavuudella on tärkeä rooli. Tulokset osoittavat, että demografiset tekijät eivät vaikuta toisistaan riippumatta ja että niiden vaikutus ESG-preferensseihin riippuu myös siitä kulttuurisesta ja taloudellisesta ympäristöstä, jossa sijoittajat toimivat.

AVAINSANAT: Responsible investing, ESG investing, Behavioural finance, Demographics, Prosocial attitudes, Gender differences

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1 Introduction

Sustainable finance refers to the integration of environmental, social, and governance (ESG) standards when making investment decisions to support long-term funding of environmentally and socially responsible economic activities (European Commission, 2024). ESG factors are becoming more important in the financial market, signaling environmentally beneficial development within a sector (Fu & Li, 2023).

Growing awareness of global warming, acknowledgement of ethical issues such as discrimination in companies, and concerns regarding sustainability during the pandemic have resulted in businesses addressing ESG matters more (Hassani & Bahini, 2022, p. 1). Although ESG development may seem superficial, it represents a bigger shift of the whole economy, while ESG strategies and investments continue to grow and strengthen their significance (Hassani & Bahini, 2022, p. 1).

As ESG investing continues to grow, understanding what drives individuals to engage with it has become more relevant. Research suggests that investors are not a uniform group, because demographic characteristics shape how people approach financial decisions, and ESG investing is no exception (Montagnoli & Taylor, 2024).

1.1 Purpose of the study

The purpose of this study is to examine the differences between genders in ESG investing, taking other factors such as an investor's academic background and age into account. The topic will be explored within both developed and developing markets to understand possible variations across different economic contexts.

ESG investing has grown significantly in recent years as investors increasingly pay attention to environmental, social, and governance factors in their decision-making (Eskantar et al., 2024; Boffo & Patalano., 2020; Goldstein et al., 2022). Despite the growing importance of sustainable finance, there is limited understanding of how demographic factors shape ESG investment preferences.

Gender does not necessarily determine ethical concerns, but some studies have shown that women, compared to men, tend to prioritize matters that are aimed at fighting inequality and helping those in need (Assaf et al., 2025; Junkus & Berry, 2010; Diouf et al., 2016). Women's socialization into communal roles can emphasize values that align naturally with ESG investing (Eagly, 1997). This could lead them to put bigger emphasis on ESG factors when making investment decisions.

Hence, the first hypothesis is:

H1: Female investors prioritize ESG more than male investors.

Gender not being the only factor affecting, the study will consider other demographic characteristics such as academic background and an investor's age. A higher level of education may lead to greater awareness of sustainability issues due to improved skills in assessing ESG-related information as an investor. Becker's (1964) human capital theory suggests that better-educated investors are more prepared to understand complex financial products and this could include ESG investments (Krykliy, 2023). Education has also been linked to greater financial literacy (Van Rooij et al., 2011). There exist prior studies supporting a positive relationship between education and ESG engagement (Fernandez et al., 2023; Nilsson, 2008). This leads to the second hypothesis:

H2: Higher education is associated with greater ESG investment awareness and participation.

In addition, age can be an important factor in investment values and risk tolerance. Theoretical background suggesting younger people prioritize future-oriented goals can align with ESG investing's focus (Carstensen et al., 1999). Younger generations who have grown up with greater public discourse around climate change and social justice may be able to understand these issues better before they start investing. Research suggests that especially younger generations tend to be drawn towards sustainable investing (Fernandez et al., 2023). This leads to our third hypothesis:

H3: Younger investors demonstrate higher ESG investment preferences than older investors.

The motivation behind these hypotheses is to clarify how demographic factors influence sustainable investment behaviour. Prior research shows that gender, education, and age can all affect investment attitudes and ethical orientation. The existing literature has mainly examined developed and emerging markets in isolation. This represents a clear research gap, since studies focused on developed markets cannot be assumed to apply directly to emerging market contexts due to the differences in cultural norms, institutional frameworks, and financial literacy levels. In addition to that, the combined influence of different demographic factors has received limited attention and research. By investigating these relationships together, this study aims to bring existing evidence together and determine whether these demographic differences explain ESG investment preferences in different markets.

1.2 Structure of the study

The structure of this thesis is as follows. The first chapter introduces the background and motivation for the topic, defines the purpose of the study and introduces the hypotheses. Chapter two provides an overview of ESG investing by defining its main aspects and explaining how ESG factors are integrated into investment decisions. The third chapter presents the theoretical background of the study. It reviews finance and behavioural theories that are relevant to investor decision-making. These theories include behavioural finance, social role theory, stakeholder theory, the theory of planned behaviour, and socioemotional selectivity theory, and human capital considerations. Chapter four handles behavioural and demographic factors that influence investment decisions. The chapter discusses gender differences in ESG preferences, the role of age in investment behaviour and the impact of education level on ESG awareness. Chapter five presents the evidence, dividing it in developed and emerging markets. The chapter also presents comparative insights and gaps in the literature.

2 ESG Investing: Concepts and Frameworks

2.1 Definition and dimensions of ESG investing

Environmental, social, and governance (ESG) investing is defined as an investing strategy that considers non-financial factors related to a company's environmental, social, and governance performance (Assaf et al., 2025). Environmental issues are any aspect of a company's operations that can affect the natural environment, such as greenhouse gas emissions, renewable energy use, and resource use (Bolognesi et al., 2024, p. 2). Social issues vary from matters relating to communities to issues involving the workplace, such as human rights, discrimination, and labor practices (Bolognesi et al., 2024, p. 2). Governance issues handle aspects concerning the quality of a company's management, culture, business ethics, and risk management (Bolognesi et al., 2024, p. 2).

In recent years, ESG investing has expanded rapidly (Eskantar et al., 2024; Boffo et al., 2020, p. 3; Goldstein et al., 2022). This growth is a response to a rising interest by institutional and individual investors, including some public sector bodies, who are looking to integrate long-term financial risks and opportunities into their investment decisions to support sustainable value creation (Boffo and Patalano, 2020, p. 11). ESG factors may involve long-term factors such as controversies and risks that can reduce a company's market value or raise its credit risk over time (Boffo and Patalano, 2020, p. 11). The goal is to make a combination of improved risk management and better portfolio returns while also ensuring that the investment strategy aligns with the values of investors and beneficiaries (Boffo and Patalano, 2020, p. 11).

Empirical evidence also indicates financial benefits. Giese et al. (2019) find that companies with better ESG profiles have lower systematic risk. This can lower a company's cost of capital and raise its value. It can also lower its idiosyncratic risk profile, which leads to higher profits and less exposure to tail risk.

According to Boffo and Patalano (2020, p. 14), ESG investing exists on a spectrum between traditional financial investing and socially motivated philanthropic investing. Traditional financial investing has the focus on maximizing financial returns, while social or impact investing focuses on social benefits instead of financial performance. ESG investing is positioned closer to the financial side of this spectrum. The authors clarify that what differentiates ESG investing from pure financial investing is that it takes into consideration factors other than short-term financial results and immediate business risks. It looks at how long-term environmental, social, and governance challenges can affect the future stability and performance of a company. When ESG investment starts to include social impact so strongly that it increases financial risks or lowers expected returns, it begins to resemble social impact funds (Boffo and Patalano, 2020, p. 14). Socially responsible investing (SRI) is the broader practice of aligning investments with values and societal goals. It is often called "sustainable," "responsible," and "impact" investing. ESG is the part of SRI that looks at environmental, social, and governance factors to assess financial importance and a company's preparedness for future challenges like climate change and stricter regulation (Townsend, 2020).

2.2 ESG integration in investment decisions

An increasing body of empirical research is finding a positive association between companies' financial performance and ESG factors, supporting the idea that companies can financially benefit from ESG practices (Eccles et al, 2018). The investment industry has created ESG reporting standards via the Sustainability Accounting Standards Board (SASB) and the International Integrated Reporting Council (IIRC), which are now under the IFRS Foundation's sustainability standard-setting framework (IFRS Foundation, 2022).

Investors use two main sources of ESG information for ESG integration (Dinh, 2025, p. 156-157). The first source consists of the sustainability reports or annual reports published by companies, which disclose information on environmental impact, social practices, and governance structures. The second source is ESG scores issued by credit rating agencies and different ESG rating providers such as MSCI, S&P Global, Bloomberg ESG and Sustainalytics.

Dinh (2025, p. 158) and Boffo & Patalano (2020, p. 27) note that the usage of ESG information from these sources presents challenges. Corporate reports don't have uniform standards, which leads to inconsistencies and difficulties in comparing companies (Dinh, 2025, p. 168). Different ESG rating agencies use different methods and weighting systems, which can lead to big differences and variations in ESG scores (Boffo & Patalano, p. 7). This could result in investors who rely on different ESG providers to receive inconsistent signals, meaning that two portfolios identified as "high ESG" could end up with very different holdings (Boffo & Patalano, p. 27). This creates concerns about the comparability and reliability of ESG scores. Some rating agencies measure unmanaged ESG risk, meaning the higher the score, the greater the risk exposure, while others evaluate ESG performance, where a higher score shows stronger sustainability practices (Dinh, 2025, p. 158).

ESG information is integrated into investment processes in several ways. Survey evidence shows that engagement or active ownership is one of the most frequently used methods (Amel-Zadeh & Serafeim, 2018, p. 95). Engagement refers to the use of shareholder influence to support companies to put more effort in their ESG practices through discussing with management, proxy voting, or making shareholder proposals (Amel-Zadeh & Serafeim, 2018, p. 94). Amel-Zadeh and Serafeim (2018, p. 95) mention full ESG integration into individual stock as another commonly used strategy. It refers to a strategy where ESG factors are fully included in the financial evaluation of individual stocks, for example, by adjusting cash-flow projections or estimates of capital costs based on a company's ESG performance (Amel-Zadeh & Serafeim, 2018, p. 94). Investors also frequently use portfolio screening methods, the most common being negative or exclusionary screening (Eccles et al., 2017; Global Sustainable Investment Alliance, 2019, p. 3; Amel-Zadeh & Serafeim, 2018, p. 95). Negative screening means excluding companies or sectors that are not aligned with certain ESG or ethical criteria, while positive screening selects companies with strong ESG performance, and relative/best-in-class screening refers to the identification of firms with the best ESG practices within each industry (Global Sustainable Investment Alliance, 2019, p. 7; Amel-Zadeh & Serafeim, 2018, p. 95). A commonly used method also mentioned by Amel-Zadeh & Serafeim (2018), Global Sustainable Investment Alliance (2019, p. 22) and Eccles et al. (2017) is thematic investing, which invests in sustainability-linked themes or assets such as renewable energy or sustainable agriculture. Other common methods in ESG investing include overlay/portfolio tilt and risk factor/risk premium investing (Amel-Zadeh & Serafeim, 2018, p. 95). The overlay or portfolio tilt is about adjusting a portfolio's total ESG characteristics to a desired level, for example, by shifting investments towards companies with a lower carbon footprint (Amel-Zadeh & Serafeim, 2018, p. 94). Risk factor investing is the use of ESG data when assessing broader market risks, for instance, as part of smart beta or factor-based investment strategies (Amel-Zadeh & Serafeim, 2018, p. 94).

3 Theoretical background

A theoretical foundation is required for understanding the effect of demographic factors in ESG investing. This chapter introduces the main theories used in this study to explain differences in investment behaviour and sustainability preferences.

3.1 Behavioural finance and decision-making

Behavioural finance has the main focus of providing explanations for decision-making and people's behaviour when making financial decisions (DeBondt et al., 2010). When comparing behavioural finance and traditional finance, behavioural finance looks at how people make decisions in a more practical, human way. Traditional finance carries the assumption that people make fully rational choices to get the best possible outcome (DeBondt et al., 2010). Behavioural finance challenges conventional finance by showing that real investors are influenced by cognitive biases, emotions, and various social factors.

The field of behavioural finance gained a broad theoretical foundation when Kahneman and Tversky's (1979) prospect theory was introduced. The theory states that people tend to put more emphasis on the feeling of a loss than to the pleasure of an equivalent gain, a phenomenon known as loss aversion. This goes against the idea of the fully rational investor and helps explain why factors beyond financial returns, like ESG criteria, can affect how people make investment decisions. Figure 1 illustrates how the value function is steeper for losses than for gains, reflecting the core asymmetry of prospect theory.

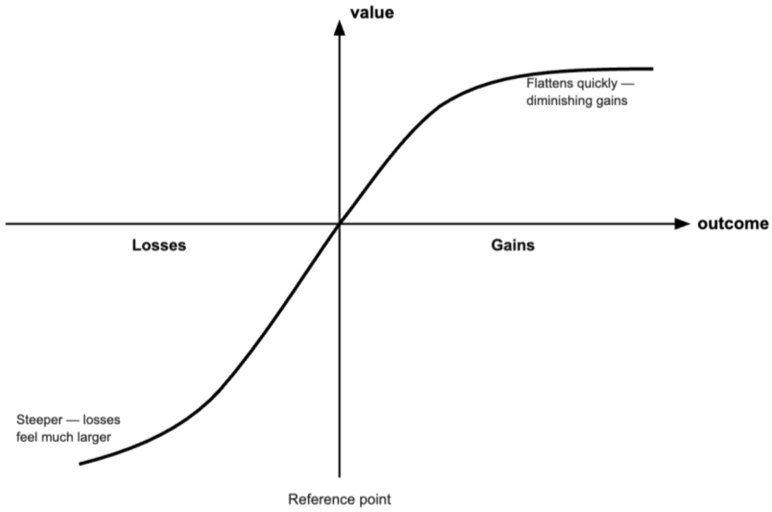

Figure 1. Prospect Theory (Kahneman & Tverky, 1979)

Some behavioural biases can encourage ESG investing, and others may discourage it. Loss aversion can perform as an obstacle in the adoption of ESG in investing, since investors who focus on the potential short-term financial costs of ESG investing may be less willing to engage with sustainable products, even if the long-term benefits are visible (Yashwantha & Shekar, 2025).

One of the most researched and documented topics in behavioural finance is how investors differ in their level of risk aversion, which research has linked to demographic factors. As mentioned, many existing studies show evidence of women being more risk averse (Charness & Gneezy, 2012; Zainul & Suryani, 2021, p. 158). This is essential for ESG investing because Giese et al. (2019) state that companies having strong ESG profiles seem to have lower systematic risk and more stable financial performance. Choosing ESG investments could therefore appeal to risk-averse investors, which could suggest that women are more likely to invest in ESG than men.

The framing effect shows that the way information is communicated can influence investment decisions, even if the actual content stays the same (Yashwantha M, 2025, p. 239). When ESG funds are framed around avoiding certain industries or the potential short-term costs involved, they attract fewer investors than when they are framed around positive outcomes, like a positive impact on the environment and long-term value (Yashwantha M, 2025, p. 239-240).

Upadhyaya *et al.* (2023) have mentioned in Gupta & Goswami's article (2024, p. 369) that herd behaviour, which means the tendency to follow the investment choices of peers, has also been recognized as a factor in ESG investing. They suggest that social norms play a part in sustainable investment decisions, since investors may join ESG trends because of herd behaviour, without carefully evaluating the ESG practices of individual companies. This can be explained by social factors, as social identity and group dynamics influence investment decisions (Gupta & Goswami, 2024; Akerlof and Kranton, 2002). The authors mention herding behavior as the tendency of following the actions of others instead of using their own judgment.

Another significant bias in behavioral finance is overconfidence, which may be linked with gender differences in ESG investing. Research has consistently shown that men display higher levels of financial overconfidence compared to women (Bayyurt et al., 2013; Wawrosz & Schulz, 2023; Aristei & Gallo, 2024). This suggests that they may overestimate their knowledge while making investment decisions. Women's greater risk aversion may lead them to seek more information and clearer guidance before investing in ESG products, compared to men.

3.2 Social role theory and ethical orientation

Social role theory is a theory developed by Eagly (1987), which argues that psychological differences between men and women arise because of the perceived social roles in society and not because of inborn traits. The theory explains how the roles for women and men, which are focused on different occupational and family roles, create expectations about the traits each sex should have (Eagly, 1997). The theory emphasizes that women are expected to exhibit more communal behaviour, while men are expected to behave more agentically.

According to social role theory, women tend to develop other-oriented values, such as compassion, caring for others, and concern for the common good (Eagly, 1997). These internalized values may naturally align with ESG investing’s focus on matters such as workers' rights, environmental issues, and lowering inequality. Men's socialization into agentic roles linked to assertiveness and the pursuit of status may result in them prioritizing financial gains over ethical considerations in their investment decisions.

This communal ethical orientation can be linked with what Gilligan (1982) described as an ethics of care, which means the tendency for women to make moral decisions based on relationships and responsibility for others, instead of the tendency of men to focus more on rules and justice. Held (2006) built on the ethics of care by arguing that values like trust, mutual concern, and responsiveness should be the focus of morality. The act of caring about the impact on others can be linked to ESG investing. As shown in Figure 2, society shapes men and women into different roles, which in turn can influence how each group relates to ESG investing.

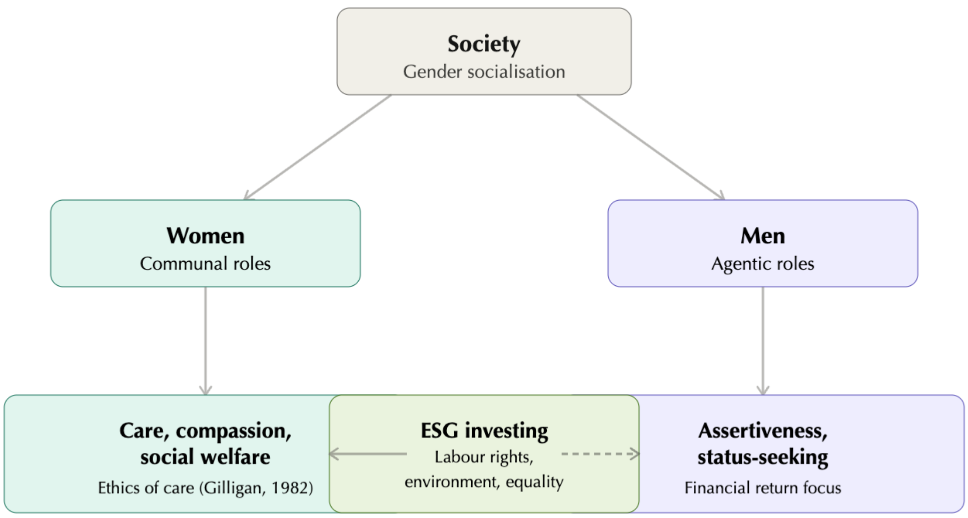

Figure 2. Gender Socialisation and ESG investing (Eagly, 1987; Gilligan, 1982)

3.3 Stakeholder Theory and SRI

Stakeholder theory, originally introduced by R. Edward Freeman in 1984, states that companies need to take into consideration other groups than shareholders that are affected by their operations, such as employees, customers, lenders, suppliers, and society (Freeman & McVea, 2001). A company with a successful strategy should not only look out for the interests of one group but also balance and integrate the interests and relationships of all stakeholders to guarantee long-term success (Freeman & McVea, 2001, p. 6). This is particularly relevant to ESG investing, which translates stakeholder accountability into measurable criteria. ESG gives investors a practical way to assess how companies perform by looking at their environmental impact, social responsibility and how they are governed.

Socially responsible investing (SRI) is a way of investing in which investors take factors beyond financial returns into consideration, like the influence on people and the environment (Renneboog et al., 2008). This is related to stakeholder theory, which states that companies have responsibilities other than just making profit. Together these form the basis for ESG investing, as they explain both why firms should behave responsibly and why investors may choose to reward them for doing so.

3.4 Theory of planned behaviour

The theory of planned behaviour, a theory with wide support of empirical evidence, argues how human behaviour is compiled by three factors: attitudes toward the behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991, p. 188). Attitude toward the behaviour assesses how positively or negatively a person sees a behaviour, subjective norm refers to the social pressure a person may feel to perform or avoid a behaviour, and perceived behavioural control means the level of difficulty a person perceives of carrying out a certain behaviour (Ajzen, 1991, p. 188). In general, the more positive a person's attitude, the stronger their subjective norm, and the higher their experienced behavioural control, the more likely they are to perform the behaviour (Ajzen, 1991, p. 188). Compared to behavioural finance, which emphasises cognitive biases and emotional responses, the theory of planned behaviour explains investment choices more rationally as a deliberate decision-making process.

When the theory is applied to ESG investing, all three of these factors can help explain investment behaviour. An investor who cares about social and environmental issues is more likely to view ESG investing positively. If the investor's peers and family also value responsible investing, subjective norms can reinforce this desire even further. Regarding perceived behavioural control, when investors feel sufficiently confident and informed to select ESG products, they gain a greater sense of control, increasing the likelihood of acting on their intention.

As social role theory argues, women’s socialization into more communal roles leads them to develop a stronger emphasis on values like compassion, care for others, and social welfare (Eagly, 1997). Within the theory of planned behavior, women’s communal values likely encourage positive attitudes toward ESG investing and may be reinforced by social circles that share similar orientations toward responsible investing.

3.5 Socioemotional Selectivity Theory and Human Capital Considerations

Socioemotional Selectivity Theory, developed by Carstensen et al. (1999), argues that a person’s perception of time influences goals and priorities. The theory makes a differentiation between two types of goals: knowledge-related goals and emotion-related goals. The theory argues that a person's prioritization changes towards future-oriented knowledge-related goals such as learning, exploring, and preparing for the future, when perceiving their future as open-ended (Carstensen et al. 1999, p. 165-166. The perception of an open-ended future is typical for younger individuals. As a person ages, they become more aware of their time being limited, which makes them shift their focus toward present-oriented, emotion-related goals instead of planning for the future (Carstensen et al. 1999, p. 165-166).

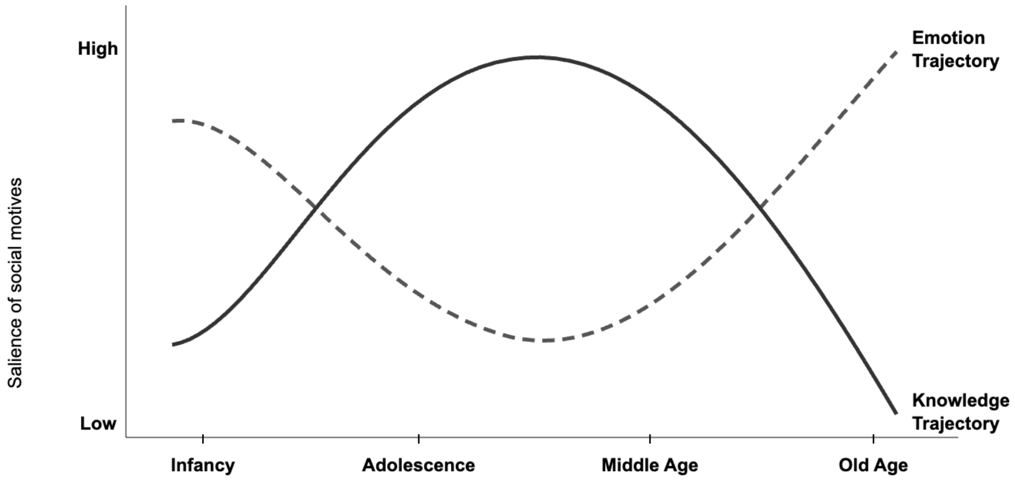

Figure 3. Socioemotional Selectivity Theory: Salience of two classes of social motives across the life span (adapted from Carstensen et al., 1999)

This can be applied to ESG investing and age as the theory helps explain why age may influence behaviour, and in this case, investment behaviour. Younger investors, who perceive their future as broad and open, can be more likely to prioritize future-oriented goals, which include the social and environmental impact of their financial decisions. Boffo and Patalano (2020, p. 14) argue that ESG investing addresses long-term environmental, social, and governance problems and their effect on a company's future stability and performance. Younger investors may find ESG investing to be more in line with their goals because of the stronger focus toward the future.

Human capital theory, created by Becker in 1964, describes education as an investment, since the more people invest in their education, the more skilled and productive they become, ultimately improving an individual's overall economic well-being (Krykliy, 2023, p. 109). This framework is applied to discuss how education level affects ESG investing. In the context of ESG investing, human capital theory suggests that more educated investors may possess superior knowledge to comprehend and interact with ESG products. Investors who have a higher level of education may possess greater knowledge about environmental, social, and governance issues and how they affect a company's long-term performance.

4 Behavioural and Demographic Factors in Investment Decisions

Demographic factors have been studied in relation to investment behaviour, yet their role in ESG investing remains less understood. This chapter reviews the existing literature on how gender, education, and age affect investment decisions and investigates to what extent these factors may explain differences in ESG investment preferences.

4.1 Gender and ESG

4.1.1 Gender and general investment behaviour

Researchers have used gender as a variable to study the level of risk aversion in investors. A substantial body of research suggests that female investors demonstrate higher risk aversion than male investors (Hallahan et al., 2004, p. 66; Zainul & Suryani, 2021, p. 158, 162). This higher risk aversion has been associated with a tendency among women toward safer investment strategies, which affects how they build their portfolios and which financial products they might choose. However, this cautious approach has been linked to good results, since research suggests that conservative investing strategies tend to be linked to more stable long-term portfolio performance through lower trade frequency and reduced impulsive decisions (Barber & Odean, 1998, p. 277).

Confidence biases and behavioural patterns likely help explain gender differences in investing. Some studies have found that women report lower confidence levels compared to men (Wawrosz & Schulz, 2023, p. 285; Aristei & Gallo, 2024; Grumann et al., 2024). This relates to the gender gap in financial literacy, as studies indicate that women tend to score lower on measures of financial literacy than men (Aristei G Gallo, 2024; Fernandez et al., 2023).

The combined differences in risk tolerance, confidence, and financial knowledge may help explain the patterns seen in gender investment behavior. For instance, women have been shown to be more resistant to hold "sin" stocks, such as investments related to companies involved in tobacco, gambling, or weapons. This pattern stays the same even when differences in risk preferences and knowledge are considered (Niszczota & Białek, 2021).

Gender has been examined as a demographic factor in research on socially responsible investing (SRI) and ESG preferences. Still, the effect of gender on ESG investing has not been studied as thoroughly. Early studies and empirical evidence that have attempted to profile socially responsible investors show varying results regarding the direct effect of gender on ESG participation. It is worth noting that while demographic patterns can offer useful insights, investment behaviour varies across individuals and cannot be reducted to gender alone.

4.1.2 Gender and ESG preferences

As discussed in the theoretical framework, social role theory suggests that women are socialized into communal roles focused on care, compassion, and concern for others, while men are socialized into agentic roles associated with assertiveness and status-seeking (Eagly, 1997). These different orientations can influence how men and women view ESG investing decisions. Eagly (2009) is stated in Assaf et al.'s (2025, p. 2) research, arguing that women's communal orientation draws them to focus more on caring for others and community social and environmental issues, while men might have a stronger tendency to focus on broader global challenges.

Aristei and Gallo (2024, p. 490) summarize the findings from research citing Xiao & McCright (2015) and May et al. (2021) showing that women hold more concern towards climate change and environmental protection, internalize stronger pro-sustainability values, and are more likely to act in a way that is environmentally responsible. This pattern can be seen in ESG studies. Junkus and Berry (2010) conducted a survey of 85,000 people in the US and got precise answers about gender and ESG investing. The findings indicated that one-third of male participants engaged in socially responsible investments, whereas more than half of female participants did so. According to the survey's results, socially responsible investor is usually profiled as a woman who is younger, single, less wealthy, and has a higher level of education than an investor not choosing SR products. Similar results have been reported in other countries. Diouf et al. (2016, p. 63) find from their research focused in Canada that female investors are more willing than men to choose responsible products, while Nilsson (2008) reports that Swedish women and higher-educated individuals devote a larger share of their portfolios to SRI. The data collected in Italy indicates that women, compared to men, are more inclined to choose ethical intermediaries and environmentally responsible investments (Aristei and Gallo, 2024, p. 497).

Results analyzing gender differences in ESG investing do not point to a single universal pattern. Several studies show mixed or context-dependent results. In a German-speaking sample, Dorfleitner and Utz (2014, p.134) find that while women are documented as risk-averse and show a higher willingness to accept lower returns in exchange for social responsibility, male respondents rate environmental, social and ethical criteria as more important. In India, Rathi and Geetha (2023, p. 9) do not detect any significant differences between male and female government employees in their attitudes towards socially responsible investing. Raut and Kumar (2023, p. 17) find in their Indian sample that men demonstrate higher environmental concern compared to women and that female respondents see financial returns as a higher priority. They suggest this may be partly due to women possessing less knowledge on SRI and related indices, which makes their environmental concern less likely to turn into concrete plans to invest sustainably (Raut and Kumar, 2023, p. 17).

As noted, research suggests that female investors may score lower on measures of financial literacy and report weaker confidence in their financial skills compared to men (Aristei & Gallo, 2024). Gaps also appear when the focus shifts to ESG. In a survey fielded in 8 countries (Australia, Singapore, Indonesia, France, the US, Germany, UK, and Japan), Fernandez et al. (2023, p.18, 25) report that women in the sample scored lower on ESG literacy, especially on questions related to corporate governance, and are more likely to respond “do not know," even though they more often agree on wanting their investments to have a positive impact and have more willingness to pay extra for responsible products. Grumann et al. (2024, p. 64) find from data collected by the Portuguese Securities Market Commission that women are more likely to state that they have no or insufficient knowledge on sustainable investments, but men are more likely to claim that they understand sustainable investing but do not prioritize it. Studies from Asia point in the same direction: Japanese women were found to be less familiar with sustainable investments and expressed less certainty about their current and future holdings (Gutsche et al., 2021, p), and Indian evidence suggests that male investors have a higher awareness of environmental and social aspects of ESG stocks than female investors (Gala et al., 2024, p. 4009). These results suggest that lower knowledge on ESG products may limit the ability of some female investors to act on pro-social motivations. Aristei & Gallo (2024) note that even though women tend to report lower financial capabilities, they are still categorized to have clearly higher preferences for investing sustainably.

The survey conducted by Aristei & Gallo (2024, p. 498) shows that investors who underestimate their financial knowledge are less likely to choose ethical intermediaries or sustainable products. As mentioned, this pattern of under confidence has been more frequently observed among femal investors. The authors point from their findings that having higher financial knowledge has a bigger impact on women and their preferences for sustainable investments than men who have similarly high levels of financial knowledge. The documented tendency for women to be more risk-averse may also help explain the participation in ESG investing, since the research by (Giese et al., 2019) states that companies with strong ESG profiles tend to be more stable and have lower risk.

There are also signs that men and women act on their moral preferences in different ways. Dorfleitner & Utz (2014, p. 126) conducted a study in Germany, which reported that female investors showed more willingness to give up a portion of financial return for social responsibility and are also more likely to use shareholder voting rights to express their values, but male investors more often select specific firms that meet ESG criteria. Grumann et al. (2024, p. 65) find that value alignment is more important for sustainable investments among women, while men are more likely to state that have knowledge on the topic of sustainable investing, but do not prioritize investing in it.

The evidence is not entirely consistent. As seen, most studies presented suggest that female investors tend to place greater emphasis on ESG factors than male investors. The support of H1 is present, but it seems that matters like financial literacy and cultural context are affecting the relationship. While gender gives important insight into ESG investment preferences, it is not the only demographic factor at play. Beyond gender, an investor’s stage of life represents another important dimension.

4.2 Age and investment behaviour

4.2.1 Age and general investment behaviour / risk preferences

Age is one of the most frequently studied demographic factors in investment search. Palsson (1996) has mentioned in Junkus’ & Berry’s (2010) research that there exists research stating that risk willingness tends to decline with age and that younger investors have been observed to hold riskier portfolios compared to older investors. However, this may not necessarily always be the case. Wang and Hanna (1997, p. 30) found that risk tolerance increases with age once other variables are accounted for, which points to a more complex picture than a straight decline. Korniotis and Kumar (2009) show that older investors tend to have greater investment knowledge, but they might struggle in applying it effectively due to cognitive aging.

When we look at younger generations, Marjerison et al. (2025) find that Gen Z investors have been seen as more cautious than older generations, which can be linked to having to enter adulthood in an uncertain atmosphere created by the COVID-19 pandemic. Younger investors have been documented to be more likely to be affected by cognitive and emotional biases, and they are also more likely to see these biases in their own actions (Gonzalez-Igual et al., 2021).

Investment behaviour varies across age groups in other aspects than just risk behaviour. As mentioned, Junkus and Berry (2010), found that socially responsible investors tend to be younger. This is particularly relevant in the context of ESG investing, which is explored in the following section.

4.2.2 Age and ESG preferences

Based on the general investment patterns for age, more and more research has investigated whether age affects preferences for ESG and socially responsible investing. Several studies show that younger investors prioritize sustainability in investment products. Fernandez et al. (2023, p. 13) in the survey conducted across eight countries (Australia, Singapore, Indonesia, France, the US, Germany, the UK, and Japan), find that younger investors are more interested in all areas related to ESG investing. In the survey, over 60% of respondents aged 23-34 stated they want to make a positive impact with their investments, while 47% of of respondents aged 55 or older stated the same. The authors also note that countries with younger populations, such as Australia, Singapore, and Indonesia, showed higher ESG interest, even though younger adults usually have fewer financial resources (Fernandez et al., 2023, p. 13). In Canada, similar trends have been recognized, since a higher percent of 25-39-year-olds declare to invest ethically compared to people aged 40 and older (Diouf et al., 2016, p. 62).

In the United States, Junkus and Berry (2010, p. 479) conducted a wide survey and found that socially responsible investment was most common in people aged between 30 and 59. The authors ended up emphasizing the fact that even though several studies point to the existence of a negative correlation between age and SR investing, none have found this factor to be statistically significant (Junkus & Berry, 2010, p. 476). Different factors, like age and education, are related, which brings difficulty in looking at their effects separately (Junkus & Berry, 2010, p. 480).

The annual surveys conducted at Stanford Graduate School of Business offer an up-to-date view on how different age groups are prioritizing ESG investing. A survey conducted in 2022 revealed a clear generational divide, which showed that a majority of millennial and Gen Z respondents expressed strong concern about environmental and social issues, but a similar share of older investors expressed being only somewhat or not at all concerned (Haber et al., 2022). The survey also showed that younger investors at the time were willing to give up 6-10% of their retirement savings to uphold causes contributing to ESG, while older investors did not have willingness to lose anything. When comparing the progress made between the 2022 surveys and the 2024 surveys, it is clear that there has been a shift (Larcker et al., 2024). In the last two years, younger respondents showed notably less willingness to accept a decline in their investments to help causes like climate change, workplace diversity, and better working conditions. On the other hand, older respondants appeared to show slightly more concern for ESG issues yet remained unwilling to put their savings at risk. Years of inflation and a tighter job market may have made investors less prioritizing and interested in ESG goals due to financial uncertainty (Larcker et al., 2024, p. 5). Taking this into account, it's clear that the state of the economy can have a big effect on how different age groups prioritize ESG.

Not all studies confirm a clear age effect. Montagnoli and Taylor (2024, p. 12) used the UK Financial Lives Survey, from which they do not find any age trend suggesting that ESG-related issues are only important for younger adults. Aulia et al. (2024) conducted a systematic literature review, which resulted in conflicting results regarding the influence of age on ESG investing. Some studies display a higher interest in ESG investments among younger people, while some studies show that older generations are equally interested. The findings show how the relationship between age and ESG investing is not straightforward but likely influenced by the cultural and economic environment in which the investors function.

The evidence does partly point in the direction of younger investors showing stronger ESG preferences than older investors, which is in line with H3. The relationship seems to change depending on economic conditions and isn't always statistically significant. This suggests age is unlikely to act as an individual affecting factor of ESG engagement. Educational background may interact with both age and gender in shaping ESG preferences.

4.3 Education and ESG awareness

4.3.1 Education and general investment behaviour

Education is a demographic factor that is often looked at in investment research. One primary reason being how education is closely linked to financial literacy, which helps people understand complicated financial products (Van Rooij et al., 2011). Van Rooij et al. (2011) indicate that people who have lower levels of financial literacy are consequentially less likely to invest in stocks. They also find that financial literacy varies by education, age, and gender, which means education acts as a direct but also as an indirect driver of investment behaviour. Surveys have shown financial literacy as an enhancing factor for investment returns and that the effect is stronger for investors with higher education levels, which suggests that education increases the benefits of financial literacy (Wang et al., 2024).

The relationship between education and risk tolerance is also prominent. Hallahan et al. (2004, p. 67) find that education is significantly related to risk tolerance, which is in line with earlier literature stating that education makes it easier for people to assess the riskiness of investing.

Education rarely functions only by itself, since it interacts with other demographic factors, and its influence is often shaped by financial literacy (Van Rooij et al., 2011; Wang et al., 2024). These dynamics become relevant with ESG engagement, where both general education and ESG-specific knowledge are considered.

4.3.2 Education and ESG preferences

In the context of ESG investing, education is a demographic factor that could potentially make a significant difference. Starting from the survey conducted by Fernandez et al. (2023) in 8 different countries, it is found that ESG literacy is clearly higher among respondents with a college degree than among those without one. Their results showed that 40% of highly educated individuals were classified as ESG literate, while the percentage was 28% for respondents without a college degree (Fernandez et al., 2023, p. 18). The same study also shows that adult respondents with a higher education are more likely to prefer sustainable finance, with the effect estimated at 3 to 5 percentage points (Fernandez et al., 2023, p. 25). This suggests that education may enhance both ESG knowledge and interest in ESG investing.

Similar results have been reported in individual countries. In Sweden, Nilsson (2008, p. 319) found education to be a significant factor in socially responsible investing behaviour, and that individuals lacking a university degree invested less in SRI. The study also shows that investors with a higher education invested more in SRI mutual funds (Nilsson, 2008, p. 320). Junkus and Berry (2010, p. 475) say that in the United States, higher education is linked to increased environmental awareness. The authors also note that socially responsible investors are usually more educated than regular investors (p. 480). In the United Kingdom, Montagnoli and Taylor (2024, p.12, 13-14) also find higher education to be connected to stronger support for ESG investing and that education is positively linked to both impact investing and future interest in responsible investments.

Other studies point to a similar direction, although the results are not always identical. Sweta (2025, p. 510) finds that in India, the level of education has a statistically significant effect on how aware people are of ESG mutual funds. This suggests that individuals with a higher level of education are more likely to possess knowledge about these products. In German-speaking countries, Dorfleitner and Utz (2014, p. 118) only find a small effect of educational level in their multivariate analysis of SR investing. However, highly educated individuals were more common in their sample, and respondents with higher education were also more willing to accept lower returns in exchange for a stronger social responsibility profile in investments (Dorfleitner and Utz, 2014, p. 125, 134). In Italy, Aristei and Gallo's (2024, p. 497) findings indicate that education improves financial knowledge, but a higher level of education does not directly increase the inclination for sustainable investments. However, respondents with only an upper secondary education showed weaker attitudes towards SRI.

Education can often be seen to be linked to stronger ESG awareness and interest, but the effect is not always clear. Taking H2 into consideration, we can find that the research found is still mostly in favor of our hypothesis, but education appears to motivate ESG engagement mostly by making people more financially literate and more ESG-knowledgeable.

5 Research on Gender and ESG Investing

5.1 Evidence from developed markets

Studies conducted in developed markets are in favour of the first hypothesis regarding gender. Evidence from the United States, Canada, Sweden, Italy and Portugal repeatedly shows that female investors are more likely to engage in socially responsible and ESG investing compared to men (Junkus & Berry, 2010; Diouf et al., 2016; Nilsson, 2008; Aristei & Gallo, 2024; Grumann et al., 2024). In the United Kingdom, Montagnoli and Taylor (2024) similarly find that women show stronger support for ESG investing.

Evidence on education also points in the same direction in developed markets. A higher educational level has been associated with greater ESG literacy, stronger environmental awareness, and higher participation in socially responsible investing in the United States, Sweden, the United Kingdom, Australia, Singapore, Indonesia, France, Germany, and Japan (Junkus & Berry, 2010 ; Nilsson, 2008 ; Montagnoli & Taylor, 2024 ; Fernandez et al., 2023).

Regarding age, surveys from the United States and Canada show that younger investors are more likely to engage in socially responsible investing and express stronger ESG preferences (Junkus & Berry, 2010; Diouf et al., 2016). Surveys done by Stanford Graduate School of Business have shown a significant gap between younger and older investors, in favour of younger ones, though more recent surveys indicate that this trend has shifted, with younger investors prioritising ESG less and older investors showing slightly more concern (Haber et al., 2022; Larcker et al., 2024).

5.2 Evidence from emerging markets

Evidence from emerging markets present a partly different picture, and in some cases contradicts the hypotheses. Regarding gender, studies from India do not find women to have stronger ESG preferences compared to men. Rathi and Geetha (2023) do not find a significant gender difference in attitudes toward socially responsible investing among Indian government employees, while Raut and Kumar (2023) find results opposing the hypotheses, stating that male investors actually show higher environmental concern and that female respondents prioritize financial returns. Similarly, Gala et al. (2024) report that male investors in India show higher awareness of ESG stocks compared to women. In Indonesia, Fernandez et al. (2023) find that women score lower on ESG literacy but have more motivation to invest responsibly.

Education results in India find that higher education is linked to greater ESG awareness (Sweta, 2025). Though it has to be noted that the author mentions that lower education levels among women in many emerging markets may limit how much education translates into ESG engagement for female investors. Similar patterns are seen in Indonesia, where higher education is also linked to greater ESG literacy (Fernandez et al., 2023).

Evidence related to age from emerging markets is limited. Fernandez et al. (2023) note that countries with younger populations, such as Indonesia, showed higher interest in ESG investing.

Market context	Direction	Hypothesis		
		H1 — Gender	H2 — Education	H3 — Age
Developed markets	Supporting	US, Canada, Sweden, Italy *Junkus & Berry (2010); Diouf et al. (2016); Nilsson (2008); Aristei & Gallo (2024)*	US, Sweden, UK, 8-country survey *Junkus & Berry (2010); Nilsson (2008); Montagnoli & Taylor (2024); Fernandez et al. (2023)*	US, Canada *Junkus & Berry (2010); Diouf et al. (2016); Haber et al. (2022)*
	Mixed	Germany: women accept lower returns for SR but men rate ESG criteria higher; Portugal: women have lower ESG knowledge but higher sustainability preferences *Dorfleitner & Utz (2014); Grumann et al. (2024)*	Italy, Germany: indirect or small effect only *Aristei & Gallo (2024); Dorfleitner & Utz (2014)*	US: SR most common in 30-59 bracket; not statistically significant; 2024 surveys show narrowing gap *Junkus & Berry (2010); Lacker et al. (2024)*
	Not supporting	Japan: women less aware of sustainable investments *Gutsche et al. (2021)*	—	UK: no clear age trend found *Montagnoli & Taylor (2024)*
Emerging markets	Supporting	—	India, Indonesia *Sweta (2025); Fernandez et al. (2023)*	Indonesia *Fernandez et al. (2023)*
	Mixed	Indonesia: women score lower on ESG literacy but show higher motivation to invest responsibly *Fernandez et al. (2023)*	—	—
	Not supporting	India: no gender difference or men show higher ESG concern *Rathi & Geetha (2023); Raut & Kumar (2023); Gala et al. (2024)*	—	Limited evidence overall —

Table 1. Evidence on gender, education and age in ESG investing across developed and emerging markets

5.3 Comparative insights and gaps in the literature

It has to be noted that the evidence suggests that the relationship between demographic factors and ESG investing is context-dependent. In developed markets, gender, education, and age can predict fairly consistently ESG engagement. In emerging markets, the relationships may be weaker or sometimes point in the opposite direction, especially for gender.

One factor that may help explain this difference is the gender gap in education that exist in many developing countries. Where women have lower levels of education and financial literacy than men on average, their values around social responsibility may not translate into actual ESG investment decisions because of limited access to information and ESG products (Raut & Kumar, 2023; Fernandez et al., 2023). This points to education playing an important role in connecting gender and ESG participation. An existing gap in the literature is the smaller number of studies looking at gender, education, and age together in emerging markets, which this study also aims to partly address.

Culture can have a big impact on how people adopt ESG practices. According to Dyck et al. (2019, p. 713), investors from countries with stronger social norms about environmental and social responsibility tend to push for better ESG performance in the companies they invest in. This suggests that cultural values play a role in investment decisions. These results highlight that conclusions taken from developed markets are not directly applicable to emerging market settings. All of these demographic factors work together because they affect each other in real time.

6 Discussion and Hypothesis Evaluation

The purpose of this chapter is to evaluate the three hypotheses presented in this study based on the evidence reviewed.

H1 receives strong support in developed market contexts but only partial support overall. The pattern seems to be well based on social role theory, which focuses on women's socialization into communal values that align with ESG investing principles. The literature focused on developed markets consistently provides evidence in the support of H1. The noticeable difference can be seen between emerging and developed markets. In emerging markets women's lower ESG literacy and financial confidence appear to prevent their ESG engagement in practice. This suggests that H1 is most likely to apply in countries where women have better access to financial education and ESG products, and cannot be assumed to just apply universally.

H2 receives consistent support across both developed and emerging markets. The literature shows that education appears to drive ESG engagement mainly by improving financial literacy and ESG knowledge, instead of just directly increasing ESG preferences on its own. The link between education and gender shows that in emerging markets where women have lower education levels, the gender gap in ESG participation may partly show differences on education rather than just gender alone.

H3 receives partial support from the literature. Multiple studies point to a generational gap in ESG preferences being favoured by younger investors, but the effect is not always statistically significant and appears to be sensitive to economic conditions. Between 2022 and 2024 a shift showing younger people's weakened motivation towards ESG shows the effect of financially uncertain times. This suggests that the relationship between age and ESG engagement is not straightforward.

It is important to note that all these demographic factors are related and affect each other. It is hard to investigate them by themselves, and finding a straightforward answer is not easy. In summary, all three hypotheses are provided with support but also show mixed results. Gender’s, education's, and age’s influence in ESG investing is shaped by the broader cultural, economic, and market context in which investors function. The findings point to the need for further future research and that the relationship between gender, education, and age should be explored, especially in emerging market contexts, where the evidence remains limited.

The findings provide implications for several groups. For financial educators and policy-makers, the evidence suggests that improving access to financial and ESG education, particularly for women in emerging markets, could help in fixing the participation gap in sustainable investing. If limited ESG knowledge is a significant barrier, initiatives focused on education may provide the best efficiency. For asset managers and financial advisors, the findings suggest that ESG communication could be personalized to the investor’s profile, taking demographic factors into consideration, as different investor profiles may respond to different framings of ESG products. For policymakers in emerging markets, the weaker demographic patterns seen suggest that structural barriers, such as limited access to ESG products and less developed disclosure systems, may need to be addressed before demographic factors can drive ESG engagement in the same way as in developed contexts.

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