

Stock Price Effects around Inclusions and Exclusions from Sustainability Indices: An Event Study Analysis

Master Thesis in Banking and Finance

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Abstract

This thesis examines the presence, direction, and magnitude of stock price effects of companies induced by inclusions or exclusions from the two sustainability indices Dow Jones Sustainability Index (DJSI) and FTSE4Good between 2002 and 2017. The results of this work's corresponding event study analysis show that firms being included in a sustainability index generally exhibit negative abnormal stock returns. However, the opposite case of an index exclusion revealed mixed evidence for the presence of stock price effects. Firms excluded from the DJSI, again, reveal negative abnormal returns, while there is an absence of an effect for firms being excluded from the FTSE4Good. The results at hand generally seem to indicate that stock market participants perceive sustainability efforts of companies to be value-diminishing.

Keywords:

Sustainability, Event Study, Sustainability Index, Dow Jones Sustainability Index, FTSE4Good, Cumulative Average Abnormal Returns, DJSI, CSR, ESG

JEL Classification:

G14, Q01, Q56

Executive Summary

Problem Statement and Aim of Research

The awareness for social and environmental issues in modern society has strongly increased during the past decades (Baker and Nofsinger (2012)). This growing importance arises from negative externalities caused by business actions, which are steadily increasing and concern a large number of stakeholders (Ballesterio, Pérez-Gladish, and Garcia-Bernabeu (2015)). As a consequence, environmentally sustainable and socially responsible behavior of companies in their business activities is becoming increasingly important for them. One way to signal an appropriate corporate sustainability of a firm is the inclusion to a sustainability index. These indices represent shares of companies that provide an outstanding environmental, social, and governance-related (ESG) performance (Schäfer (2015)). In this context, the present thesis tries to answer a question which is of great interest for the affected companies and investors in the field, namely how financial market participants react to environmentally sustainable and socially responsible efforts of a company. If they indeed value such a behavior of firms, then this would incentivize more firms to act more sustainable and responsible towards the society and the environment, because in this case corporate sustainability would not only allow the companies to gain a non-material social or environmental benefit, but also a material financial one.

Approach

The aim of this thesis is to empirically investigate stock market participants' reactions to corporate sustainability efforts of listed companies. In accordance with Cheung (2010), inclusions and exclusions from major sustainability indices are considered in this study as a proxy for such efforts. The relationship is straightforward: if a firm gets included in such an index, this can be regarded as a positive signal for the existence of a certain degree of corporate sustainability performance of a company and, vice versa, the exclusion of a company from the same index could be an appropriate signal for a lack in such performance (Cheung (2010)). Today, a large number of index providers and stock exchanges offer sustainability indices (Lydenberg and White (2016)). In this study, the global indices of the Dow Jones Sustainability Index (DJSI) and the FTSE4Good index series are considered and analyzed. The index creation of the DJSI is based on a best-in-class approach, while the FTSE4Good is created on a value-based approach and there are additionally exclusion criteria applied (S&P Dow Jones Indices LLC (2018); FTSE Russel (2018c)). These two indices are described in the corresponding scientific literature in the field of corporate sustainability as the most "visible" and "credible" sustainability indices on the market (Wang and Chen (2015); López, Garcia, and Rodriguez (2007)). To capture stock market participants' perceptions of corporate sustainability empirically, short- and intermediate-term cumulative average abnormal returns (CAAR) around the respective announcement date and effective change date of newly added or deleted firms from the DJSI and the FTSE4Good are determined within this work. This will be done by applying the well-established event study methodology of Fama, Fisher, Jensen, and Roll (1969), as it is described by Kliger and Gurevich (2014) and MacKinlay (1997). The event study analysis is the standard methodology to measure short-term price effects caused by price-relevant events (Kliger and Gurevich (2014)).

Thereby, the first step is to estimate the normal returns of each analyzed stock by applying the market model over an estimation period up to 250 days prior to a specific event. The normal return corresponds to the estimated return of a company without the presence of the studied event. Subsequently, the abnormal returns of the same company is determined by subtracting the estimated normal return from the actual ex post return of said company. These are calculated over 81 days, symmetrically allocated around the corresponding event dates. In order to capture the different timely occurrence of the effect at question, various event windows within the event period are calculated. To check the statistical significance of the CAARs, the parametrical test statistic introduced by Kolari and Pynnönen (2010a) and non-parametric test statistic by Corrado (1989) are applied. Furthermore, through the application of an alternative normal return generating model and by modifying the estimation period the results are checked for their robustness.

In contrast to most of previous studies in this field of research, this thesis focuses on a global scale and examines more than one index. Moreover, this study extends over the period from 2002 to 2017, including more than 2'800 events. Furthermore, next to the overall inclusion and exclusion results of the two sustainability indices over the entire observation period, the samples are partitioned according to two subsample criteria. Firstly, to capture regional patterns of the market reactions, and secondly, to determine differences across the sectors.

Results

The above described empirical analysis presented in this paper confirms the presence of stock market effects upon the reveal of sustainability efforts of companies, while the effect is considerably stronger for the DJSI. The analysis of both indices revealed in consensus that companies, on average, are presented with negative abnormal returns upon the inclusion in one of the said indices. From this the author of this thesis concludes that investors consider corporate sustainability efforts, on average, to be value-reducing for the concerned companies. Consistent with previous studies, this can be explained with stock market participants expecting additional incurring costs through a sustainability strategy, which in turn lowers their returns (e.g. Oberndorfer, Schmidt, Wagner, and Ziegler (2013); Cheung and Roca (2013)). In the opposite case of an exclusion from a sustainability index, the author found mixed results. The analyzed firms excluded from the DJSI revealed a significant and long lasting negative stock price effect. There are two explanations for this observed negative market reaction which are likely to reinforce each other. Firstly, as mentioned by Joshi, Pandey, and Ros (2017), investors may perceive an exclusion as a failed investment in an sustainability strategy of a firm and further fear the cost incurring to regain this signal. Secondly, there is a large number of licensees who replicate the DJSI, such as investment fund companies. These institutions are selling the excluded companies from their books, leading to a price drop of the concerned shares. In contrast to the DJSI, the author found no clearly detectable market reaction of firms being excluded from the FTSE4Good. This absence of a significant effect can be explained through engagement efforts by the index provider to companies which are in danger of being excluded from the FTSE4Good. This, in turn, leads to a disclosure long before the announcement date, which companies are likely to be excluded and, thus, the analysis cannot capture the effect anymore.

However, all these outcomes are highly depended on the defined event date. The event study analysis performed within this thesis found clear patterns for both analyzed indices. When considering the DJSI, the market reaction to changes in the index composition occur only around the effective change date, while there are no statistically significant reactions detectable around the announcement date. Exactly the opposite is true when considering the FTSE4Good. This discrepancy can be attributed to the different publication procedure by the two index providers, RebecoSAM and FTSE. RebecoSAM, the provider of the DJSI, makes the information about upcoming changes in the index composition on the defined announcement date not equally available to all market participants (Joshi, Pandey, and Ros (2017)). This leads to a shift of the corresponding reaction towards the effective change date. On the other side, FTSE makes all the companies added or excluded in the FTSE4Good public on the announcement date itself (FTSE Russel (2017)). Followingly, the stock price effect occurs rather around this moment.

As mentioned above, and in order to get a more nuanced picture of the described stock market reactions, the overall samples were furthermore subdivided into sectoral and geographical classifications. The regional subdivision showed for both indices that there are no stock price effects to an inclusion nor exclusion from a sustainability index for companies from the Asia Pacific region detectable. This finding can may be attributed to the limited awareness to socially responsible investing activities in Asia (Rehman, Zhang, Uppal, Cullinan, and Naseem (2016)). For the European and North American companies analyzed within this thesis, the event study revealed mixed and statistically insignificant or negative market reactions for both, inclusions and exclusions. In general, the market reactions of the observed companies from those two markets are similar. The sectoral subdivision showed that there are major differences between the different sectors. However, the sectoral results do not allow any conclusion to be drawn about a generally valid pattern across the various sectors. This is due to the fact that the sectoral results vary strongly, depending on the type of event, index, and the defined event date.

General Evaluation

The overall results of this thesis speak for a clear perception of sustainability efforts of a firm, in the form of an inclusion to a sustainability index by stock market participants. There is no empirical evidence that the market, on average, values such a behavior of the analyzed companies. The results suggest that even the contrary is true: One the one hand, companies engaging in sustainable activities get, on average, penalized from the market. Thus, and from a financial point of view, there is no proper incentive to get included in a sustainability index for companies present on the stock market. On the other hand, companies that are excluded from the DJSI are also penalized. This, in turn, suggests that investors rate an exclusion negatively. However, it should be noted that since the DJSI is created on the best-in-class approach and, thus, shows only the relative performance to a peer group, an exclusion from this index does not necessarily mean a deterioration in corporate sustainability performance of a company (Consolandi, Jaiswal-Dale, Poggiani, and Vercelli (2008)). An actual deterioration in sustainability performance can be implied by an exclusion from the FTSE4Good. However, for a companies excluded from this index, no clearly identifiable stock price effect could be determined. Therefore, these results ultimately suggest that investors react rather skeptical to

social and sustainable issues. They probably have a traditional view about the relationship between ESG performance and financial performance. Therefore, they may imply lower returns from sustainable companies. The author of this thesis rates this as problematic at a time in which global challenges, such as climate change and big social challenges, would actually require an urgent and immediate action from all parties.

Finally, it is important to mention that since the present thesis focused on the empirical analysis of stock price effects, the exact motivations of stock market participants which led to this outcome remain an open question. Further research in this field, for example through a survey method, could probably provide a deeper comprehension about the exact perception of stock market participants to socially responsible and sustainable efforts of companies.