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## Article

# Dow Jones Sustainability Indices and ESG Scores: Do They Tell the Same Story?

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**Abstract:** The focal point of this research is to compare two of the largest global organizations' sustainability indices and scores, namely Dow Jones Sustainability Indices (DJSIs) and Standard & Poor's Global (S&P Global) ESG scores (environmental, social, and governance), which rank companies based on their sustainability practices, and to learn if they correspond to each other. Considering that Germany is the hub of large companies from leading global industries, this research compares the ESG scores of the German companies that appear on the Dow Jones Sustainability Indices. Several statistical analyses are conducted to determine if the German companies on the DJSIs correspond with high ESG scores. The years under consideration are 2018 through 2023. The results of this research indicate that DJSIs and ESG scores do not tell the same story and there are discrepancies regarding the sustainability practices of the studied companies that are added to the DJSIs and the assigned high ESG scores by S&P Global.

**Keywords:** ESG scores; Dow Jones Sustainability Indices; correlation; German companies



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## 1. Introduction

The Dow Jones Sustainability Index (DJSI), which started in 1999, traces the publicly traded companies from the leading global industries denoted on the S&P Global 1200 Index and its subsets and examines their performance along three dimensions of sustainability: economic, social, and environmental. As a result, every year, the DJSI signifies the companies that are committed to sustainable practices along social, environmental, and economic factors while deleting companies from the previous list if they no longer meet the standards of sustainability practices. Several studies have utilized DJSIs to explore the impact of the appearance of companies on DJSI lists along different dimensions, such as the companies' financial performances and their stock prices [1–5].

The ESG concept started in the 1960s when companies boycotted trade with South Africa [6]. In 2005, the ESG concept evolved into ratings along environmental, social, and governance, which was established by the United Nations Global Compact (UNGC) [7]. The ESG scores rank the companies as high (70 and above), average (below 70 to 50), and low (below 50). Both the DJSI and ESG scores use the top largest firms on the S&P Global Broad Market Index (BMI) [8].

Several studies have examined the impact of implementing the ESG principles of environmental, social, and governance on the performance of the companies [8–12]. The main focus of this study is to investigate the correlation between the companies appearing on the DJSI lists and their ESG scores and to determine if the companies on the DJSIs indicate high ESG scores (70 and above). Since Germany is the hub of large firms in top industries, such as automotive, technology, sportswear, service, and financial institutions [13–15], and in addition to being part of the European Union with the goal of a net-zero carbon emission

economy by the year 2050, German companies provide data that can address the focal point of this research. As a result, German companies on DJSI lists for the years 2018–2023 were selected for this study [14,16,17]. The ESG scores of the German companies that appeared on the DJSI lists for years 2018–2023 were examined to determine if they indicated high ESG scores (70 and above). In addition, the ESG scores of the German companies that were deleted from the DJSI lists of the previous years were inspected to see if they showed lower ESG scores (below 70) to establish the extent of the correlation when being deleted from the DJSI lists.

## 2. Literature Review

### 2.1. DJSI Impact on Listed and Deleted Companies

Research studies on the impact of being listed on DJSIs and deletion from these lists provide different discussions [1–5]. Kılıç et al. [1] studied the impact of the appearance on the DJSI lists on the financial performance of companies in two countries, South Korea, a developed country, and Turkey, a developing country. According to the result of their study, the impact of sustainability practices on the financial performance of the companies in a developed country versus a developing country differed. In South Korea, appearance on DJSI lists resulted in a positive impact on the financial performance of the company but not for the Turkish companies [1]. In addition, the authors concluded that the size of the company was a major moderating factor [1].

Schmutz et al. [2] studied the impact of the appearance of European and U.S. companies on DJSI lists (2015–2018). According to their findings, there was a negative impact on the market values of these companies when they appeared on the DJSI lists and no impact when they were deleted from the lists during the studied years except for the petroleum companies [1]. An important finding of this research was that the European Union and all the governmental policies regarding sustainability did not indicate any positive impact on the market value of the companies appearing on the DJSI lists [2].

Yilmaz et al. [3], in their study on the impact of appearance on DJSI lists or deletion from the lists in Borsa Istanbul, Turkey, during the years 2014–2017, did not indicate any impact on the market value of such companies. The authors also found that the companies that were included on the DJSI lists had a reduced risks of severe decline in their market value when faced with a serious economic crisis [3].

In another study by Lee et al. [4] regarding South Korean companies and addition to DJSI lists, the authors concluded that investors positively reacted to companies when first appearing on the DJSI lists [4]. However, this positive reaction was not from all investors, but only from the investors of public pension companies. The authors also concluded that the promotion of corporate social responsibility by the government had a very limited impact, and it only enhanced the market value of the public pension companies [4].

Searcy and Elkhawas (2012) studied the Canadian companies on DJSI lists and how these companies made use of being listed on the DJSI [5]. According to the authors, these companies took steps to stay on the DJSI list and highlighted inclusion on the DJSI list on their websites [5]. The authors recommended that improvements are needed as far as the questionnaire, increasing transparency, and also more synchronization with other agencies that report sustainability scores [5].

As indicated by the above studies, being listed on DJSIs or deleted from these lists does not indicate a consistent impact on the market value of companies.

### 2.2. ESG Scores

As mentioned above, the ESG ratings were developed by the United Nations Global Compact in 2005, measuring the extent of engagement in sustainability practices of companies along three dimensions: environmental, social, and governance [7]. Several studies have examined the ESG performance of companies and the impacts on the performance of the companies, such as their financial performance, resource efficiency, and marketing capabilities [8–12].

Clément et al. [8] discussed the inadequacy of ESG scores to measure concepts of sustainability. The authors proposed that with the popularity of ESG scores, these scores should be based more on sustainability concepts, and, in addition, their measurement and collection methodologies need to be improved [8].

Clementino and Perkins [9], in their study of Italian companies and ESG scores, concluded that companies react very differently to ESG ratings. The authors discussed the issues with ESG scores, such as ratings not being clear as far as how companies respond to the surveys [9]. The authors also concluded that the responses of companies to ESG scores depends on the beliefs of the companies' managers [9]. In addition, the study questions the claim that ESG ranking has a positive impact on the sustainability strategies of the companies [9].

In their research, Hu et al. [10] explored how ESG scores relate to efficiency in investments by companies and also their marketing capabilities. According to their findings, using a sample of U.S. companies (1991–2019), higher marketing capabilities are associated with enhanced engagement in environmental, social, and governance activities, and as a result, a higher ESG score is a result of more efficient investment activities [10].

Rajesh [11], in a study of thirty-nine Indian companies along ESG scores from 2014 to 2018, investigated the impact of ESG scores on improving the implementation of sustainability strategies in companies [11]. According to Rajesh, achieving high ESG scores requires the contribution of other scores, such as corporate social responsibility. However, other scores, such as the scores given by shareholders, management, and human rights organizations, did not affect the ESG scores for the studied Indian companies [11]. The author concluded that, for Indian companies, governance should be a major focus for enhancing ESG scores and sustainability practices [11].

The study by Tarmuji et al. [12] found support for the positive impact of ESG scores and the economic performance of the studied companies in Malaysia and Singapore [12]. According to the authors, the non-financial data of the selected companies in the two countries indicated a strong relationship between social and governance ESG scores and economic performance [12].

As evident by the reviewed literature, the results of studies on the impacts of companies being listed on DJSIs and those with high ESG scores are not well defined. Some studies [1,4] support the positive impact of being listed on DJSI lists on the market value of companies, but some other studies have not found such support [2,3]. Regarding ESG scores, some research supports the claim that ESG scores indicate engagement in sustainability practices for companies [10,12] and some do not support this [9,11]. In addition, research on the relationship between ESG scores or being listed in DJSIs and the financial or economic performance of companies in developed and developing countries is not consistent [1,2,11,12].

This study approaches this issue from a novel angle: Do high ESG scores correspond to the companies on the DJSI lists? Furthermore, when companies are deleted from DJSI lists, do their ESG scores indicate such deletions? Considering that both DJSI and ESG scores are highly prominent global sustainability indicators of companies, comparing these two global indicators is essential in exploring the impacts on sustainability practices by these companies.

### 3. Research Goals

This research concentrates on two global organizations, Dow Jones and S&P Global, and their global sustainability indicators. This study examines the companies that appear on Dow Jones Sustainability Indices and their S&P Global ESG scores that indicate the sustainability and corporate social responsibility (CSR) practices of large global companies.

ESG scores provide rankings based on how firms treat their employees, if the board practices shared governance in decision-making, and if the environmental issues are taken into consideration [8]. DJSIs provide information in regard to the economic, social, and environmental stances of the largest firms that are publicly traded across the globe. The

information made available by both the DJSIs and ESG scores provide data for investors in global publicly traded firms. Considering that both DJSI and ESG scores are highly prominent global sustainability indicators of companies, comparing these two global indicators is essential in exploring the impacts on sustainability practices by companies.

This study approaches this issue from a novel angle and explores the following:

1. Do high ESG scores correspond to the companies on DJSI lists?
2. When companies are deleted from DJSI lists, do their ESG scores indicate such deletion?

In order to explore the above questions, we tested the following hypotheses:

1. The appearance of companies on the yearly DJSI list corresponds to high ESG scores (70 and greater) for the same companies.
2. The deletion of companies from the yearly DJSI list corresponds to lower ESG scores (<70) for the same companies.

To examine the correspondence between companies on DJSI lists and having high ESG scores, we selected the German companies on the DJSI lists within the years 2018 to 2023. As mentioned above, Germany is the hub of some of the largest publicly traded firms in the world, and, as a member of the European Union, Germany is to achieve a net-zero carbon emission economy by the year 2050.

The data for this research include the following:

1. German firms on DJSI lists for years 2018 through 2023.
2. The ESG scores of German firms on DJSI lists for the years 2018 through 2023.

Comparing the firms on the DJSI lists with their ESG scores is a novel approach to investigate the validity of the information provided by Dow Jones and S&P Global, which indicates sustainable and responsible business practices of the large publicly traded global firms. The major focus of the research per proposed the hypotheses is to investigate if the German companies that have appeared on the DJSIs indicate high ESG scores (70 and greater), which is an indication of the extent of the sustainability practices of these firms.

#### 4. Data and Methods

ESG scores take into consideration the strategies of a company along environmental, social, and governance dimensions. These scores rank companies based on how thoroughly they deal with the health and the welfare of employees, CSR, carbon emission, and climate change in addition to respecting diversity, equity, and inclusion (DEI) [8].

As explained previously, German firms are among the top largest companies in global industries. As a result, the German firms appearing on DJSI lists from 2018 through 2023 were selected for this research. The data to test the proposed hypotheses were from the S&P Global site. The ESG scores were collected by entering the name of each company on the S&P Global site, and the company data on the Dow Jones Sustainability World Index for each year were obtained from the S&P Global site. [13–17]. The list of the German firms that appeared on the Dow Jones Sustainability lists from 2018 through 2023 and their ESG scores are presented in Tables 1–6 [13–17].

As presented in Tables 1–6, two firms, Deutsche Bank and Hugo Boss AG, on the DJSI 2018 list were deleted from the DJSI 2019 list. No high ESG firm was deleted from the list of firms on the DJSI 2019 to the list of firms on the DJSI in 2020. One firm, Adidas, listed on the DJSI 2020, was deleted from the DJSI 2021 list. BMW, listed on the DJSI 2021 list, was deleted from the DJSI 2022 list. For the DJSI 2023 list, Fresenius Medical Care AG & Co. KGaA was removed on the DJSI list of 2022. Munich RE did not have any ESG scores and according to the company, they no longer take part in the ESG evaluation [16].

We then examined the ESG scores of German firms that were added to the DJSI lists in 2019, 2021, 2022, and 2023 that had ESG scores lower than 70 and also the ESG scores of German firms that were deleted from DJSI lists throughout the years under study. These results are presented in Tables 7 and 8.

**Table 1.** German firms on the DJSI list and the ESG scores, 2018.

#	2018—DJSI List	ESG High 70 and Greater	ESG Avg. < 70–50	ESG Low < 50
1	SAP SE	70		
2	Adidas		64	
3	Allianz	85		
4	BMW	74		
5	Deutsche Bank		53	
6	Deutsche Börse AG		63	
7	Deutsche Post AG	73		
8	Deutsche Telekom	83		
9	Infineon Technologies AG	78		
10	Hugo Boss AG	80		
11	Lanxess AG	84		
12	Metro AG	76		
13	Munich RE	76		
14	Siemens AG	79		

**Table 2.** German firms on the DJSI list and the ESG scores, 2019.

#	2019—DJSI List	ESG High 70 and Greater	ESG Avg. < 70–50	ESG Low < 50
1	SAP SE		69	
2	Adidas	85		
3	Allianz	88		
4	BMW	78		
5	Deutsche Börse AG		63	
6	Deutsche Post	72		
7	Deutsche Telekom	86		
8	HOCHTIEF AG	76		
9	Infineon Technologies AG	79		
10	Lanxess AG	85		
11	Metro AG	82		
12	Munich RE	79		
13	Siemens AG	79		

**Table 3.** German firms on the DJSI list and the ESG scores, 2020.

	2020—DJSI List	ESG High 70 and Greater	ESG Avg. < 70–50	ESG Low < 50
1	SAP SE	74		
2	Adidas	82		
3	Allianz	85		
4	BMW	80		
5	Deutsche Börse AG		67	
6	Deutsche Post	70		
7	Deutsche Telekom	89		
8	HOCHTIEF AG	75		
9	Hugo Boss AG	86		
10	Infineon Technologies	81		
11	Lanxess AG	87		
12	Metro AG	81		
13	Munich RE	80		
14	Siemens AG	81		

**Table 4.** German firms on the DJSI list and the ESG scores, 2021.

#	2021—DJSI List	ESG High 70 and Greater	ESG Avg. < 70–50	ESG Low < 50
1	SAP SE	79		
2	Allianz SE	89		
3	BMW	74		
4	Deutsche Börse AG	73		
5	Deutsche Post	70		
6	Deutsche Telekom	91		
7	Infineon Technologies	83		
8	Munich RE AG	86		
9	Siemens AG	81		
10	HOCHTIEF AG	76		
11	Hugo Boss AG	86		
12	Metro AG	77		
13	Lanxess AG	88		

**Table 5.** German firms on the DJSI list and the ESG scores, 2022.

#	2022—DJSI List	ESG High 70 and Greater	ESG Avg. < 70–50	ESG Low < 50
1	SAP SE	80		
2	Allianz SE		60	
3	Deutsche Börse AG	79		
4	Deutsche Post	71		
5	Deutsche Telekom AG	94		
6	Fresenius Medical Care AG & Co. KGaA	72		
7	HOCHTIEF AG	76		
8	Hugo Boss AG	88		
9	Infineon Technologies	83		
10	Lanxess AG	85		
11	Metro AG	78		
12	Munich RE	80		
13	Siemens AG	81		

**Table 6.** German firms on the DJSI list and the ESG scores, 2023.

#	2023—DJSI List	ESG High 70 and Greater	ESG Avg. < 70–50	ESG Low < 50
1	SAP SE	71		
2	Allianz SE	82		
3	Deutsche Börse AG	71		
4	Deutsche Post		66	
5	Deutsche Telekom AG	90		
6	GEA Group Aktiengesellschaft	75		
7	HOCHTIEF AG	72		
8	Hugo Boss AG	88		
9	Infineon Technologies	77		
10	Lanxess AG	79		
11	Metro AG		66	
12	Munich RE	N/A		
13	Siemens AG	78		

**Table 7.** German firms added to the DJSI lists, 2019–2023, and their corresponding ESG scores.

#	On the DJSI Lists	ESG High 70 and Greater	ESG Avg. < 70–50	ESG Low < 50
1	Adidas (2018)		64	
2	Deutsche Bank AG (2018)		53	
3	Deutsche Börse AG (2018)		63	
4	SAP SE (2019)		69	
5	Deutsche Börse AG (2019)		63	
6	Deutsche Börse AG (2020)		67	
7	Allianz SE (2022)		60	
8	Deutsche Post (2023)		66	
9	Metro AG (2023)		66	

**Table 8.** German firms deleted from the DJSI lists, 2019–2023, and their corresponding ESG scores.

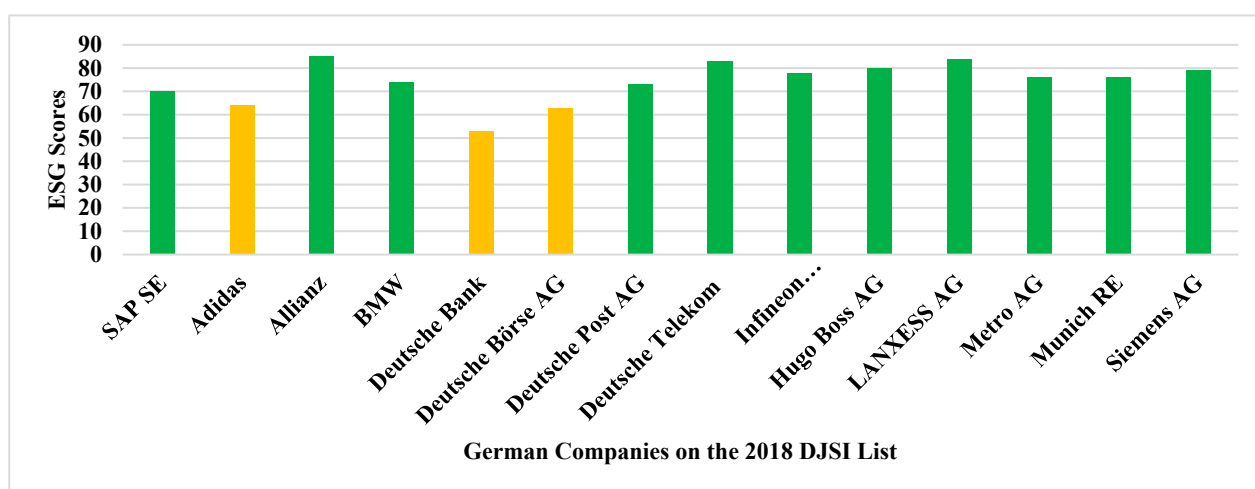
#	Deleted from the DJSI Lists	ESG High 70 and Greater	ESG Avg. < 70–50	ESG Low < 50
1	Deutsche Bank AG (in 2019)			48
2	Hugo Boss AG (in 2019)	77		
3	Adidas (in 2021)	82		
4	BMW (in 2022)		58	
5	Fresenius Medical Care AG & Co. KGaA (in 2023)		62	

As indicated in Table 7, several companies on the DJSI lists did not indicate high ESG scores of 70 and above. In addition, Table 8 indicates that Hugo Boss AG was deleted from the DJSI list in 2019 and Adidas was deleted from the DJSI list in 2021, where both show high ESG scores of 77 and 82, respectively.

Statistical analyses, including bar graphs, cluster bars, and scatter plots were used to investigate the proposed hypotheses.

## 5. Results

Several bar graphs for the years 2018 through to 2023 were plotted. The results of these analyses are presented in Figures 1–6. The X-axis in each table represents the German firms on the DJSI and the Y-axis represents the corresponding ESG scores. The bars in green indicate companies with high ESG scores (70 and greater), the orange bars represent average ESG scores (69 to 50), and the reddish bars indicate low ESG scores (below 50).

**Figure 1.** DJSI and ESG score bar graph for 2018.

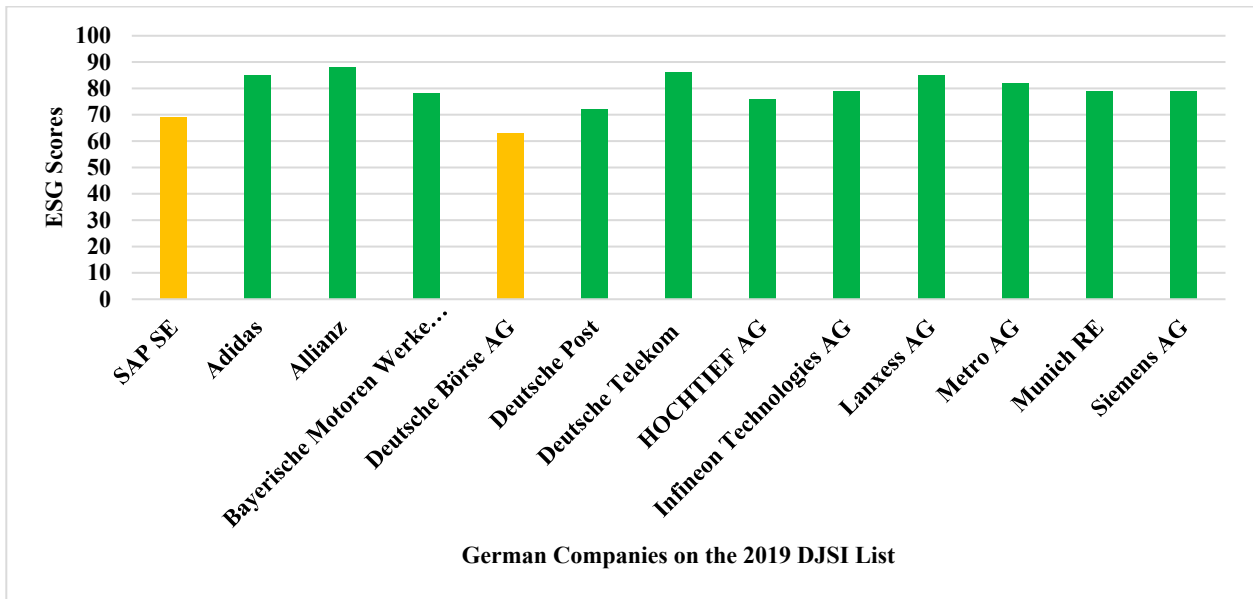


Figure 2. DJSI and ESG score bar graph for 2019.

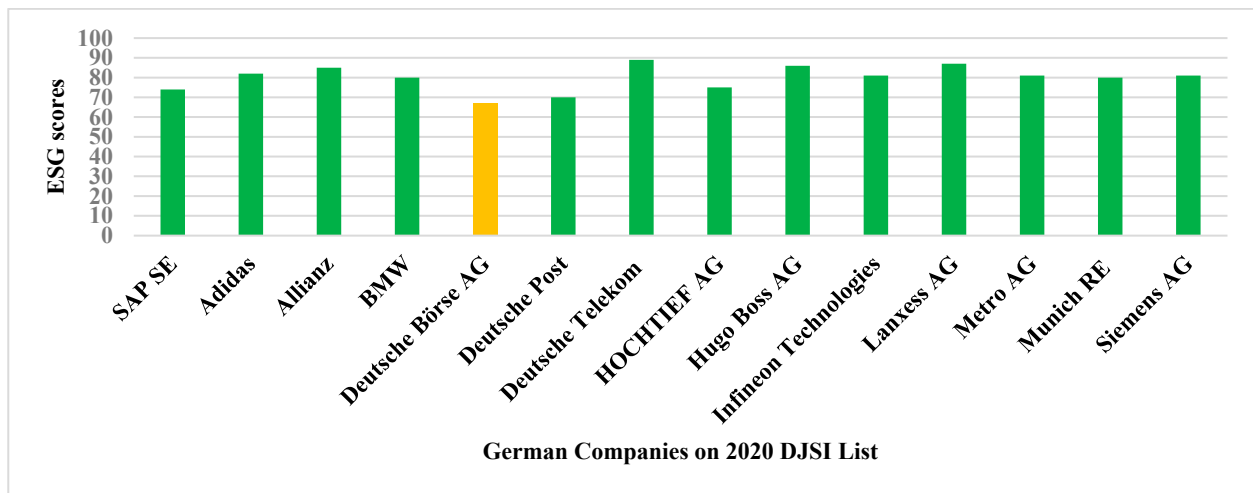


Figure 3. DJSI and ESG score bar graph for 2020.

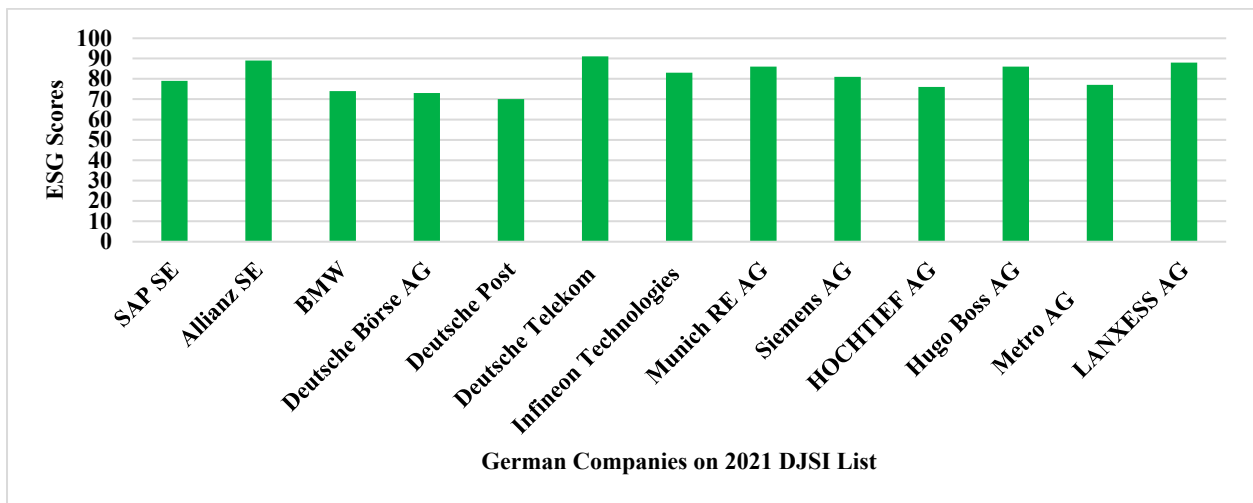


Figure 4. DJSI and ESG score bar graph for 2021.



Figure 5. DJSI and ESG score bar graph for 2022.

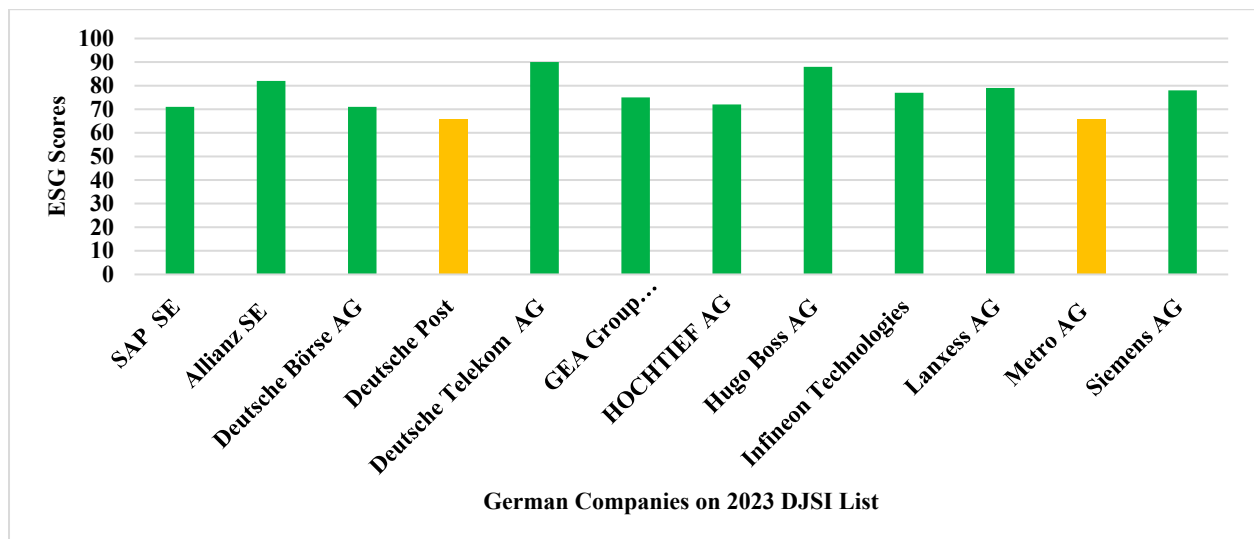


Figure 6. DJSI and ESG score bar graph for 2023.

As indicated in Figures 1–6, the only year that firms on the Dow Jones Sustainability Indices lists matched high ESG scores starting at 70 and above was 2021 (Figure 4). In 2018, as indicated in Figure 1, three firms on the DJSI list, Adidas, Deutsche Bank, and Deutsche Börse AG, did not indicate high ESG scores (orange bars). Investigating if the companies that did not indicate a high ESG score while on the DJSI list belonged to a particular industry, our research indicated two industries, financial services and textile footwear [18–20].

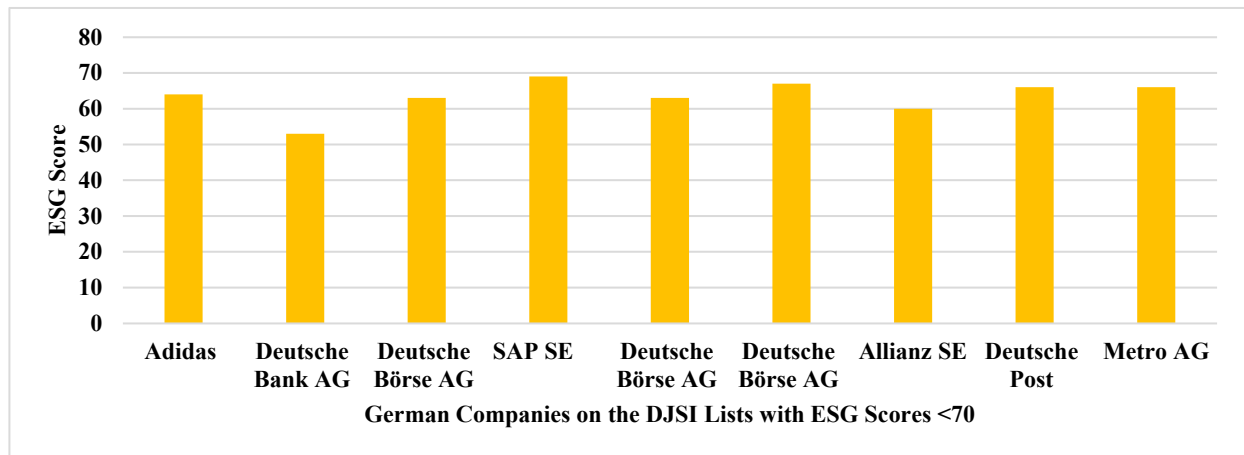
Figure 2 indicates that, in 2019, two firms on the Dow Jones Sustainability Index list, SAP SE and Deutsche Börse AG, did not have high ESG scores (orange bars). The industries related to these companies that were on the DJSI list in 2023 but did not indicate high ESG scores were financial services and technology [19,21]. Figure 3, for 2020, shows that one firm on the DJSI list, Deutsche Börse AG, indicated a score lower than 70 for ESG (orange bar) and belonged to the financial services industry [19].

Figure 4, for the year 2021, indicates high ESG scores (70 and greater) for all the German firms on the DJSI list.

Figure 5, for the year 2022, indicates that one firm on the DJSI list, Allianz SE (financial services and insurance industry) [22], did not show a high ESG score of 70 or above, but only an ESG score of 60.

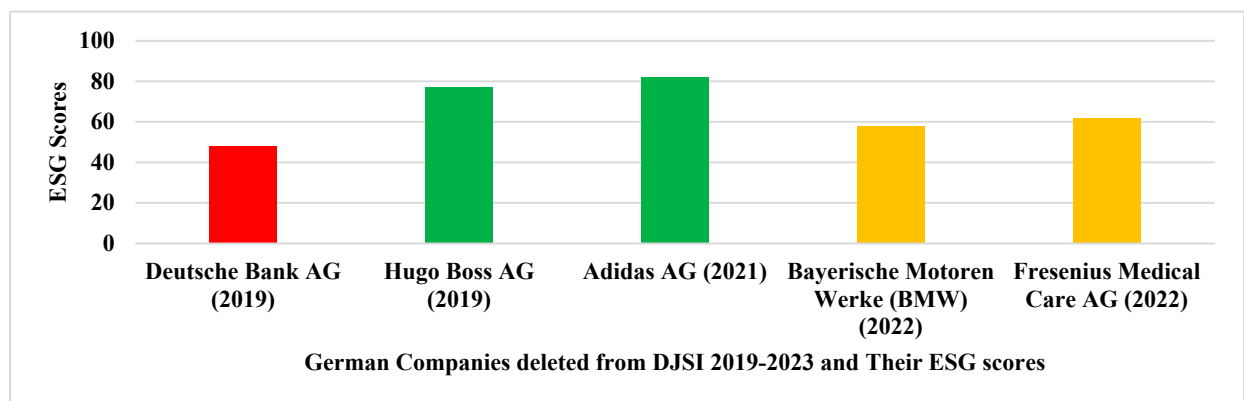
Figure 6, for the year 2023, indicates that two firms on the DJSI, Deutsche Post (shipment industry) [23] and Metro AG (wholesale food industry) [22], did not have high ESG scores (70 and greater). From these results, it appears that firms being listed on DJSI lists and high ESG scores do not fully correspond with each other.

Figure 7 presents a bar graph based on the information on Table 7 that shows several German companies that were on the DJSI lists from 2018 through 2023 with all featuring ESG scores below 70.



**Figure 7.** Bar graph for the German firms on Table 7 that were on DJSI lists with ESG scores <70: 2018, 2019, 2020, 2022, 2023.

Figure 8 provides bar graphs for the German firms on Table 8 that were deleted from the DJSI 2019, 2021, 2022, and 2023 lists.



**Figure 8.** Bar graph for the German companies on Table 8 that were deleted from DJSI lists and their ESG scores: 2019–2023.

As indicated in Figure 8, two firms were deleted from the DJSI list: Hugo Boss AG deleted in 2019, had a high ESG score of 77, and Adidas AG, which was deleted in 2021, had high ESG score of 82. Three companies deleted from the DJSI lists in 2019, 2022, and 2023 showed low ESG scores: Deutsche Bank AG, with an ESG score of 48, deleted from the DJSI list in 2019; BMW, with an ESG score of 58, deleted from the DJSI list in 2022; and Fresneius Medical Care, with an ESG score of 62, deleted from the DJSI list in 2023. However, two firms (Adidas AG and Hugo Boss AG) that were deleted from the DJSI list still indicated high ESG scores (77 and 82).

To further investigate the discrepancies between companies' ESG scores and appearance on DJSI lists, we conducted clustered bar visualization of the German firms on the DJSI lists for the years 2018–2023 and their corresponding ESG scores. The results are presented in Figures 9–14. The high ESG scores (70 and greater) are indicated by blue bars (X) and average ESG scores (69 to 50) are represented by the orange bars (Y).

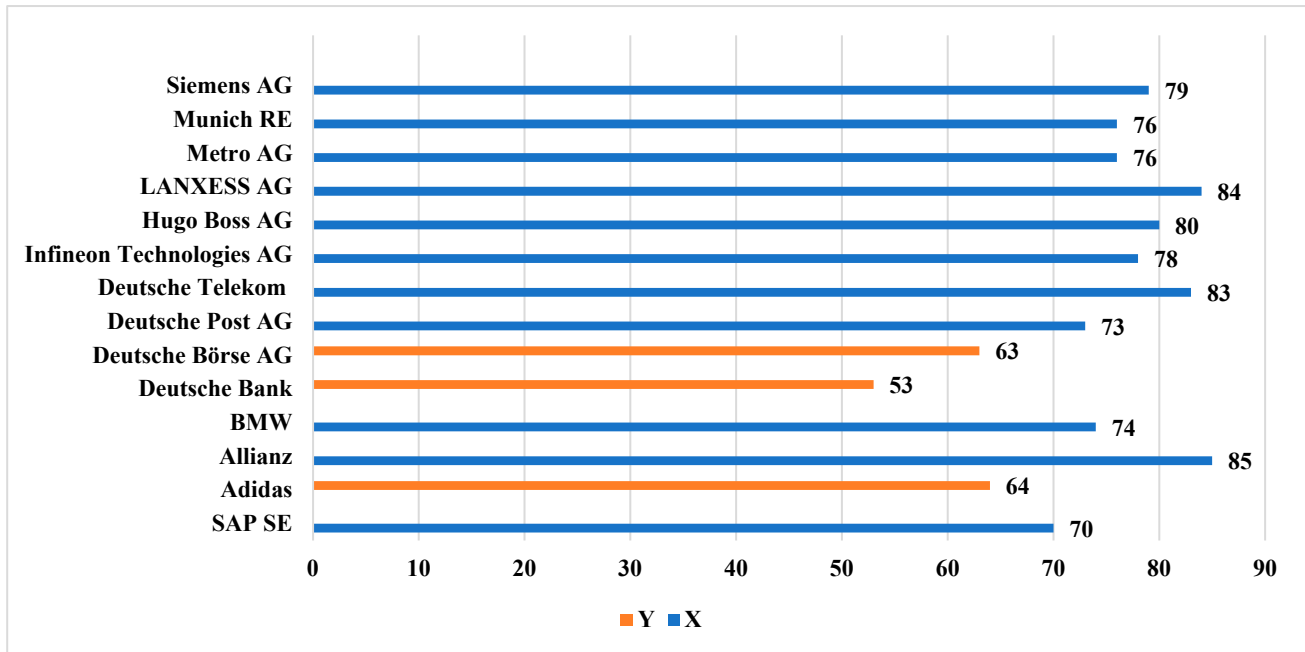


Figure 9. Clustered bar chart: German firms on the DJSI list and their ESG scores for 2018.

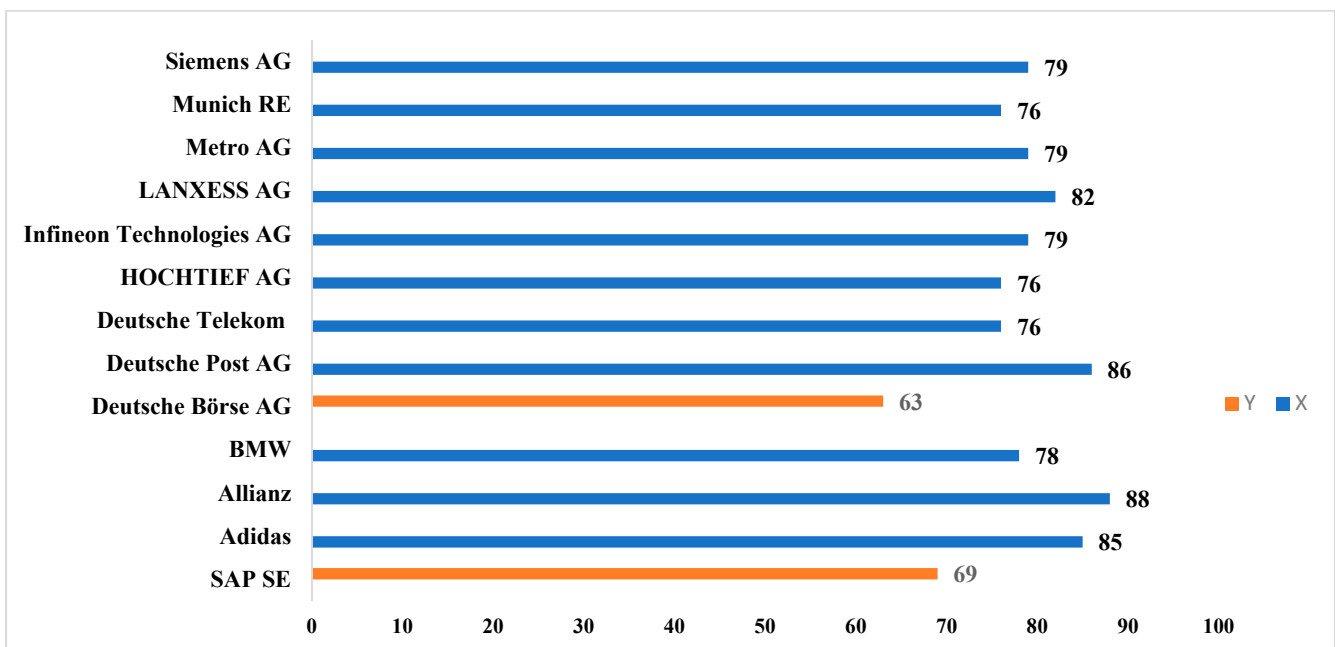


Figure 10. Clustered bar chart: German firms on the DJSI list and their ESG scores for 2019.

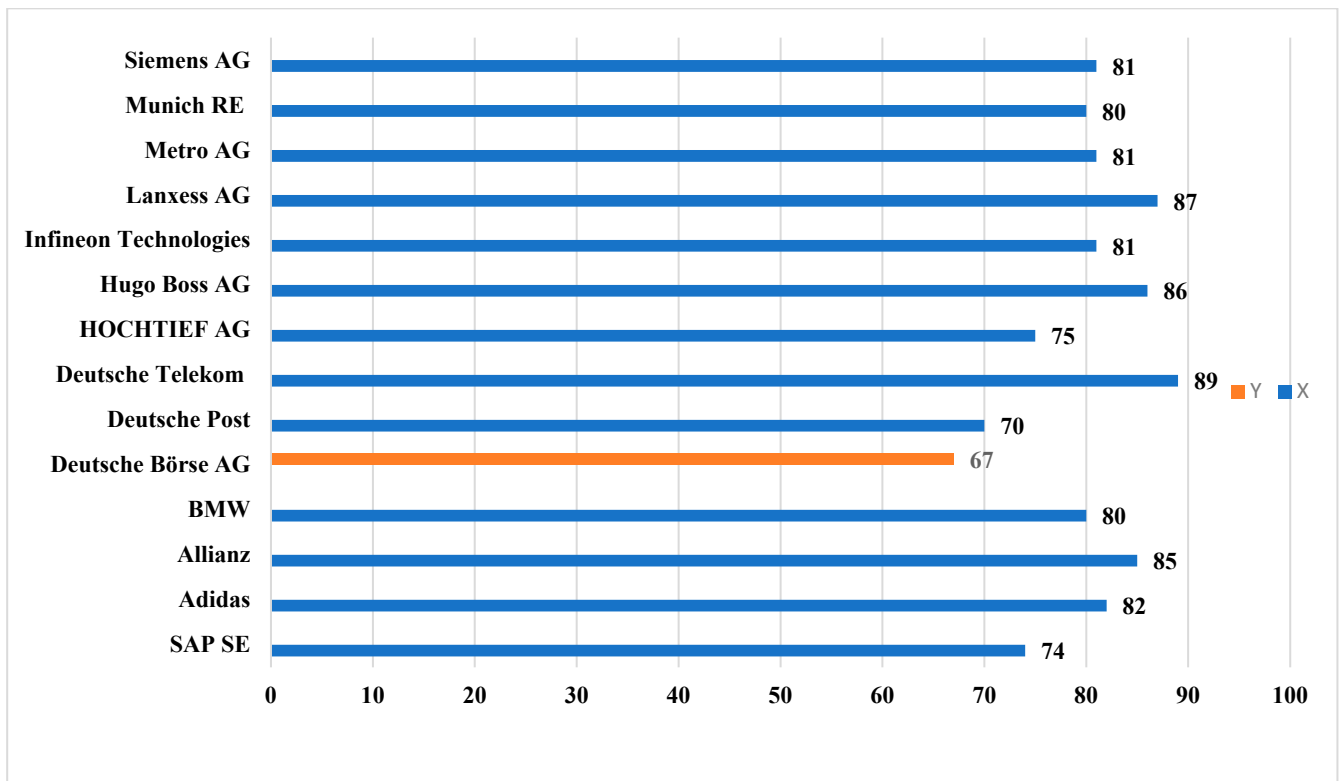


Figure 11. Clustered bar chart: German firms on the DJSI list and their ESG scores for 2020.

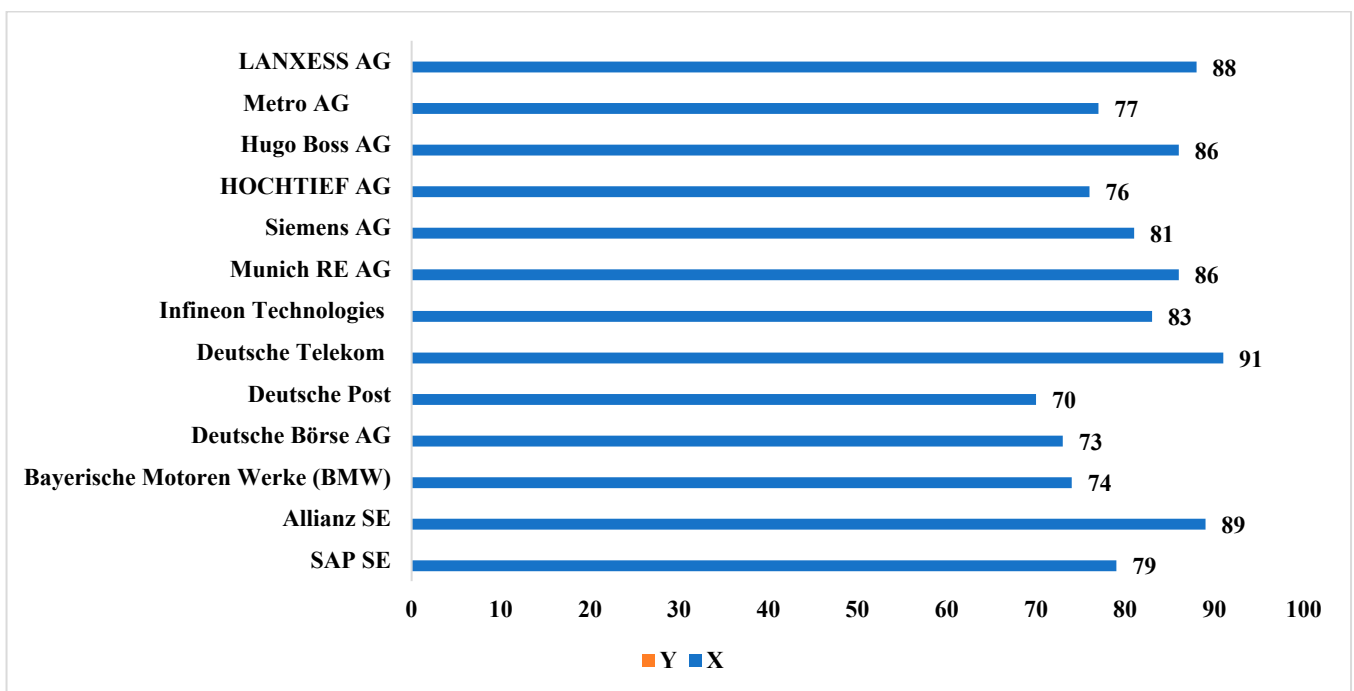


Figure 12. Cluster bar chart: German firms on the DJSI list and their ESG scores for 2021.

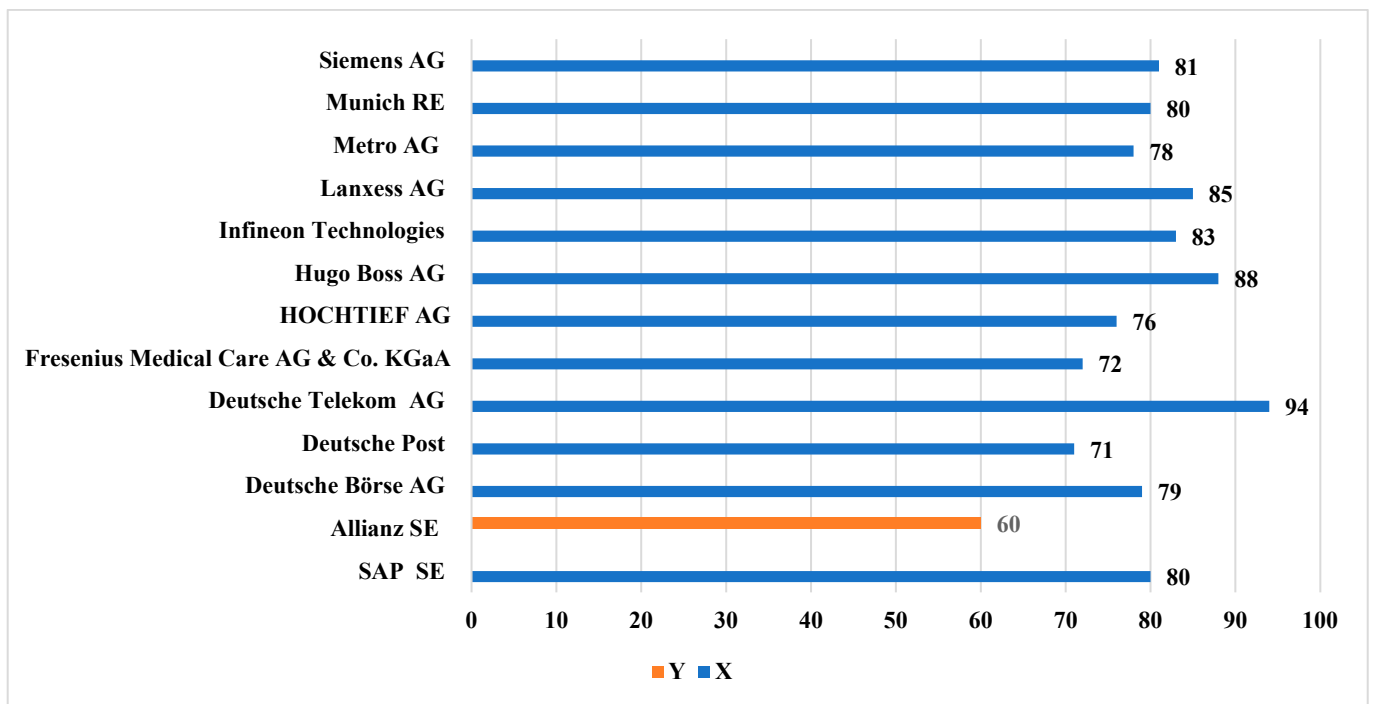


Figure 13. Cluster bar chart: German firms on the DJSI list and their ESG scores for 2022.

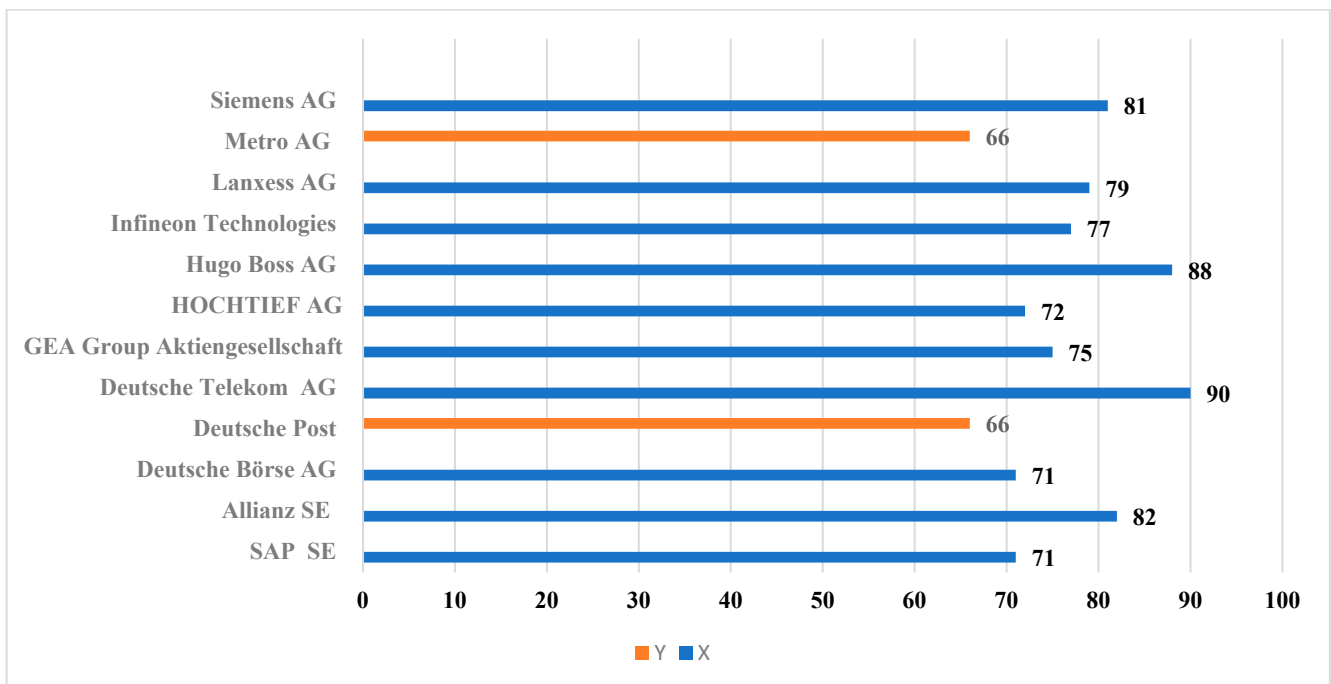


Figure 14. Cluster bar chart: German firms on the DJSI List and their ESG scores for 2023.

As indicated in the clustered bar charts in Figures 9–14, the DJSI lists for 2018, 2019, 2020, 2022, and 2023 all indicate that some of the companies on the lists did not have high ESG scores (70 and greater). Companies with ESG scores lower than 70 on the DJSI lists during these years are indicated by orange bars. The companies on the 2021 DJSI list all indicated a high ESG score of 70 and greater as indicated by blue bars in Figure 12. However, as presented in Figure 8, Adidas, with a high ESG score of 82 for 2021, did not appear on the DJSI 2021 list. In addition, Hugo Boss AG was deleted from the DJSI list in 2019 indicated a high ESG score of 77, as shown in Figure 8.

As a result, appearance on DJSI lists does not fully correspond with high ESG scores and deletion from DJSI lists does not fully correspond to low ESG scores, as indicated by Hugo Boss AG being deleted from the DJSI list in 2019 with an ESG score of 77, in addition to Adidas being deleted in 2021 with a very high ESG score of 82, as presented in Figure 8.

To provide an aggregated comparison, two scatter plots were generated, shown in Figure 15, with the Python programming language and the pyplot module of the Matplotlib plotting library, additionally in Figure 16 using Excel 2016.

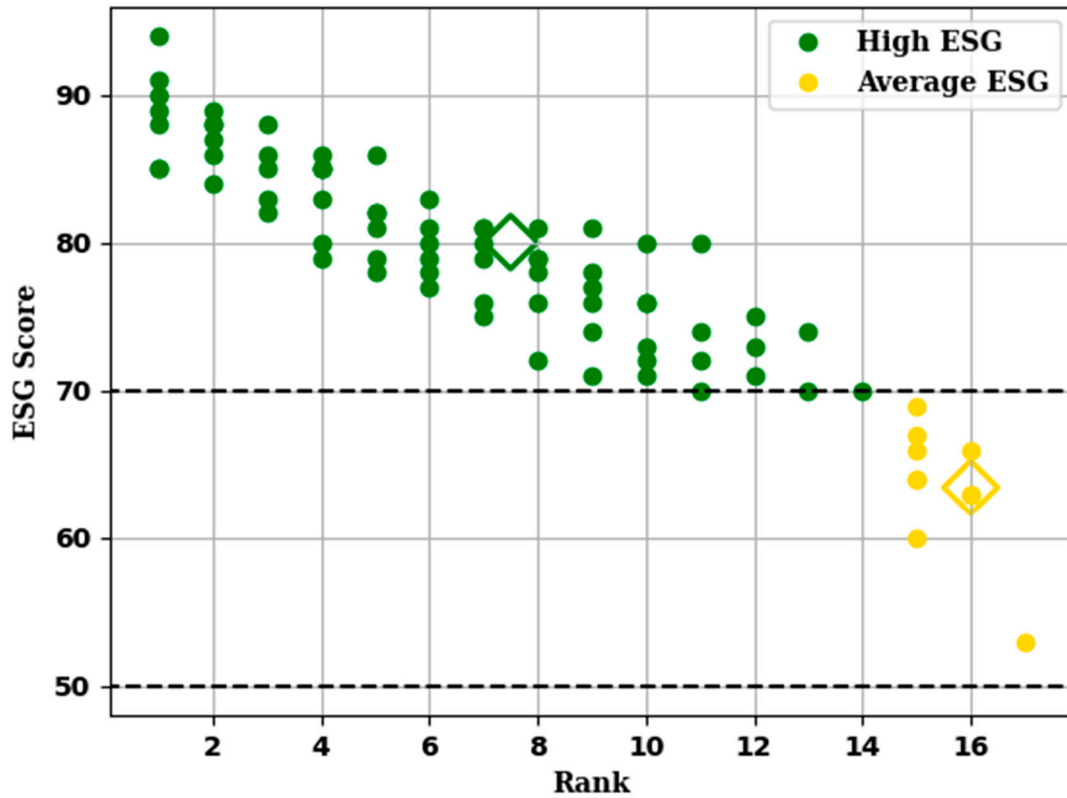


Figure 15. ESG score scatter plot for the German firms on the DJSI from 2018 to 2023.

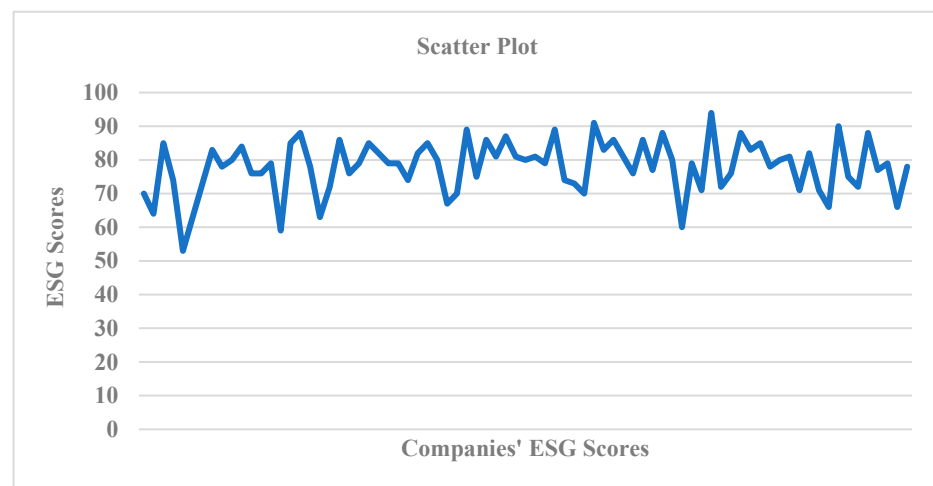


Figure 16. ESG score scatter plot for the German firms on the DJSI lists: 2018–2023.

As shown in Figure 15, the ESG scores are color coordinated and the diamonds represent cluster centroids, and the Y-axis indicates the ESG scores of the German firms on the DJSI and their corresponding ESG scores. The scatter plot provides a comprehensive visualization for all data shown in Tables 1–6. The X-axis represents the ranking of the

ESG scores of the German firms that appeared on the DJIs, from high to low, for the years 2018–2023. The Y-axis depicts the corresponding ESG score of each firm. For example, the scatter plot points representing a rank equal to one depict the highest German firm ESG scores for years 2018–2023, while a rank equal to two depicts the second highest ESG scores for the years 2018–2023. The green datapoints represent high ESG scores (70 and greater) and yellow points depict average-valued ESG scores (<70–50). There were seven duplicate scores between the years 2018–2023. As a result, 67 total data points are presented in the scatter plot. Finally, a diamond shaped point representing the mean values of the high and average ESG scores was plotted to provide a visual representation of the overall central tendencies of these scores.

Figure 16 presents another scatter plot created using Excel. The X-axis represents the ESG scores of the German companies on the DJSI lists of 2018–2023 and the Y-axis indicates the ESG scores ranging from 0–100. As shown in the scatter plot, not all the companies had ESG scores above 70. Out of 79 German companies on the DJSI lists of 2018–2023, 11.39% had ESG scores below 70.

## 6. Discussion

In this research, we have selected German firms on the DJSI lists for the years 2018 through to 2023 and delineated their ESG scores for the same years. As indicated in the above figures, except for the year 2021, the results of the statistical analyses indicate that not all German firms listed on the DJSI corresponded to high ESG scores (70 and greater). In addition, deletion from the yearly DJSI list did not seem to result in lower ESG scores, as represented by the deletion from the DJSI list for Hugo Boss AG in 2019 and Adidas in 2021, where both indicated high ESG scores for those years. In 2021, the DJSI list did not include any companies with an ESG score lower than 70, yet it did not include Adidas, which had an ESG score of 82.

As a result, the extent of sustainability practices, such as environmental, social, and governance, indicated by high ESG scores (70 and greater), and appearance on DJSI lists do not clearly correspond with each other. Based on the information provided in Tables 1–8, followed by the statistical analyses presented in Figures 1–16, the proposed hypothesis that the appearance of companies on DJSI lists correspond to high ESG scores is not supported. In addition, the second proposed hypothesis that deletion from DJSI lists corresponds with ESG scores lower than 70 is not supported either. Considering that both ESG scores and DJSI lists are to provide information to the public and investors regarding the responsible business practices of companies, more attention needs to be paid as far as how these indicators can provide analogous information.

The potential of Dow Jones Sustainability Indices and the ESG rankings of companies conducted by Standard & Poor's Global regarding sustainability and providing information about the environmental, social, and governance practices of the companies across the globe is extremely important in enhancing education of the general public and different stakeholder groups, such as stockholders, customers, and environmental groups.

## 7. Conclusions

The major goal of this research was to investigate if appearance on the DJSI list is correlated with high ESG scores for companies. This research is a novel approach in exploring if the two major sources of data indicating sustainability and responsible business practices of the largest global companies tell us the same story.

The findings of this research indicate that there are discrepancies regarding the sustainability practices of the studied companies that are added to the DJSI lists and the assigned high ESG scores by S&P Global (70 and greater). In addition, companies are deleted from DJSI lists even when they indicate high ESG scores. As a result, these two major global indices do not tell the same story. This study indicates that more accurate information is needed to highlight the sustainability practices of companies.

As some of the reviewed literature indicates [8,9,11], determining how these scores are collected requires more scrutiny. Are average ESG scores (69–50) sufficient for the companies to appear on Dow Jones Sustainability Indices? How are these scores gathered? Is any research conducted by S&P Global regarding the provided information before ESG scores are designated for the companies?

Appearance on DJSI lists for publicly traded companies and the impacts on the stock prices of such companies have been investigated in several studies [1–5]. DJSIs and ESG scores are indicators of responsible business practices by corporations. As a result, their correspondence and accuracy of information are highly important to the public and investors across the globe.

Future research on accurate indices and ESG scores, how they are collected, and which criteria are used to rank these companies is highly important to clarify and unify the very important information regarding the sustainability and responsible business practices of the largest companies within the top industries across the globe.

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**Conflicts of Interest:** The authors declare no conflicts of interest.

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