TO DISCLOSE, OR NOT TO DISCLOSE, THAT IS THE QUESTION

THE IMPACT OF ESG DISCLOSURE ON RETAIL INVESTORS IN AN IPO SETTING

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To Disclose, or Not to Disclose, That Is the Question: The Impact of ESG Disclosure on Retail Investors in an IPO Setting

Abstract:

With limited research covering how the willingness to invest among retail investors is affected by IPO candidates disclosing their ESG information, this paper aims to contribute to the literature by using data obtained from an online questionnaire. Using the questionnaire, an experiment is constructed to investigate the investment decisions of retail investors when confronted with companies that disclose various ESG information to different extents in an IPO setting. At a 5% significance level, the results point in the direction that ESG disclosure gives an IPO candidate an advantage in attracting retail investors if the candidate's ESG performance is better than the performance of its peer. However, disclosure exhibits no advantages if the underlying ESG performance of the IPO candidate is relatively poor. This therefore denounces the idea that a decrease in the degree of information asymmetry is always valued by retail investors. Moreover, this paper could not find any difference in the importance placed by retail investors on the different individual dimensions that make up ESG.

Keywords:

ESG, Disclosure, Information asymmetry, IPO, Retail investors

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1. Introduction

1.1. Background and Research Question

As a part of the global push toward sustainable transformation, investors exhibit a growing interest in sustainable investment (SI), with global sustainable assets under management having grown from USD 13.6 trillion to USD 35.3 trillion between 2012 and 2020, making up 35.9% of all assets under management globally (GSIA, 2013; GSIA 2021). Simultaneously, the global Initial Public Offering (IPO) activity has been on a steady rise since 2019, with 2021 being a record year for IPO markets, delivering 2,682 IPOs and raising USD 608 billion (Newman and Picard, 2022; EY, 2022). Taking these trends into account, this paper aims to study if sustainability, measured through ESG performance, has any impact on IPOs on the level of retail investors, by setting the following research question:

> *In conjunction with an IPO, how does disclosure of information about the IPO candidate's performance in regard to environmental, social, and governance (ESG) affect retail investors' willingness to invest? Is ESG information disclosure beneficial for the IPO candidate, and if so, does it depend on how well the candidate performs in regard to the ESG criteria? Also, which ESG factors are the most important to retail investors?*

Retail investors are of particular interest as they seem to play an important role in the financial markets, including the IPO markets. Cook, Kieschnick and Van Ness (2006) argue that attracting retail investors is key for a successful IPO, as those tend to be more bullish and increase valuations, therefore enabling institutional investors to make satisfactory trades in conjunction with the IPO. Also, given the aforementioned rise in interest for SI, it is reasonable to assume that a company undergoing an IPO, would find it easier to attract retail investors by levering on the rising interest for SI, through the disclosure of information about its own ESG performance. However, the literature covering retail investors' interest in ESG information disclosure and SI in IPO settings is to our knowledge non-existent. Instead, there is related literature on these topics that is primarily concentrated on pension- and mutual funds rather than direct equity investments.

Therefore, by answering the set research question, this study has the potential of guiding IPO candidates in how they should communicate with retail investors to increase their willingness to invest, and in effect optimize the performance of their IPO, with consideration taken to the quality of their own and peer companies' ESG performance.

From prior studies and data, it is supported that institutional investors value good ESG performance and disclosure of information about the ESG performance of a company. In fact, institutional investors demand more ESG information than is currently available. A recent CFA Institute survey among quantitative analysts and portfolio managers shows that 52% agree that regulators should mandate firms to make ESG disclosures and 63% argue that regulators should promote the development of ESG disclosure standards (Singh and Peters, 2019). This demand can be explained by the fact that there is an especially prominent information asymmetry problem for companies that are undergoing an IPO, as the process involves the delivery of large amounts of information to the public. The disclosure of ESG information could therefore potentially be beneficial in such settings

and alleviate some of the information asymmetry, subsequently resulting in more accurate firm valuations and lower underpricing (Fenili and Raimondo, 2021). Similarly, El Ghoul, Guedhami, Kwok and Mishra (2011) provide another argument for disclosing information about a company's good sustainability performance. They find that firms that perform well in regard to CSR will get more attention from the media which will reduce the information asymmetry compared to firms that perform poorly in regard to CSR, ceteris paribus.

Besides the information asymmetry problem, existing research has identified several other reasons why investors perceive a value in sustainable performance. Experiments suggest that investors perceive a positive correlation between sustainability and future performance (Hartzmark and Sussman, 2019), which is also supported by Friede, Busch and Bassen (2015). By performing an analysis of about 2,200 individual studies. Friede et al. (2015) conclude that circa 90% of these studies find a nonnegative relation between the performance on ESG criteria and corporate financial performance (CFP), of which the majority of the studies find a positive ESG-CFP relation. Additionally identified drivers of interest for SI, include the view that consideration for sustainability in investments is an alternative form of risk management (Lenssen, Dentchev and Roger, 2014); expectations from markets and clients of financial institutions and corporations to devote more attention to sustainability (Sheth, Sethia and Srinivas, 2011); and a genuine interest among investors to create and preserve value for future generations (Lagoarde-Segot and Paranque, 2018).

1.2. Methodology Introduction

In order to answer the research question, a quantitative research approach is used, with the main data source consisting of an experiment based on an online self-completion questionnaire (see Appendix 6 - The Questionnaire). The self-completion questionnaire is deemed appropriate as it is one of the most common tools in social scientific research (Bryman and Bell, 2011) and offers a wide range of advantages for controlling the experiment environment. Benefits include establishing an anonymous setting, where the test subject can feel more confident about answering truthfully (Bryman and Bell, 2019). Thereby the risk of interviewer effects that may influence or alter the way the test subject responds, due to the characteristics of the interviewer or the pressure to adhere to social norms (Kreuter, 2008), is largely mitigated. This aspect is particularly important in our case considering that the test subjects may feel that they have to show a positive attitude towards SI in order to be in compliance with social norms.

In turn, taking into consideration the limited amount of time and resources at hand, while at the same time ensuring a frictionless procedure for the test subject, it has been decided to distribute the survey online. Online distribution also makes it easier to reach out across the entire country to the population of Swedish retail investors. The Swedish population of retail investors is specifically deemed as appropriate for the study, as the interest in stock investments among private persons in Sweden is high, giving rise to a large and diverse population. According to Euroclear Sweden (2021), by the end of 2020, approximately 2.1 million Swedes owned stocks in Swedish companies, with the number of Swedish retail investors having grown for a fifth consecutive year. Thus, the total number of retail investors made up roughly 20% of the country's population, together owning ca. 1.1 billion SEK in equity capital. Also, the population of retail investors has been shown to be fairly equally divided in terms of gender, with circa 1.3 million men and circa 0.8 million women. Additionally, limiting the study's scope to Sweden allows

it to partly rely on convenience and snowball sampling methods (Bryman and Bell, 2011), and finding test subjects by putting to use existing contact networks and spreading invitations through word-of-mouth. Again, given the resource and time constraints, such sampling methods have been assessed as appropriate.

Ultimately, the questionnaire was distributed to contacts on social media outlets such as Facebook, Instagram, Snapchat, and LinkedIn, as well as among work colleagues via e-mail. Furthermore, an invite to the survey was also sent to professionals employed at the Swedish House of Finance, as well as posted on a Swedish forum for economy-interested people, "Rika tillsammans", and a Facebook group for individuals with an interest in stocks and savings, "Aktier och Sparande". In this way, more test subjects from the target population could be captured, while the geographic location of the sample became more diversified across the country. In total, 152 fully completed responses were collected by such means, of which 28 were from the Swedish House of Finance, 23 from "Rika tillsammans", and 7 from "Aktier och Sparande".

1.3. Brief Results

The results of the self-completion questionnaire point towards the conclusion that disclosure of ESG information and consequently the mitigation of information asymmetry is not always to the benefit of the IPO candidate. The benefit of information disclosure seems to vary depending on the quality of the disclosing candidate's ESG performance compared to the peer company. In instances where test subjects have to choose between two IPO candidates that both perform poorly in regard to the ESG criteria, with one of the companies disclosing the poor performance and the other omitting ESG information, test subjects prefer to a larger degree the latter company and thus prefer the company with a higher degree of information asymmetry. This result is rather striking since it is in contrast with Baker, Boulton, Braga-Alves and Morey (2021) given their finding that a lower degree of information asymmetry leads to a lower degree of underpricing of an IPO, which in turn could suggest a higher attractiveness to investors.

However, in test groups where the test subjects are presented with a pair of IPO candidates where one of the companies exhibits a good ESG performance against a poor ESG-performing alternative, the results suggest that retail investors prefer the good ESG performer, no matter whether the other company openly discloses its poor ESG performance or not. In aggregate, the results might indicate that retail investors do not value information asymmetry mitigation very highly in itself but are mostly concerned with the appearance of the IPO candidates' ESG performance. I.e., if the performance of the candidate is relatively better than its peer's, then disclosure is preferred over non-disclosure. This result therefore points in the direction of studies such as Lagerkvist, Edenbrandt, Tibbelin and Wahlstedt (2020) as well as Apostolakis, Kraanen and van Dijk (2016) since they also find that when confronted with a sustainable investment and a non-sustainable investment, retail investors prefer the sustainable investment to a larger degree.

Finally, this study cannot show with statistical significance that retail investors view any of the E, S, and G factors as more important and worth particular consideration when making real-life investment decisions. But the results show that retail investors view the performance on the three ESG factors as more important for their investment decision-making than public disclosure of ESG information.

2. Literature Overview

Beginning by looking at the literature related to the relationship between disclosure of ESG risks and IPO underpricing, Baker et al. (2021) find that higher ESG government ratings (as defined by MSCI) lead to a lower degree of information asymmetry in an IPO setting. Consequently, they find a negative relationship between the ESG Government rating and the underpricing of the IPO, leading to a relationship where a higher ESG Government rating leads to less information asymmetry which in turn leads to a smaller degree of underpricing in IPOs. By studying IPO underpricing, it is implied that Baker et al. (2021) primarily capture the effects of institutional investors' decisions for IPOs. This thesis contributes here by firstly shifting the focus to retail investors and secondly narrowing the scope from involving ESG government ratings to emphasizing an IPO candidate's own ESG performance instead, and how that affects retail investors' willingness to invest.

Furthermore, since this thesis explicitly aims to observe the interests of retail investors when confronted with investments with varying degrees of ESG disclosure and performance, literature related to retail investors' choices between conventional- and sustainable investments has been reviewed. To begin with, Lagerkvist et al. (2020) find, among other things, that funds using sustainable investment strategies are on average preferred over conventional funds by retail investors in Sweden. Relating to the same subject, Apostolakis et al. (2016) find that a majority of the respondents of their study prefer a socially responsible portfolio over a conventional portfolio when observing the choices of Dutch pension savers. However, one can observe that both the above papers use investment funds instead of individual equity for their experiments and thus this thesis further contributes by looking at individual equity instead of looking at portfolios of several different companies.

As to which dimension of ESG is seen as most important by retail investors, the research community is divided. Some, for instance the aforementioned Lagerkvist et al. (2020) find that the environmental aspect is preferred over social and governance factors. Others, for instance Pérez-Gladish, Benson and Faff (2012) find that, on the contrary, social concerns are more important compared to environmental ones when looking at the sentiments of Australian socially responsible investors. In this aspect, our study primarily brings more data into this realm of research. Given that there is no consensus regarding which dimension of ESG is perceived as the most important one, and that this also can potentially vary between geographical regions, our thesis has the potential of bringing more clarity to this question.

To summarize, this thesis contributes to the literature mainly in three ways: Firstly, by looking particularly at retail investors' investment decisions in an IPO setting with varying degrees of ESG disclosure. Secondly, it also contributes by augmenting current research on retail investors' preferences for sustainable investments by looking at equity investments rather than pension funds/mutual funds. Lastly, it cultivates the literature focused on the importance placed by retail investors on the different dimensions that comprise ESG.

3. Hypotheses

Based on the results and conclusions of existing research, it is anticipated that retail investors exhibit a higher willingness to invest in IPO candidates that disclose their ESG information, *ceteris paribus*. In addition, it is expected that the willingness to invest increases even more for an IPO candidate that performs well in regard to the ESG factors. Based on the above expectations, the following two hypotheses have been formulated for this study:

> **H1:** When making equity investment decisions for IPO candidates, a majority of retail investors prefer to invest in IPO candidates that disclose information about their performance on the ESG factors, rather than IPO candidates that avoid disclosing this information.
>
> **H2:** A majority of retail investors prefer to invest in IPO candidates that perform relatively well in terms of the ESG factors, rather than otherwise comparable IPO candidates that perform relatively poorly in terms of ESG.

Based on these two hypotheses, it also follows that an IPO candidate that both discloses its ESG information and perform relatively well in terms of ESG attracts retail investors to the highest extent of all other possible combinations of disclosure and ESG performance.

> **H3:** When making their investment decision, retail investors consider the environmental factor as the most important one in the ESG framework.

The above hypothesis is based on the fact that similarly to Lagerkvist et al. (2020), this study involves Swedish retail investors.

Subsequently, if the above hypotheses are proven, it would suggest that in order to increase the attractivity of an IPO candidate for retail investors, the company undergoing the IPO should among other measures aim to disclose its performance regarding the ESG criteria and ideally also make improvements in the ESG performance; particularly when it comes to the IPO candidate's environmental impact.

4. Theoretical Frameworks

4.1. ESG versus SRI

With a global increase in awareness of sustainable development, more and more people have started to look for ways to improve and change the world toward a more sustainable direction. One way that has been identified is to create change by investing in companies and organizations that prioritize sustainability. This has led to several different strategies used to find and analyze companies on their sustainability efforts, two such strategies are SRI and ESG investing. Even though there are no exact definitions of these strategies, an effort has been made to highlight some of the key differences between them.

ESG investing refers to when the investor evaluates a company based on how it performs and works with the three factors that comprise the ESG framework (Environmental,

Social, Governance), with the belief that companies that perform well in these areas will deliver better financial returns (CFA Institute, n.d.). Although ESG investing has evolved out of SRI, one of the main differences between the two is that SRI is often used as a tool for screening, where some industries such as classic "sin" industries (e.g., tobacco and gambling) are excluded from portfolios (Michelson, Wailes, van der Laan and Frost, 2004). ESG investing, however, can be used to evaluate any company in any industry based on how it performs and works with the three metrics. As such, one using ESG investing might decide to invest in a tobacco company if it performs better in regard to ESG compared to its competitors (S&P Global, 2020). The core aspects of the three ESG factors can be summarized as (MSCI, n.d.):

> **Environmental:** Refers to a company's efforts in areas, such as climate change, use and management of natural resources, air and water pollution, and waste management.
>
> **Social:** Refers to a company's efforts in areas, such as the use and handling of human capital, safe and responsible products and services, and sourcing of materials.
>
> **Governance:** Refers to a company's efforts in areas, such as corporate governance and interaction with corporate stakeholders.

4.2. Corporate Social Responsibility (CSR)

CSR or Corporate Social Responsibility refers to efforts that companies take to integrate social and environmental factors into their decision-making processes and business operations as well as with their stakeholder interactions instead of having a sole focus on economic factors. It can thus be seen as a management concept where the goal is to create a balance between these perspectives (UNIDO, n.d.). Compared to ESG investing, CSR is thus something that is done by the company itself in order to perform better in regard to the ESG metrics, while ESG investing is a practice most commonly carried out by investors to evaluate the company based on the ESG metrics and consequently, the effectiveness of its CSR activities.

4.3. Initial Public Offering (IPO), Information Asymmetry, and Voluntary Disclosure

An Initial Public Offering (IPO) is a transaction where a private company offers its shares to the public market for the first time (Fidelity, n.d.). Due to the nature of an IPO process being a shift of a company going from private ownership to public ownership, the information asymmetry between the current private investors of the firm and the wider public is very substantial, and therefore, voluntary disclosure of private information is a way for the firm to mitigate the existing information asymmetry (Reber, Gold and Gold, 2021). Balakrishnan, Billings, Kelly and Ljungqvist (2011) also argue that companies view voluntary disclosure (i.e., voluntarily disclosing information) as extra important when it comes to reducing information asymmetry for retail investors, given that they are thought of as being even more uninformed and thus experiencing a larger information asymmetry than institutional investors.

5. Data and Methodology

5.1. Ideal Empirical Setting

The ideal setting for this thesis would be to test the hypotheses in a real-life scenario. This could have been done by randomly assigning participants to real-life scenarios where they have to choose between two different IPO candidates with differing degrees of ESG information disclosure and performance. The main benefits of choosing such a setting are that it would be very realistic for the participants, their choices could have an impact on their future returns, and the companies that they can choose between would not be hypothetical but instead real operating entities. This would also make the results of the study more applicable in practice since the results would not be based on hypothetical scenarios. However, it is very difficult to find the companies to be used in a real-life setting since they must be of very similar natures yet with different degrees of ESG information disclosure and performance in order to be able to isolate any potential effects that arise solely due to the ESG disclosure and ESG performance, rather than any other factor. Due to the limitations of the ideal empirical setting, it has been chosen to use a survey with hypothetical scenarios to generate the data needed. The construction of the survey and the overall experiment is further described below.

5.2. Questionnaire Design

In order to study the behavior of retail investors when they make investment decisions in conjunction with IPOs, each test subject is introduced to a hypothetical scenario where he or she has 10,000 SEK available for investment and now has to choose one company out of two presented, to invest the 10,000 SEK in, with a number of questions following the exercise. Subsequently, the hypothesis testing is conducted by dividing the test subjects into four groups, whereas three of these are treatment groups and one is a control group (see Appendix 5 – The Flow of the Questionnaire).

Considering the complex nature of the task, there is a substantial risk of deteriorating answer quality due to a drop in the participant's attention and motivation - a phenomenon called respondent fatigue (Ben-Nun, 2008; Bryman and Bell, 2011). Therefore, following the advice of Holyk (2008), the most important section of the questionnaire, i.e., the presentation of the two IPO candidates is placed at the start of the questionnaire, followed by the task of choosing one company to invest in, to ensure maximal attention for this part of the experiment.

Each company is presented using a pre-IPO one-pager. A one-pager presentation is assessed as sufficient for the purpose of the experiment, as it has been shown that retail investors largely ignore the IPO prospectus due to it being overwhelmingly long and difficult to read. Retail investors instead demand summaries of key information and the most important aspects of the company (Zoe, 2014; Price, 2017). With this in mind, it has been decided to base the one-pager design on several sections that are usually included in IPO prospectuses. The Corporate Finance Institute (n.d.) lists the following sections as usually included in such prospectuses: (i) Overview and history of the company, (ii) Services/products offered by the company, (iii) Management profile, (iv) Desired deal structure, (v) Use of proceeds (vi) Security offering details, (vii) Financial information, and (viii) Risks involved. Based on this list, as well as the IPO prospectus of RevolutionRace (2021) – an online apparel retailer that completed an IPO on Nasdaq Stockholm in 2021 – it has been decided to construct the IPO one-pager out of the

following sections:

(i) Overview – similar to "Overview and history of the company",

(ii) Management team and business model – similar to "Management profile", "Services/products offered by the company" and "Use of proceeds",

(iii) Multiples and key ratios – similar to "Financial information" and to some extent, "Overview and history of the company" and,

(iv) Sales and EBITDA development – similar to "Financial information."

With the above structure, it can be argued that the IPO one-pagers presented to the test subjects cover some of the most important information usually included in an IPO prospectus, from the perspective of a retail investor, while at the same time keeping the amount of information limited for the purpose of the experiment.

In turn, as the item order in the questionnaire can affect the response and give rise to measurement errors (Bishop, 2008), the two one-pagers are placed directly after each other in a randomized order, to avoid any systematic benefit for the company that is presented first. After having read the company presentations, the test subject is asked to rank his or her attitude towards each of the two companies according to a five-point bipolar semantic differential scale, ranging from an "extremely negative" to an "extremely positive attitude." Although traditionally, semantic differential measurement techniques involve seven-point bipolar scales (Stoutenborough, 2008), it has been decided to apply a more Likert-like (Brill, 2008) five-point scale to simplify the experience and decrease the risk of respondent fatigue. After considering his or her attitude, the test subject gets to choose whether to invest the 10,000 SEK in "Company A" or "Company B", with the order of the choices being randomized in order to avoid primacy effects – the tendency for respondents to choose the first choice that is presented (Lee, 2008).

Additionally, if the test subject is presented with an ESG profiled IPO candidate, he or she has to specify how important the "E" (emission levels, material, pesticide, and water usage), "S" (consideration for human rights, safe workplaces, and fair wages), and "G" (diversity of the company's management team) dimensions of the company as well as the company's financial development and expansion plan were for the test subject's investment choice. This question is asked to potentially analyze deeper how important the three ESG dimensions are for the investor relative to the traditional financial factors. To measure the importance of the four factors, it was initially planned to use a five-point Likert scale. However, considering the tendency of questionnaire respondents to agree with presented statements regardless of their content – the so-called acquiescence bias (Maitland, 2008; Brill, 2008), it has been decided to use an unbalanced scale that measures the degree of importance of the factors, going from not important at all to extremely important, rather than unimportant versus important, which is the case with a balanced Likert scale (Brill, 2008). Additionally, "I do not know" has been added as an answer option in order to prevent respondents from feeling forced to answer arbitrarily if they for instance do not understand the question or do not have any opinion.

Moreover, to test the third hypothesis (H3), all participants no matter of group belonging are asked to state how important they consider the "E", "S", and "G" dimensions to be

when making real-life investment decisions. In addition, along with the ESG dimensions, all the participants are also asked to state how important they consider the public disclosure of information about the company's ESG performance to be when making real-life investment decisions. This is made to study if there are any potential discrepancies between how important disclosure and the ESG dimensions are considered to be, as well as relating the stated importance to the investment choices made by the participants previously. The degree of importance is measured using the same unbalanced scale as explained above. For both questions, in the first distribution round covering 117 participants, the order of the dimension statements is fixed. However, considering the possibility that various response order effects, such as the primacy or recency effect may favor either the first or last presented statements (Holbrook, 2008), the order of the statements is randomized in the second distribution to control for such effects. The second distribution round includes an additional 35 participants.

Finally, the respondents are provided with questions related to demographics: age, gender, and the frequency with which one makes stock investments as a private person. The purpose of the data collected in this section is to use it as control variables in further tests. The demographics section is concluded by a final control question that asks about what one had to do in the questionnaire, to control for the participants' attention and sort out potential participants that did not pay attention to the questionnaire.

5.3. Experiment Design

To test the three hypotheses, eight company one-pagers (two each for the four different test groups) have been created, presenting three self-defined categories of IPO candidates (see Appendix 4 – Categories of IPO Candidates and Their One-Pager Presentations):

> **A "non-disclose and non-ESG company" (see Figure 5 in Appendix 4):** This type of company does not consider any ESG criteria at all, with no disclosure of information about the company's relatively poor ESG performance either. In line with this, the described mission and corporate values reflect primarily the ambition of delivering financial growth and creating shareholder value. In addition, there is no management diversity either, with the entire C-suite consisting of men with traditionally Swedish-sounding names.
>
> **A "disclose and non-ESG company" (see Figure 6 in Appendix 4):** Similarly, to the previous company type, no consideration is taken to ESG in the business operations and the C-suite management consists only of men with Swedish sounding names. However, in contrast to the previous category, the information about the relatively poor ESG performance is disclosed openly. The disclosure is made in a checklist manner relative to the one-pager of the company that is performing relatively well in terms of ESG in order to set a clear contrast between the two companies for the test subject. Also, three metrics in the "multiples and key ratios" section of the one-pager are substituted for ESG-relevant metrics.
>
> **A "disclose and ESG company" (see Figure 7 in Appendix 4):** A company from this category is supposed to perform relatively well in terms of ESG and disclose the information about its performance. This is communicated through the three ESG ratios in the "multiples and key ratios" section, as well as in the business model description and the vision, mission, and values of the company.

Note that there is no “non-disclose and ESG company” since it follows that if a company does not disclose any ESG information, it is also impossible for an investor to infer if the company is an "ESG” or “non-ESG” type of a company. Consequently, it is assumed that investors perceive a company that avoids disclosing any ESG information as a “non-ESG” company per default. Note that this assumption is made solely for the purpose of keeping the naming convention and categorization used in this thesis uniform and logically consequent. The assumption has no impact on the one-pager design whatsoever.

The test subjects are randomly assigned to each test group (see Appendix 5 - The Flow of the Questionnaire) in order to allow for a true experiment where it is possible to compare the effects in the three treatment groups (Knapp, 2008). The test subjects in the control group get to choose between two “non-disclose and non-ESG" types of companies to control for the absence of any effects on investor preferences other than those induced by the introduction of treatments, i.e., information disclosure and relatively good ESG performance in the respective treatment groups.

In the first treatment group, the first hypothesis (H1) is tested by offering the test subjects to either invest in a “non-disclose and non-ESG” or a “disclose and non-ESG” type of company. The aim is to test for the presence of an effect on investors’ preferences sourcing exclusively from the introduction of ESG information disclosure.

Going further, the second treatment group tests the second hypothesis (H2) by only adding good ESG performance to the treatment and studying its effect on investors’ preferences. Accordingly, the test subjects have then to choose between investing in a “disclose and non-ESG” or a “disclose and ESG” company.

Finally, the third treatment group combines both ESG information disclosure and relatively good ESG performance to provide a more nuanced picture and study the presence of any additional effects on investors’ preferences stemming from a larger contrast between the two companies. The test is conducted by letting the test subjects choose between a “non-disclose and non-ESG” or a “disclose and ESG” company.

Table 1: The Test Groups of the Experiment

	Company A	*Company B*	Treatment variable
Control group	"non-disclose and non-ESG"	"non-disclose and non-ESG"	N/A
Treatment group 1	"non-disclose and non-ESG"	"disclose and non-ESG"	ESG info. disclosure
Treatment group 2	"disclose and non-ESG"	"disclose and ESG"	ESG performance
Treatment group 3	"non-disclose and non-ESG"	"disclose and ESG"	Disclosure & performance

An overview of the four test groups used in the experiment together with the treatments applied in each of the test groups

5.4. Variables

Treatment variables:

1. If the company discloses information regarding its ESG performance or omits it
2. If the company is performing relatively well or poorly on the ESG criteria

Control variables:

1. Gender
2. Age group
3. Private investment frequency
4. Importance of environmental aspects (ImpE)
5. Importance of social aspects (ImpS)
6. Importance of governance aspects (ImpG)
7. Importance of disclosure of ESG information (ImpDiscl)

Dependent variables:

1. How positive or negative attitudes the investors express toward each company
2. Which company the participants choose to invest in

5.5. Statistical Methods

5.5.1. Sample Size Estimation

To start with, an important issue is to determine the appropriate sample size. For this, an attempt has been made to estimate the population effect size of offering an ESG-profiled investment alternative against a non-ESG-profiled alternative. In accordance with Ellis (2010), the d "family" of effect sizes has been chosen as an appropriate set of effect measures for this study, as the study's main aim is to analyze the difference between groups, rather than measuring the strength of a relationship or correlation.

When studying Dutch pension beneficiaries' willingness to invest in socially responsible portfolios, Apostolakis et al. (2016) find that 54.47% of the 637 survey respondents prefer the SRI portfolio to the conventional portfolio, given that no additional costs are incurred. This result is similar to the findings of Borgers and Pownall (2014), who find that 54.59% of the 1,766 respondents prefer a socially screened pension investment portfolio to their current pension portfolio. Moreover, Barreda-Tarrazona, Matallín-Sáez and Balaguer-Franch (2011) study the fund-investment choices of 129 Spanish students where the participants can choose between a socially responsible fund (SR fund) and a non-socially responsible fund (non-SR fund). The authors find that when the information regarding if the fund is SR is evident, the non-SR fund receives 3.96% less in invested capital than in the case when the SR information is not evident, consequently this also implies that the SR fund receives 3.96% more in invested capital when SR information is made evident to the participants.

To convert the findings of Apostolakis et al. (2016) into a relative risk ratio, first, assume a hypothetical second group where the respondents must choose between two identical conventional portfolios. In such a case, it is likely that the distribution would be 50% between each portfolio. By changing the characteristics of one of the conventional portfolios, for it to become an SRI portfolio, the proportion increases to 54.47% in favor of the SRI portfolio. The relative risk ratio is therefore: 0.5447/0.5 = 1.0894 which yields an effect of 8.94%. Doing the same for Borgers and Pownall (2014) we end up with a relative risk ratio of: 0.5459/0.5 = 1.0918 which yields an effect size of 9.18%. Finally, for the study by Barreda-Tarrazona et al. (2011), we construct a relative risk ratio by comparing the investments made into the SR fund before its SR information is evident (25.67%) and compare it to when the SR information is revealed (29.63%). This gives us a relative risk ratio of $0.2963/0.2567 \approx 1.1543$ which yields an effect size of circa 15.43%.

Prior studies related to the choice between conventional- and SR funds thus suggest that there is an effect on retail investors' preferences when introducing a sustainable investment alternative. Therefore, it can be derived that a similar effect should exist when retail investors select individual companies to invest in and have to choose between a conventional (non-ESG) company and a sustainability-focused company (ESG). However, as the previous studies are not conducted on the exact same subject, it is not reasonable to assume that the relevant effect size for this study is equivalent. Following the advice of Ellis (2010), the anticipated effect of the introduction of an ESG-profiled company in the treatment groups is therefore estimated conservatively by choosing the prior study that has yielded the lowest effect size, i.e., the study by Apostolakis et al. (2016) yielding an effect size of 8.94%.

Given this effect size, the analytical program G*Power (Faul, 2007) has been used to calculate the sample size needed for our experiment. As this study examines the differences in preferences within the different groups, it has been chosen to use the statistical test “Generic binomial test” from the “Exact” test family. For the control group, a two-tail test has been used to see if there is any difference in preference between the two companies within the group, both on the upside and downside. For the treatment groups, it has been decided to instead use one-tail tests since it is wanted to test if the preference for one of the IPO candidates is higher than for the other. For instance, by comparing ESG to non-ESG, it is aimed to test if the willingness to invest in the ESG company is higher than for the non-ESG company. Furthermore, a significance level of 0.05 and a power of 0.8 are used. The reason behind these levels is that a power of 0.8 has been proposed as a good level since it leads to a reasonable balance between making a Type I and Type II error (Ellis, 2010; Cohen, 1988). Cohen (1988) also advises that the beta-to-alpha ratio should be 4:1 since making a Type I error should be considered more severe than making a Type II error and thus, by choosing an alpha of 0.05 and power of 0.8 the beta-to-alpha ratio of 4:1 holds. In addition, setting the significance level to 0.05 is the most common approach (Noymer, 2008).

Given these inputs, the total sample size required for the control group is 989 participants. For the treatment groups, the total sample size required is 777 participants (see Appendix 1 – A Priori Sample Size Estimation).

5.5.2. Result Analysis Methods

5.5.2.1. Hypothesis Testing

In order to test the hypotheses, multiple statistical tests are applied to the two dependent variables as well as four of the control variables (ImpE, ImpS, ImpG, and ImpDiscl) with the aim of finding statistically significant effects at the 0.05 significance level.

Sign tests are conducted using SPSS for each group to test for differences in attitude among the population, for the companies shown in the groups, i.e., to test the first dependent variable: "how positive or negative attitude the investors express towards each company." Given that the participant gives each company shown to him/her an attitude score of 1-5, the sign test can be used to see if there is any significant difference in attitude toward each company in the population of Swedish retail investors, analyzing both negative and positive differences. For the control group, a two-tail test is used to test if there is any difference in the attitude at all between the two companies in the control group, while for the treatment groups, one tail tests are used instead, to see if the population's attitude towards a specific company is higher (Newbold, Carlson and Thorne, 2020).

To test the second dependent variable (which company the participants chose to invest in), we use a one-sample binomial test in SPSS. Since the participants are asked to choose one of two companies to invest in, the outcome is binary in nature with a binomial distribution of the results. Therefore, a one-sample binomial test appropriately analyzes the probabilities with which each company is chosen and thus, the population proportion that would choose Company A and Company B. The analysis is made by testing the null hypothesis, which says that the population proportion that invests in either company is 0.5 (i.e., equal probabilities). If the null hypothesis can be rejected based on the sample data, it may be shown that the population as a whole is more likely to invest in one of the two companies. Moreover, the result of the one-sample binomial test is further illustrated with confidence intervals for the probability, based on three different computation methods: (1) Clopper-Pearson (exact), (2) Jeffreys, and (3) Likelihood ratio (IBM, 2021).

Finally, in order to see if there is any statistically significant difference in the importance given to the control variables ImpE, ImpS, ImpG, and ImpDiscl by retail investors, the related-samples Friedman's two-way ANOVA by ranks test has been used. This test is deemed usable since it is a non-parametric test, which allows for testing differences in the distribution of ordinal data for multiple variables (MacFarland, Thomas, and Yates, 2016).

5.5.2.2. Testing for Potential Measurement Errors

Furthermore, as mentioned previously in 5.2. Questionnaire Design there is a potential issue with primacy or recency effects in the measurement of how important retail investors perceive the environmental, social, and governance factors as well as ESG information disclosure to be when making real-life investment decisions. Therefore, before analyzing in detail the results for these factors, they are first tested for the presence of any such effects. For this purpose, a Mann-Whitney U test is performed on the importance scores given to each factor, comparing the results from the two questionnaire distributions with each other (see 6.3. Issues Related to the Measurement of the Importance of the ESG Factors and ESG Information Disclosure for Retail Investors). The Mann-Whitney U test has been deemed applicable since the two questionnaire

distributions can be seen as independent random samples and it is of importance to test if the means of these samples are the same at a 0.05 significance level (Newbold et al., 2020). The importance scores for the analyzed factors are defined by the following variables.

> ***ImpE:*** *How important a company's environmental impact is for one's real-life investment decisions (1-5).*
>
> ***ImpS:*** *How important a company's consideration of social issues is for one's real-life investment decisions (1-5).*
>
> ***ImpG:*** *How important a company's governance is for one's real-life investment decisions (1-5).*
>
> ***ImpDiscl:*** *How important it is for one's real-life investment decisions that a company publicly discloses information about its ESG performance (1-5).*

Going further, primacy and recency effects are not the only potential sources of measurement errors when it comes to the importance score variables. Another issue might be context effects in which prior sections of the questionnaire affect the response of the test subjects (Holyk, 2008). Context effects can be especially prominent in treatment groups 2 and 3, as the test subjects there are presented with an ESG-profiled IPO candidate and subsequently asked if certain ESG aspects are important for their decision of an IPO candidate. Likewise, the test subjects in the control group should be least affected by potential context effects. Therefore, in a similar manner as for the primacy and recency effects, the presence of context effects is tested using a Kruskal-Wallis test, comparing the distribution of the importance scores (ImpE, ImpS, ImpG, and ImpDiscl) across all test groups simultaneously, as well as comparing each individually with the corresponding results in the control group. The reason why the Kruskal-Wallis test has been deemed appropriate in this case instead of the Mann-Whitney U test is that the Kruskal-Wallis test makes it possible to test the null hypothesis that the means of multiple independent random samples drawn from one population are the same rather than only two independent random samples (Newbold et al., 2020).

5.5.2.3. Multiple Linear Regression Modelling

Four multiple linear regressions have been run to further examine the relationship between the obtained attitude score for each IPO candidate in the four tests groups, the applied treatment variables, and the control variables, incorporating perceived importance of the ESG factors and the disclosure of ESG information for the respondents' real-life investment decision-making as well as the observed demographics. In this way, it can be seen whether the applied treatments or any of the other control variables have a positive or negative effect on the attitude toward the IPO candidates.

The multiple linear regression model is formulated as follows:

$$Y_i = \alpha + \beta_1 t_{1,i} + \beta_2 t_{2,i} + \gamma_1 x_{1,i} + \cdots + \gamma_4 x_{4,i} + \delta_1 a_{1,i} + \cdots + \delta_3 a_{3,i} + \theta_1 g_{1,i} + \theta_2 g_{2,i} + \vartheta_1 p_{1,i} + \cdots + \vartheta_7 p_{7,i} + \varepsilon_i$$

where,

Y_i = the attitude score of an IPO candidate

α = the intercept of the slope

β_i = the impact of t_i on the dependent variable

t_i = a dummy variable representing the applied treatments of ESG information disclosure and ESG performance, with

t_1 = 1 if "disclose" and t_1 = 0 if otherwise ("non-disclose")

t_2 = 1 if "ESG" and t_2 = 0 if otherwise ("non-ESG")

γ_i = the impact of x_i on the dependent variable

x_i = the assigned importance to four factors affecting real-life investment decisions: ImpE, ImpS, ImpG and ImpDiscl

δ_i = the impact of a_i on the dependent variable

a_i = a dummy variable representing the age group, with

a_1 = 1 if "0-19 years old" and a_1 = 0 if otherwise

a_2 = 1 if "20-39 years old" and a_1 = 0 if otherwise

a_3 = 1 if "40-59 years old" and a_1 = 0 if otherwise

θ_i = the impact of g_i on the dependent variable

g_i = a dummy variable representing the gender, with

g_1 = 1 if "male" and g_1 = 0 if otherwise

g_2 = 1 if "female" and g_2 = 0 if otherwise

ϑ_i = the impact of p_i on the dependent variable

p_i = a dummy variable representing the private investment activity, with

p_1 = 1 if "never" and p_1 = 0 if otherwise

p_2 = 1 if "less than once a year" and p_2 = 0 if otherwise

p_3 = 1 if "once a year" and p_3 = 0 if otherwise

p_4 = 1 if "once a half-year" and p_4 = 0 if otherwise

p_5 = 1 if "once a quarter" and p_5 = 0 if otherwise

p_6 = 1 if "once a month" and p_6 = 0 if otherwise

p_7 = 1 if "more than once a month" and p_7 = 0 if otherwise

ε_i = the error term

Furthermore, the dependent variable of attitude score of an IPO candidate (Y_i) is divided between the four test groups, so that:

Y_C = the attitude score of an IPO candidate in the control group

Y_1 = the attitude score of an IPO candidate in treatment group 1

Y_2 = the attitude score of an IPO candidate in treatment group 2

Y_3 = the attitude score of an IPO candidate in treatment group 3

6. Results and analysis

6.1. The Acquired Sample and Its Representativeness of the Wider Population

In total, 346 participants have been registered, of which 189 did not finish the questionnaire and 5 answered wrongly on the control question. Consequently, these participants are excluded, leaving a total of 152 participants in the study, of whom 102 (67.1%) are men and 49 (32.2%) are women (see Appendix 2 – Demographics of the Questionnaire Participants). This gender distribution is relatively in line with the overall Swedish population of retail investors, where roughly 62% are men (Euroclear Sweden, 2021). However, the age distribution is heavily skewed towards individuals between the age of 20-39 years, who constitute 85.5% of all the participants, in contrast to the circa 14% share in the overall population (Euroclear Sweden, 2021). The skewness in the age distribution is most likely a consequence of the reliance on convenience and snowball sampling methods. Furthermore, the acquired sample seems to have succeeded in targeting the population of retail investors, as only 6.6% responded that they never make private stock investments, while a majority of the participants (63.2%) make investments once a quarter or more frequently. For further empirical analysis, it has been decided to include the participants that have yet never engaged in stock investments, because the general interest for investments is rather high among the population in Sweden, given the relatively large population of retail investors, and the chances are therefore high that these individuals will start investing in the foreseeable future; especially considering that 8 of these 10 participants are between 20-39 years old.

6.2. Investment Choices and Attitude Scores

Table 2: Analysis of the Investment Choices Using Confidence Intervals and Binomial Testing

	CONTROL GROUP			*TREATMENT 1*			*TREATMENT 2*			*TREATMENT 3*		
Investment choices	*Company A*	*Company B*	***Total***	*Company A*	*Company B*	***Total***	*Company A*	*Company B*	***Total***	*Company A*	*Company B*	***Total***
Sample count	21	16	**37**	24	8	**32**	9	43	**52**	3	28	**31**
Sample proportion (%)	56.8%	43.2%	**100.0%**	75.0%	25.0%	**100.0%**	17.3%	82.7%	**100.0%**	9.7%	90.3%	**100.0%**
95% confidence intervals												
Clopper-Pearson	0.395 - 0.729	0.271 - 0.605		0.566 - 0.886	0.115 - 0.434		0.082 - 0.303	0.697 - 0.918		0.020 - 0.258	0.742 - 0.980	
Jeffreys	0.408 - 0.717	0.289 - 0.592		0.583 - 0.874	0.126 - 0.417		0.089 - 0.292	0.708 - 0.911		0.028 - 0.236	0.764 - 0.972	
Likelihood	0.407 - 0.719	0.281 - 0.593		0.584 - 0.877	0.123 - 0.416		0.087 - 0.290	0.710 - 0.913		0.025 - 0.232	0.768 - 0.975	
Average	**0.403 - 0.722**	**0.278 - 0.597**		**0.578 - 0.879**	**0.121 - 0.422**		**0.086 - 0.295**	**0.705 - 0.914**		**0.024 - 0.242**	**0.758 - 0.976**	
Hypothesis testing	*p (2-sided)*	*Decision*		*p (2-sided)*	*Decision*		*p (2-sided)*	*Decision*		*p (2-sided)*	*Decision*	
One-sample binomial test	0.511	Retain the null hypothesis		0.008	Reject the null hypothesis		<0.001	Reject the null hypothesis		<0.001	Reject the null hypothesis	

An overview of the investment choices made in each test group, the sample proportion, 95% confidence intervals for the population proportion, and the conclusions of one-sample binomial tests on the null hypothesis that the population distribution is in each case equally splitted between Company A and B.

Table 3: Analysis of Attitude Scores Using Confidence Intervals and Sign Testing

	CONTROL GROUP		*TREATMENT 1*		*TREATMENT 2*		*TREATMENT 3*	
Attitude score (1-5)	*Company A*	*Company B*	*Company A*	*Company B*	*Company A*	*Company B*	*Company A*	*Company B*
Sample mean	3.486	3.324	3.281	2.469	2.327	3.712	2.774	4.161
Sample std. deviation	0.607	0.530	0.729	1.218	1.098	0.957	0.884	0.735
95% confidence interval	**3.284 - 3.689**	**3.148 - 3.501**	**3.018 - 3.544**	**2.030 - 2.908**	**2.021 - 2.633**	**3.445 - 3.978**	**2.450 - 3.098**	**3.892 - 4.431**
Hypothesis testing	*p (2-sided)*	*Decision*	*p (2-sided)*	*Decision*	*p (2-sided)*	*Decision*	*p (2-sided)*	*Decision*
Related-samples sign test	0.180	Retain the null hypothesis	0.031	Reject the null hypothesis	<0.001	Reject the null hypothesis	<0.001	Reject the null hypothesis
Related-samples Wilcoxon signed rank test	0.186	Retain the null hypothesis	0.009	Reject the null hypothesis	<0.001	Reject the null hypothesis	<0.001	Reject the null hypothesis

An overview of the descriptive statistics of the attitude scores for each company in the test groups, corresponding 95% confidence intervals for the population mean, and the conclusions of related-samples sign tests and Wilcoxon signed rank tests respectively, on the null hypothesis that there is no population-wide difference in attitude towards Company A and B in the case of each test group.

To begin with, before analyzing the variables and answering the outlined hypotheses, it is important to note that the results seem to support that the one-pager design does not include extraneous variables that could significantly affect the test subjects' choice of company to invest in. The absence of such components in the design is supported by the results from the control group, where two companies of the same type ("non-disclose and non-ESG") are presented. Although the descriptive statistics for both the attitude score and investment choice vary slightly in favor of Company A, subsequent two-sided hypothesis testing shows that the sample data fails to support the existence of differences in neither the probability of choosing either company to invest in (see Table 2) nor the attitude toward each company (see Table 3), at the 0.05 significance level.

Going further, the results from treatment group 1 are in conflict with hypothesis 1 (H1). Initially, it was hypothesized that the disclosure of ESG information will benefit an IPO candidate. However, out of the 32 participants in treatment group 1, 24 test subjects (75%) chose Company A. This allows a rejection of the null hypothesis that each company may be chosen with equal probabilities, using a binomial test that has given a p-value of 0.004 for the one-sided alternative that the "non-disclose and non-ESG" company is chosen with a higher probability. In the wider population, a 95% confidence interval suggests that the probability of choosing the "non-disclose and non-ESG" company instead of the "disclose and non-ESG" company, ranges between 57.8% – 87.9%.

The higher preference for the "non-disclose and non-ESG" company is further confirmed when measuring the attitude towards the IPO candidates. The test subjects in treatment group 1 express a higher average attitude score for the "non-disclose and non-ESG" company (Company A), at 3.281 in contrast to 2.469 for the "disclose and non-ESG" company (Company B). Furthermore, by conducting both a sign test and a Wilcoxon signed rank test, the null hypothesis stating that the median of differences between the attitude score for the "non-disclose and non-ESG" company and the "disclose and non-ESG" company equals to zero, is rejected. In fact, data supports the one-sided alternative that the attitude score is higher for the "non-disclose and non-ESG" company at a 0.05 significance level (a p-value of 0.0155 for the sign test and a p-value of 0.0045 for the Wilcoxon signed rank test).

Analyzing the results from treatment group 2, the results seem to support the second

hypothesis (H2). According to H2, retail investors prefer to a larger degree to invest in an IPO candidate that performs well in regard to the ESG criteria compared to a similar peer that performs relatively poorly. In turn, looking at the investment choices made, 43 out of the 52 test subjects (82.7%) chose to invest in the "disclose and ESG" company's IPO. Consequently, the use of a one-sample binomial test results in the rejection of the null hypothesis saying that each company is chosen with equal probabilities. Instead, at a 0.05 significance level (p-value < 0.001), data supports the one-sided alternative that the probability of a retail investor choosing the "disclose and ESG" company is higher than for the "disclose and non-ESG" company. Correspondingly, a 95% confidence interval suggests that the population-wide probability of choosing the "disclose and ESG" company instead of the "disclose and non-ESG" company, lies between 70.5% – 91.4%.

This outcome is also supported by the attitude scores for each company in treatment group 2. On average, the test subjects express a higher attitude towards the "disclose and ESG" company (Company B) than towards the "disclose and non-ESG" company (Company A), with average attitude scores of 3.712 and 2.327 respectively. As per treatment group 1, conducting both a sign test and a Wilcoxon signed rank test leads to the rejection of the null hypothesis in both cases, supporting the one-sided alternative that the attitude score is higher for the "disclose and ESG" company at a 0.05 significance level (p-value < 0.001 in each test).

Continuing with treatment group 3, the results suggest that the test subjects are less in favor of the "non-disclose and non-ESG" company (Company A) compared to the "disclose and ESG" company (Company B) as is also outlined by the combination of the first and the second hypotheses (H1 and H2). The distribution of investment decisions ends up with 28 of the 31 test subjects (90.3%) choosing to invest in the "disclose and ESG" company. Subsequently, the one-sample binomial test also rejects the null hypothesis at a 0.05 significance level (p-value < 0.001) in favor of the one-sided alternative that the probability of a retail investor choosing to invest in the "disclose and ESG" company is higher than for the "non-disclose and non-ESG" company. The corresponding population-wide probability of choosing the "disclose and ESG" company instead of the "non-disclose and non-ESG" company, lies between 75.8% - 97.6% at a 95% confidence level.

Once again, the investment choice distribution is also reflected by the attitude score assigned to each company. The "non-disclose and non-ESG" company receives an average attitude score of 2.774 compared to the corresponding score of 4.161 for the "disclose and ESG" company. Furthermore, the sign test and the Wilcoxon ranked sign test lead to a rejection of the null hypothesis in both cases and thus support at the 0.05 significance level (p-value < 0.001 for both tests) the one-sided alternative that the attitude score for the "disclose and ESG" company is higher than for the "non-disclose and non-ESG company."

6.3. Issues Related to the Measurement of the Importance of the ESG Factors and ESG Information Disclosure for Retail Investors

As mentioned before (see 5.5.2. Result Analysis Methods), any conclusions regarding how important retail investors perceive the ESG factors (environment, social, and governance), as well as information disclosure regarding a company's ESG performance in conjunction with real-life investment decisions, cannot be made until the potential issues that are related to the measurement of these factors are tested using a Mann-

Whitney U test.

Table 4: Analysis of Distribution Differences for Importance Scores Using Confidence Intervals and Mann-Whitney U Testing

	DISTRIBUTION 1 (non-randomized order), n = 116			*DISTRIBUTION 2 (randomized order), n = 36*		
Importance score (1-5)	*Mean*	*Std. deviation*	***95% confidence interval***	*Mean*	*Std. deviation*	***95% confidence interval***
ImpE	3.250	1.078	**3.052 - 3.448**	3.000	1.287	**2.564 - 3.436**
ImpS	3.388	1.178	**3.171 - 3.605**	3.083	1.381	**2.616 - 3.551**
ImpG	3.259	1.259	**3.027 - 3.490**	3.167	1.276	**2.735 - 3.598**
ImpDiscl	2.707	1.408	**2.448 - 2.966**	2.556	1.382	**2.088 - 3.023**
Hypthesis testing (independent-samples Mann-Whitney U test)	*p (2-sided)*		*Decision*			
ImpE	0.357		Retain the null hypothesis			
ImpS	0.282		Retain the null hypothesis			
ImpG	0.594		Retain the null hypothesis			
ImpDiscl	0.539		Retain the null hypothesis			

An overview of the descriptive statistics of the importance scores for four factors in conjunction with real-life investment decision-making, corresponding 95% confidence intervals for the population mean, and the conclusions for independent-samples Mann-Whitney U tests of the null hypotheses that the distribution of each variable is the same across the two questionnaire distributions.

Studying the results of the Mann-Whitney U tests (see Table 4), it becomes evident that the sample data is not sufficient to support a rejection of the null hypothesis, that there is a difference in the distribution of each importance score variable between the two questionnaire distributions, at the 0.05 significance level. This conclusion suggests that the risk of measurement errors due to any primacy or recency effects that may stem from the non-randomized order of the presentation of the factors in the first questionnaire distribution, should not be noteworthy. Simultaneously, it is important to note that the second questionnaire distribution has not succeeded in gathering as many respondents as the first questionnaire distribution, which is among other things reflected in the broader confidence intervals. Therefore, it would be desirable to have more data from the second questionnaire distribution to fully ensure the absence of primacy and/or recency effects.

Again, as mentioned in 5.5.2. Result Analysis Methods, a Kruskal-Wallis test has been used to test for any potential context effects and the result of this can be found below.

Table 5: Analysis of Distribution Differences for Importance Scores Using Confidence Intervals and Kruskal-Wallis Testing

	CONTROL GROUP			*TREATMENT 1*			*TREATMENT 2*			*TREATMENT 3*		
Importance score (1-5)	*Mean*	*Std. deviation*	***95% CI***	*Mean*	*Std. deviation*	***95% CI***	*Mean*	*Std. deviation*	***95% CI***	*Mean*	*Std. deviation*	***95% CI***
ImpE	3.108	0.994	**2.777 - 3.440**	3.156	1.139	**2.746 - 3.567**	3.154	1.289	**2.795 - 3.513**	3.387	1.022	**3.012 - 3.762**
ImpS	3.432	1.119	**3.059 - 3.806**	3.500	1.136	**3.090 - 3.910**	3.096	1.418	**2.701 - 3.491**	3.355	1.112	**2.947 - 3.763**
ImpG	3.459	1.070	**3.103 - 3.816**	3.156	1.298	**2.688 - 3.624**	3.038	1.371	**2.657 - 3.420**	3.387	1.230	**2.936 - 3.838**
ImpDiscl	2.757	1.011	**2.420 - 3.094**	3.125	1.454	**2.601 - 3.649**	2.596	1.472	**2.186 - 3.006**	2.226	1.521	**1.668 - 2.784**
Hypthesis testing (independent-samples Kruskal- Wallis test)	*p (2-sided)*	*Decision*										
ImpE	0.747	Retain the null hypothesis										
ImpS	0.578	Retain the null hypothesis										
ImpG	0.420	Retain the null hypothesis										
ImpDiscl	0.090	Retain the null hypothesis										
Pairwise comparisons (control group vs. treatment group 1-3)				*p (2-sided)*	*Decision*		*p (2-sided)*	*Decision*		*p (2-sided)*	*Decision*	
ImpE				0.737	Retain the null hypothesis		0.672	Retain the null hypothesis		0.277	Retain the null hypothesis	
ImpS				0.727	Retain the null hypothesis		0.327	Retain the null hypothesis		0.800	Retain the null hypothesis	
ImpG				0.328	Retain the null hypothesis		0.135	Retain the null hypothesis		0.823	Retain the null hypothesis	
ImpDiscl				0.188	Retain the null hypothesis		0.832	Retain the null hypothesis		0.188	Retain the null hypothesis	

An overview of the descriptive statistics of the importance scores for four factors in conjunction with real-life investment decision-making, corresponding 95% confidence intervals for the population mean, and the conclusions for independent-samples Kruskal-Wallis test of the null hypotheses that the distribution of each variable is the same across all four test groups. Additionally, a related pairwise comparison is made, testing the null hypothesis that the distribution of the variables in each test group is equal to the distribution of corresponding variables in the control group.

As seen in Table 5, the Kruskal-Wallis test cannot find sufficient data to support the presence of differences in the distribution of the importance score variables in any of the four test groups when examining all the four test groups together, nor when making pairwise comparisons of the control group to each treatment group. Therefore, potential measurement errors stemming from context effects can also be disregarded in further analyses.

6.4. The Importance of the ESG Factors and ESG Information Disclosure for Retail Investors

As neither any primacy, recency nor context effects can be detected in prior tests, the responses regarding the importance of each ESG factor and ESG disclosure in conjunction with making real-life investment decisions, are now pooled together and a Friedman's two-way ANOVA by ranks is implemented to test for differences in the distribution of the responses for each importance score variable.

Table 6: Analysis of Importance Scores Using Confidence Intervals and Friedman's Two-Way ANOVA Testing

	Descriptives		*p (2-sided)*				*adj. p-value**				*Decision regarding the null hypothesis*			
Importance score (1-5)	*Mean*	***95% CI***	*ImpE*	*ImpS*	*ImpG*	*ImpDiscl*	*ImpE*	*ImpS*	*ImpG*	*ImpDiscl*	*ImpE*	*ImpS*	*ImpG*	*ImpDiscl*
ImpE	3.191	**3.009 - 3.372**	-	0.339	0.491	**0.005**	-	1.000	1.000	**0.031**	-	Retain	Retain	Reject
ImpS	3.316	**3.119 - 3.513**	0.339	-	0.790	**<0.001**	1.000	-	1.000	**0.001**	Retain	-	Retain	Reject
ImpG	3.237	**3.035 - 3.439**	0.491	0.790	-	**<0.001**	1.000	1.000	-	**0.003**	Retain	Retain	-	Reject
ImpDiscl	2.671	**2.447 - 2.895**	**0.005**	**<0.001**	**<0.001**	-	**0.031**	**0.001**	**0.003**	-	Reject	Reject	Reject	-
Hypothesis testing (related-samples Friedman's two-way ANOVA by ranks)														
p (2-sided)		**<0.001**												
Decision		Reject the null hypothesis												

* p-values have been adjusted by the Bonferroni correction for multiple tests

An overview of the descriptive statistics of the aggregate importance scores for four factors in conjunction with real-life investment decision-making, as well as the conclusions for related-samples Friedman's two-way ANOVA by ranks of the null hypotheses that the distributions of the four ESG importance score variables are the same. Additionally, related pairwise comparisons are also presented.

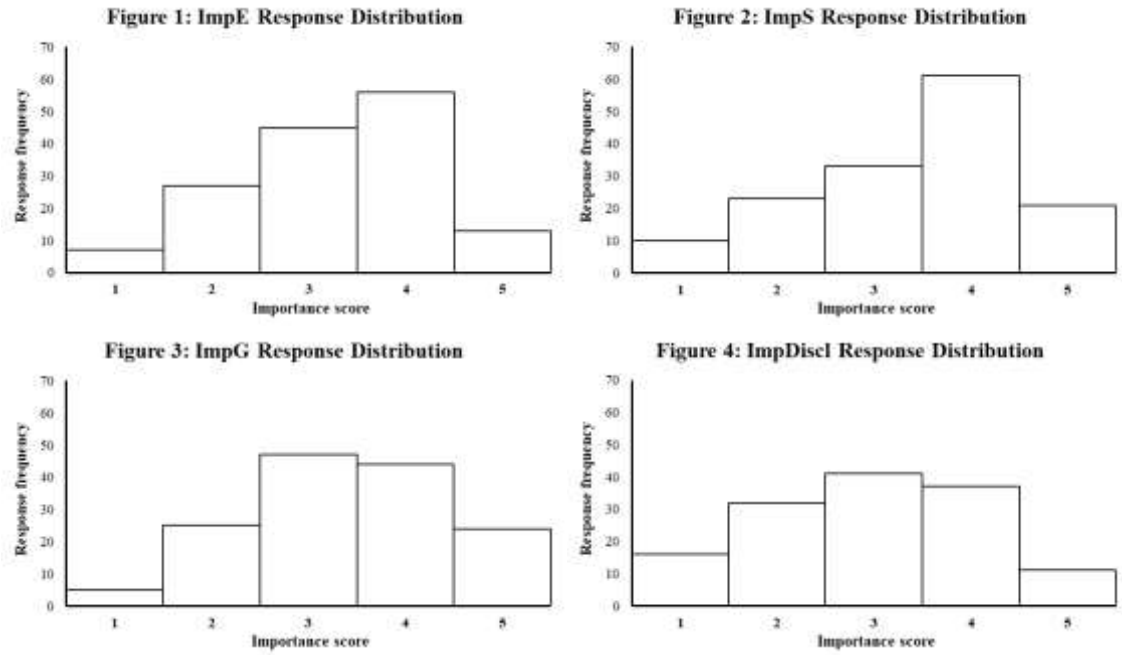


Figure 1-4: The figures illustrate the distribution of aggregate responses collected for the variables ImpE, ImpS, ImpG, and ImpDiscl.

As seen in Table 6 above, Friedman's two-way ANOVA by ranks supports that there is a statistically significant difference between the response distribution for the importance of each ESG factor and for the importance of ESG information disclosure. Thus, the results imply that the test subjects consider the company's performance in regard to the ESG factors as more important than the company's disclosure of ESG information when making real-life investment decisions. This can also be illustrated by Figures 1-4, which show the answer distribution of each variable, with the importance scores assigned to the ESG factors having a noteworthy different distribution than the importance score for ESG information disclosure. However, Friedman's two-way ANOVA by ranks fails to support any significant distribution difference between the individual ESG factors, thus leaving the evaluation of the third hypothesis (H3) non-conclusive.

6.5. The Treatments' Effect on the Attitude Scores

The full results of the multiple linear regression models that estimate the potential effect of the treatments on the attitude scores can be found in Appendix 3 – Multiple Linear Regression Results. To summarize, at a 0.05 significance level, the regressions find a statistically significant negative effect of solely disclosing ESG information (when the ESG performance is relatively poor) on the expressed attitude in treatment group 1, with a coefficient estimate, $\beta_1 = -0.812$ and a 95% confidence interval of $-1.333 \leq \beta_1 \leq -0.292$. Similarly, there is a statistically significant positive effect of disclosing a relatively good ESG performance when the alternative IPO candidate also discloses ESG information, but the ESG performance is relatively poor (treatment group 2). For this case, the regression gives a positive coefficient estimate of $\beta_2 = 1.385$ in a 95% confidence interval of $0.976 \leq \beta_2 \leq 1.793$. Similarly, the regression for treatment group 3 identifies a positive effect on attitude when showing a relatively good ESG performance simultaneously as the alternative candidate does neither perform relatively well in terms of ESG nor discloses information about it. The estimated coefficient corresponds to $\beta_3 =$

1.387 in a 95% confidence interval of $0.978 \leq \beta_3 \leq 1.796$.

7. Discussion

7.1. The Implications of the Results

In general, the results are partly in line with prior studies on similar topics, with some notable deviations. As can be seen from the rejection of the first hypothesis (H1), it seems that disclosure of ESG information in itself is not beneficial to the IPO candidate if the candidate is not performing relatively better than its peer. This therefore leads to the implication that if an IPO candidate is not performing relatively better than its peer in regard to ESG and its peer is not disclosing their ESG information, there is no positive effect from choosing to reduce information asymmetry by disclosing the relatively poor ESG information. Instead, it would be better to do as the peer and not disclose any ESG information. This is interesting since that would entail that retail investors prefer to invest in an IPO candidate whose ESG performance they do not know over a candidate whose ESG performance is known to be relatively poor.

Accordingly, the above results suggest that retail investors do not always value the information asymmetry mitigation that is achieved with the disclosure of ESG information, something that is in contrast with the findings of Baker et al. (2021) given their findings that a lower degree of information asymmetry leads to a lower degree of underpricing, which in turn may suggest that information asymmetry mitigation typically increases the attractiveness of an IPO. In addition, this insight is also supported by the result of asking the test subjects directly about the importance of ESG information disclosure in conjunction with real-life investment decision-making, which shows a relatively low importance assigned to ESG information disclosure.

Yet, as follows from the confirmation of the second hypothesis (H2), if the IPO candidate exhibits a good ESG performance relative to its peer, the results of this study support the fact that the candidate should disclose its ESG information since the candidate will then be preferred over the peer that discloses their relatively poor ESG information. Furthermore, following the results of treatment group 3, disclosure of good ESG performance is also beneficial if the peer chooses not to disclose their ESG information at all, something that might also support an earlier assumption made in this thesis, namely that retail investors perceive an IPO candidate that chooses to omit the ESG information as a company with rather poor ESG performance.

Consequently, it seems that the first hypothesis (H1) only holds true if the IPO candidate has a good ESG performance relative to its peer, and that IPO candidates with relatively poor ESG performance should not disclose their ESG information. In turn, this conclusion seems to be derived from the fact that the second hypothesis (H2) holds true, i.e., that retail investors prefer good ESG performance over poor ESG performance - a result that is largely in line with the findings of Lagerkvist et al. (2020) and Apostolakis et al. (2016).

Furthermore, considering which of the ESG components retail investors actually value the most, this study cannot identify any significant results, although, on the sample level, the S factor has gained the highest mean score in line with the findings of Pérez-Gladish, Benson and Faff (2012). Still, due to the absence of significant results, this question remains open for further research.

7.1.1. Potentially Different Outcomes of ESG Information Disclosure for "non-ESG" IPO Candidates Depending on the Peer Landscape

By examining closer the results of investment choices and attitude scores as presented in Table 2 and 3 respectively, a deviation can be observed for the "disclose and non-ESG company." As earlier elaborated on, disclosure does not benefit a "non-ESG" IPO candidate against other "non-disclosing and non-ESG" peers, as shown in treatment group 1. Yet, when comparing treatment groups 2 and 3 with each other, an opposite effect is potentially traced. In treatment group 2, 17.3% of the test subjects have chosen to invest in the "disclose and non-ESG company" over the "disclose and ESG company", while in treatment group 3, the "non-disclose and non-ESG company" was preferred over the "disclose and ESG company" by only 9.7% of the respondents. This relationship can therefore potentially indicate that disclosure of ESG information gives an IPO candidate an advantage when placed against an alternative that is publicly known to perform relatively better in regard to ESG. Furthermore, the case is made more complicated by the fact that even though a larger share chose the "disclose and non-ESG company" than the "non-disclose and non-ESG company" in their respective treatment groups, the "non-disclose and non-ESG company" still have gotten a higher mean attitude score of 2.774 compared to 2.327 for the "disclose and non-ESG company."

Could these findings imply that when presented with a relatively good ESG performing alternative, retail investors actually make themselves aware of the information asymmetry problem and therefore to a larger extent choose the "disclose and non-ESG company"? This, even though they have a more positive attitude towards the "non-disclose and non-ESG company" due to it being perceived as relatively better in terms of ESG? This interpretation cannot be statistically proven by this study, as both the investment choice proportions' and attitude scores' 95% confidence intervals in treatment groups 2 and 3 substantially overlap with each other and no significant difference cannot be shown for the overall population. Yet, this opens up for an interesting new research question that could lay the ground for further studies.

7.2. Are the Results Generalizable?

Given the fact that the obtained sample sizes are too small in combination with the fact that the sample is skewed in favor of the younger segment of the population, it is doubtable whether the results are generalizable in a larger context. In addition, the generalizability of the study is limited by the scope being narrowed down to the clothing industry. Further studies are therefore needed to test if the results still hold when larger and more representative samples are used as well as different industries being considered. However, this study's results might give a hint of what can be found in a sufficiently powered sample.

7.3. Limitations

7.3.1. Limitations of the Questionnaire

In order to fit the needed information into the one-pagers, the font size for the main text had to be rather small (9 points), which especially for participants answering the survey on their mobile phones, might have been so difficult to read that it might have contributed to respondent fatigue, disincentivizing them from completing the questionnaire. In order to counteract these negative effects, participants have been advised to complete the survey

on a computer, and it has also been decided to place the one-pagers at the beginning of the questionnaire to limit the potential effects of respondent fatigue.

Furthermore, the order of the one-pagers shown to the participant, as well as the order of the answers to what company to invest in was randomized, which in some cases could have led to the order of the one-pagers shown being different from the order of the answer alternatives to the question of which company to invest in. For instance, if the participant was shown the one-pager of Company B before the one-pager of Company A, the participant might have believed that the order of the question regarding which company to invest in was the same, i.e., that the alternative to invest in Company B came before Company A, even though this might not have been the case since the order was randomized. Consequently, this might potentially have led to measurement errors where the participant would have wanted to invest in Company B but instead chose to invest in Company A and vice versa.

Related to the above limitation is the fact that the participant had to choose one of the two companies to invest in, whereas some participants might have been indifferent between the two companies or would not have wanted to invest in any of them. A solution to this limitation would have been to introduce more options such as the option to not invest in any of the companies, to invest an equal amount into both companies, or by having the participants choose a percentage amount to invest in each company. However, by letting the participant state their attitude toward each company, this limitation is somewhat relaxed since the participant could then give both companies the same attitude score, which then acts as a significant input for the analysis in this study, potentially showing that respondents do not particularly favor any of the companies even though the distribution of investment choices differs.

Moreover, with the format of the questionnaire being an online survey, fewer people of older age (especially 60-79 and 80+ years of age) might have been able to answer the questionnaire than if a non-online format would have been used as a complement to the online format. This is because the online format might have led to a limitation in technological literacy, where participants of older age might not be as familiar with technology as younger participants and might therefore have been hindered in answering the survey. Furthermore, the fact that the questionnaire was only available in English might have had a similar effect, where people of older age and in general people with an insufficient proficiency in English might have had an impaired ability to complete the questionnaire. During the process of collecting responses to the questionnaire, numerous respondents gave feedback regarding that they wished to participate but either could not or felt discouraged to complete the questionnaire because it was in English instead of Swedish. This issue is significant, especially considering that the study is aimed specifically at the Swedish population of retail investors.

7.3.2. Limitations of the Study in General

In order to increase the response rate, it has been decided to reward participants who completed the questionnaire with the opportunity of winning a prize of 1,000 SEK. However, it could have been wiser to create a reward contingent on the performance of the participant to increase motivation and incentivize meticulousness in the answering process, since that would reduce the risk of participants answering the questionnaire hastily and negligently.

Looking at the control variables, the study could have included more control variables

that would have been interesting to control for, especially considering the rather homogenous pool of participants that resulted from most of the participants being in our acquaintanceship. Control variables that could for instance have been good to include are the level of education and industry of employment since these variables may impact how individual retail investors view and evaluate investments, as well as affect their set of values that they take into consideration when making investment decisions. In addition, by including such control variables, the obtained sample can be made even more accurately representative of the wider population.

7.4. Future Research

This study showcases that for the clothing industry specifically, ESG performance of the IPO candidate and subsequent disclosure of this information have to varying extents an effect on the decisions taken by retail investors. For future research, a natural continuation of this study would be to expand the scope to other industries in order to study if the effects found in this thesis can be found for other industries. In particular, it would be interesting to see the results from a study using an industry that is in itself considered more (or less) sustainable than the clothing industry. Would the results using this more (or less) sustainable industry be the same as when using the clothing industry? Perhaps, given the intrinsic (non-) sustainability of the industry itself, retail investors would not consider the ESG performance of the individual IPO candidates as much as for the clothing industry and vice versa.

Another interesting direction for future research would be to shift the focus more narrowly toward the poorly ESG-performing IPO candidates. Unfortunately for this thesis, not enough data was gathered in order to see if the poorly performing candidate should indeed disclose or not disclose when put up against a relatively good performing candidate that does disclose. Thus, it would be interesting to expand the sample size sufficiently and use treatments where a relatively poorly performing IPO candidate is compared to a broad array of different alternative IPO candidates. For instance, if the alternative is performing relatively well in regard to ESG and also discloses this, should the poorly performing candidate disclose or withhold its ESG information?

8. Conclusions

In conclusion, this study shows that the disclosure of ESG information does not have a certain and one-sided impact on retail investors' willingness to invest in an IPO candidate. Retail investors' willingness to invest depends substantially on whether the disclosed ESG information shows that the IPO candidates have relatively good or poor performance compared to its peer. As is shown in this study, if the IPO candidate performs well in terms of ESG compared to its peers, then it is also beneficial for the candidate to publicly disclose the information about its ESG performance and become known as a good ESG-performer, as it attracts retail investors. This decision is beneficial regardless of the peers' own decisions on this matter. However, when the ESG performance of the IPO candidate is relatively poor, the optimal decision concerning disclosure may vary depending on the peer universe. If other peers refrain from disclosing any ESG information, then so should the IPO candidate in question do as well. Yet, there are also some statistically insignificant indications that disclosure could be beneficial if the peers are relatively good ESG-performers and disclose that publicly. This part requires specifically designated

further studies with larger samples that could establish whether the observed benefit really is insignificant or not.

Finally, regarding which of the ESG factors that are more important to retail investors, no conclusion can be made since no significant results can be found on whether any of the aspects of E, S, and G are more important to retail investors. Therefore, as long as no further studies are made on this topic, we suggest that an IPO candidate that wishes to improve its ESG performance should put equal efforts into each of the three factors rather than prioritize one of them only.

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Appendix 1 – A Priori Sample Size Estimation

Control Group:

[1] -- Wednesday, April 20, 2022 -- 18:53:31
Exact - • Generic binomial test

Options: α balancing: α/2 on each side

Analysis:	A priori: Compute required sample size		
Input:	Tail(s)	=	Two
	Proportion p2	=	0.5447
	α err prob	=	0.05
	Power (1-β err prob)	=	0.8
	Proportion p1	=	0.5
Output:	Lower critical N	=	463
	Upper critical N	=	526
	Total sample size	=	989
	Actual power	=	0.8005630
	Actual α	=	0.0486136

Treatment Group 1-3:

[2] -- Wednesday, April 20, 2022 -- 18:53:42
Exact - • Generic binomial test

Analysis:	A priori: Compute required sample size		
Input:	Tail(s)	=	One
	Proportion p2	=	0.5447
	α err prob	=	0.05
	Power (1-β err prob)	=	0.8
	Proportion p1	=	0.5
Output:	Lower critical N	=	412
	Upper critical N	=	412
	Total sample size	=	777
	Actual power	=	0.8010633
	Actual α	=	0.0494157

Appendix 2 – Demographics of the Questionnaire Participants

Table 7: Demographics of the Questionnaire Participants

	AGGREGATED		*CONTROL GROUP*		*TREATMENT 1*		*TREATMENT 2*		*TREATMENT 3*	
Age	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*
0 - 19 years	6	3.9%	1	2.7%	2	6.3%	2	3.8%	1	3.2%
20 - 39 years	130	85.5%	35	94.6%	26	81.3%	42	80.8%	27	87.1%
40 - 59 years	14	9.2%	0	0.0%	4	12.5%	7	13.5%	3	9.7%
60 - 79 years	2	1.3%	1	2.7%	0	0.0%	1	1.9%	0	0.0%
80+ years	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	**152**	**100.0%**	**37**	**100.0%**	**32**	**100.0%**	**52**	**100.0%**	**31**	**100.0%**
Gender	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*
Male	102	67.1%	28	75.7%	22	68.8%	35	67.3%	17	54.8%
Female	49	32.2%	9	24.3%	10	31.3%	16	30.8%	14	45.2%
Prefer not to say	1	0.7%	0	0.0%	0	0.0%	1	1.9%	0	0.0%
Total	**152**	**100.0%**	**37**	**100.0%**	**32**	**100.0%**	**52**	**100.0%**	**31**	**100.0%**
Frequency of private stock investmen	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*	*Count*	*Proportion (%)*
Prefer not to say	5	3.3%	0	0.0%	1	3.1%	2	3.8%	2	6.5%
Never	10	6.6%	4	10.8%	4	12.5%	1	1.9%	1	3.2%
Less than once a year	12	7.9%	2	5.4%	3	9.4%	4	7.7%	3	9.7%
Once a year	10	6.6%	1	2.7%	3	9.4%	2	3.8%	4	12.9%
Once a half-year	19	12.5%	2	5.4%	4	12.5%	10	19.2%	3	9.7%
Once a quarter	32	21.1%	10	27.0%	4	12.5%	10	19.2%	8	25.8%
Once a month	42	27.6%	16	43.2%	7	21.9%	11	21.2%	8	25.8%
More than once a month	22	14.5%	2	5.4%	6	18.8%	12	23.1%	2	6.5%
Total	**152**	**100.0%**	**37**	**100.0%**	**32**	**100.0%**	**52**	**100.0%**	**31**	**100.0%**

An overview of the demographical distribution in the sample as a whole, as well as split among the individual test groups

Appendix 3 – Multiple Linear Regression Results

Table 8: Muliple Linear Regression of the Attitude Score in the Control Group

CONTROL GROUP	Attitude score of an IPO candidate		
Predictors	*Coefficient estimates*	*95% confidence interval*	*p*
Intercept (α)	2.623	1.650 - 3.596	**<0.001**
Dummy - Applied treatment: "disclose" (t_1)	*n.a.*	*n.a.*	*n.a.*
Dummy - Applied treatment: "ESG" (t_2)	*n.a.*	*n.a.*	*n.a.*
ImpE (x_1)	-0.022	(-0.221) - 0.177	0.826
ImpS (x_2)	-0.052	(-0.218) - 0.114	0.531
ImpG (x_3)	-0.050	(-0.241) - 0.142	0.606
ImpDiscl (x_4)	0.184	0.004 - 0.364	**0.045**
Dummy - Age group: 0-19 years (a_1)	-0.259	(-1.716) - 1.198	0.723
Dummy - Age group: 20-39 years (a_2)	0.815	(-0.124) - 1.755	0.088
Dummy - Age group: 40-59 years (a_3)	*n.a.*	*n.a.*	*n.a.*
Dummy - Gender: male (g_1)	*n.a.*	*n.a.*	*n.a.*
Dummy - Gender: female (g_2)	-0.158	(-0.487) - 0.171	0.340
Dummy - Private investment activity: never (p_1)	0.331	(-0.202) - 0.864	0.219
Dummy - Private investment activity: less than once a year (p_2	-0.582	(-1.210) - 0.046	0.069
Dummy - Private investment activity: once a year (p_3)	0.192	(-0.684) - 1.068	0.663
Dummy - Private investment activity: once a half-year (p_4)	-0.504	(-1.172) - 0.164	0.136
Dummy - Private investment activity: once a quarter (p_5)	-0.114	(-0.447) - 0.220	0.498
Dummy - Private investment activity: once a month (p_6)	*n.a.*	*n.a.*	*n.a.*
Dummy - Private investment activity: more than once a month	0.321	(-0.509) - 1.152	0.442
Observations	74		
R^2 / R^2 adjusted	0.244 / 0.080		

A regression table for the dependent variable of attitude score, with the two applied treatment variables, the E,S,G and disclosure importance scores, and the demographics as independent variables together predicting the dependent variable of attitude score for a "non-disclose and non-ESG" IPO candidate in the control group.

Table 9: Muliple Linear Regression of the Attitude Score in Treatment Group 1

TREATMENT GROUP 1	Attitude score of an IPO candidate		
Predictors	*Coefficient estimates*	*95% confidence interval*	*p*
Intercept (α)	2.804	1.028 - 4.580	**0.003**
Dummy - Applied treatment: "disclose" (t_1)	-0.812	(-1.333) - (-0.292)	**0.003**
Dummy - Applied treatment: "ESG" (t_2)	*n.a.*	*n.a.*	*n.a.*
ImpE (x_1)	-0.276	(-0.731) - 0.180	0.229
ImpS (x_2)	0.053	(-0.582) - 0.688	0.868
ImpG (x_3)	-0.163	(-0.537) - 0.211	0.385
ImpDiscl (x_4)	0.217	(-0.060) - 0.493	0.122
Dummy - Age group: 0-19 years (a_1)	-1.029	(-2.385) - 0.327	0.133
Dummy - Age group: 20-39 years (a_2)	*n.a.*	*n.a.*	*n.a.*
Dummy - Age group: 40-59 years (a_3)	-0.151	(-1.524) - 1.221	0.825
Dummy - Gender: male (g_1)	*n.a.*	*n.a.*	*n.a.*
Dummy - Gender: female (g_2)	-0.422	(-1.214) - 0.370	0.290
Dummy - Private investment activity: never (p_1)	1.192	(-0.722) - 3.107	0.217
Dummy - Private investment activity: less than once a year (p_2	1.288	(-1.017) - 3.593	0.267
Dummy - Private investment activity: once a year (p_3)	1.413	(-0.684) - 3.510	0.182
Dummy - Private investment activity: once a half-year (p_4)	0.897	(-0.942) - 2.736	0.332
Dummy - Private investment activity: once a quarter (p_5)	1.136	(-1.065) - 3.337	0.304
Dummy - Private investment activity: once a month (p_6)	1.372	(-0.509) - 3.254	0.149
Dummy - Private investment activity: more than once a month	1.380	(-0.329) - 3.089	0.111
Observations	64		
R^2 / R^2 adjusted	0.295 / 0.075		

A regression table for the dependent variable of attitude score, with the two applied treatment variables, the E,S,G and disclosure importance scores, and the demographics as independent variables together predicting the dependent variable of attitude score for a "disclose and non-ESG" IPO candidate in treatment group 1.

Table 10: Muliple Linear Regression of the Attitude Score in Treatment Group 2

TREATMENT GROUP 2	Attitude score of an IPO candidate		
Predictors	*Coefficient estimates*	*95% confidence interval*	*p*
Intercept (α)	3.589	1.004 - 6.173	**0.007**
Dummy - Applied treatment: "disclose" (t_1)	*n.a.*	*n.a.*	*n.a.*
Dummy - Applied treatment: "ESG" (t_2)	1.385	0.976 - 1.793	**<0.001**
ImpE (x_1)	-0.098	(-0.388) - 0.192	0.504
ImpS (x_2)	0.073	(-0.174) - 0.321	0.558
ImpG (x_3)	-0.092	(-0.406) - 0.222	0.563
ImpDiscl (x_4)	0.132	(-0.046) - 0.309	0.144
Dummy - Age group: 0-19 years (a_1)	-0.303	(-2.855) - 2.248	0.814
Dummy - Age group: 20-39 years (a_2)	0.435	(-1.937) - 2.806	0.717
Dummy - Age group: 40-59 years (a_3)	0.311	(-2.177) - 2.800	0.804
Dummy - Gender: male (g_1)	-1.933	(-3.973) - 0.107	0.063
Dummy - Gender: female (g_2)	-1.715	(-3.818) - 0.387	0.108
Dummy - Private investment activity: never (p_1)	0.359	(-1.932) - 2.649	0.756
Dummy - Private investment activity: less than once a year (p_2	0.372	(-1.508) - 2.253	0.695
Dummy - Private investment activity: once a year (p_3)	0.176	(-1.918) - 2.269	0.868
Dummy - Private investment activity: once a half-year (p_4)	-0.104	(-1.879) - 1.671	0.908
Dummy - Private investment activity: once a quarter (p_5)	0.565	(-1.232) - 2.361	0.534
Dummy - Private investment activity: once a month (p_6)	0.177	(-1.657) - 2.010	0.849
Dummy - Private investment activity: more than once a month	0.161	(-1.572) - 1.894	0.854
Observations	104		
R^2 / R^2 adjusted	0.402 / 0.283		

A regression table for the dependent variable of attitude score, with the two applied treatment variables, the E,S,G and disclosure importance scores, and the demographics as independent variables together predicting the dependent variable of attitude score for a "disclose and ESG" IPO candidate in treatment group 2.

Table 11: Muliple Linear Regression of the Attitude Score in Treatment Group 3

TREATMENT GROUP 3	Attitude score of an IPO candidate		
Predictors	*Coefficient estimates*	*95% confidence interval*	*p*
Intercept (α)	1.835	0.519 - 3.151	**0.007**
Dummy - Applied treatment: "disclose" (t_1)	*n.a.*	*n.a.*	*n.a.*
Dummy - Applied treatment: "ESG" (t_2)	1.387	0.978 - 1.796	**<0.001**
ImpE (x_1)	0.091	(-0.289) - 0.470	0.633
ImpS (x_2)	-0.162	(-0.506) - 0.181	0.347
ImpG (x_3)	0.047	(-0.253) - 0.347	0.755
ImpDiscl (x_4)	0.014	(-0.167) - 0.196	0.876
Dummy - Age group: 0-19 years (a_1)	-0.323	(-2.690) - 2.043	0.784
Dummy - Age group: 20-39 years (a_2)	*n.a.*	*n.a.*	*n.a.*
Dummy - Age group: 40-59 years (a_3)	-0.452	(-1.244) - 0.340	0.256
Dummy - Gender: male (g_1)	*n.a.*	*n.a.*	*n.a.*
Dummy - Gender: female (g_2)	-0.004	(-0.645) - 0.638	0.990
Dummy - Private investment activity: never (p_1)	1.815	0.196 - 3.434	**0.029**
Dummy - Private investment activity: less than once a year (p_2	0.899	(-0.393) - 2.191	0.168
Dummy - Private investment activity: once a year (p_3)	1.695	0.344 - 3.046	**0.015**
Dummy - Private investment activity: once a half-year (p_4)	1.057	(-0.434) - 2.548	0.160
Dummy - Private investment activity: once a quarter (p_5)	0.901	(-0.145) - 1.948	0.090
Dummy - Private investment activity: once a month (p_6)	0.925	(-0.307) - 2.157	0.137
Dummy - Private investment activity: more than once a month	1.623	0.382 - 2.863	**0.011**
Observations	62		
R^2 / R^2 adjusted	0.351 / 0.310		

A regression table for the dependent variable of attitude score, with the two applied treatment variables, the E,S,G and disclosure importance scores, and the demographics as independent variables together predicting the dependent variable of attitude score for a "disclose and ESG" IPO candidate in treatment group 3.

Appendix 4 – Categories of IPO Candidates and Their One-Pager Presentations

Figure 5: Example of a "non-disclose and non-ESG company" One-Pager

The figure below shows a one-pager used in the questionnaire to present an IPO candidate that neither considers ESG in its business nor discloses any information regarding its poor ESG performance.

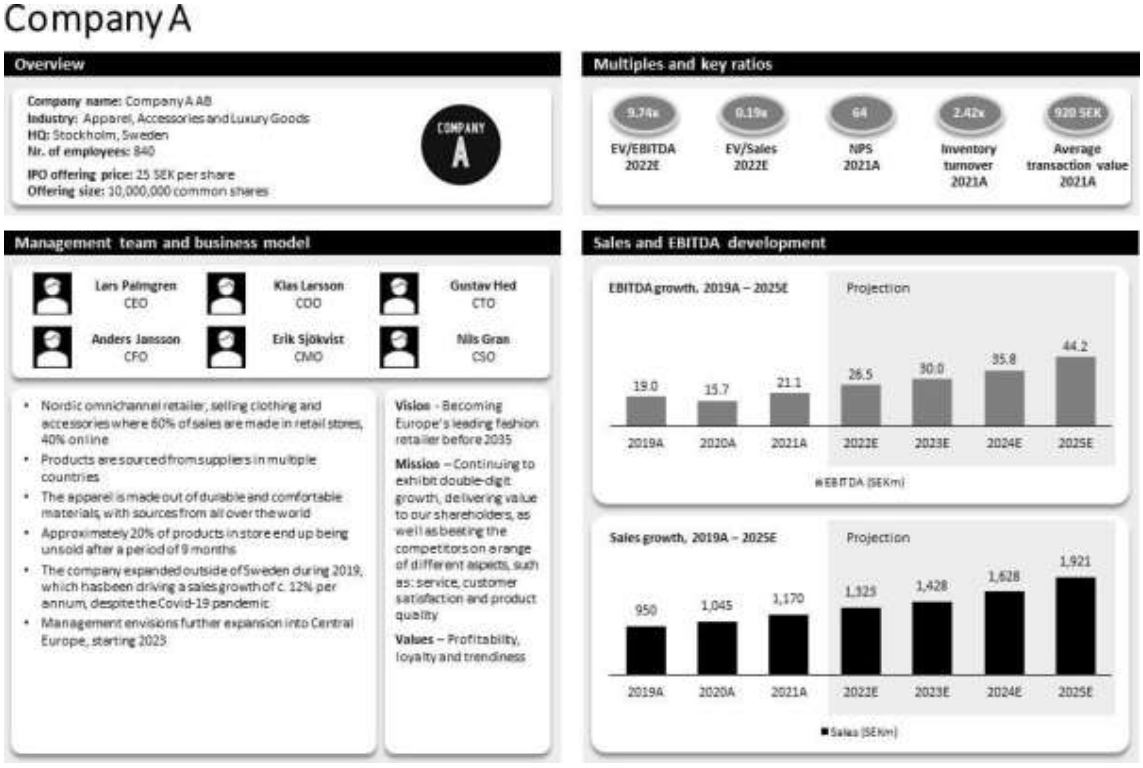


Figure 6: Example of a "disclose and non-ESG company" One-Pager

The figure below shows a one-pager used in the questionnaire to present an IPO candidate that does not consider ESG in its business but discloses information regarding its poor ESG performance.

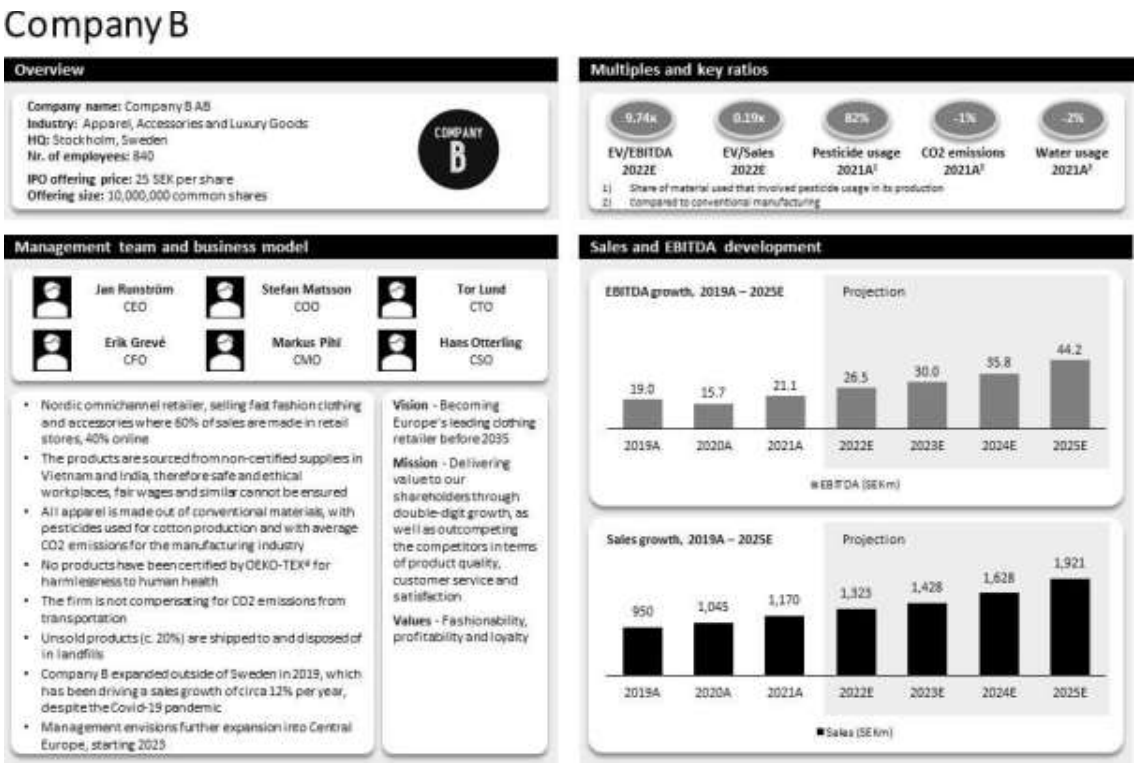
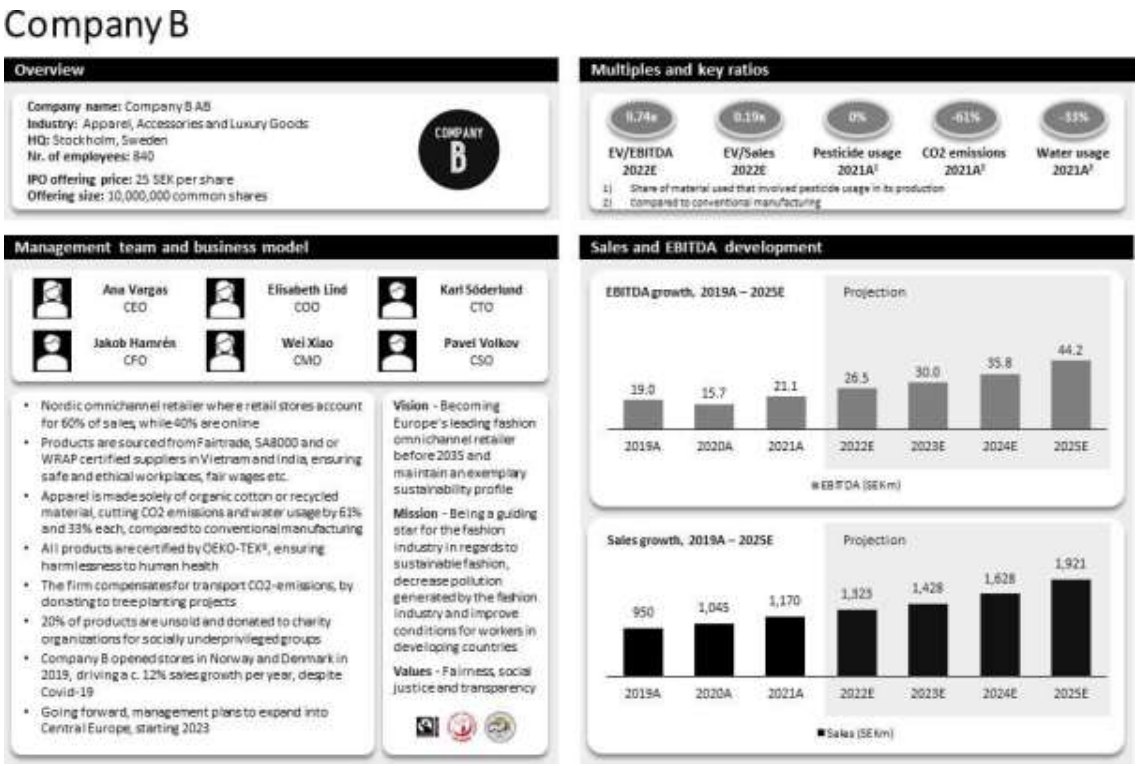


Figure 7: Example of a "disclose and ESG company" One-Pager

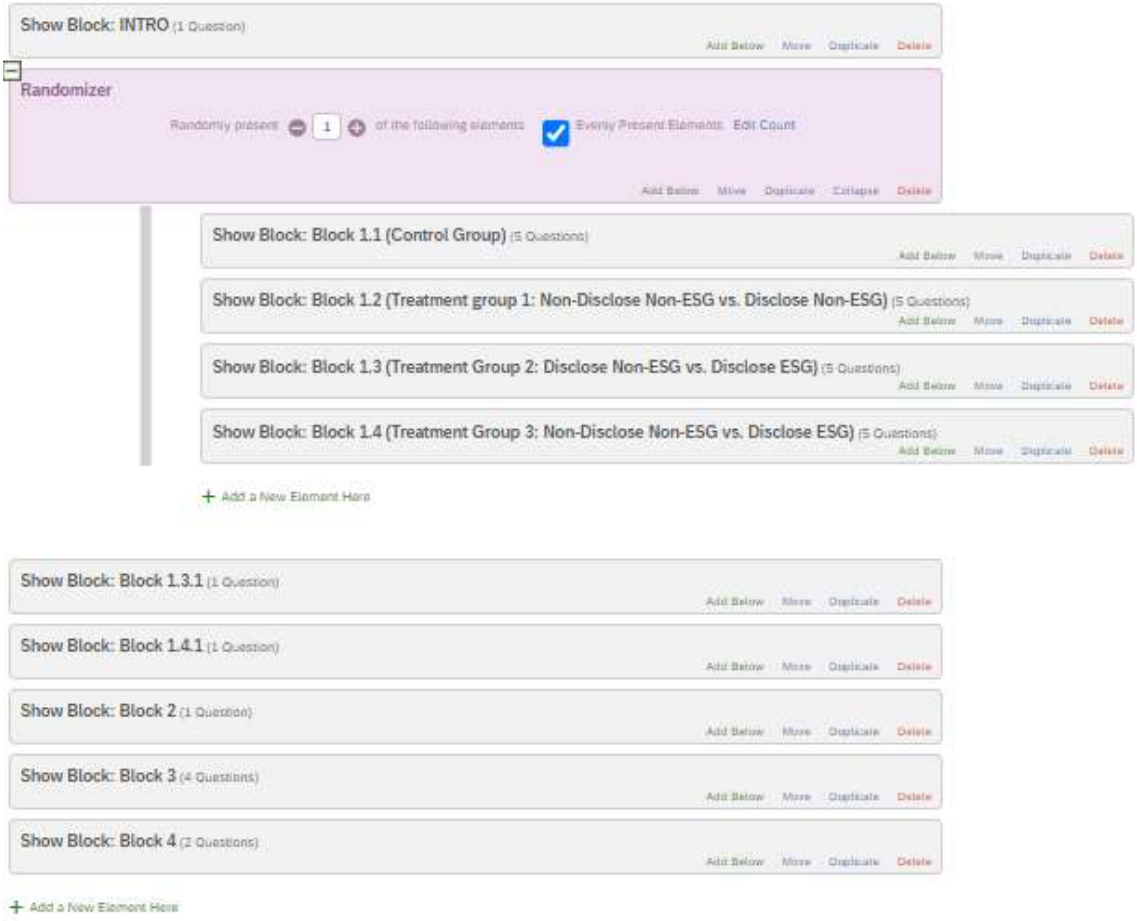
The figure below shows a one-pager used in the questionnaire to present an IPO candidate that considers ESG in its business and discloses the information regarding its good ESG performance.



Appendix 5 – The Flow of the Questionnaire

Figure 8: The Structure of the Self-Completion Questionnaire Used for the Experiment

The figure below shows how the self-completion questionnaire was structured, starting with a randomization for the allocation of participants to the 4 test groups, two subsequent blocks, each specially designated for the test subjects in treatment groups 2 and 3, as well as joint blocks with follow-up questions towards the conclusion of the questionnaire.



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Appendix 6 – The Questionnaire

INTRO

Dear participant,

Thank you for taking the time and contributing to our study!

Your answers are completely anonymous and cannot be traced back to you. If you wish, you can exit the survey at any time. Please note that if you want to participate in the lottery, you have to submit your phone number at the end of the survey. This is for us to be able to send you the prize money via Swish, in case you win the lottery. Your phone number will not be used for any other purposes than that. You can find more information about the lottery at the end of the survey.

If you have any question regarding the study, feel free to contact us on 24735@student.hhs.se or 24737@student.hhs.se.

Best regards,
Alfred and Richard

Block 1.1 (Control Group)

Assume a hypothetical scenario where you have 10,000 SEK that you want to invest by buying shares in a company in the clothing industry. Currently, two companies that operate in the clothing industry are listing their shares on the public stock market, i.e. going through an IPO. These companies will be presented to you in the next section.

Read the company presentations thoroughly and choose ONE of the two firms to invest 10,000 SEK into, and answer the subsequent questions.

Company A

Overview

Company name: Company A AB
Industry: Apparel, Accessories and Luxury Goods
HQ: Stockholm, Sweden
Nr. of employees: 840

IPO offering price: 25 SEK per share
Offering size: 10,000,000 common shares

Multiples and key ratios

9.74x	0.19x	64	2.42x	920 SEK
EV/EBITDA 2022E	EV/Sales 2022E	NPS 2021A	Inventory turnover 2021A	Average transaction value 2021A

Management team and business model

Lars Palmgren, CEO	Klas Larsson, COO	Gustav Hed, CTO
Anders Jansson, CFO	Erik Sjökvist, CMO	Nils Gran, CSO

- Nordic omnichannel retailer, selling clothing and accessories where 60% of sales are made in retail stores, 40% online
- Products are sourced from suppliers in multiple countries
- The apparel is made out of durable and comfortable materials, with sources from all over the world
- Approximately 20% of products in store end up being unsold after a period of 9 months
- The company expanded outside of Sweden during 2019, which has been driving a sales growth of c. 12% per annum, despite the Covid-19 pandemic
- Management envisions further expansion into Central Europe, starting 2023

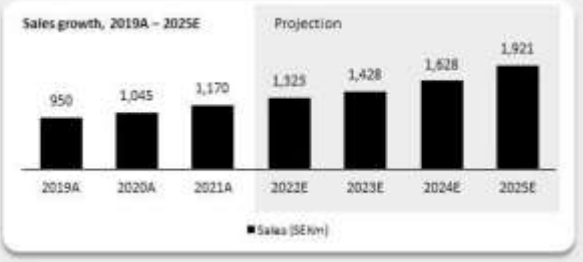
Vision - Becoming Europe's leading fashion retailer before 2035

Mission – Continuing to exhibit double-digit growth, delivering value to our shareholders, as well as beating the competitors on a range of different aspects, such as: service, customer satisfaction and product quality

Values – Profitability, loyalty and trendiness

Sales and EBITDA development





Company B

Overview

Company name: Company B AB
Industry: Apparel, Accessories and Luxury Goods
HQ: Stockholm, Sweden
Nr. of employees: 840

IPO offering price: 25 SEK per share
Offering size: 10,000,000 common shares

Multiples and key ratios

9.74x	0.19x	64	2.42x	920 SEK
EV/EBITDA 2022E	EV/Sales 2022E	NPS 2021A	Inventory turnover 2021A	Average transaction value 2021A

Management team and business model

Jan Runström, CEO	Stefan Matsson, COO	Tor Lund, CTO
Erik Grevé, CFO	Markus Pihl, CMO	Hans Otterling, CSO

- The company is selling clothing and accessories in the Nordics
- 60% of sales are made in retail stores, 40% online
- The company sources its products from suppliers in multiple countries
- All apparel is made out of different materials where the materials are sourced from different parts of the world
- Circa 20% of products in store end up being unsold after a period of 9 months
- Company B expanded outside of Sweden in 2019, which has been driving a sales growth of c. 12% per year, despite the Covid-19 pandemic
- Management envisions further expansion into Central Europe, starting 2023

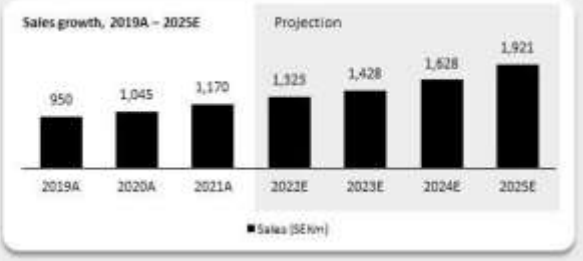
Vision - Becoming Europe's leading clothing retailer before 2035

Mission - Delivering value to our shareholders through double-digit growth, as well as outcompeting the competitors in terms of product quality, customer service and satisfaction

Values – Fashionability, profitability and loyalty

Sales and EBITDA development





Please rank your attitude towards the two companies on a scale of 1-5, with 1 being extremely negative and 5 being extremely positive.

	Extremely negative				Extremely positive
	1	2	3	4	5
Company A	○	○	○	○	○
Company B	○	○	○	○	○

Which company do you choose to invest 10,000 SEK into?

- ○ Company A
- ○ Company B

Block 1.2 (Treatment group 1: Non-Disclose Non-ESG vs. Disclose Non-ESG)

Assume a hypothetical scenario where you have 10,000 SEK that you want to invest by buying shares in a company in the clothing industry. Currently, two companies that operate in the clothing industry are listing their shares on the public stock market, i.e. going through an IPO. These companies will be presented to you in the next section.

Read the company presentations thoroughly and choose ONE of the two firms to invest 10,000 SEK into, and answer the subsequent questions.

Company A

Overview

Company name: Company A AB
Industry: Apparel, Accessories and Luxury Goods
HQ: Stockholm, Sweden
Nr. of employees: 840

IPO offering price: 25 SEK per share
Offering size: 10,000,000 common shares

Multiples and key ratios

9.74x	0.19x	64	2.42x	920 SEK
EV/EBITDA 2022E	EV/Sales 2022E	NPS 2021A	Inventory turnover 2021A	Average transaction value 2021A

Management team and business model

Lars Palmgren, CEO	Klas Larsson, COO	Gustav Hed, CTO
Anders Jansson, CFO	Erik Sjökvist, CMO	Nils Gran, CSO

- Nordic omnichannel retailer, selling clothing and accessories where 60% of sales are made in retail stores, 40% online
- Products are sourced from suppliers in multiple countries
- The apparel is made out of durable and comfortable materials, with sources from all over the world
- Approximately 20% of products in store end up being unsold after a period of 9 months
- The company expanded outside of Sweden during 2019, which has been driving a sales growth of c. 12% per annum, despite the Covid-19 pandemic
- Management envisions further expansion into Central Europe, starting 2023

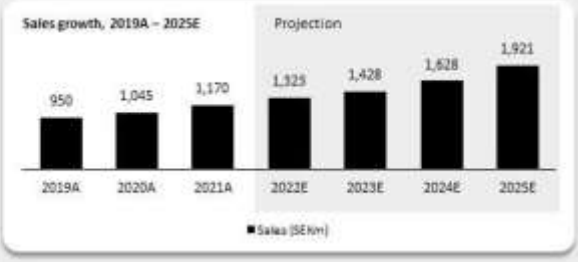
Vision - Becoming Europe's leading fashion retailer before 2035

Mission – Continuing to exhibit double-digit growth, delivering value to our shareholders, as well as beating the competitors on a range of different aspects, such as: service, customer satisfaction and product quality

Values – Profitability, loyalty and trendiness

Sales and EBITDA development





Company B

Overview

Company name: Company B AB
Industry: Apparel, Accessories and Luxury Goods
HQ: Stockholm, Sweden
Nr. of employees: 840

IPO offering price: 25 SEK per share
Offering size: 10,000,000 common shares

Multiples and key ratios

9.74x	0.19x	82%	-1%	-2%
EV/EBITDA 2022E	EV/Sales 2022E	Pesticide usage 2021A[1]	CO2 emissions 2021A[2]	Water usage 2021A[2]

1) Share of material used that involved pesticide usage in its production
2) Compared to conventional manufacturing

Management team and business model

Jan Runström, CEO	Stefan Matsson, COO	Tor Lund, CTO
Erik Grevé, CFO	Markus Pihl, CMO	Hans Otterling, CSO

- Nordic omnichannel retailer, selling fast fashion clothing and accessories where 60% of sales are made in retail stores, 40% online
- The products are sourced from non-certified supplies in Vietnam and India, therefore safe and ethical workplaces, fair wages and similar cannot be ensured
- All apparel is made out of conventional materials, with pesticides used for cotton production and with average CO2 emissions for the manufacturing industry
- No products have been certified by OEKO-TEX® for harmlessness to human health
- The firm is not compensating for CO2 emissions from transportation
- Unsold products (c. 20%) are shipped to and disposed of in landfills
- Company B expanded outside of Sweden in 2019, which has been driving a sales growth of circa 12% per year, despite the Covid-19 pandemic
- Management envisions further expansion into Central Europe, starting 2023

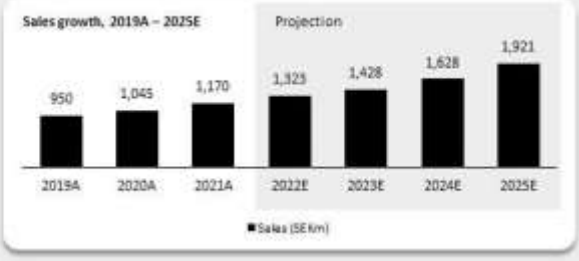
Vision - Becoming Europe's leading clothing retailer before 2035

Mission - Delivering value to our shareholders through double-digit growth, as well as outcompeting the competitors in terms of product quality, customer service and satisfaction

Values - Fashionability, profitability and loyalty

Sales and EBITDA development





Please rank your attitude towards the two companies on a scale of 1-5, with 1 being extremely negative and 5 being extremely positive.

	Extremely negative				Extremely positive
	1	2	3	4	5
Company A	○	○	○	○	○
Company B	○	○	○	○	○

Which company do you choose to invest 10,000 SEK into?

- ○ Company A
- ○ Company B

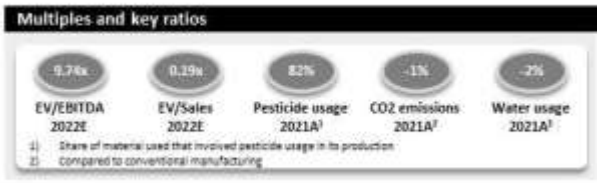
Block 1.3 (Treatment Group 2: Disclose Non-ESG vs. Disclose ESG)

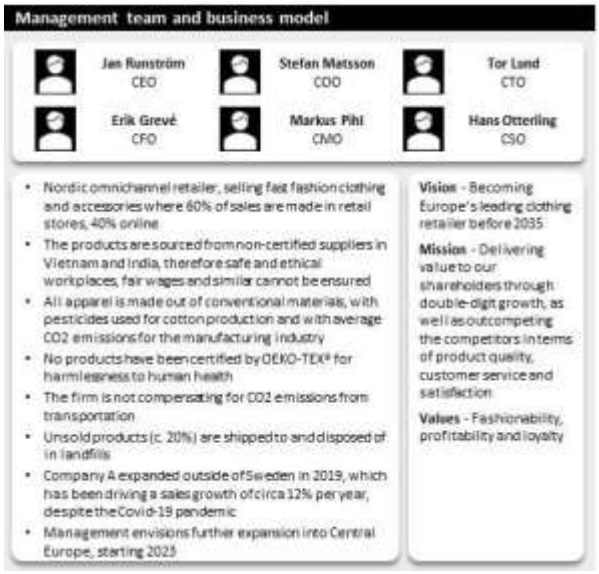
Assume a hypothetical scenario where you have 10,000 SEK that you want to invest by buying shares in a company in the clothing industry. Currently, two companies that operate in the clothing industry are listing their shares on the public stock market, i.e. going through an IPO. These companies will be presented to you in the next section.

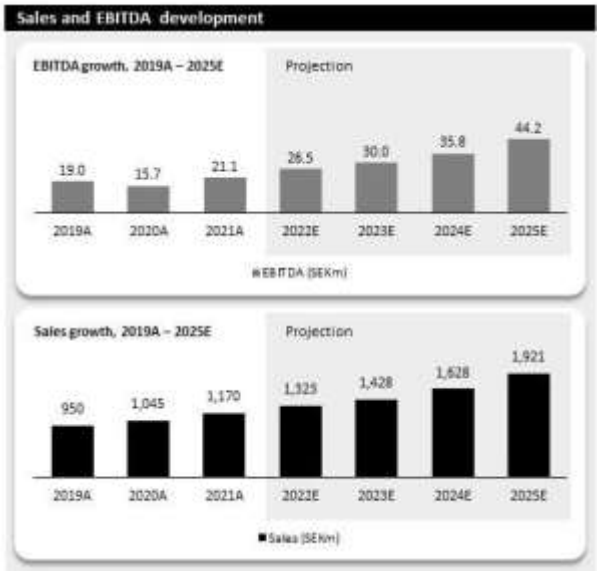
Read the company presentations thoroughly and choose ONE of the two firms to invest 10,000 SEK into, and answer the subsequent questions.

Company A



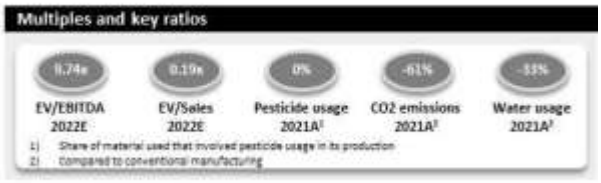


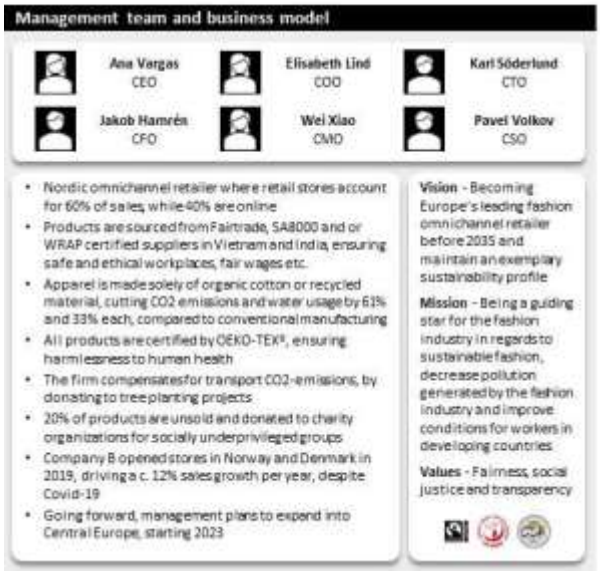


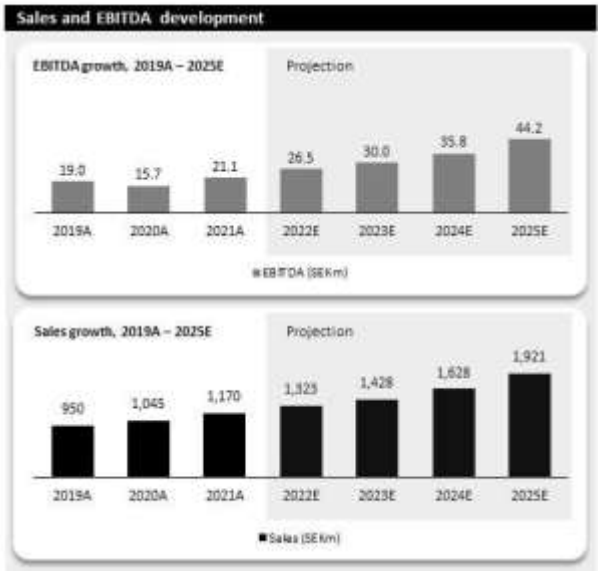


Company B









Please rank your attitude towards the two companies on a scale of 1-5, with 1 being extremely negative and 5 being extremely positive.

	Extremely negative				Extremely positive
	1	2	3	4	5
Company A	○	○	○	○	○
Company B	○	○	○	○	○

Which company do you choose to invest 10,000 SEK into?

- ○ Company A
- ○ Company B

Block 1.4 (Treatment Group 3: Non-Disclose Non-ESG vs. Disclose ESG)

Assume a hypothetical scenario where you have 10,000 SEK that you want to invest by buying shares in a company in the clothing industry. Currently, two companies that operate in the clothing industry are listing their shares on the public stock market, i.e. going through an IPO. These companies will be presented to you in the next section.

Read the company presentations thoroughly and choose ONE of the two firms to invest 10,000 SEK into, and answer the subsequent questions.

Company A

Overview

Company name: Company A AB
Industry: Apparel, Accessories and Luxury Goods
HQ: Stockholm, Sweden
Nr. of employees: 840

IPO offering price: 25 SEK per share
Offering size: 10,000,000 common shares

Multiples and key ratios

9.74x	0.19x	64	2.42x	920 SEK
EV/EBITDA 2022E	EV/Sales 2022E	NPS 2021A	Inventory turnover 2021A	Average transaction value 2021A

Management team and business model

Lars Palmgren, CEO	Klas Larsson, COO	Gustav Hed, CTO
Anders Jansson, CFO	Erik Sjökvist, CMO	Nils Gran, CSO

- Nordic omnichannel retailer, selling clothing and accessories where 60% of sales are made in retail stores, 40% online
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- The apparel is made out of durable and comfortable materials, with sources from all over the world
- Approximately 20% of products in store end up being unsold after a period of 9 months
- The company expanded outside of Sweden during 2019, which has been driving a sales growth of c. 12% per annum, despite the Covid-19 pandemic
- Management envisions further expansion into Central Europe, starting 2023

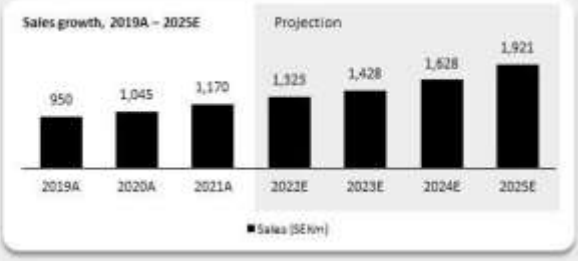
Vision - Becoming Europe's leading fashion retailer before 2035

Mission – Continuing to exhibit double-digit growth, delivering value to our shareholders, as well as beating the competitors on a range of different aspects, such as: service, customer satisfaction and product quality

Values – Profitability, loyalty and trendiness

Sales and EBITDA development





Company B

Overview

Company name: Company B AB
Industry: Apparel, Accessories and Luxury Goods
HQ: Stockholm, Sweden
Nr. of employees: 840

IPO offering price: 25 SEK per share
Offering size: 10,000,000 common shares

Multiples and key ratios

9.74x	0.19x	0%	-61%	-33%
EV/EBITDA 2022E	EV/Sales 2022E	Pesticide usage 2021A[1]	CO2 emissions 2021A[2]	Water usage 2021A[2]

1) Share of material used that involved pesticide usage in its production
2) Compared to conventional manufacturing

Management team and business model

Ana Vargas, CEO	Elisabeth Lind, COO	Karl Söderlund, CTO
Jakob Hamrén, CFO	Wei Xiao, CMO	Pavel Volkov, CSO

- Nordic omnichannel retailer where retail stores account for 60% of sales, while 40% are online
- Products are sourced from Fairtrade, SA8000 and or WRAP certified suppliers in Vietnam and India, ensuring safe and ethical workplaces, fair wages etc.
- Apparel is made solely of organic cotton or recycled material, cutting CO2 emissions and water usage by 61% and 33% each, compared to conventional manufacturing
- All products are certified by OEKO-TEX®, ensuring harmlessness to human health
- The firm compensates for transport CO2-emissions, by donating to tree planting projects
- 20% of products are unsold and donated to charity organizations for socially underprivileged groups
- Company B opened stores in Norway and Denmark in 2019, driving a c. 12% sales growth per year, despite Covid-19
- Going forward, management plans to expand into Central Europe, starting 2023

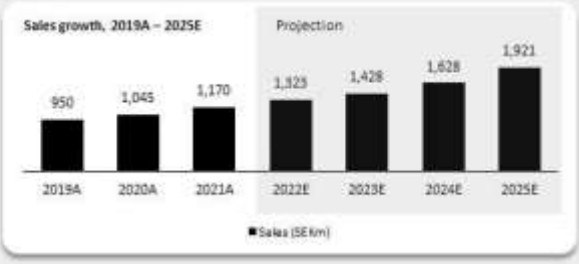
Vision - Becoming Europe's leading fashion omnichannel retailer before 2035 and maintain an exemplary sustainability profile

Mission - Being a guiding star for the fashion industry in regards to sustainable fashion, decrease pollution generated by the fashion industry and improve conditions for workers in developing countries

Values - Fairness, social justice and transparency

Sales and EBITDA development





Please rank your attitude towards the two companies on a scale of 1-5, with 1 being extremely negative and 5 being extremely positive.

	Extremely negative				Extremely positive
	1	2	3	4	5
Company A	○	○	○	○	○
Company B	○	○	○	○	○

Which company do you choose to invest 10,000 SEK into?

- ○ Company A
- ○ Company B

Block 1.3.1

You will now be presented with a list of 4 factors. Please indicate how important you each factor was for your choice of company in the previous exercise.

	I do not know	Not at all important	Slightly important	Moderately important	Very important	Extremely important
The company's financial development and expansion plans	○	○	○	○	○	○
The company's emission levels, material, pesticide & water usage	○	○	○	○	○	○
The company's consideration for human rights, safe workplaces & fair wages	○	○	○	○	○	○
The gender and background diversity of the company's management team	○	○	○	○	○	○

Block 1.4.1

You will now be presented with a list of 4 factors. Please indicate how important you each factor was for your choice of company in the previous exercise.

	I do not know	Not at all important	Slightly important	Moderately important	Very important	Extremely important
The company's financial development and expansion plans	○	○	○	○	○	○
The company's emission levels, material, pesticide & water usage	○	○	○	○	○	○
The company's consideration for human rights, safe workplaces & fair wages	○	○	○	○	○	○
The gender and background diversity of the company's management team	○	○	○	○	○	○

Block 2

You will now be presented with 4 different factors. Please indicate how important you consider these factors to be when you decide which companies to invest your money into in real life.

	I do not know	Not at all important	Slightly important	Moderately important	Very important	Extremely important
The company's impact on the environment, e.g. via pollution, energy & resource use, waste management, etc.	○	○	○	○	○	○
The company's consideration for social issues, e.g. labor standards, human & employee rights, gender & diversity, etc.	○	○	○	○	○	○
The company's governance, e.g. board composition, stance on bribery & corruption, lobbying & political contributions, etc.	○	○	○	○	○	○
The company discloses information about its ESG-efforts publicly	○	○	○	○	○	○

Block 3

Please select your age group.

- ○ 0-19 years old
- ○ 20-39 years old
- ○ 40-59 years old
- ○ 60-79 years old
- ○ 80+ years old

What is your gender?

- ○ Male
- ○ Female
- ○ Non-binary / third gender
- ○ Prefer not to say

How frequently do you as a private person make stock investments?

	Prefer not to say	Never	Less than once a year	Once a year	Once a half-year	Once a quarter	Once a month	More than once a month
Frequency	○	○	○	○	○	○	○	○

What were you asked to do in this survey?

- ○ Choose a bank to borrow 10,000 SEK from.
- ○ Choose a semester trip to spend 10,000 SEK on.
- ○ Choose one company to invest 10,000 SEK into.

Block 4

If you would like to participate in our lottery and get the chance to win 1,000 SEK, please submit your phone number down below. Your phone number will only be used to send you the prize money via Swish (only available to Swedish residents), if and only if, you win the lottery. PLEASE DO NOT FORGET TO CONTINUE TO THE NEXT SECTION IN ORDER FOR YOUR ANSWERS TO BE SUBMITTED.

By entering my phone number below, I confirm my wish to participate in the lottery.Only Swedish phone numbers are eligible!



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