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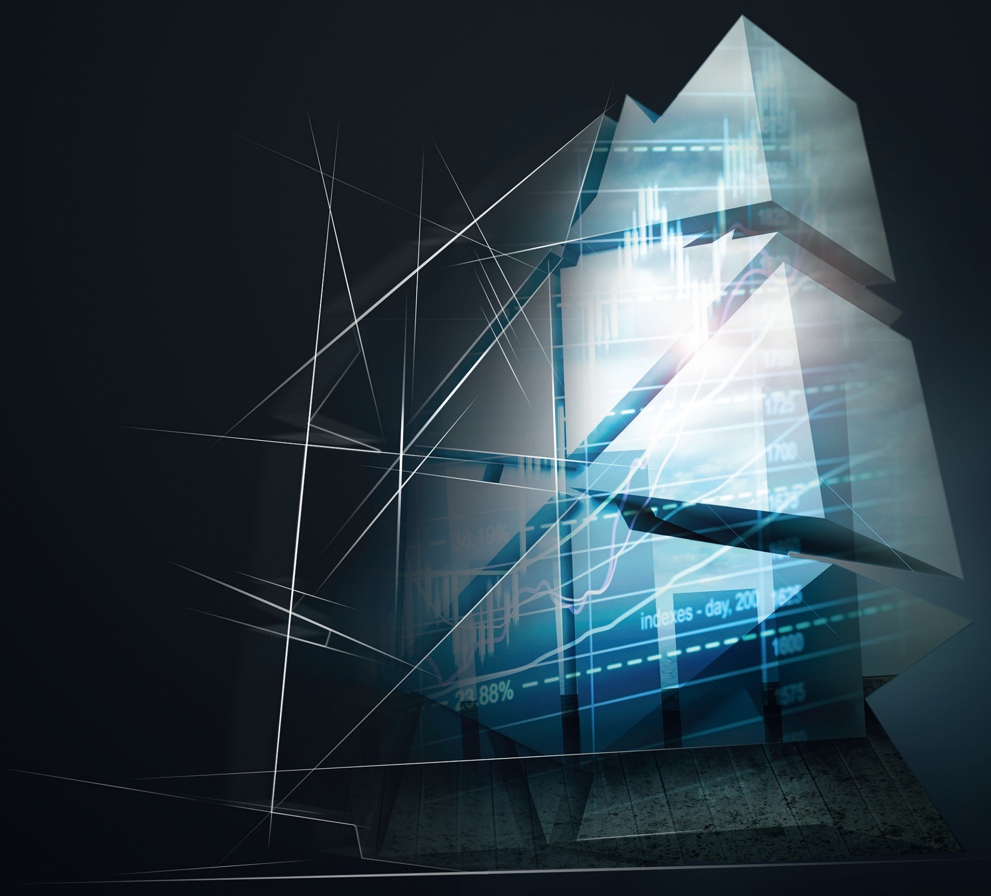

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DIGGING DEEPER INTO THE ESG-CORPORATE FINANCIAL-PERFORMANCE-RELATIONSHIP

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Contributors

_ Prof. Dr. Timo Busch, Professor of Sustainability and Management at the University of Hamburg
_ Gunnar Friede, Senior Fund Manager
_ Michael Lewis, Head of Sustainable Finance Research
_ Prof. Dr. Alexander Bassen, Professor of Capital Markets and Management at the University of Hamburg

DWS Investment GmbH
Mainzer Landstrasse 11–17
60329 Frankfurt am Main, Germany

Digging Deeper into the ESG-Corporate Financial-Performance-Relationship

This study continues the joint work of DWS with the University of Hamburg on ESG following the publication of the December 2015 ESG-CFP study[1]. It explores in greater detail the link between Environmental, Social, and Governance (ESG) and corporate financial performance (CFP).

1. Executive Summary

In 2015 we examined literature of ESG and CFP published over the previous 50 years to find that, among other things, the majority of academic studies showed a positive relationship between ESG and between ESG and CFP and specifically for equities, fixed income and real estate. From a regional perspective, studies also showed that ESG is particularly effective in North America and (in the economically less developed) Emerging Markets.

While the 2015 study looked at the sub-sample of ESG-CFP vote-count studies, our new study[1] examines in greater detail the sub-sample of meta-analyses focussing on how different ESG factors and CFP categories interrelate. The aim is therefore to provide a more detailed understanding of the ESG-CFP relation, its transmission channels, and robustness.

We find that there has been a highly significant, positive, robust, and bilateral ESG-CFP correlation. The correlation strength is comparably high for both environmental and social factors. Of the various ESG dimensions, we find corporate reputation turns out to be a key CFP driver, followed by philanthropy. We also observe a particularly strong ESG-CFP relation of ESG vis-a-vis operational CFP, highlighting that ESG affects operational efficiency and with it financial performance.

We also address a concern that potential biases in results occur as a result of the studies' publishing source. However, we show that social issues-orientated journals as well as methodological weaker papers do not distort the ESG-CFP relation to the upside.

Our conclusions confirm that the business case for being a good firm is undeniable. Firms and investors can feel encouraged that on first glance competing financial and moral motivations do supplement each other.

[1] ESG & Corporate Financial Performance: Mapping the global landscape
https://institutional.dws.com/content/_media/K15090_Academic_Insights_UK_EMEA_RZ_Online_151201_Final_(2).pdf

2. Introduction

Much has changed during the last few years with regards to the attitude of investors towards ESG. We are pleased that – together with many other practitioner studies and academic research – various DWS ESG studies have accompanied this evolution.

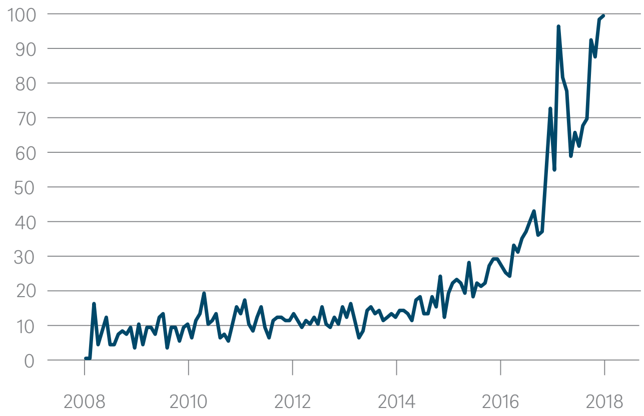
In fact, there seems to be virtually no day, that either a research house, asset manager, consultant, or academic publishes a note on the relationship between ESG and financial performance. More importantly, there are rarely any findings among the more recently published research that reveals a negative trade-off between ESG performance and financial performance. This is confirmed by our own work compiled previously in DWS Global Research Institute papers (Friede, Lewis, et al., 2015; Fulton et al., 2012) or elsewhere (Brooks and Oikonomou, 2018; Clark et al., 2015; Khan et al., 2016).

For long-time ESG advocates, this is hardly new news. For those neutral or warming to the ESG topic, these findings may stimulate questions on long-held beliefs in finance theory. The consideration of stakeholder concerns in corporate executives' decision-making is today no longer considered "pure and unadulterated socialism" as Milton Friedman has written nearly 50 years ago (Friedman, 1970).

Instead, Blackrock's CEO Larry Fink tells companies' management today that they need to "serve a social purpose" to fully achieve their potential. If they don't, they risk losing the support from important stakeholders, such as employees, customers, and local communities. This, ultimately, would result in the loss of their license to operate (Fink, 2018). Fink's conviction is increasingly becoming mainstream-thinking among investors. In turn, investor interest as measured by Google search volume in ESG topics has increased ten-fold (!) during the last three years. The topic appears to be as equally important across the globe including major financial centres, but increasingly Emerging Markets as well (Figure 1).

At least for institutional investors it seems, that according to sources like McKinsey, the whole discussion has changed from 'why' integrating ESG factors to 'why not' integrating them (Bernow et al., 2017). ESG performance and financial performance are no longer perceived as opposites, but rather seemingly go hand-in-hand.

FIGURE 1: GLOBAL GOOGLE SEARCH TRENDS OF „ESG" IN A FINANCIAL CONTEXT OVER TIME*



*Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means that there was not enough data for this term.

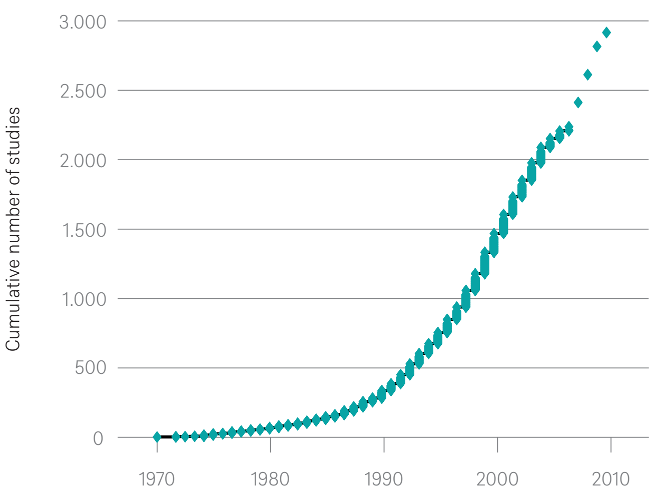
Source: Google Trends (08/2018)

In contrast, and according to many surveys of retail investors around the world, this conviction has not yet reached the average retail investor. A 2017 Gallup & Wells Fargo investor survey of more than 1,000 American retail investors finds that just 2% of investors are convinced that ESG performance benefits the financial performance of a company, whereas 33% are convinced of the opposite (Wells Fargo & Gallup, 2017). A similar view is widespread among retail investors in Europe (i.e. Wins and Zwergel, 2016). With this in mind, the more we feel compelled to understand more clearly the facts underlying the ESG-CFP relation.

In 2012, DWS published research examining the the link between corporate social responsibility (CSR) / ESG to financial performance. It identified more than 100 academic studies of sustainable investing to find that companies with high ratings for ESG factors have a low cost of capital in terms of debt and equity. We hypothesized the market recognises that higher ESG-rated companies have historically exhibited lower risk (than other companies) and has rewarded them (via lower required capital costs) accordingly.

Three years later, this research was advanced by a joint study we conducted with the University of Hamburg to review the entire literature of ESG and CFP. It found that since the early 1970s, around 2,250 academic studies had been published examining the link between ESG and CFP (Friede, Busch, et al., 2015). It also revealed the explosive growth in research in this area since the mid 2000s, with an average of more than 100 empirical papers on ESG and CFP being published every year in the past decade (Figure 2).

FIGURE 2: THE NUMBER OF EMPIRICAL STUDIES TRACKING THE LINK BETWEEN ESG AND CFP OVER TIME (cumulative number of studies)



Source: DWS, extrapolates Friede, Busch and Bassen (2015)

The DWS/University of Hamburg study found that 47.9% of 'vote-count studies and 62.6% of meta-studies[2] revealed a positive relationship between ESG and CFP. Meanwhile, less than 10% of studies found a negative relationship with the rest providing a neutral view.

While most published research studies have focused on equities, research showed a disproportionately positive correlation between ESG and CFP for bonds (63.9% of studies showed a positive relationship) and real estate (71.4% of studies showed a positive relationship, though there have been fewer studies on real estate compared to other asset classes) versus Equities (52.2%), as cited in Friede, Busch, et al., (2015).

From a regional perspective, studies showed that ESG is particularly meaningful in North America and Emerging Markets. In terms of the individual E, S and G sub-categories, there did not appear to be a dominating single factor, but rather combinations seemed to reduce the rate of positive results between ESG and CFP.

In 2003, the widely cited Orlitzky et al (2003) meta-study found that the corporate social performance (CSP) and CFP relation cannot be generalised across all ESG dimensions and CFP categories. They detected a large variability of effects, even after correcting for sampling and measurement error. Therefore, many researchers still claim to date, that the literature on the relationship between ESG-CFP is inconclusive.

It is the endeavour of this new 2018 study to clarify if we detect significant outliers among the different ESG dimensions and CFP categories. In this new study, we are taking an in-depth look into the meta-analyses of the 2015 paper and digging deeper to establish which of the CFP categories are the most material and which of the ESG dimensions companies could prioritise with the aim to ask whether there is convincing evidence that supports the case that it pays off to be a good firm. Moreover, different potential moderating effects of the ESG-CFP relation are analysed. We also look into the lead-lag effects of ESG-CFP. Significant effort is also spent to check for contextual and statistical robustness of the findings.

[2] Vote-count studies count the number of primary studies with significant positive, negative, and non-significant results and "votes" the category with the highest share as the winner. Such studies provide robust insights, but, are less sophisticated from a statistical point of view. Meta-analyses aggregate findings of studies econometrically.

3. Exploring ESG dimensions & CFP categories

The 2015 (meta)-analysis combined ESG-CFP research from 35 vote-count studies and 25 meta-analyses. The 2015 study was particularly interested in the ESG-CFP summary effect across vote-count studies and meta-analyses. From there it then drilled deeper into the sample of the 35 vote-count studies and its underlying primary studies.

Our new study[3] performs a full second-order meta-analysis in order to deconstruct the sample of the 25 meta-analyses. The overarching research questions are the direction and stability of the ESG-CFP relation and how different ESG dimensions and CFP categories interrelate. The new study also invests considerable time to technically and contextually analyse the robustness of the ESG-CFP relation.

Our study sub-sample comprises 1,214 unique primary studies. It aggregates 4,507 separate effects and nearly one million observations and so a data sample that is considerably larger compared to the average of previous first-order meta-analyses.

We examine the different ESG dimensions such as reputation, disclosure, audits, processes, and policies and philanthropy, alongside the differing CFP categories such as operational-, accounting-, market-, growth-, risk-, mutual fund-, and perceptional-based and their corresponding ESG relationships.

We undertake several research questions, including:
_ Whether there is a positive relationship between ESG and CFP and the causality of this relationship
_ Is the relationship between corporate social performance (excluding environmental factors) and CFP stronger than for CFP and corporate environmental performance alone?
_ Which ESG dimension has the most and least materiality on a specific CFP category?
_ Among the most cited CFP categories, which are the most and least correlated to ESG?
_ What is the relationship between ESG and CFP over time?
_ Is the ESG-CFP relation distorted by the publication source, such that are social issues-orientated journals reporting more positive outcomes?

To assess these research questions we outline a number of key definitional terms, which are detailed in the appendix.

[3] The Robustness of the Corporate Social and Financial Performance Relation: A second-order meta-analysis https://onlinelibrary.wiley.com/doi/full/10.1002/csr.1480

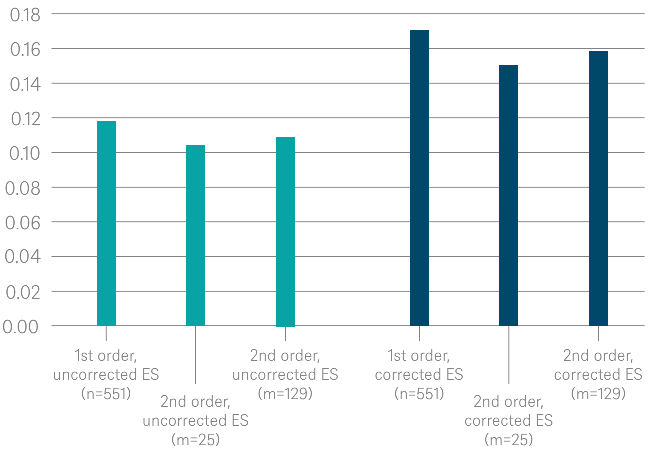
4. Summary of Research Findings

We sought to answer a number of questions as they related to ESG and corporate financial performance. A summary of the key conclusions are outlined below.

Does the positive relationship between ESG and CFP exist irrespective of different analytical techniques?

We find strong support for this. Initially we perform a first-order meta-analysis based on 551 primary studies, where effect sizes were provided by the meta-analyses in our sample. This presents alone by far the largest first-order meta-analysis on ESG-CFP to date. The uncorrected/corrected[4] effect sizes were highly significant at 0.119 and 0.169 respectively (Figure 3).

FIGURE 3: EFFECT SIZES IN RELATION TO RESEARCH DESIGN



Source: Busch and Friede (2018)

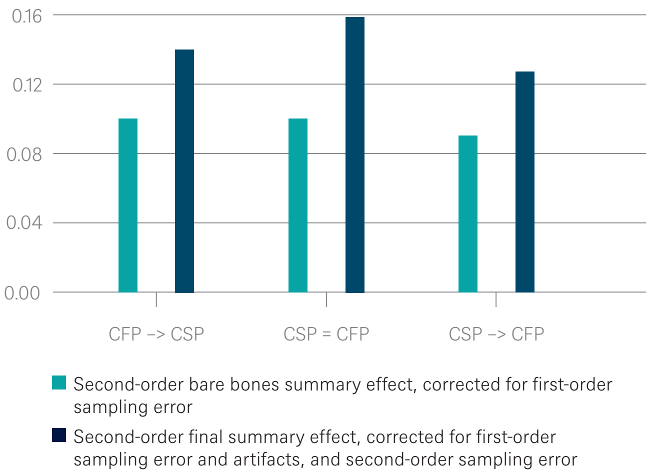
After that, we analyse the summary effects and all sub-effects of the first-order meta-analyses to perform a second-order meta-analysis. The aggregation uncovers effect sizes that are very similar to those in the sample with primary studies. We determine uncorrected/corrected correlations of 0.108 0.150 for 25 summary effects and 0.110/0.157 for the 129 sub-effects. The 95% credibility interval for the corrected sub-effects ranges from -0.001 to 0.316. Moreover, in the second-order results, we can no longer detect the large statistical heterogeneity of effects that was present in the primary studies. Thus, we are able to assert with confidence that a significant, positive ESG-CFP relation exists.

What is the causality of the ESG-CFP relationship?

In terms of causality, good management theory would suggest that good ESG leads subsequently to better CFP. The slack resources theory would suggest the opposite explanation, that is excess financial resources of a company are seen as a necessary condition for good ESG performance. The third theory suggests, that ESG and CFP are reciprocally and concurrently related, making it a virtuous circle between ESG and CFP.

Based on different effect sizes, we find no indication that either ESG or CFP matters more from a cause–effect point of view. All three underlying theories can be defended (Figure 4). However, the level of effect sizes for a bidirectional relation (virtuous circle) is highest at the lowest variability of the effects. This leads us to acknowledge the virtuous circle theory as currently the most probable. Further research is encouraged to analyze in longitudinal studies and experimental settings the lead/lag effects of the ESG-CFP relation.

FIGURE 4: EFFECT SIZES IN RELATION TO ESG-CFP DIRECTION



Source: Busch and Friede (2018)

[4] So called uncorrected effects on the first level are attenuated bare-bones results. Uncorrected effects on the second level are bare bones effects, but corrected for first-order sampling error. Corrected effects on the first level, are psychometric effect sizes with artifact correction. Corrected effects on the second level are corrected for first-order sampling error, first-order artifacts, and second-order sampling error.

Is the relationship between corporate social performance (excluding environmental factors) and CFP stronger than for CFP and corporate environmental policy alone?

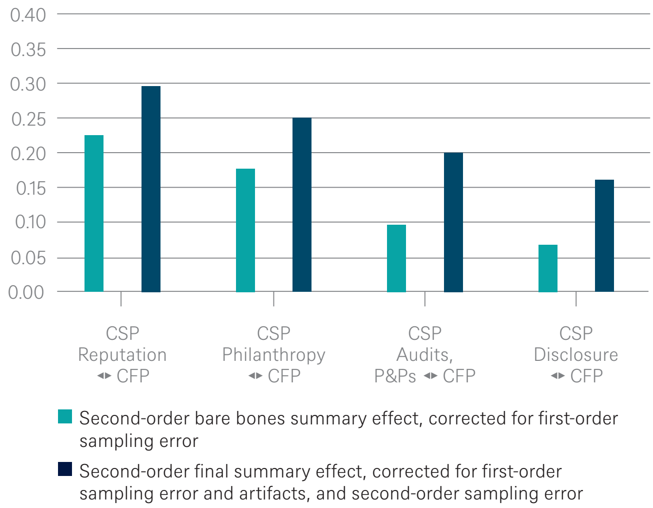
In 2001, the Orlitzky and Benjamin study was the first to consider and isolate corporate environmental performance (CEP) and its impact on CFP. These authors assumed investors and consumers are less aware of the environmental performance of firms. In contrast, social factors were more likely to be publicly communicated and, thus, reflected by stock- and stakeholders. However over time more individual meta-studies were published dedicated specifically to CEP and/or the social dimension of ESG.

From our investigations we do not detect statistically significant differences between the effects of environmental or social-related ESG on CFP. This outcome is in contrast to several empirical studies and beliefs which consider social aspects as the main driver for CFP. Our findings therefore conclude active and continual ESG efforts are meaningful, whether social or environmental related. This confirms the business case for improving ESG and acknowledges that environmental- and social-related aspects are equally relevant sources for companies' success.

Which ESG dimension has the most and least materiality on a specific CFP category?

Within the various ESG dimensions, it is possible to identify different sources for a business case. The strongest relation to CFP is identified as ESG reputation. The intangible character of ESG reputation, which is difficult to replicate and potentially the most overarching outcome measure for ESG, may lead to sustained financial profit in the long-run (Figure 5). Meanwhile, the strong correlation of ESG philanthropy to CFP is at first glance surprising. It however reiterates that financial and moral initiatives can supplement each other.

FIGURE 5: EFFECT SIZES OF VARIOUS CORPORATE SOCIAL PERFORMANCE (CSP) DIMENSIONS IN RELATION TO CFP



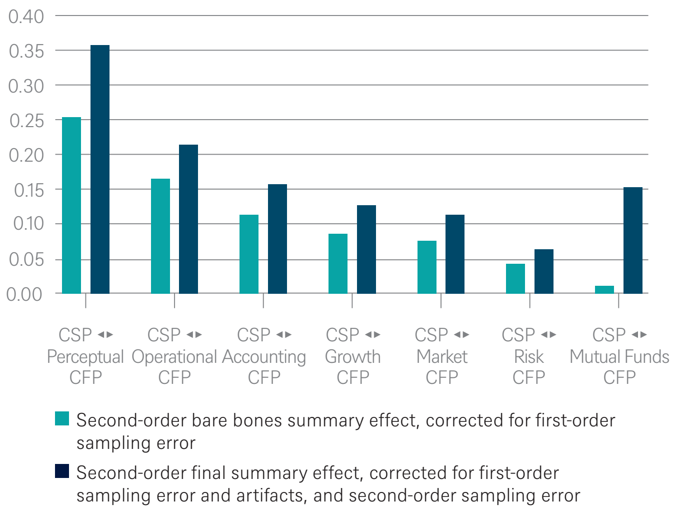
Source: Busch and Friede (2018)

Meanwhile ESG disclosure as well as ESG audits, processes and policies display significantly weaker correlations compared to the other ESG dimensions. Indeed the limited standardisation of ESG disclosure practices seems, in fact, to encourage companies to provide primarily beneficial rather than unbiased ESG information. Investors tend to look through this self-reported data. Not surprisingly, within the ESG dimensions, ESG disclosure has the weakest correlation to CFP.

One way of overcoming such data limitations can be to strengthen efforts towards a more stringent and maybe even mandatory extra-financial data disclosure. Standardization efforts of the Sustainable Accounting Standards Board, the European Union and the Task Force on Climate-related Financial Disclosure are taking promising steps forward in this regard.

Among the most cited CFP categories, which are the most and least highly correlated to ESG performance?
Within CFP categories perceptual performance, that is the assessment by senior executives about the performance impact due to ESG factors, leads by some distance as the strongest relation to CFP (Figure 6).

FIGURE 6: EFFECT SIZES OF CSP PERFORMANCE TO VARIOUS CFP CATEGORIES



Source: Busch and Friede (2018)

Within the group of more objective CFP categories, we find that operational performance is the most significantly and highly correlated to ESG performance. These two findings mirror other researchers' claims that ESG performance affects operational performance, such as productivity, staff turnover, or energy efficiency. The measure is also located closer to the value creation source within a firm and therefore better reflects organizational performance than potentially distorted CFP categories like accounting- or market-based measures. Based on the findings it would be fair to hypothesize that ESG performance initially influences the operational performance of firms and with it - in the next step - the various financial outcomes.

We also find that correlations shrink for different CFP categories where ESG mutual funds on average, similar to our 2015 study findings, exhibit the weakest ESG-CFP relation. We already hypothesized at that time about the possible reasons: different sorts of ESG funds are treated as a homogenous group, ESG factors are most likely overlapped by various systematic and idiosyncratic risks in a portfolio including the active non-ESG related investment allocation. Last but not least, construction constraints and implementation costs contribute as well to make results on an aggregated basis insignificant at portfolio level. Studies that construct virtual portfolios in a tracking error-minimized way find positive ESG portfolio effects (Giese et al., 2017; Nagy et al., 2016).

If we adjust for the low statistical reliability of the mutual fund results, a correction for second-order sampling error results into a considerably higher estimated effect size for mutual funds. The difference between the raw and final effect size difference of 0.132 can be considered a reflection of the overall 'noise' – whether statistically or capital markets induced. It can be argued that sophisticated investors, able to manage and analyze these distorting effects, may be able to potentially benefit from ESG factors.

Nevertheless, it is the opinion of the authors, that in the worst case, ESG focused mutual funds may exhibit similar risk/return profiles when compared to conventional mutual fund investments.

We also continue to believe ESG performance could influence growth and risk profiles[5]. Even though the results are significantly different from zero, indicating a positive relation of the CFP with ESG, correlations are significantly lower compared to other CFP measures.

[5] For calculation purposes we inversed the sign for risk-measures.

What is the relationship between ESG and CFP over time?

It is not unusual that academic studies investigating a specific effect for the first time demonstrate impressive effect sizes which partly diminish in subsequent research studies. We do indeed find lower correlations for more recent meta-studies compared to older studies. However, the additional analysis at primary study level revealed that the shrinkage in correlations in the meta-analyses most likely does not indicate a shrinkage of the actual ESG-CFP relation since correlations at primary study level, in contrast to our findings at the meta-study level, do not shrink. Further analysis reveals, that meta-analytical research methods have become more sophisticated using lower correction factors, leading to lower effect sizes in meta-analyses.

Is the ESG-CFP relation distorted by the publication source, such that are social issues-orientated journals reporting more positive outcomes?

A general concern of any meta-analysis is that research yielding no significant results remains unpublished. This has been labelled the file drawer problem (Rosenthal, 1979), with reference to the many files and articles that remain with the researcher and are not published by journals. However, we cannot find indications for publication bias. We also disproved the theory that evidence of ESG-CFP relation depends on the kind of publishing journal. Indeed the suspicion that social issues-orientated journals or methodological weaker papers tends to publish 'better results" is unfounded. The results are checked for the Fail Safe N statistics, Funnel Plot, Egger Test, and peer-comparison of published and non-published studies.
Further details on the methodology, data, and results can be found here:
https://onlinelibrary.wiley.com/doi/10.1002/csr.1480

5. Conclusion

In this study we aim to advance the academic investigation as it relates to the ESG-CFP correlation. By summarizing the findings of existing meta-analyses and utilizing a data sample that is more than 25 times larger compared to the average of previous studies, we are able to generate fairly robust results. Not only do we demonstrate that the main findings of Orlitzky and colleagues still hold today, but our results deliver more unequivocal and comprehensive conclusions.

We find no indication that either ESG or CFP matters more from a cause-effect point of view. All three underlying theories (slack resources, good management and virtuous circle) can, as of today, be empirically defended. However, of the group we view the virtuous circle theory currently as the most probable.

The highly significant, robust and bilateral ESG-CFP relation varies in magnitude depending on different ESG dimensions and CFP categories. Interestingly, the correlation is equally positive regardless of whether firms focus on environmental or social factors. This outcome is in contrast to several empirical studies which consider social aspects as the main driver for CFP. Of the various ESG dimensions, we find corporate reputation turns out to be potentially a key CFP driver, followed by philanthropy.

We observe a particularly strong ESG-CFP relation for operational CFP, highlighting that ESG potentially affects operational efficiency and with it financial performance. We also welcome the many initiatives to improve ESG disclosure, since (self-reported) ESG disclosure has amongst the lowest correlation to CFP of all the ESG dimensions, indicating that investors look through this type of data. Finally, we find no bias in the results according to the publishing source or the methodological strength of the papers.

What does it all mean in a greater context? Considering the fierce battle of scholars from competing schools of thought have been determined to unmask the relation of ESG and CFP over the past few decades, the evidence for a, at worst, non-negative ESG-CFP relation is striking. As the increasing body of research is showing, there is even a very fair chance that good ESG performance can actually lead to better CFP through various transmission channels in the long-run.

The results of our various studies have wider implications. The mantra that sole shareholder focus leads to better financial returns for shareholders is empirically challenged. The ex-ante assumption that agency costs of executives could be reduced through the sole objective to maximize shareholder return (Jensen, 2001) is empirically on a weak footing. Increasingly, a consensus is building among investors that the consideration of environmental and social aspects are, per se, a signal of operational excellence (Fink, 2016).

The transition towards more integrative investment approaches where stakeholder considerations are a natural part of a thoughtful, fiduciary analysis is supported by our analyses. Embracing the idea of creating win-win relations among all stakeholders (Freeman et al., 2007), including investors, could reorient significantly the opportunity set of companies and investors and increase stakeholder wealth and planetary welfare overall.

Based on the wide body of literature available, our conclusion is clear that the business case for being a good firm is undeniable. Firms and investors can feel encouraged that on first glance potentially competing financial and stakeholder-aspects can very well supplement each other.

Contributors

Prof. Dr Timo Busch

timo.busch@uni-hamburg.de

Timo Busch is a full professor at the School of Business, Economics and Social Science of University of Hamburg (Germany) and Senior Fellow at the Center for Sustainable Finance and Private Wealth of University of Zurich (Switzerland). He teaches courses on corporate sustainability, business strategy & the environment, and sustainable finance. Before joining University of Hamburg he worked as lecturer for ETH Zürich and project manager for the Wuppertal Institute for Climate, Environment and Energy. His research interests include strategies towards a low-carbon economy, the business case for sustainability, corporate eco-efficiency, and sustainable finance. His work was published in international journals including California Management Review, Journal of Business Ethics, Long Range Planning, and Strategic Management Journal.

Gunnar Friede

(49) 69 910 18217 | gunnar.friede@dws.com

Gunnar Friede is Senior Fund Manager with DWS. He joined Deutsche Bank in 1997 and in 2005 moved to DWS as a fund manager, initially on the equity side. Over the past 12 years he has contributed to the company's ESG efforts and several milestones for mainstreaming ESG. Gunnar co-leads the ESG activities of the Multi Asset & Solutions Group. He is co-author of the EFFAS Certified ESG Analyst training program and currently researches in collaboration with the University of Hamburg on ESG and financial performance. As a graduate of the HTW Berlin he studied International Management and Finance. Gunnar Friede is Certified European Financial Analyst (CEFA) and Certified International Investment Analyst (CIIA).

Michael Lewis

(44) 20 754 52166 | michael.lewis@dws.com

Michael Lewis, Head of ESG Thematic Research. Michael joined the Company in 1990. Prior to his current role, Michael was Global Head of Commodities Research in the Corporate Banking & Securities division. In 2013, the Commodities Research team was ranked #2 in the EMEA Institutional Investor Equity & Fixed Income Research team survey. Before this, he was a G10 FX Strategies and Deputy Head of FX Research at Deutsche Morgan Grenfell. In 2000, the FX Research team was ranked #1 in the Euromoney FX Research survey. Michael began his career as a Research analyst covering Global Macro & Rates research at Morgan Grenfell. Michael holds a B.Sc. in Economics from the University of Bristol and a M.Sc. in Economic from London School of Economics and Political Science.

Prof. Dr. Alexander Bassen

alexander.bassen@wiso.uni-hamburg.de

Alexander Bassen is a full professor of capital markets and management at the University of Hamburg, Faculty of Business, Economics and Social Science (Germany). He teaches courses in finance and investment, ESG and capital markets and reporting. Alex is a member of the German Council for Sustainable Development - advisory body of the German Federal Government, chair of the UN PRI Academic Network Steering Committee and member of the Commission on Environmental, Honorary Research Associate, Smith School of Enterprise and the Environment, University of Oxford, member of the Social & Governance Issues (CESG) of the European Association of Financial Analysts Societies (EFFAS) as well as member of several other advisory committees.

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Appendix

ESG dimensions

Four ESG (CSP) dimensions have typically attracted the greatest interest among meta-researchers historically: ESG reputation, ESG disclosure, ESG philanthropy and ESG audits, processes and policies. At least two meta-analyses must have reported aggregated effect sizes in a comparable CSP dimension (CSP = Corporate Social Performance) to be included in our analyses.

ESG reputation

The intangible character of corporate reputation, which is difficult to replicate and potentially the most overarching outcome measure for CSP, seems to lead to sustained financial profit (Melo and Garrido-Morgado, 2012; Roberts and Dowling, 2002). The reason being that corporate reputation is of particular relevance or interest to a variety of external parties. For example, reputation is likely to influence customers' behaviours and investors' decisions. Typically, reputation is measured by reputational indices and ratings (Orlitzky et al., 2003).

ESG philantrophy

Strategic corporate philanthropy can have a financial effect as firms build long-term loyalty, legitimacy, trust, or brand equity with stakeholders and customers (Godfrey and Hatch, 2007). This dimension typically captures donations/philanthropic payments or the establishment of a philanthropic foundation (Margolis et al., 2009).

ESG audit, processes and policies

This dimension analyses if a systematic third-party effort is made to evaluate a firm's CSP behaviours. This also contains a range of corporate policies and processes (Margolis et al., 2009; Orlitzky et al., 2003)

ESG disclosure

CSP disclosure typically captures if an extra-financial reporting or if certain ESG aspects are disclosed in company reporting. Often only the transparency itself is captured rather than the substance or quality of what is disclosed (Margolis et al., 2009). Research in this area sometimes finds considerable discrepancies between mere ESG disclosure and actual ESG performance. Voluntary disclosure should therefore not blindly be considered as a proxy for ESG performance.

Appendix

Corporate Financial Performance (CFP) categories

In terms of CFP, studies have tended to consider at least one of the following categories: operational performance, perceptual performance, accounting-based performance, market-based performance, growth metrics, risk or the performance of ESG mutual funds/indices. At least two meta-analyses must have reported aggregated effect sizes in a comparable CFP category to be included in our analyses.

Operational CFP

Operational CFP, such as productivity, staff turnover, or energy efficiency, focuses on information closer to the value creation process within a firm. This CFP category is presumably less distorted by capital market movements.

Perceptional CFP

This category captures perceptual evaluations of business performance by senior executives. Despite managers' discretionary assessment of the firm performance, the judgement is often a fair reflection of financial reality. As a result, the application of survey-based measures is found in roughly a quarter of empirical studies in top management journals (Richard et al., 2009).

Accounting CFP

Accounting-based CFP, such as return on assets or return on equity, is often considered one of the best proxies for measuring CFP. Presuming that the accounting practices of firms are comparable and consistent, this measure more adequately reflects the internal decision-making capabilities and managerial performance rather than external evaluations of investors.

Market-based CFP

This category typically captures studies analysing CFP measures such as stock returns, evolution of the price/earnings or price/book ratios in relation to ESG factors.

Growth-based CFP

This CFP category is typically determined by sales or profit growth. This category is also less directly affected by capital market developments. However, companies' growth can be distorted by inorganic growth from acquisitions or divestments. Such activities usually have a relatively higher impact on growth measures compared to changes in accounting figures.

Risk CFP

Most of the empirical studies measure risk either as accounting based risk (i.e. debt to assets) or market based risk (i.e. beta-factor, total volatility). For calculation purposes we inversed the sign for risk-measures.

Mutual funds

This CFP category measures the financial effect on mutual funds, financial indices and virtual portfolios. Due to a multitude of distorting portfolio effects, aggregated results of ESG mutual fund performance typically find no significant differences against non-ESG portfolios or indices. Studies that construct virtual portfolios in a tracking error-minimizing way find positive ESG effects (Giese et al., 2017; Nagy et al., 2016)

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