# Fashion Retail, Stock Market And Sustainability: a Covid-19 perspective

## Varejo de moda, mercado de valores e sustentabilidade: uma perspectiva da Covid-19

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**ABSTRACT:**

The fashion industry has long been criticized for its social and environmental impact. To address this problem a new sustainability index has been proposed by the Business of Fashion. This article discusses the relationship of this index with investments performance of fashion listed companies within a Covid-19 background. The main reason why this study was carried out is because sustainability has long been presented as a basic requirement for the survival of companies in the future. However, the level of commitment with sustainability of the biggest players in this industry varies considerably and, in the first BoF first report, scores were low. The question that this context rises is: should investment decision be based on this index? To pursue the goal of analyzing the relationship between the sustainability score and the financial performance, the recently created Business of Fashion (BoF) sustainability index is compared to the earnings per share (EPS) disclosed annually. The companies researched are: Kering, PVH Corp, Hermès International, LVMH, Richemont, H&M group, Levi Strauss & Co, Inditex, Gap Inc, Fast retailing, Nike, Puma, VF Corp, Adidas and Under Armour. The analysis indicates a lack of correlation between the index and the earning per share (EPS) of the studied companies. However, the existence of an outlier, which has the lowest score and the worst earning per share (EPS) could be considered as an indicator that if there is no guarantee that lower levels of sustainability mean low returns, investing in companies that disregard sustainability might mean bad investment decisions. This paper contributes to two research areas: sustainability and investment decisions by

providing a comparison between a sustainability index and the earnings per share (EPS) of fifteen listed companies.
**Keywords:** sustainability; fashion; investments; index.

## INTRODUCTION

Sustainability has long been presented as a basic requirement for the survival of companies in the future. In the fashion industry, which accounts for a market worth of US$ 3.5 trillion, according to a research carried out McKinsey and turned into a benchmark by the Business of Fashion (BoF) (Kent, 2021) the level of commitment with sustainability of the biggest players in this sector varies considerably.

The importance of this market for the global economy and the size of the companies analyzed in the FoB benchmark is the basis for the proposed central question of this research: during the pandemic, is the level of sustainability correlated to the quality of the stock performance?

To answer this question, data collected from the stock market where these companies are listed are analyzed and then compared to the results of the FoB sustainability benchmark. Before that, a few concepts are presented followed by the method of this research. After the discussion of the data and the conclusion of the assessment, a proposal for future research is also suggested.

## 1. Literature review

Throughout the years, a plethora of resources were developed to help stakeholders evaluate the level of organizations' commitment to sustainability. Among them, we might cite the Global Reporting Initiative (GRI) (Global Reporting Iniative (GRI), 2021) , the Carbon Disclosure Project (CDP) (CDP, 2021) and, as an example of an specific industry report, the Global Real Estate Sustainability Benchmark (GRESB) (GRESB, 2021).

In fashion, sustainability issues have long been under the spotlights. The United Nations Environmental Programme (UNEP) (2021), for example, has reported that the fashion industry is responsible for 2 to 8% of total global Green House Gas (GHG) emissions and that textile dyeing is the second largest polluter of water globally. Supported on data, the message the UNEP is striving to pass is clear:

the fashion market must fight for a more sustainable world. Bearing in mind the maxim "we can't manage what we don't measure", it is reasonable to believe that an established benchmark for fashion sustainability is strongly required. Hence, one could believe that a well-established system to measure fashion sustainability has long been in the market. This is not the case (Ardizzoia, 2020). To fill this gap, the Business of Fashion (Kent, 2021) has proposed an evaluation system that, although has been introduced with notable limitations seems to be an appropriate tool for the purpose of this article.

## 1.1. The BoF sustainability index

According to the BoF, the sustainability index "aims to create a transparent and trusted benchmark to track clearly defined, measurable progress towards achieving sustainability goals in the fashion industry" (Kent, 2021). In its first edition, the average of 36 out of 100 possible points are an indicator that there are still plenty of opportunities for these companies to improve their performance.

Considering that increasing their score is of utmost importance, the FoB proposes and index to serve also as guide with the following structure (Kent, 2021):

a) The index is divided in six categories: transparency, emissions, water chemicals, materials, workers' rights, and waste.
b) The system is composed by 338 yes or no questions.
c) 15 of the largest listed companies were chosen for the first report.
d) The chosen companies were divided in luxury, high street and sportswear.
e) The luxury companies are Kering, PVH Corporation, Hermès, LVMH and Richemont.
f) The high street companies are H&M group, Levi Strauss & Co, Inditex, Gap Inc and Fast retailing.
g) The sportswear division is composed by Nike, Puma, VF Corp, Adidas and Under Armour.
h) A total of 5.000 data points were collected.

The graphic representation of the structure is presented in figure 1. An overall company store, an overall category score, a company category score and a target score which is a mean average

of the fifteen companies score within an individual target (Kent, 2021, p. 31).
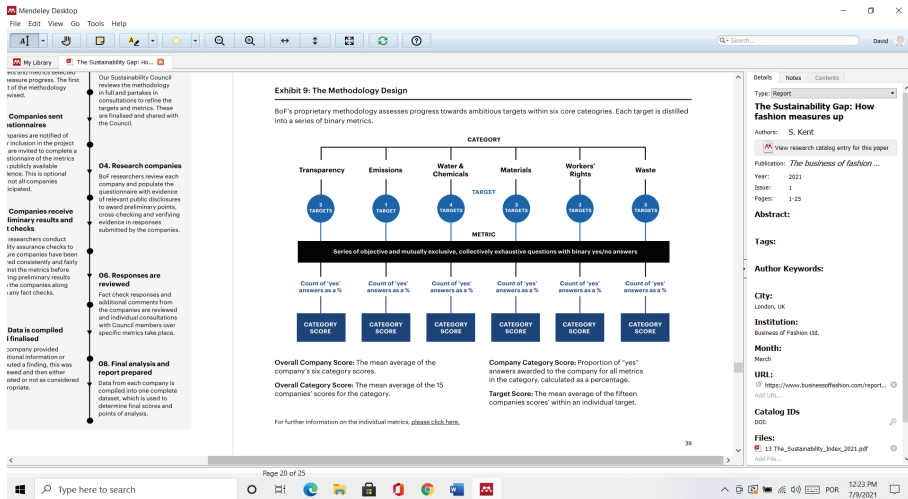


*Figure 1 - The Methodology Design*

Source: Kent (2021, p. 31)

After reviewing de importance and the approach given to sustainability, the obvious next step for the purpose of this article is to address the concept of the stock market as all the companies studied are listed.

## 1.2. The securities and exchange industry

The role that the securities and exchange industry performs is to facilitate the execution of orders and, therefore, allow the efficient allocation of capital flows to investment opportunities (Floreani & Polato, 2014). As the authors explain: "the exchange industry addresses the demands of two types of customers: issuers seeking finance at a low cost of capital, and investors wishing to trade bearing lower transaction costs and at reliable prices." They add that it is not easy to define it due to the great flexibility that characterize it.

Floreani and Polato (2014) also explain that the function of the securities industry may be summarized by the: realization and

organization of securities trading, the elimination or reduction of information asymmetries between the buyer and seller of securities, the reconciliation of the diverging preferences and different attitudes of the parties involved, thus increasing the willingness to trade, the provision of a wide scope of advisory services and, finally, the portfolio management.

All these five elements can as well explain why a company would choose to call on to the securities and exchange market to trade their stocks (Floreani & Polato, 2014).

## 1.3. Sustainability and the stock market

The link between the performance of listed companies and sustainability has been properly addressed by Deng & Cheng, (2019). The authors, associating environmental, social, and corporate governance (ESG) to sustainability, exemplify and study the relationship between these two variables: sustainability and stock performance. In their study they mention the existence of different indexes to measure the sustainability of the companies and, therefore, the possibility of using them as tool for their proposed analysis. Among their findings they highlight the existing impact of sustainability in particular types of companies (non-state-owned enterprises), at least, where the research was carried out: China.

For the purpose of this research, Deng and Cheng (2019) raise another important point: few studies have addressed the market's response to the ESG indices of enterprises. As it also seems to be the case in the fashion industry, the present article is proposing a qualitative and quantitative exploratory study to investigate it.

## 1.4. The pandemic and the stock market

As several authors have investigated, the behavior in stock markets has been affected affected by the pandemic (He et al., 2020; Wu et al., 2020). On the other hand, as He et al (He et al.(2020) explain, in countries such as the Republic of China, Italy, South Korea, France, Spain, Germany, Japan and the United States of America, it was a negative, short term impact. These studies are therefore used as the conceptual basis for assuming that the proposed research is conducted in a one of a kind time in history for the markets.

Moving forward, with the intent of comparing the above presented sustainability to the EPS index, the following method is proposed.

## 2. Method

To compare the stock market performance of listed fashion enterprises with their level of sustainability commitment, these are the proposed steps:

a) gather data from BoF sustainability index;
b) gather stock performance data from the fifteen listed companies presented as the most relevant in the BoF index;
c) analyze the information qualitatively;
d) Pearson correlation analysis between the sustainability index overall/category scores and the EPS; and correlation analysis between the sustainability index and the EPS without the Under Armour data.

## 3. Data

Data used has different sources. The sustainability scores for the fifteen studied companies were collected from the BoF assessment (Kent, 2021). The companies are: Kering, PVH Corp, Hermès International, LVMH,  Richemont, H&M group, Levi Strauss & Co, Inditex, Gap Inc, Fast retailing, Nike, Puma, VF Corp, Adidas and Under Armour (Table 1 and Table 2). The Earnings per share (EPS) for 2020 and 2019 were collected from several sources (Table 1) and the reported change calculated.

### Data analysis and discussion

Strongly affected by the Covid-19, all the companies but Inditex had a harsh drop in their earnings per share (EPS) (Chart 1). On the other hand, not even this company was able to report a change greater than 0%. Kering, the company with the highest overall BoF sustainability index had one of the lowest reported changes on the EPS (6.5%) and Under Armour, the lowest BoF score had the deepest EPS decrease. All this could suggest that there is indeed a great correlation between sustainability and EPS.

## Table 1 - Earnings per share and overall BoF index score

| Company | Currency | Earnings per share (EPS) | | Reported change | Source of data (EPS) | Overal BoF Sustainability index |
|---|---|---|---|---|---|---|
| | | 2020 | 2019 | | | |
| **Kering** | Euros | 17.2 | 18.4 | -6.50% | (Kering, 2021) | 49 |
| **PVH Corp** | US dollars | 5.60 | 9.65 | -41.97% | (Macrotrends, 2021f) | 41 |
| **Hermès International** | Euros | 13.27 | 14.66 | -9.48% | (Hermès International, 2021) | 32 |
| **LVMH** | Euros | 9.33 | 14.25 | -34.53% | (LVMH, 2020, p. 151) | 30 |
| **Richemont** | Euros | 1.73 | 4.93 | -64.91% | (Investing.com, 2021) | 14 |
| **H&M Group** | US dollars | 0.75 | 8.12 | -90.76% | (H&M, 2021) | 42 |
| **Levi Strauss & Co** | US dollars | -0.32 | 0.97 | -132.99% | (Macrotrends, 2021d) | 41 |
| **Inditex** | US dollars | 0.65 | 0.65 | 0.00% | (Macrotrends, 2021c) | 41 |
| **Gap Inc** | US dollars | 0.93 | 2.59 | -64.09% | (Macrotrends, 2021b) | 40 |
| **Fast retailing** | Yen | 885.15 | 1593.2 | -44.44% | (Fast retailing, 2021) | 23 |
| **Nike** | US dollars | 1.60 | 2.49 | -35.74% | (Macrotrends, 2021e) | 47 |
| **Puma** | Euros | 0.53 | 1.76 | -69.89% | (Puma, 2021) | 44 |
| **VF Corp** | US dollars | 1.70 | 3.15 | -46.03% | (Macrotrends, 2021h) | 42 |
| **Adidas** | US dollars | 1.26 | 5.6 | -77.50% | (Macrotrends, 2021a) | 40 |
| **Under Armour** | US dollars | -1.21 | 0.2 | -705.00% | (Macrotrends, 2021g) | 9 |

Source: The author

## Table 2 - Overall and categories scores (BoF sustainability index)

| Company | Overal BoF Sustainability Index | Transparency | Emissions | Water and chemical | Materials | Workers | Waste |
|---|---|---|---|---|---|---|---|
| Kering | 49 | 68 | 43 | 53 | 64 | 32 | 32 |
| PVH Corp | 41 | 41 | 70 | 38 | 38 | 32 | 25 |
| Hermès International | 32 | 63 | 43 | 21 | 20 | 20 | 22 |
| LVMH | 30 | 46 | 39 | 32 | 27 | 17 | 18 |
| Richemont | 14 | 20 | 13 | 8 | 13 | 18 | 12 |
| H&M Group | 42 | 54 | 48 | 44 | 44 | 29 | 36 |
| Levi Strauss & Co | 41 | 61 | 78 | 44 | 29 | 20 | 22 |
| Inditex | 41 | 46 | 57 | 33 | 33 | 51 | 25 |
| Gap Inc | 40 | 54 | 57 | 50 | 27 | 23 | 27 |
| Fast retailing | 23 | 27 | 26 | 25 | 18 | 21 | 18 |
| Nike | 47 | 71 | 61 | 50 | 27 | 37 | 37 |
| Puma | 44 | 63 | 57 | 47 | 38 | 36 | 21 |
| VF Corp | 42 | 51 | 74 | 43 | 36 | 19 | 26 |
| Adidas | 40 | 44 | 52 | 46 | 38 | 31 | 27 |
| Under Armour | 9 | 12 | 0 | 1 | 9 | 18 | 14 |

Source: Kent, (2021)

However, before conducting an outlier analysis, a Pearson correlation coefficient of 0,0618 with all the companies could indicate that there is indeed a moderate correlation (Chart 2). Yet, after removing Under Armour from the analysis, as it is found to be an outlier (Chart 3), the Pearson coefficient drops to 0,018 indicating an inexistent correlation between the two variables (Chart 4).
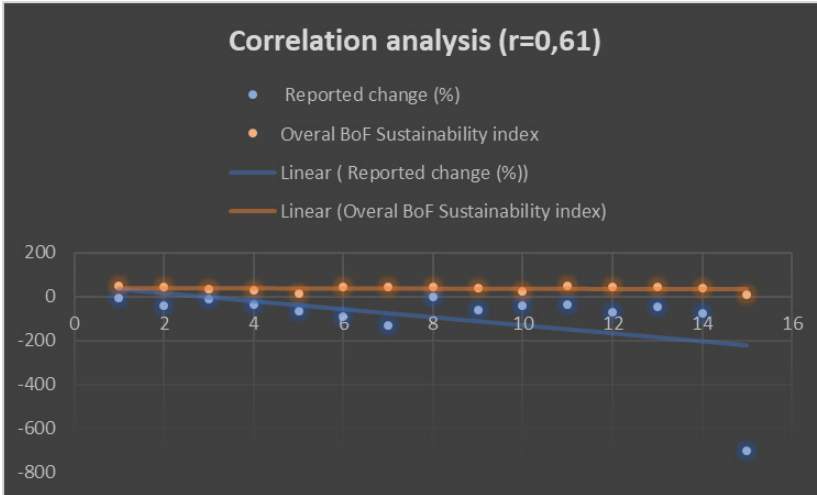


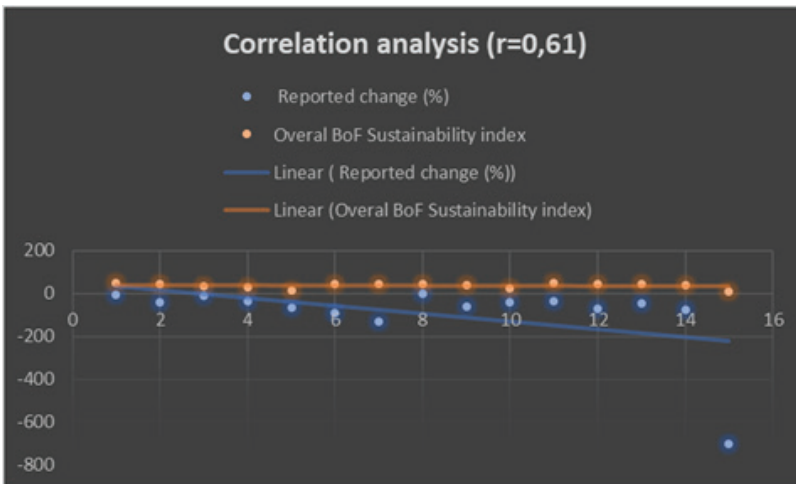*Chart 1 - Comparison EPS change x BoF index*
Source: the author



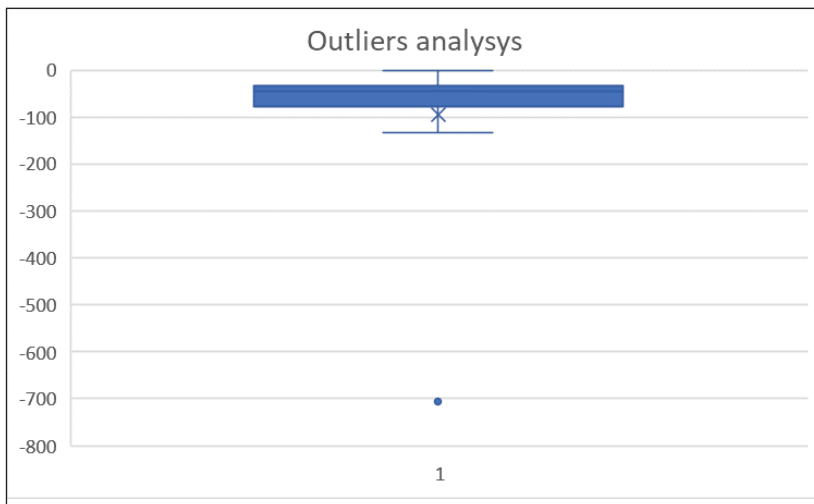*Chart 2 - Correlation analysis*
Source: the author

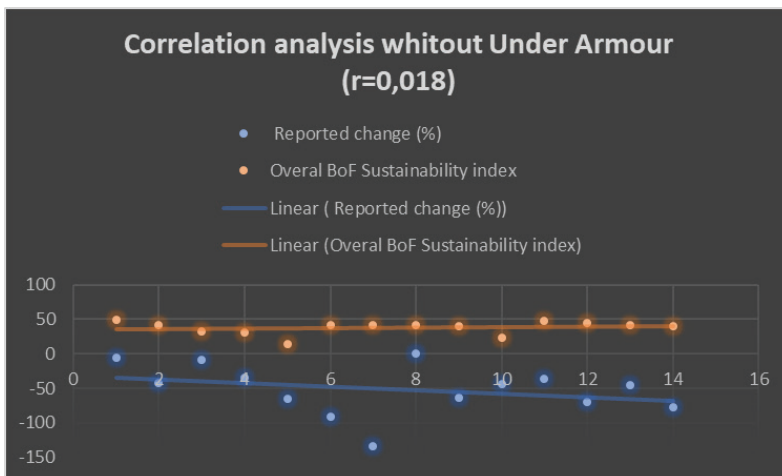*Chart 3 - Outlier analysis*
Source: the author



*Chart 4 - Correlation analysis without Under Armour*

Source: the author

Another assessment is carried out, the correlation analysis of the EPS and the six category scores.

The results only confirm the weak correlation of the data. On the other hand, the coefficients of the categories are, in general,

higher than the overall Pearson coefficient suggesting that, individually, the categories could me more appropriate to indicate the expected EPS. Furthermore, the difference encountered among the categories suggest that some of them are more correlated than others (table 2). The main observations are: Under Armour performance is also distorting the numbers, no category could be individually correlated to the EPS as well and there is a negative correlation of the emissions with the EPS. As the expected result of this last one is the opposite, a revision of the emissions criteria should probably be overseen.

*Table 3 - Correlation analysis (EPS X BoF categories)*

| Pearson coefficient analysis | | |
|---|---|---|
| Category | With Under Armour (r=) | Without Under Armour (r=) |
| Transparency | 0.57 | 0.06 |
| Emissions | 0.56 | -0.25 |
| Water and chemical | 0.57 | 0.11 |
| Materials | 0.45 | 0.11 |
| Workers' right | 0.32 | 0.33 |
| Waste | 0.39 | 0.06 |

Source: the author

## Conclusions

Although sustainability in business has been discussed for many in these last decades and ESG concerns has deeply increased with the rise of the Covid-19 crisis since March 2020, the Fashion industry is yet to increase its sustainability performance as demonstrated in the FoB sustainability index.

To help understand if increasing the performance in the categories proposed by the BoF could help investor make better investments the present research have been carried out. By comparing

scores in the BoF index with the EPS, it was possible to identify a low, almost inexistant correlation between the variables.

This lack of correlation indicates the necessity of further studies so that researchers can better understand: the profile of investors commitment to sustainability, the appropriateness of the BoF proposed index system to reflect market response and if increasing the level of awareness of the BoF index would help increase the correlation BoF score/EPS.

On the other hand, the findings help support the idea that companies such as Under Armour could be acknowledged as an example that low levels of sustainability might indicate that a company would poorly respond to crisis scenario such as the Covid-19 pandemic. The opposite example is as well true: Kering, with a remarkably high sustainability score if compared to the others studied, is an example of higher resilience.

Moreover, as investors increase their level of attention to sustainability performance, it is safer to consider ESG criteria to avoid unnecessary losses.

### *Limitations and recommendations for future research*
One limitation to this study is the lack of evidence that the criteria used for the creation of the FoB sustainability index was based on investors perception of value for each used indicator. Pursuing this information could indicate if more appropriate models that reflect market behavior should be proposed.

For future research, studying the correlation of every single question of the index and the use of the yes or no model, instead of scale questions, sounds to be an alternative to achieve the goal of linking sustainability with market performance in the fashion industry.

Finally, it seems that if appropriately marketed, the BoF sustainability index might help pave the road for a better predictability of the market behavior based on sustainability performance.

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