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Effects of Firm Environmental and Sustainability Performance on Nonprofessional Investors' Judgments: A Comparison Between the United States and Germany

Jackson M. Nietert
University of South Carolina - Columbia

Director of Thesis: Dr. Feng Yeo
Second Reader: Dr. Aaron Zimbelman

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Thesis Summary

Several studies find that environmental reporting is significant to investors' decision-making. Here, the effect of German and US-American cultures on nonprofessional investors' judgments when given positive or negative environmental reports is examined. Two experiments were conducted, one with US students recruited locally and German participants recruited online and the other with all participants recruited online to ensure more similar samples. In both experiments, in line with previous research, environmental reporting has a significant impact on nonprofessional investors' decision-making process. In addition, the first experiment shows that German nonprofessional investors are more likely to penalize firms for poor environmental ratings however this was not reflected in the second experiment. Further analysis conducted on the second experiment shows that, as compared to German nonprofessional investors, altruism is a stronger determinant of US-American nonprofessional investors' reaction to good environmental reports. While other authors have conducted similar research on the effect of CSR information on nonprofessional investors, this thesis is unique because it explores the effect of culture.

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1: Introduction

Over the last thirty years, due to a growing awareness of environmental concerns and stakeholder demand, companies have engaged in more Environmental, Social, and Corporate Governance (ESG) activities and paid more attention to Corporate Social Responsibility (CSR) (Tschopp, 2005). At the same time, published ESG and CSR reports have increased from a few reports in the mid-1990s to thousands of reports today (Dhaliwal et al., 2011). The availability of this nonfinancial information has led investors to have additional insights when making investment decisions. Prior research has largely focused on how US investors respond to ESG information (Elliott et al.). The US is unique with its strong sense of individualism and short-term, results-oriented mentality, so previous research may not apply to investors in other nations due to these cultural differences. In this study, I examine if German nonprofessional investors respond differently to environmental information than US-American nonprofessional investors when given positive or negative environmental reports.

Research on cross-cultural differences shows distinct cultural differences between Germany and the US (GLOBE Project, 2021; Country Comparison, 2021). The GLOBE and Hofstede models suggest differences in several cultural dimensions that could impact the way nonprofessional investors respond to environmental reporting, with mixed results in the comparison of the respective countries' support of sustainability (House et al., 2004; Hofstede, 1984; Hofstede, 2011; Country Comparison, 2021; Parboteeah et al., 2011; Husted, 2005). Further examination suggests that Germans place a higher significance on the environment than US-Americans (see, e.g., Lewis et al., 2018; Tranter & Booth, 2015; AMA Staff, 2019). Based on this research, I predict that German and US

nonprofessional investors will respond differently to firms' reported environmental performance; that German nonprofessional investors will have a stronger positive (negative) reaction to a firm's positive (negative) environmental performance than US nonprofessional investors.

Understanding how German and US nonprofessional investors respond differently to a firm's environmental performance is important for a few reasons. First, ESG initiatives are costly, and this research provides insights on whether nonprofessional investors value managers' efforts to allocate firm resources towards these activities. Second, if US and European nonprofessional investors respond differently to firms' environmental initiatives, then companies planning to raise capital in the US or Europe may need to engage in different environmental strategies across these two markets. Managers can also benefit from this research as they decide the amount of resources they plan to allocate towards CSR activities. Additionally, nonprofessional investors are becoming more relevant as retail investing brokerage fees are abandoned (Ponczek et al., 2020). For other stakeholders who value the impact of high environmental performance, like environmental and activist groups, this research could help them decide how to choose where they invest.

To examine this research question, a 2 x 2 between-subjects experiment was conducted with German and US nonprofessional investors. A hypothetical firm's environmental performance (good or bad) was manipulated and participants' country of residence (USA or Germany) was measured. Participants first read the background and financial information of a hypothetical public company before viewing an environmental and sustainability report showing either good or bad performance in this area. Next,

nonprofessional investors' judgments related to investment attractiveness were solicited. Participants' mean investment attractiveness judgments across the four conditions were compared to examine how environmental performance differentially influences the judgments of German and US nonprofessional investors.

The rest of the study is organized in the following manner. Section 2 focuses on theory and hypothesis development. This includes background material, literature review of relevant studies, and the hypothesis. Sections 3, 4, and 5 include the design of the experiments and their results, as well as further analysis of Experiment 2. Section 6 discusses the results of the study, strengths, limitations, and future research. Sections 7 and 8 include the references and appendices.

2: Theory and Hypothesis Development

2.1: Institutional Background on ESG Reporting

Today, many companies produce ESG reports in addition to financial reports for their investors. Investors tend to react positively (negatively) to good (bad) ESG performance (Elliot et al., 2014; Guiral et al., 2020). Investors have used ESG information as far back as the 18th and 19th centuries, when religious organizations restricted “investments in ‘sin’ industries, predominantly those involved in slavery alcohol, and tobacco” (Stewart, 2015). More recently, at the end of the 20th century, as seen in Dhaliwal et al. (2011), businesses started producing their own CSR and ESG reports. These reports have been increasingly issued at the rate of thousands per year. However, unlike financial reporting measures, governed by FASB, IFRS, and government agencies, there are no standards for these reports or assurance requirements.

While the EU does mandate non-financial reporting, they have no singular standard a firm must follow (Non-Financial Reporting, 2021). Several organizations have risen to fill that gap of providing standards, most notably the Sustainability Accounting Standards Board (Stewart, 2015). Third-party ESG providers of ratings, like Bloomberg and Thomson Reuters, try to make it simpler for investors by looking at companies' disclosures, conducting their own investigations, and creating streamlined reports. These reports then allow investors to compare companies to each other without having to dive into the individual ESG reports (Huber & Comstock, 2017).

In December of 2020, five of the leading sustainability reporting standards agencies outlined their plan for interoperability and convergence (CDP et al., 2020). Furthermore, the IFRS Foundation, after taking public consultation, is moving forward with their plan to create a new sustainability standards board, that they unveiled at the United Nations COP26, a global climate change conference. The initial standards will be largely based on the CDP et al. (2020) report, and “due to the urgent need... the new board would initially focus its efforts on climate-related reporting” (IFRS, 2021). This new set of standards, should it be implemented, will make investors' decisions based on ESG reporting much easier as information will be more consistent. Secondly, it will make ESG reporting more common, as IFRS is used in more than 160 jurisdictions (IFRS, 2021).

2.2: How Investors Respond to ESG Information

Elliott et al. (2014) show that investors respond positively (negatively) to non-explicit assessments of positive (negative) CSR performance. Guiral et al. (2020) expand on this to find that investors react similarly to both non-explicit and explicit assessments

of material CSR performance. Guiral et al.'s findings are vitally important for both companies and other investors, as it suggests that ESG actions, particularly those that are material to company operations, and its stakeholders, will drive large financial impacts. In fact, in Guiral et al.'s findings, investors that conduct explicit assessments of ESG performance have a stronger positive and negative reaction to material ESG actions.

Further research has been conducted on market reactions to ESG reporting and has found mixed results. Several studies provide evidence that investors react to ESG information. After the EU mandated non-financial reporting, firms with strong pre-regulation ESG disclosure and non-financial performance had average returns of 0.52% over a period of three years. Alternatively, during the same time frame, firms with weak pre-regulation ESG disclosure and non-financial performance had average returns of -1.54% (Grewal et al., 2019). Similarly, looking at a larger population of firms and news reports, Serafeim & Yoon (2021) find a positive (negative) stock market reaction to positive (negative) ESG ratings and news. When looking at investor reaction to the stock market crash surrounding COVID-19, Ferriani and Natoli (2020) find that investors prefer firms with lower environmental risk. Furthermore, De Klerk et al. (2015) find that higher levels of ESG disclosure were associated with higher stock prices. These studies suggest that investors are taking ESG into account when making investments.

Other studies find no association between a firm's environmental performance and market reactions. Capelle-Blancard and Petit (2017) find that the market response to ESG news from 2002-2010 was an immediate drop of 0.01% in market value for negative news and no change for positive news. Qui et al. (2016) find that there is no relationship between environmental performance and profitability of companies, and that investors

cared more about social performance. Finally, Franzén (2019) finds that a portfolio of low-scoring ESG stocks outperformed a portfolio of high-scoring ESG stocks during the years 2002-2017. Given the mixed evidence, Waddock and Graves (1997) find that “it is possible to argue for a positive link between CSR performance and firm financial performance, a negative link between the two, or no link at all”.

2.3: How the US Differs from the Rest of the World

The US is culturally different in many aspects from the rest of the world (House et al., 2004; Hofstede, 1988). These differences are examined in this section. Additionally, US-Americans’ environmental concern is evaluated, due to its relevance to this topic and the differences in US opinion and that of other countries. This discussion leads me to decide on a comparative country for this study.

GLOBE and Hofstede Model Dimensions

I use two main models, namely the GLOBE and Hofstede models, to explore the cultural differences between the US and other countries (House et al., 2004; Hofstede, 1988). The GLOBE model¹ is comprised of nine dimensions of cultural practices, namely performance orientation, assertiveness, future orientation, humane orientation, institutional collectivism, in-group collectivism, gender egalitarianism, power distance, and uncertainty avoidance. In the GLOBE Model, Parboteeah (2011) finds, in this order, that the levels of humane orientation, performance orientation, future orientation,

¹ The GLOBE model is scored on a scale of one to six; while newer than the Hofstede model, data was only available for 29 of the current 38 Organization of Economic Cooperation and Development (OECD) member nations (House et al., 2004; OECD, 2022).

institutional collectivism, and assertiveness in a society affect the propensity of a society to support sustainability initiatives. Performance orientation and assertiveness are negatively correlated with a group's support of sustainability. Institutional collectivism and future orientation are positively correlated with a society's support of sustainability (Parboteeah, 2011).

The first relevant dimension of the GLOBE model is humane orientation. Humane orientation is a society's focus on altruism and kindness. In terms of this dimension, the US is 7th highest with a score of 4.17. This means that compared to most other OECD nations, the US is more altruistic. The second dimension, performance orientation, is a culture's interest in results, achievement, and success. The US ties for 4th highest in the OECD with a score of 4.49. This means the US is more motivated by performance than other countries. The third dimension, future orientation, is focus on planning and investing in the future. With a score of 4.15, the US is in the upper third of OECD countries. The US is more focused on the future than some nations. Institutional collectivism, the next dimension, which scales from individualistic to collective, is a measure of a society's focus on those around them. The US scores midway among OECD countries, with a score of 4.2. The fourth GLOBE dimension is assertiveness; it is a belief in straightforwardness and expressing one's intentions. The US is among the highest scoring nations, coming in 4th amongst the OECD with a score of 4.55, meaning the US is a very low context culture compared to others (Parboteeah, 2011; GLOBE Project, 2021; OECD, 2022).

The Hofstede model² (1988) has also been used to compare and contrast societal culture. It includes six dimensions: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence. Husted (2005) suggests that the Hofstede Model's dimensions of power distance, individualism, and masculinity are most related to a country's social and institutional capacity for sustainability. I included the long-term orientation dimension, which was not studied by Husted, due to its similarity to the relevant GLOBE dimension of future orientation. Power distance and masculinity are negatively correlated with a group's support of sustainability. Despite the differences in the two dimensions' scales, both the GLOBE Project's institutional collectivism and Hofstede's individualism are positively correlated with a society's support of sustainability (Husted, 2005). Based on Parboteeah's (2011) research and the similarities between long term orientation and the GLOBE dimension of future orientation, it is assumed that there is a positive association between long term orientation and a population's support of sustainability. Therefore, I focus my discussion on how the US relates to the rest of the world on these dimensions.

First, power distance is the measure of a culture's hierarchical distribution of power. The US's score of 40 puts it in the middle of other OECD nations' scores but does show the US has less hierarchy than the majority of countries. Second, individualism, which in contrast to the GLOBE model, scales from collectivism to individualism, measures the interdependence within a society. The US score of 91 is the highest amongst OECD nations, meaning it is more individualistic than all other OECD nations.

² The Hofstede model (1988) is measured on a scale of zero to one hundred and includes data for all current OECD members, among other nations.

Third, the dimension of masculinity is a measure of a culture's focus on success and achievement. With a score of 62, the US is focused more on success than two-thirds of the OECD. Lastly, the long term orientation dimension is a group's focus on planning for the future and the ability to adapt and change. The US scores 5th lowest in the OECD with a 26. This represents the high focus on the short term within the US (Husted, 2005; Country Comparison, 2021; OECD, 2022).

Concern for the Environment

Furthermore, also important to the results of this study, the US is among the advanced economies with the lowest concern for the environment (Bell et al., 2021). Compared to those countries, the US has high numbers of climate skeptics and low numbers of those who self-report as taking actions to help the environment or prevent climate change (Tranter & Booth, 2015; Bell et al., 2021). Additionally, politics is very influential in US opinions around the environment, and the country is rather divided on solutions, if any (Schmidt & Schlichtling, 2014).

Selecting a Comparison

The above discussion suggests that the US stands out on the GLOBE dimensions of assertiveness, performance orientation, and humane orientation, and the Hofstede dimensions of individualism and long-term orientation. In contrast, most European countries are different from the US in terms of higher long-term orientation and concern for the environment, and lower individualism, humane orientation, performance orientation, and assertiveness (Bell et al., 2021; Poushter & Huang, 2020; Country

Comparison, 2021; GLOBE Project, 2021). In particular, West Germany³ has a higher future orientation score (4.27); lower performance orientation (4.25), humane orientation (3.18), institutional collectivism (3.79) scores; and an equal assertiveness (4.55) score (GLOBE Project, 2021). Germany has a higher long-term orientation (83) score and lower power distance (35) and individualism (67) scores (Country Comparison, 2021). Germany also has an established financial market similar to the US (Statista, 2021; WFE, 2021; WFE, 2020). Within both of these models, Germany and the US each lead in four dimensions against each other towards their propensity to support sustainability (performance orientation, power distance, future orientation, and long-term orientation for Germany; humane orientation, institutional collectivism, individualism, and masculinity for the US) and they scored the same in the assertiveness dimension (GLOBE Project, 2021; Parboteeah, 2011, Country Comparison, 2021; Husted, 2005). While these studies cannot show one of these nationalities to be more willing to embrace sustainability efforts, it can certainly show that there are differences between the two cultures.

Furthermore, Germany differs from the US in its societal views towards the environment. German citizens take more action to address climate change, have a more unified approach to its solutions, and consistently list it among their greatest concerns (Bell et al., 2021; Schmidt & Schlichtling, 2014; Poushter & Huang, 2020).

³ For the GLOBE Model comparison, West Germany will be compared to the United States, since West Germany at the time of data collection did, and continues to comprise a larger percentage of the German population than East Germany (GLOBE Project, 2021; Statistisches Bundesamt, 2017). Unlike the GLOBE Model (2021), the Hofstede Model uses the whole of Germany to conduct its research (Country Comparison, 2021).

2.4: How German versus US Nonprofessional Investors Could React to Environmental Performance Information

The GLOBE Project and Hofstede (1988) provide evidence that there could be differences between the two cultures (House et al., 2004). In this section, how German and US nonprofessional investors could react differently to environmental performance when making their investment decisions is examined.

One study was found that compares German and US investment professionals, however, it does not address nonprofessional investors, who are becoming more relevant as the retail financial services industry has seen significant growth in recent years (Seth et al., 2020). Arnold et al.'s (2020) study was conducted on both German and US investment professionals to see how ESG performance affects stock recommendations. It finds that while they react to ESG performance, there is no significant difference in reaction between the two groups. However, it did find that German investment professionals were more likely to engage in what the researchers called “motivated reasoning”; in other words, “the more strongly they believe that CSR benefits society, the more likely they are to believe that CSR improves financial performance” (Arnold et al. 2020).

In terms of beliefs about climate change, more Germans than US-Americans are concerned about climate change and the environment (Tranter & Booth, 2015; Lewis et al., 2018; AMA Staff, 2019). AMA Staff (2019) find that 77% of German workers are concerned about climate change, compared to 70% in the US. Additionally, 70% of German workers consider themselves “green” while only 37% of US-American workers do. Tranter and Booth (2015) find that 4% of Germans were considered climate change

skeptics, compared to 12% of US-Americans. Schmidt and Schlichtling (2014) discuss the difference between the US and German reactions to climate change. In the US, there are quite a variety of opinions on how to react to climate change, or if even it should be addressed. In Germany, most believe it to be an issue of great importance.

Furthermore, a recent poll conducted by the Pew Research Center (Bell et al., 2021) reports that there has been no significant change in the number of US-Americans concerned about the personal effects of climate change, versus a 19-point increase of Germans. 77% of Germans are somewhat or very concerned about the personal effects compared to 60% of US-Americans. 79% of Germans are willing to make at least some changes to reduce the effects of climate change compared to 74% of US-Americans. The PEW Research Center shows that 69% of Germans saw global climate change as a major threat to their country, which was their most common response, while 62% of US-Americans responded the same, as their fourth most common response (Poushter & Huang, 2020).

Amel-Zadeh and Serafeim (2018) show that Europeans use environmental performance information more frequently than US investors when making investments. Ionescu et al. (2019) find similar results when examining the market value of firms in the travel and tourism industry. They find that a firm's environmental performance had a greater impact on market value in European companies as compared to North American companies.

With the higher concern about the environment from German society and the use of ESG information by German investors as listed above, I expect German nonprofessional investors to be more concerned about the environment, and they will

consider a firm's environmental performance to a greater extent when making their investment decisions. This is summarized as the hypothesis:

HYPOTHESIS: German nonprofessional investors will have a stronger positive (negative) reaction to a firm's positive (negative) environmental performance than US nonprofessional investors.

3: Experiment 1

3.1: Design of Experiment 1

Design

A 2 x 2 between-participants design was used for Experiment 1. Participants were randomly assigned to one of the four conditions using the Qualtrics platform. The first independent variable, *Environmental Performance*, was manipulated at two levels (positive versus negative). The second variable, *Nationality*, was a measured variable obtained by asking participants for their country of residence and their nationality.

Participants

72 US participants were recruited from the student population taking upper-level accounting courses at the University of South Carolina's Darla Moore School of Business and 70 German participants through the Prolific platform, which allowed for participants to be pre-filtered. Table 1 presents demographic data on the participants.

TABLE 1
Overall Demographic Data for Experiment 1 (Nonprofessional Investors)

	German (n = 70)	US (n = 70)
Female, n (%)	20 (28.6)	37 (52.9)
Age		
18-24, n (%)	12 (17.1)	70 (100.0)
25-34, n (%)	37 (52.9)	- (-)
35-44, n (%)	17 (24.3)	- (-)
45-54, n (%)	3 (4.3)	- (-)
55-64, n (%)	1 (1.4)	- (-)
Yrs. of Work Experience, mean (SD)	8.42 (7.61)	2.36 (3.50)
Number of Accounting Classes, mean (SD)	1.93 (4.51)	9.29 (2.97)
Number of Finance Classes, mean (SD)	1.50 (3.07)	2.66 (2.23)
Graduate Degree		
No Degree, n (%)	47 (67.1)	36 (51.4)
Pursuing/Has Degree, n (%)	21 (30.0)	34 (48.6)
Unknown, n (%)	2 (2.9)	- (-)
Has Investment Experience, n (%)	66 (94.3)	39 (55.7)
Yrs. of Investment Experience, mean (SD)	5.90 (6.18)	2.64 (1.42)
Altruism Score (0-80), mean (SD)	33.67 (11.05)	31.76 (9.91)
Residence		
Germany, n (%)	59 (84.2)	- (-)
US, n (%)	- (-)	70 (100.0)
Other, n (%)	11 (15.7)	- (-)
Yrs. in Country of Residence, mean (SD)	26.3 (11.30)	20.86 (2.91)
Nationality		
German Citizen, n (%)	69 (98.6)	- (-)
US Citizen, n (%)	- (-)	68 (97.1)
Other, n (%)	1 (1.4)	2 (2.9)
Native Language		
German, n (%)	66 (94.3)	68 (97.1)
English, n (%)	1 (1.4)	2 (2.9)
Other, n (%)	3 (4.3)	37 (52.9)

Materials and Procedures

Participants first read a brief introduction and financial statement of the hypothetical Jackson Retail, which was presented as a large stable, and slowly growing

company (Figure 1). Then, participants viewed an environmental performance report showing either a positive or negative performance (Figure 2).

FIGURE 1

Jackson Retail Introduction and Financial Information

Panel A: Jackson Retail Background Information

Jackson Retail Inc.* is one of the world's largest publicly-traded general retailers.

Founded in 1948 and grown under three generations of family leadership, the multinational company has a broad portfolio of brands and products.

*AG for German participants

Panel B: Jackson Retail Income Statement

Income Statement	Years ended December 31, in millions, except per share data		
	2020	2019	2018
Revenues			
Sales	38,260	36,881	35,902
Costs and Expenses			
Cost of Sales	33,177	32,184	31,628
Selling, General and Administrative	2,152	1,864	1,521
Other (Incomes) Expenses			
Interest income	(7)	(6)	(9)
Interest expense	279	249	201
Other, net	31	(8)	(36)
Income before Income Taxes	2,628	2,598	2,376
Income Tax Expense	850	826	657
Net Income	1,778	1,772	1,719
Earnings Per Share	4.79	4.53	4.39

Panel C: Jackson Retail Balance Sheet

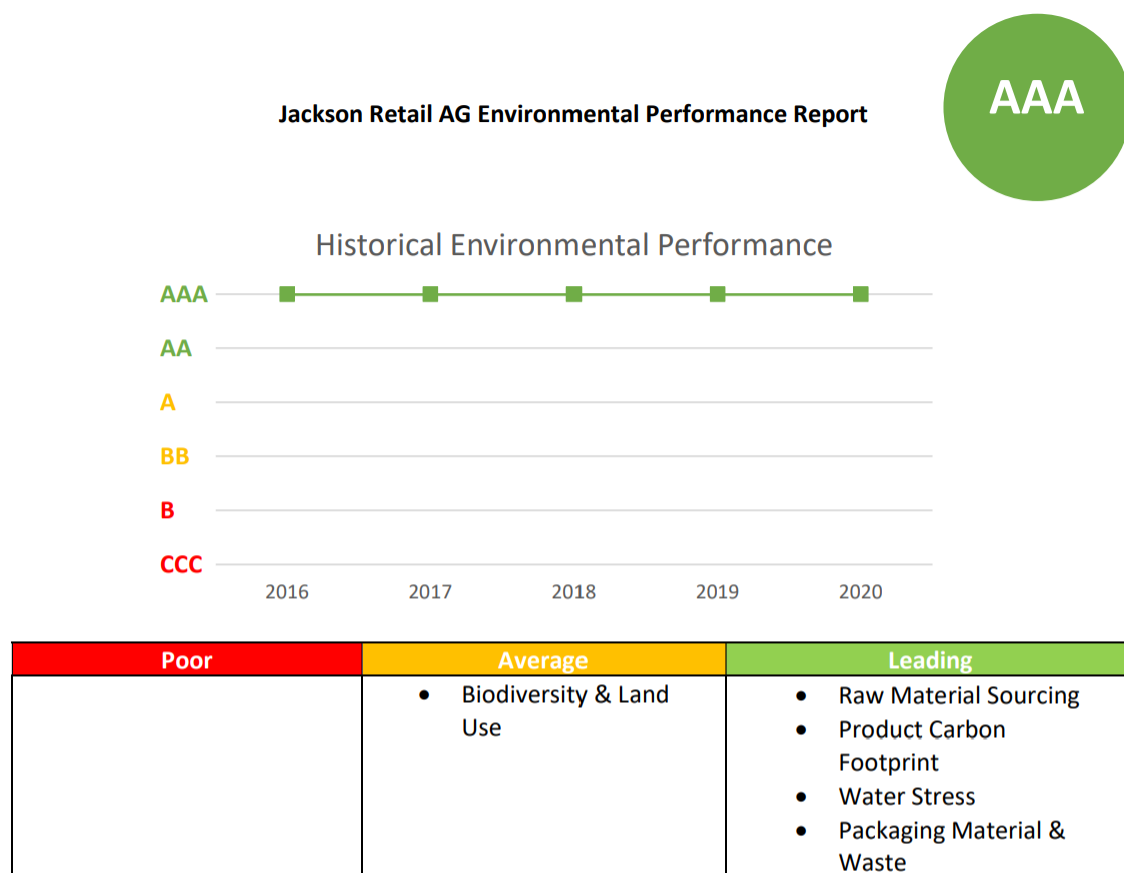
Balance Sheet

At December 31, in millions

	2020	2019
Assets		
Current Assets	6,258	4,888
Non-current Assets	21,808	17,485
Total Assets	28,066	22,373
Liabilities		
Current Liabilities	4,032	2,762
Non-current Liabilities	13,475	9,987
Total Liabilities	17,507	12,749
Shareholders' Equity:		
Common stock, par value	45	43
Capital in excess of par value	4,378	4,355
Retained earnings	9,776	8,348
Accumulated other comprehensive gain (loss)	16	(45)
Repurchased common stock	(3,674)	(3,093)
Total Shareholders' Equity	10,559	9,624
Total Liabilities and Shareholders' Equity	28,066	22,373

FIGURE 2
Jackson Retail Environmental Performance Reports

Panel A: Jackson Retail Environmental Performance Report (Positive)



Raw Material Sourcing - Jackson Retail received an AAA rating on the environmental impacts of the raw materials used in their products and their efforts around supply chain traceability and certification

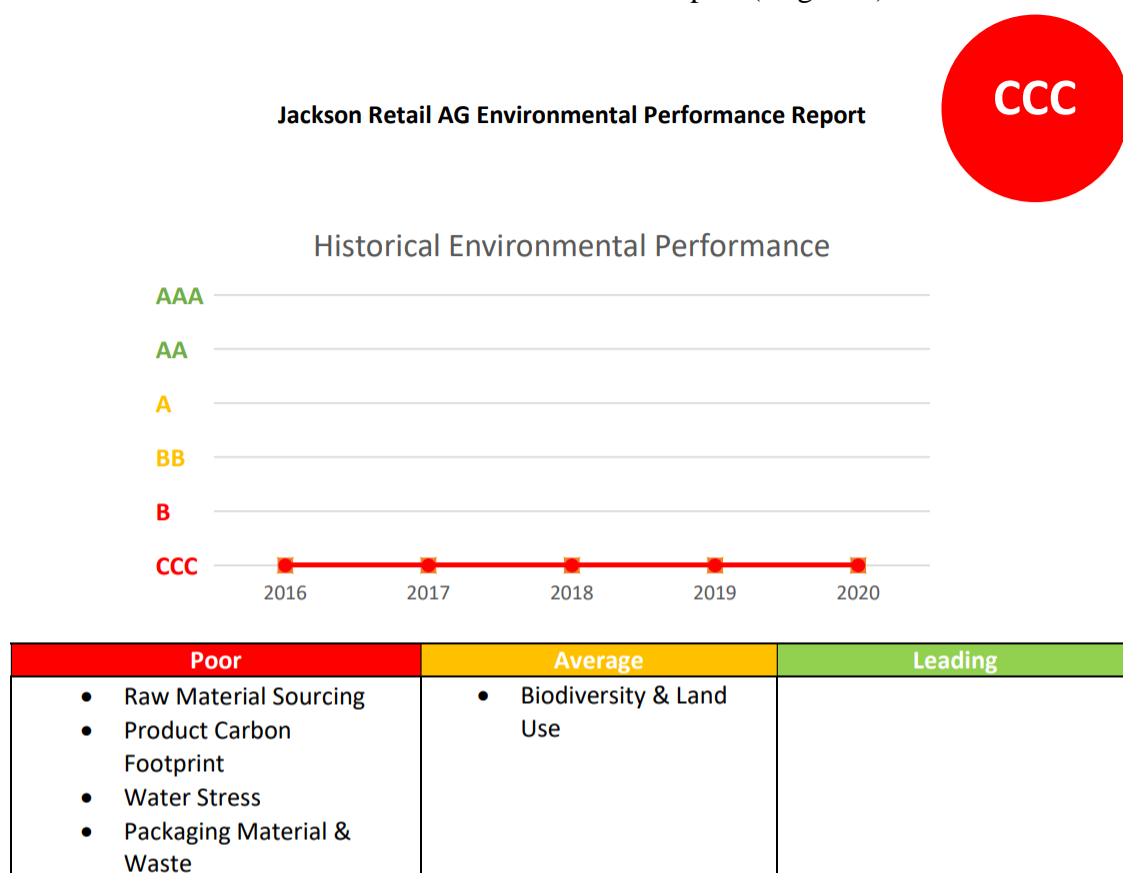
Product Carbon Footprint - Jackson Retail received an AAA rating on the carbon intensity of their products and their ability to reduce the carbon footprint in their supply chains.

Water Stress - Jackson Retail received an AAA rating on the water intensity of their operations, the water stress in their areas of operation and their efforts to manage water-related risks and opportunities.

Packaging Material & Waste - Jackson Retail received an AAA rating on their production of or reliance upon packaging materials, their potential exposure to waste management and packaging regulations and their efforts to reduce the environmental impact of packaging materials.

Biodiversity & Land Use - Jackson Retail received an A rating on the potential impact of their operations on biodiversity in their areas of operation and their efforts to manage the environmental impact of their operations.

Panel B: Jackson Retail Environmental Performance Report (Negative)



Raw Material Sourcing - Jackson Retail received an CCC rating on the environmental impacts of the raw materials used in their products and their efforts around supply chain traceability and certification

Product Carbon Footprint - Jackson Retail received an CCC rating on the carbon intensity of their products and their ability to reduce the carbon footprint in their supply chains.

Water Stress - Jackson Retail received an CCC rating on the water intensity of their operations, the water stress in their areas of operation and their efforts to manage water-related risks and opportunities.

Packaging Material & Waste - Jackson Retail received an CCC rating on their production of or reliance upon packaging materials, their potential exposure to waste management and packaging regulations and their efforts to reduce the environmental impact of packaging materials.

Biodiversity & Land Use - Jackson Retail received an BB rating on the potential impact of their operations on biodiversity in their areas of operation and their efforts to manage the environmental impact of their operations.

The reports are based on the environmental factors deemed material for retail companies by MSCI (2021). Participants then rated the investment attractiveness of Jackson Retail on a scale from 0 (not attractive) to 100 (very attractive).

3.2: Results of Experiment 1

Manipulation Check

To ensure a successful manipulation of *Environmental Performance*, participants were asked to indicate whether Jackson Retail's environmental performance was negative or positive. Two US-American respondents and four German respondents answered this question incorrectly. Participants were also asked for their country of residence and nationality and one participant was removed from the German group for failing to reside in Germany. The results become insignificant if those participants who failed the manipulation checks in the sample are retained, and hence they were excluded from this analysis.

TABLE 2
Manipulation Check Statistics for Experiment 1 (Nonprofessional Investors)

	German	US
Total Number of Participants Removed for:	75	72
Failing Manipulation Check, n (%)	4 (5.3)	2 (2.8)
Failing Citizenship/Residency Check, n (%)	1 (1.3)	- (-)
Final Number of Participants	70	70

Means, ANOVA, and Pairwise Results

Table 3 presents the means (Panel A), ANOVA (Panel B), and pairwise results (Panel C) of participants' investment attractiveness judgments. The hypothesis predicts that German nonprofessional investors will have a stronger reaction to a firm's ESG

performance than US nonprofessional investors. This prediction suggests a significant two-way interaction between *Environmental Performance* and *Nationality*, as reported in Panel B ($p = 0.038$). The results show that German nonprofessional investors penalized the firm more when *Environmental Performance* was bad (26.14 for German vs. 46.18 for US nonprofessional investors; $p < 0.001$) and rewarded the firm less when *Environmental Performance* was good (66.00 for German vs. 72.08 for US nonprofessional investors; $p < 0.001$). In addition, *Environmental Performance* had an effect on German nonprofessional investors ($p < 0.001$) but no significant effect on US nonprofessional investors ($p = 0.195$). These results partially support the hypothesis, since they show that German nonprofessional investors did not reward the firm more when *Environmental Performance* was good.

TABLE 3
Overall Descriptive Statistics for Experiment 1

Panel A: Mean Investment Attractiveness Judgments (Standard Deviation)

Nationality	Environmental Performance		Overall
	Bad	Good	
German	26.14 (21.71) n = 35	66.00 (21.71) n = 35	46.07 (29.54) n = 70
US	46.18 (21.20) n = 34	72.08 (12.50) n = 36	59.50 (21.55) n = 70
Overall	36.01 (23.57) n = 69	69.08 (17.94) n = 71	52.79 (26.63) n = 140

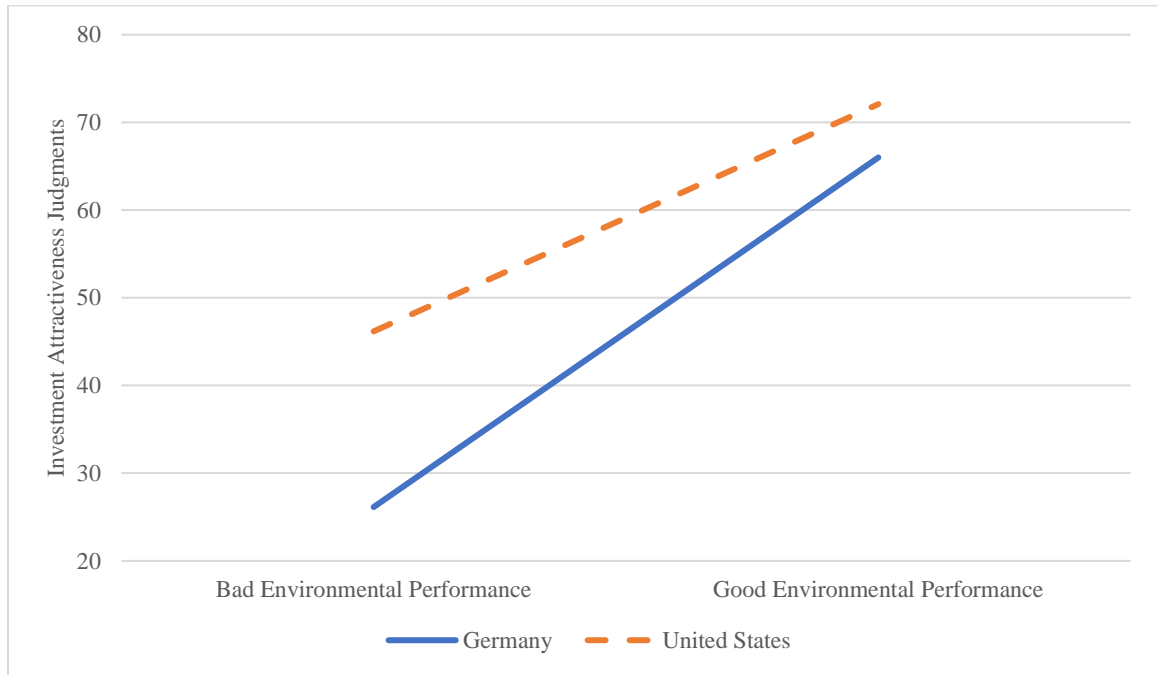
Panel B: ANOVA Results

Source	Sum of Squares	df	Mean Square	F	p-value
Environmental Performance	37,827.46	1	37,827.46	97.58	<0.001
Nationality	5,965.89	1	5,965.89	15.39	<0.001
Environmental Performance × Nationality	1,702.15	1	1,702.15	4.39	0.038
Error	52,721.98	136	387.66		

Panel C: Pairwise Comparison

	Mean Square	t	p-value
Effect of Nationality for Bad Environmental Performance	27,800.36	8.47	<0.001
Effect of Nationality for Good Environmental Performance	11,735.81	5.50	<0.001
Effect of Environmental Performance for German nonprofessional investors	6,921.76	4.23	<0.001
Effect of Environmental Performance for US nonprofessional investors	656.74	1.30	0.195

FIGURE 3
Investment Attractiveness Judgments for Experiment 1



4: Experiment 2

An additional 73 US participants were recruited from Prolific to address concerns about the usage of student participants as proxies for US nonprofessional investors in Experiment 1. The student participants from Experiment 1 were replaced with these US participants recruited through Prolific. From the US sample, two participants who failed the manipulation check question on ESG performance and one participant who failed to meet the residency requirement were excluded.

TABLE 4
Overall Demographic Data for Experiment 2 (Nonprofessional Investors)

	German (n = 70)	US (n = 70)
Female, n (%)	20 (28.6)	37 (52.9)
Age		
18-24, n (%)	12 (17.1)	26 (37.1)
25-34, n (%)	37 (52.9)	22 (31.4)
35-44, n (%)	17 (24.3)	10 (14.3)
45-54, n (%)	3 (4.3)	7 (10.0)
55-64, n (%)	1 (1.4)	3 (4.3)
65-74, n (%)	- (-)	2 (2.9)
Yrs. Of Work Experience, mean (SD)	8.42 (7.61)	10.41 (12.86)
Number of Accounting Classes, mean (SD)	1.93 (4.51)	.71 (1.54)
Number of Finance Classes, mean (SD)	1.50 (3.07)	.84 (2.10)
Graduate Degree		
No Degree, n (%)	47 (67.1)	51 (72.9)
Pursuing/Has Degree, n (%)	21 (30.0)	19 (27.1)
Unknown, n (%)	2 (2.9)	- (-)
Has Investment Experience, n (%)	66 (94.3)	59 (84.3)
Yrs. Of Investment Experience, mean (SD)	5.90 (6.18)	6.60 (8.95)
Altruism Score (0-80), mean (SD)	33.67 (11.05)	33.24 (11.54)
Residence		
Germany, n (%)	59 (84.2)	- (-)
US, n (%)	- (-)	63 (90.0)
Other, n (%)	11 (15.7)	7 (10.)
Yrs. In Country of Residence, mean (SD)	26.3 (11.30)	27.44 (13.26)
Nationality		
German Citizen, n (%)	69 (98.6)	- (-)
US Citizen, n (%)	- (-)	70 (100.0)
Other, n (%)	1 (1.4)	- (-)
Native Language		
German, n (%)	66 (94.3)	- (-)
English, n (%)	1 (1.4)	67 (95.7)
Other, n (%)	3 (4.3)	3 (4.3)

4.1: Results of Experiment 2

Means, ANOVA, and Pairwise Results

Table 5 presents the means (Panel A), ANOVA (Panel B), and pairwise results (Panel C) of participants' investment attractiveness judgments. When the earlier analysis with German and US participants recruited from Prolific is rerun, the two-way interaction between *Environmental Performance* and *Nationality* becomes insignificant ($p = 0.824$). This suggests that German participants did not respond differently from US participants in the sample.

TABLE 5
Overall Descriptive Statistics for Experiment 2

Panel A: Mean Investment Attractiveness Judgments (Standard Deviation)

Nationality	Environmental Performance		Overall
	Bad	Good	
German	26.14 (21.71) n = 35	66.00 (21.71) n = 35	46.07 (29.54) n = 70
US	23.50 (22.60) n = 36	61.71 (21.54) n = 34	42.06 (29.17) n = 70
Overall	24.80 (22.04) n = 71	63.88 (21.70) n = 69	44.06 (29.32) n = 140

Panel B: ANOVA Results

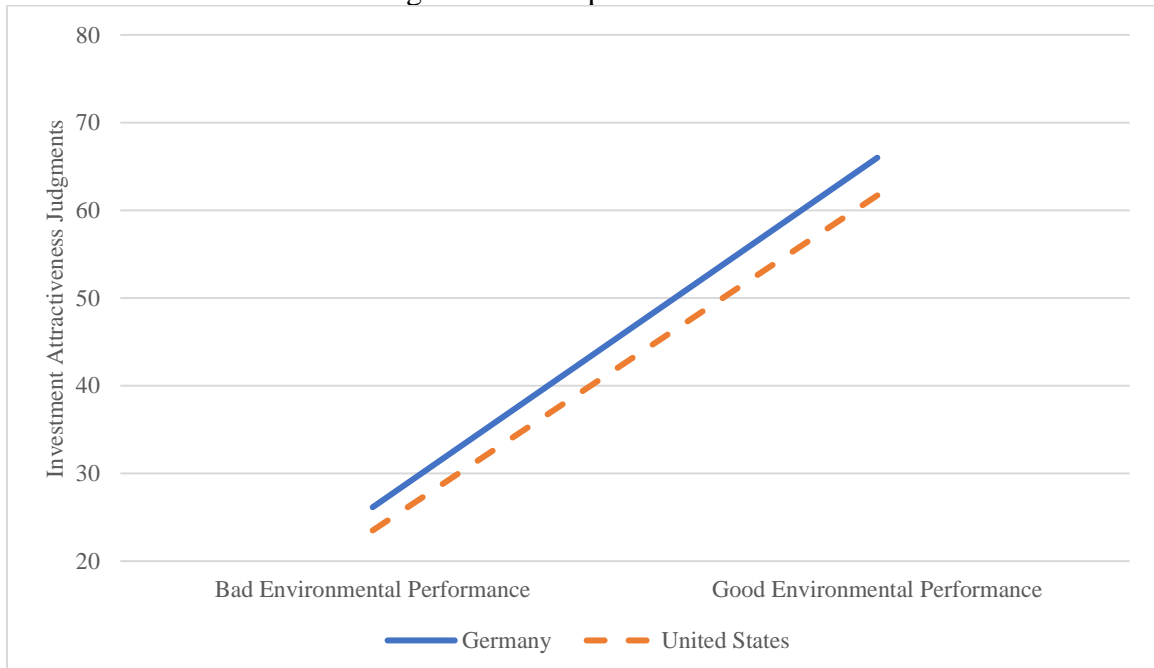
Source	Sum of Squares	df	Mean Square	F	p-value
Environmental Performance	53,299.29	1	53,299.29	110.51	<.001
Nationality	420.89	1	420.89	0.87	0.352
Environmental Performance × Nationality	23.85	1	23.85	0.05	0.824
Error	65,596.35	136	482.33		

Panel C: Pairwise Comparison

	Mean Square	t	p-value
Effect of Nationality for Bad Environmental Performance	123.95	0.51	0.613
Effect of Nationality for Good Environmental Performance	318.01	0.81	0.418
Effect of Environmental Performance for German nonprofessional investors	27,800.36	7.59	<.001
Effect of Environmental Performance for US nonprofessional investors	25,523.71	7.27	<0.001

FIGURE 4

Investment Attractiveness Judgments for Experiment 2



5: Further Analysis of Experiment 2

Given that support was not found for the hypothesis, I conducted further analysis to examine if participants' altruism levels affected their results. As part of the experimental material, the Rushton et al. (1981) altruism scale was also administered, with minor changes from British English to American English (i.e., lineup to line, neighbour to neighbor)⁴. The median *Altruism* score for the sample is 31.5, and a median split was performed to categorize participants into the low or high *Altruism* group. I conducted a three-way ANOVA with *Environmental Performance*, *Nationality*, and *Altruism* as between-participants factors. The sample is also split into a low and high *Altruism* group and the two-way ANOVA between *Environmental Performance* and *Nationality* for each group is rerun. The results are reported in Table 6.

5.1: Results of Further Analysis of Experiment 2

Panel C of Table 6 reports that the three-way interaction between *Environmental Performance*, *Nationality*, and *Altruism* is significant ($p = 0.036$). This suggests that nonprofessional investors' response to *Environmental Performance* could be affected by both their *Nationality* and *Altruism*. Next, the results for the low and high *Altruism* nonprofessional investors are separately analyzed. For low *Altruism* nonprofessional investors, *Nationality* did not affect their response to bad (one-tailed $p = 0.918$) or good (one-tailed $p = 0.764$) *Environmental Performance*. However, for high *Altruism* nonprofessional investors, German nonprofessional investors rewarded a firm more for

⁴ While this was of interest in Experiment 1, it was not collected for participants due to an error in the administration of the survey

good *Environmental Performance* (one-tailed $p = 0.060$), but there was no effect of *Nationality* for bad *Environmental Performance* (one-tailed $p = 0.259$). These results could suggest that high *Altruism* nonprofessional investors penalize firms with bad *Environmental Performance* to the same extent.

TABLE 6

Overall Descriptive Statistics for Experiment 2

Panel A: Mean Investment Attractiveness Judgments (Standard Deviation) for Low Altruism Nonprofessional Investors

Nationality	Environmental Performance		Overall
	Bad	Good	
German	29.17 (22.03) n = 18	67.20 (20.24) n = 15	46.45 (28.41) n = 33
US	20.36 (20.51) n = 22	72.40 (13.91) n = 15	41.46 (31.49) n = 37
Overall	24.33 (21.40) n = 40	69.80 (17.27) n = 30	43.81 (29.96) n = 70

Panel B: Mean Investment Attractiveness Judgments (Standard Deviation) for High Altruism Nonprofessional Investors

Nationality	Environmental Performance		Overall
	Bad	Good	
German	22.94 (21.55) n = 17	65.10 (23.65) n = 20	45.73 (30.91) n = 37
US	28.43 (25.54) n = 14	53.26 (23.01) n = 19	42.73 (26.80) n = 33
Overall	25.42 (23.20) n = 31	59.33 (23.80) n = 39	44.31 (28.87) n = 70

Panel C: ANOVA Results for All Nonprofessional Investors

Source	Sum of Squares	df	Mean Square	F	p-value
Environmental Performance	52,798.35	1	52,798.35	113.15	0.000
Nationality	212.00	1	212.00	0.45	0.501
Altruism	23.61	1	23.61	0.05	0.822
Environmental Performance × Nationality	805.30	1	805.30	1.73	0.191
Environmental Performance × Altruism	1,139.73	1	1,139.73	2.44	0.120
Nationality × Altruism	16.14	1	16.14	0.03	0.853
Environmental Performance × Nationality × Altruism	2,100.47	1	2,100.47	4.50	0.036
Error	61,593.44	132	466.62		

Panel D: ANOVA Results for Low Altruism Nonprofessional Investors

Source	Sum of Squares	df	Mean Square	F	p-value
Environmental Performance	34,618.21	1	34,618.21	89.50	<.001
Nationality	55.40	1	55.40	0.14	0.706
Environmental Performance × Nationality	836.74	1	836.74	2.16	0.146
Error	25,527.59	66	386.78		

Panel E ANOVA Results for High Altruism Nonprofessional Investors

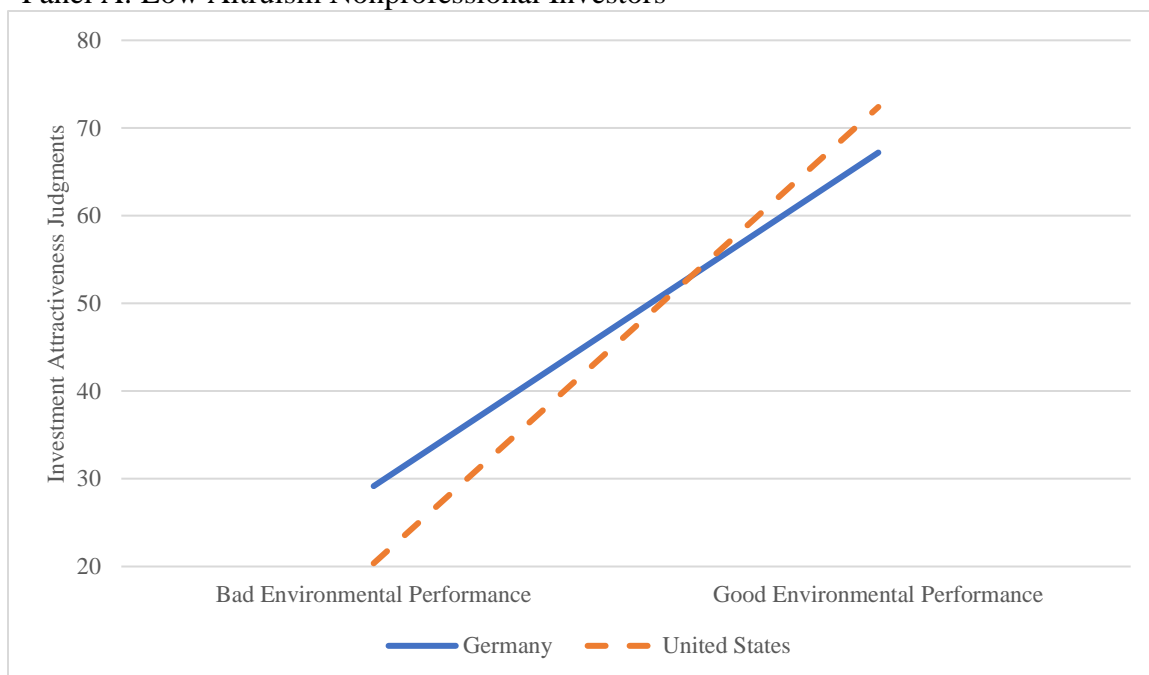
Source	Sum of Squares	df	Mean Square	F	p-value
Environmental Performance	19,271.93	1	192,71.93	35.28	<.001
Nationality	173.11	1	173.11	0.32	0.575
Environmental Performance × Nationality	1,288.75	1	1,288.75	2.36	0.129
Error	36,065.85	66	546.45		

Panel F: Pairwise Comparison

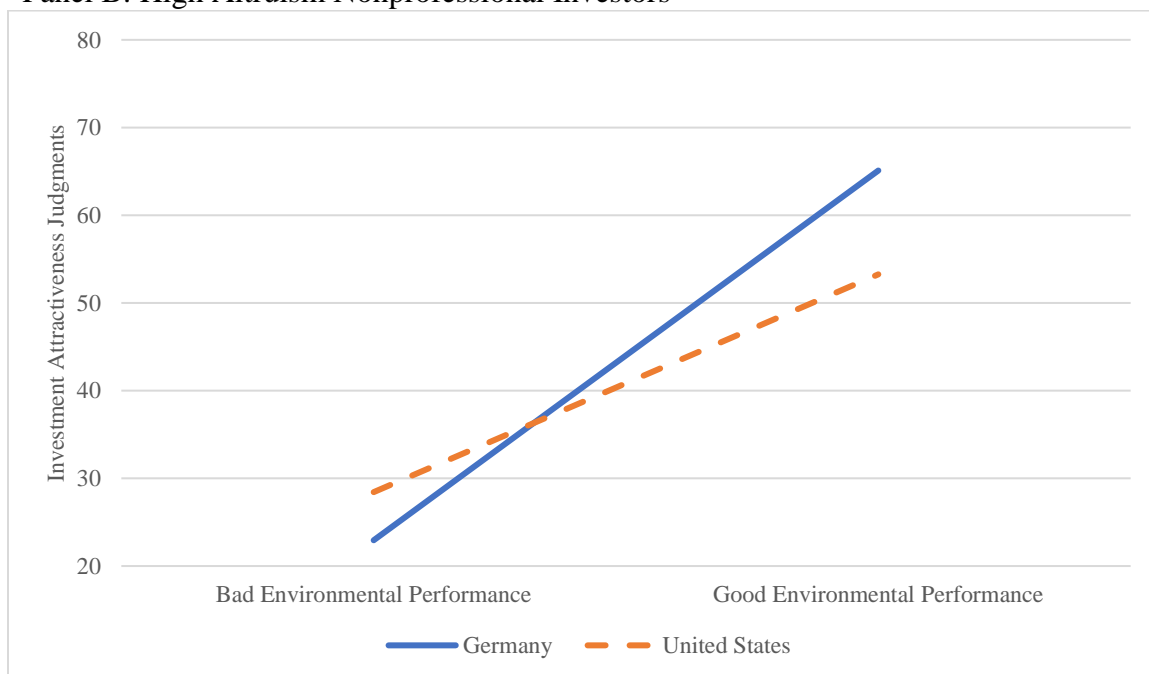
	Mean Square	t	p-value
Low Altruism Nonprofessional Investors:			
Effect of Nationality for Bad Environmental Performance	767.18	1.41	0.918*
Effect of Nationality for Good Environmental Performance	386.78	0.72	0.764*
Effect of Environmental Performance for German nonprofessional investors	11,835.28	5.53	<.001
Effect of Environmental Performance for US nonprofessional investors	25,527.59	7.90	<.001
High Altruism Nonprofessional Investors:			
Effect of Nationality for Bad Environmental Performance	231.18	1.41	0.259*
Effect of Nationality for Good Environmental Performance	1,365.18	0.72	0.060*
Effect of Environmental Performance for German nonprofessional Investors	16,332.56	1.41	<.001
Effect of Environmental Performance for US nonprofessional Investors	4,971.43	0.72	0.004

* Indicates one-tailed p-value given the directional prediction.

FIGURE 8
Investment Attractiveness Judgments for Experiment 2
Panel A: Low Altruism Nonprofessional Investors



Panel B: High Altruism Nonprofessional Investors



6: Discussion

6.1: Conclusion

Using a US student sample and a German sample recruited from Prolific, Experiment 1 finds that German nonprofessional investors are more responsive than US nonprofessional investors (via the ANOVA); however, the responsiveness is primarily a function of penalizing bad *Environmental Performance* and not rewarding good *Environmental Performance*. These results provide partial support for the hypothesis. I conducted Experiment 2 by recruiting US nonprofessional investors from Prolific and analyzing their results alongside the earlier German sample. While no results are found when analyzing the full sample, some evidence is found that nonprofessional investors' reactions to *Environmental Performance* could be driven by their level of *Altruism*. While not originally part of the hypothesis, I believed *Altruism* may be a contributing factor to participants' investment judgments. This study finds that high *Altruism* German nonprofessional investors rewarded a firm more than high *Altruism* US nonprofessional investors for good *Environmental Performance*, but there was no effect of *Nationality* for high *Altruism* nonprofessional investors when *Environmental Performance* was bad. This suggests that high *Altruism* nonprofessional investors could have penalized poorly-performing firms to the same extent regardless of *Nationality*.

6.2: Limitations

The study was limited in a few ways. First, while this study researched the judgments of nonprofessional investors, these judgments may not transfer over to professional investors, whose investments continue to be a larger part of the securities

market (Ponczek et al., 2020). Second, the survey was conducted entirely in English. While many German nonprofessional investors may understand English, it is not the first language of many of the participants in this study; this may lead to translation errors and not represent the actual judgments. The participants' age (in both experiments) leaned young; older generations hold more real-world wealth. Next, the environmental reports may not have captured more significant environmental disclosures. Furthermore, the environmental reports were intentionally extreme; findings for less extreme examples may be different. The financial statements were simplified and based on GAAP standards; real-world statements are more complex. Additionally, the German participants may not have been as familiar with GAAP standards.

6.3: Areas for Further Research

Future work could address some of the limitations, including a more accurate demographic representation of nonprofessional investors, such as age, wealth, and gender; translation, both of actual language and also financial standards; and more detailed financial statements and environmental reports. Additionally, research could be done at the industry-specific level, perhaps in sectors with more environmental ties (like the energy or agricultural sector). Research could also be done comparing different cultures, such as those highly affected by climate change (e.g. Pacific Islands) or those using fossil fuels to develop their countries (e.g. Brazil, India, etc.).

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8: Appendices

8.1: Experiment 1 Research Instrument (US Participants)

The following, besides the headers, was shown to all conditions unless otherwise indicated.

Introduction

This research is conducted as part of the undergraduate Honors Thesis for Jackson Nietert, at the University of South Carolina, who is mentored by his Thesis Director, Dr. Feng Yeo.

The research explores the reaction of non-professional investors when evaluating investments.

If you have any questions, feel free to contact Jackson at jnietert@email.sc.edu.

Please only complete this survey once.

Background and Statements

Jackson Retail Inc. is one of the world's largest publicly-traded general retailers. Founded in 1948 and grown under three generations of family leadership, the multinational company has a broad portfolio of brands and products.

Please take some time to view the Financial Statements for Jackson Retail.

Income Statement	Years ended December 31, in millions, except per share data		
	2020	2019	2018
Revenues			
Sales	38,260	36,881	35,902
Costs and Expenses			
Cost of Sales	33,177	32,184	31,628
Selling, General and Administrative	2,152	1,864	1,521
Other (Incomes) Expenses			
Interest income	(7)	(6)	(9)
Interest expense	279	249	201
Other, net	31	(8)	(36)
Income before Income Taxes	2,628	2,598	2,376
Income Tax Expense	850	826	657
Net Income	1,778	1,772	1,719
Earnings Per Share	4.79	4.53	4.39

Balance Sheet

At December 31, in millions

	2020	2019
Assets		
Current Assets	6,258	4,888
Non-current Assets	21,808	17,485
Total Assets	28,066	22,373
Liabilities		
Current Liabilities	4,032	2,762
Non-current Liabilities	13,475	9,987
Total Liabilities	17,507	12,749
Shareholders' Equity:		
Common stock, par value	45	43
Capital in excess of par value	4,378	4,355
Retained earnings	9,776	8,348
Accumulated other comprehensive gain (loss)	16	(45)
Repurchased common stock	(3,674)	(3,093)
Total Shareholders' Equity	10,559	9,624
Total Liabilities and Shareholders' Equity	28,066	22,373

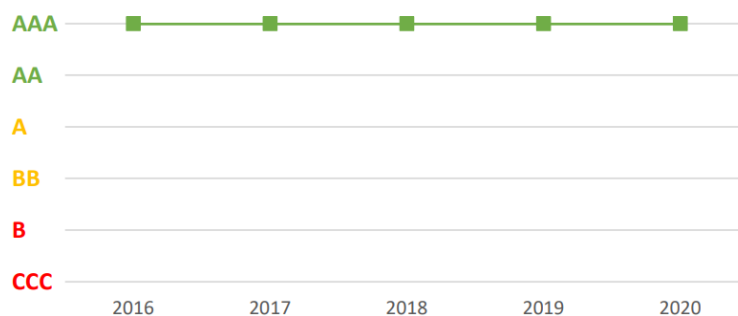
Please take some time to view this third-party environmental report of Jackson Retail.

Good Environmental Performance Condition

Jackson Retail Inc. Environmental Performance Report

AAA

Historical Environmental Performance



Poor	Average	Leading
	<ul style="list-style-type: none"> Biodiversity & Land Use 	<ul style="list-style-type: none"> Raw Material Sourcing Product Carbon Footprint Water Stress Packaging Material & Waste

Raw Material Sourcing - Jackson Retail received an AAA rating on the environmental impacts of the raw materials used in their products and their efforts around supply chain traceability and certification

Product Carbon Footprint - Jackson Retail received an AAA rating on the carbon intensity of their products and their ability to reduce the carbon footprint in their supply chains.

Water Stress - Jackson Retail received an AAA rating on the water intensity of their operations, the water stress in their areas of operation and their efforts to manage water-related risks and opportunities.

Packaging Material & Waste - Jackson Retail received an AAA rating on their production of or reliance upon packaging materials, their potential exposure to waste management and packaging regulations and their efforts to reduce the environmental impact of packaging materials.

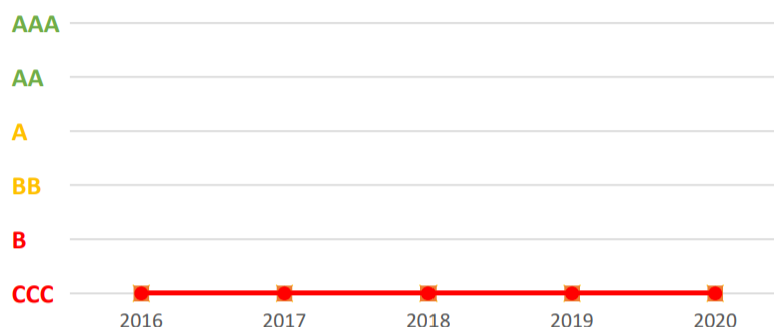
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Bad Environmental Performance Condition

Jackson Retail Inc. Environmental Performance Report



Historical Environmental Performance



Poor	Average	Leading
<ul style="list-style-type: none"> Raw Material Sourcing Product Carbon Footprint Water Stress Packaging Material & Waste 	<ul style="list-style-type: none"> Biodiversity & Land Use 	

Raw Material Sourcing - Jackson Retail received an CCC rating on the environmental impacts of the raw materials used in their products and their efforts around supply chain traceability and certification

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Key Questions

Question 1:

How attractive do you find the common stock of Jackson Retail as an investment?*

Not Attractive										Very Attractive
0	10	20	30	40	50	60	70	80	90	100

*Sliding scale

Question 2:

Briefly explain your investment decision above.

Question 3:

How much did Jackson Retail's *financial* performance influence your investment decision?*

Not at all										A great deal
0	10	20	30	40	50	60	70	80	90	100

*Sliding scale

Question 4:

How much did Jackson Retail's *environmental* performance influence your investment decision?*

Not at all										A great deal
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*Sliding scale

Question 5:

In deciding whether to invest in Jackson Retail, how important is its *financial* performance to your investment decision?*

Not at all important										Extremely important
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*Sliding scale

Question 6:

In deciding whether to invest in Jackson Retail, how important is its *environmental* performance to your investment decision?*

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*Sliding scale

Manipulation Check

Question 7:

What kind of environmental performance rating did Jackson Retail receive?

☐ A Positive Rating

☐ A Negative Rating

Self-Reported Altruism Scale

Question 8:

I have helped push a stranger's car out of the snow.

Never	Once	More than once	Often	Very Often
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Question 9:

I have given directions to a stranger.

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Question 10:

I have made change for a stranger.

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Question 11:

I have given money to a charity.

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Question 12:

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Question 13:

I have donated goods or clothes to a charity.

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Question 14:

I have done volunteer work for a charity.

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Question 15:

I have donated blood.

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Question 16:

I have helped carry a stranger's belongings (books, packages, etc.).

Never	Once	More than once	Often	Very Often
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Question 17:

I have delayed an elevator and held the door open for a stranger.

Never	Once	More than once	Often	Very Often
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Question 18:

I have allowed someone to go ahead of me in a line (in the supermarket, etc.).

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Question 19:

I have given a stranger a lift in my car.

Never	Once	More than once	Often	Very Often
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Question 20:

I have pointed out a clerk's error (in a bank, at the supermarket) in undercharging me for an item.

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I have let a neighbor whom I didn't know too well borrow an item of some value to me (e.g., a dish, tools, etc.)

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Question 22:

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Never	Once	More than once	Often	Very Often
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Question 23:

I have helped a classmate who I did not know that well with a homework assignment when my knowledge was greater than theirs.

Never	Once	More than once	Often	Very Often
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Question 24:

I have, before being asked, voluntarily looked after a neighbor’s pets or children without being paid for it.

Never	Once	More than once	Often	Very Often
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Question 25:

I have offered to help a handicapped or elderly stranger across a street.

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Question 26:

I have offered my seat on a bus or train to a stranger who was standing.

Never	Once	More than once	Often	Very Often
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Question 27:

I have helped an acquaintance to move households.

Never	Once	More than once	Often	Very Often
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Demographics*Question 28:*

Age

Under 18	18-24	25-34	34-44	45-54	55-64	65-74	75-84	85 or older
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Question 29:

Gender

Male	Female	Non-binary / other	Prefer not to say
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Question 30:

Job Title

Question 31:

Years of Work Experience

Question 32:

Country of Residence

Question 33:

How many years have you lived in your country of residence?

Question 34:

Country/(ies) of Citizenship (Press ctrl or cmd to select multiple countries)*

*Used list of 195 countries provided by Qualtrics, changed some names from de jure to de facto (i.e. Kingdom of Eswatini to Eswatini)

Question 35:

Native Language

Academic and Financial History

Question 36:

What is/was your major?

Question 37:

What graduate degrees, if any, do you have/are pursuing (N/A if none)

Question 38:

How many ***accounting*** classes have you taken?

Question 39:

How many ***finance*** or ***investment*** classes have you taken?

Question 40:

Have you invested in the stock market?

☐ Yes

☐ No

Financial History (Only displayed if answer is “Yes” to Question 40)

Question 41:

How many years have you invested in the stock market?

Extra Credit (Optional)

The following section is optional but required if you want extra credit from Dr. Yeo. The data from this section will be separated from the survey results

Question 42:

What is your name?

Question 43:

What class of Dr. Yeo’s do you take?

- ☐ ACCT 501-1 (Financial Accounting III)
- ☐ ACCT 506-1 (International Financial Reporting)
- ☐ ACCT 506-2 (International Financial Reporting)

Question 44:

What is your email address?

8.2: Experiment 1 Research Instrument (German Participants)

The following, besides the headers, was shown to all conditions unless otherwise indicated.

Introduction

This research is conducted as part of the undergraduate Honors Thesis for Jackson Nietert, at the University of South Carolina, who is mentored by his Thesis Director, Dr. Feng Yeo.

The research explores the reaction of non-professional investors when evaluating investments.

If you have any questions, feel free to contact Jackson at jnietert@email.sc.edu.

Please only complete this survey once.

Background and Statements

Jackson Retail AG is one of the world’s largest publicly-traded general retailers. Founded in 1948 and grown under three generations of family leadership, the multinational company has a broad portfolio of brands and products.

Please take some time to view the Financial Statements for Jackson Retail.

Income Statement	Years ended December 31, in millions, except per share data		
	2020	2019	2018
Revenues			
Sales	38,260	36,881	35,902
Costs and Expenses			
Cost of Sales	33,177	32,184	31,628
Selling, General and Administrative	2,152	1,864	1,521
Other (Incomes) Expenses			
Interest income	(7)	(6)	(9)
Interest expense	279	249	201
Other, net	31	(8)	(36)
Income before Income Taxes	2,628	2,598	2,376
Income Tax Expense	850	826	657
Net Income	1,778	1,772	1,719
Earnings Per Share	4.79	4.53	4.39
Balance Sheet			
	At December 31, in millions		
	2020	2019	
Assets			
Current Assets	6,258	4,888	
Non-current Assets	21,808	17,485	
Total Assets	28,066	22,373	
Liabilities			
Current Liabilities	4,032	2,762	
Non-current Liabilities	13,475	9,987	
Total Liabilities	17,507	12,749	
Shareholders' Equity:			
Common stock, par value	45	43	
Capital in excess of par value	4,378	4,355	
Retained earnings	9,776	8,348	
Accumulated other comprehensive gain (loss)	16	(45)	
Repurchased common stock	(3,674)	(3,093)	
Total Shareholders' Equity	10,559	9,624	
Total Liabilities and Shareholders' Equity	28,066	22,373	

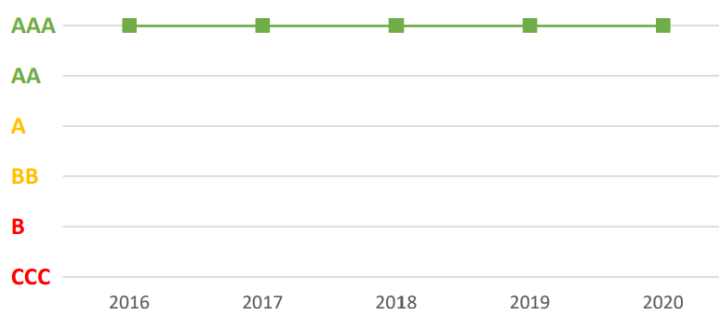
Please take some time to view this third-party environmental report of Jackson Retail.

Good Environmental Performance Condition

Jackson Retail AG Environmental Performance Report

AAA

Historical Environmental Performance



Poor	Average	Leading
	<ul style="list-style-type: none"> Biodiversity & Land Use 	<ul style="list-style-type: none"> Raw Material Sourcing Product Carbon Footprint Water Stress Packaging Material & Waste

Raw Material Sourcing - Jackson Retail received an AAA rating on the environmental impacts of the raw materials used in their products and their efforts around supply chain traceability and certification

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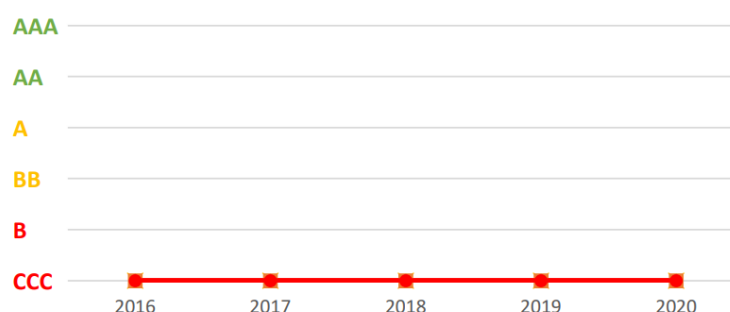
Biodiversity & Land Use - Jackson Retail received an A rating on the potential impact of their operations on biodiversity in their areas of operation and their efforts to manage the environmental impact of their operations.

Bad Environmental Performance Condition

Jackson Retail AG Environmental Performance Report

CCC

Historical Environmental Performance



Poor	Average	Leading
<ul style="list-style-type: none"> Raw Material Sourcing Product Carbon Footprint Water Stress Packaging Material & Waste 	<ul style="list-style-type: none"> Biodiversity & Land Use 	

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Key Questions

Question 1:

How attractive do you find the common stock of Jackson Retail as an investment?*

Not
Attractive

Very
Attractive

0	10	20	30	40	50	60	70	80	90	100
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*Sliding scale

Question 2:

Briefly explain your investment decision above.

Question 3:

How much did Jackson Retail's **financial** performance influence your investment decision?*

Not at all

A great
deal

0	10	20	30	40	50	60	70	80	90	100
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How much did Jackson Retail's **environmental** performance influence your investment decision?*

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*Sliding scale

Question 5:

In deciding whether to invest in Jackson Retail, how important is its **financial** performance to your investment decision?*

Not at all
important

Extremely
important

0	10	20	30	40	50	60	70	80	90	100
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In deciding whether to invest in Jackson Retail, how important is its **environmental** performance to your investment decision?*

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*Sliding scale

Manipulation Check

Question 7:

What kind of environmental performance rating did Jackson Retail receive?

☐ A Positive Rating

☐ A Negative Rating

Self-Reported Altruism Scale

Question 8:

I have helped push a stranger's car out of the snow.

Never	Once	More than once	Often	Very Often
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I have, before being asked, voluntarily looked after a neighbor's pets or children without being paid for it.

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Question 25:

I have offered to help a handicapped or elderly stranger across a street.

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Question 26:

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Question 27:

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Question 29:

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Male	Female	Non-binary / other	Prefer not to say
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Question 30:

Job Title

Question 31:

Years of Work Experience

Question 32:

Country of Residence

Question 33:

How many years have you lived in your country of residence?

Question 34:

Country/(ies) of Citizenship (Press ctrl or cmd to select multiple countries)*

*Used list of 195 countries provided by Qualtrics, changed some names from de jure to de facto (i.e. Kingdom of Eswatini to Eswatini)

Question 35:

Native Language

Academic and Financial History

Question 36:

What is/was your field of study, if any, in university? (N/A if none)

Question 37:

What graduate degrees, if any, do you have/are pursuing (N/A if none)

Question 38:

How many ***accounting*** classes have you taken?

Question 39:

How many ***finance*** or ***investment*** classes have you taken?

Question 40:

Have you invested in the stock market?

☐ Yes

☐ No

Financial History (Only displayed if answer is “Yes” to Question 40)

Question 41:

How many years have you invested in the stock market?

8.3: Experiment 2 Research Instrument (US Participants)

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Introduction

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At December 31, in millions

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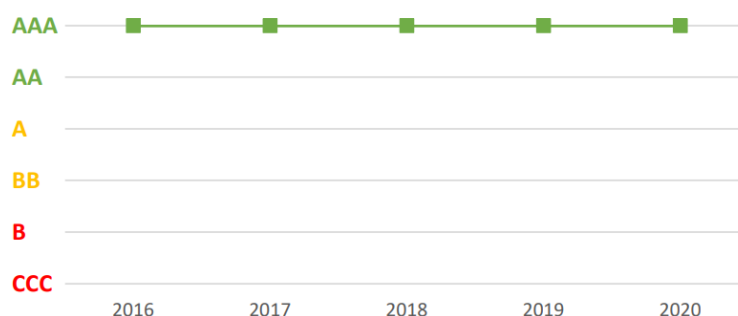
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Good Environmental Performance Condition

Jackson Retail Inc. Environmental Performance Report

AAA

Historical Environmental Performance



Poor	Average	Leading
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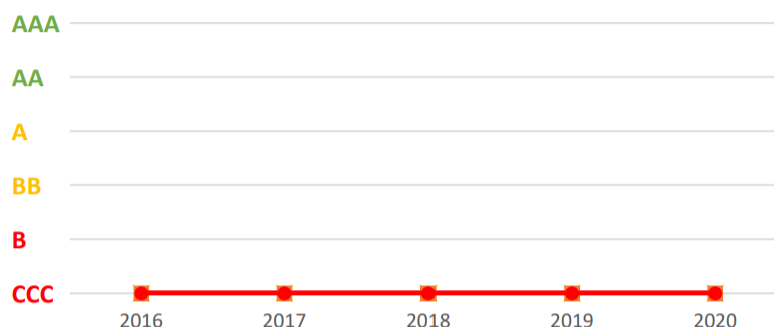
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Bad Environmental Performance Condition

Jackson Retail Inc. Environmental Performance Report



Historical Environmental Performance



Poor	Average	Leading
<ul style="list-style-type: none"> Raw Material Sourcing Product Carbon Footprint Water Stress Packaging Material & Waste 	<ul style="list-style-type: none"> Biodiversity & Land Use 	

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Key Questions

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*Sliding scale

Question 2:

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Not at all										A great deal
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*Sliding scale

Question 4:

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Manipulation Check

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What kind of environmental performance rating did Jackson Retail receive?

☐ A Positive Rating

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Question 24:

I have, before being asked, voluntarily looked after a neighbor’s pets or children without being paid for it.

Never	Once	More than once	Often	Very Often
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Question 25:

I have offered to help a handicapped or elderly stranger across a street.

Never	Once	More than once	Often	Very Often
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Question 26:

I have offered my seat on a bus or train to a stranger who was standing.

Never	Once	More than once	Often	Very Often
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Question 27:

I have helped an acquaintance to move households.

Never	Once	More than once	Often	Very Often
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Demographics*Question 28:*

Age

Under 18	18-24	25-34	34-44	45-54	55-64	65-74	75-84	85 or older
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Question 29:

Gender

Male	Female	Non-binary / other	Prefer not to say
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Question 30:

Job Title

Question 31:

Years of Work Experience

Question 32:

Country of Residence

Question 33:

How many years have you lived in your country of residence?

Question 34:

Country/(ies) of Citizenship (Press ctrl or cmd to select multiple countries)*

*Used list of 195 countries provided by Qualtrics, changed some names from de jure to de facto (i.e. Kingdom of Eswatini to Eswatini)

Question 35:

Native Language

Academic and Financial History

Question 36:

What is/was your major?

Question 37:

What graduate degrees, if any, do you have/are pursuing (N/A if none)

Question 38:

How many ***accounting*** classes have you taken?

Question 39:

How many ***finance*** or ***investment*** classes have you taken?

Question 40:

Have you invested in the stock market?

☐ Yes

☐ No

Financial History (Only displayed if answer is “Yes” to Question 40)

Question 41:

How many years have you invested in the stock market?