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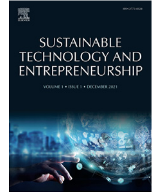

Full Length Article

Understanding the effects of Environment, Social, and Governance conduct on financial performance: Arguments for a process and integrated modelling approach

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To date, an overwhelming number of research findings on Environment, Social, and Governance (ESG) conduct and financial performance remains inconclusive. Furthermore, research has not identified nor explained the "underlying mechanisms" behind this relationship. To encourage future research, we discuss the mechanisms by identifying the first-order, mediating, and moderating variables. We synthesize recent studies for emerging themes and implications; argue for a process and integrated approach for modelling causality between ESG conduct and financial performance variables; and suggest methods to analyze the models. We also advocate for researchers to explore the idea that balancing corporate conduct among the E, S, and G components may provide revelations about financial performance. We also discuss how incorporating "greenwashing" in a process and integrated model may explain the ESG conduct and financial performance link, or more than likely the lack of it.

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Introduction

Corporate actions in social welfare have received an increasing amount of attention from fund managers and investors (Gillan et al., 2021). These actions, known as Environment, Social, and Governance (ESG) or corporate social responsibility, are viewed as financially material to investment performance (Bofinger et al., 2022; Gillan et al., 2021). The environmental component (E) evaluates how firms take actions to protect and minimize damage to the environment. This component involves climate change, natural resources, pollution and waste, and environmental opportunities. The social component (S) evaluates how firms treat its employees and the communities that they serve. Key focal elements encompass employee relations, working conditions, organizational diversity, human rights, employee equity and justice, inclusion, product responsibility, and community health and safety. The governance component (G) evaluates how firms' management leads and oversees their organizational authority. Board functions, structure, firm policies, compensation, lobbying, corruption, donation, and even their visions and strategies are scrutinized under this component.

Corporate ESG conduct integration with investment practices and its impact on risk-adjusted financial returns have become the fabric of ethical or socially responsible investments, and the number of socially responsible fund options abound in Wall Street and world financial markets (Bofinger et al., 2022; Eccles & Viviers, 2011). In 2020, investments into ESG open-ended and exchange-traded funds reached $51.1 billion, doubling more than 2019 funds ($21.4 billion) and increasing ten-times over 2018 funds ($5.4 billion). By the end of 2020, the ESG funds included 369 portfolios, and the U.S. ESG funds reached $236.4 billion, up by more than 70% from those of 2019[1]. The surge in socially responsible investment alternatives has driven publicly-traded companies to disclose the economic effects of ESG activities voluntarily, improving information transparency to investors qualitatively (Mervelskemper & Streit, 2017). According to the 2020 report released by the Governance & Accountability Institute, 90% of Standards & Poor's (S&P) 500 firms have published an ESG report in 2019, up from 86% in 2018, 75% in 2014, 53% in 2012, and just 20% in 2011[2].

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[1] https://www.morningstar.com/articles/1019195/a-broken-record-flows-for-us-sustainable-funds-again-reach-new-heights
[2] https://www.ga-institute.com/research-reports/flash-reports/2020-sp-500-flash-report.html

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Increased availability of corporate ESG information for investors also captivate academic interests in expanding ESG research. According to Friede et al. (2015), researchers published approximately 2,250 empirical studies on the link between ESG conduct and financial performance from the early 1970s to 2014, 70% of which has been published during the last 15 years. Since 2015, more than 1,000 research papers investigating the impact of ESG on financial performance have been released (Whelan et al., 2021). Despite the explosive growth in ESG studies, the ESG conduct and financial performance relationship findings remain rather inconclusive (Whelan et al., 2021; Gillan et al., 2021; Friede et al., 2015). Furthermore, ESG research has not identified nor explained the mechanisms, processes, and workings, known as the "black-box", between ESG conduct, scores, and/or disclosures and financial performance.

On this point, Whelan et al. (2021, 5) calls for researchers to gain a better understanding of "the mechanisms behind the relationship between ESG and financial performance". Our study evaluates ESG literature to propose a process and integrated modelling approach that addresses this research gap. With extensive literature reviews pre-2015 (e.g., Friede et al., 2015), we focus our evaluation on ESG papers post-2015 that address our main research question: *What variables can explain today's inconclusive link between corporate ESG conduct and financial performance?*

To this end, we evaluate 43 studies to gain insights into the mediating variables and moderating variables that account for and alter the direction of the relationships between reported ESG conduct and financial performance. We identify the first-order variables, mediating variables, and moderating variables in studies that locate ESG conduct across different geographical locations and industry contexts. We also propose arguments for a process and integrated modelling approach with emerging themes that can spearhead future research with implications for firm stakeholders, fund managers, investors, and researchers. We also discuss prior ESG literature review papers that include Whelan et al., (2021), Gillan et al. (2021), Friede et al. (2015), and Peloza (2009) to augment our evaluation and proposal for process and integrated model specifications.

The 43 studies evaluated are overwhelmingly archival, and they are published in the following relevant scholar databases and publisher sites: *Cogent*, *Center for Sustainable Business (NYU-Stern)*, *Elsevier*, *Emerald Group Publishing*, *IACSIT Press*, *Institute for Operations Research and the Management Sciences*, *IUP Publications*, *John Wiley & Sons*, *MDPI Publications*, *Palgrave Macmillan*, *Portfolio Management Research*, *Routledge*, *Routledge Taylor & Francis*, *SBS Swiss Business School*, *Springer*, *Universal Publishers*, and *Wiley-Blackwell*. The keywords used to search papers that address our research question are environment, social, governance, ESG, financial performance, mediation, and moderation. Some 60 financial performance variables are utilized by the 43 studies we evaluate: 34 variables represent market performance (56.7%), 25 correspond to reported firm performance (41.7%), and 1 serves as a perceptual performance by measuring consumers' responses to a survey (1.7%). The Appendix lists the studies evaluated in our paper.

Fig. 1 depicts the structure of our literature evaluation section. We commence with a synthesis of recent studies that examine the relationship between various ESG conduct and financial performance variables. We then evaluate the relatively few papers that specify an appropriate level of analysis and discuss the role of the first-order variables in attempts to explain how ESG conduct yields a "direct" set of immediate performance effects before translating into financial performance. We then appraise the rather small number of studies that analyze mediating and moderating variables, which provide insights into the link between ESG conduct and financial performance variables. We also pay special attention to ESG "controversies". This notion emerges in recent literature to represent one-off firm actions that raise ESG concerns among firm stakeholders, fund managers, investors, and researchers, and may derail the link between ESG conduct and financial performance.

In the discussion and conclusion section, we embrace the inconclusive findings and the gaps in existing research, and propose three under-explored themes and ideas for future studies. Not only will these themes motivate further research on the ESG conduct and financial performance relationship, they will more than likely offer other perspectives and evidence for firm stakeholders, fund managers, investors, and researchers to consider when making investment decisions. First, we argue for a process and integrated approach to modelling causality between ESG conduct and financial performance at the ESG conduct level of analysis that includes non-financial and financial first-order variables, mediating variables, and moderating variables that are directly impacted by ESG conduct. We suggest analytical methods to support this modelling. Second, we advocate for researchers to explore the idea that balancing conduct between the E, S, and G components may enhance understanding between ESG conduct and financial performance. Third, we present the concept of "greenwashing", and how this conduct in a process and integrated model may influence financial performance, or more than likely the lack of it.

Evaluating ESG conduct and financial performance

ESG conduct

Peloza (2009) reviews prior research spanning 36 years between 1972 and 2009 that show some 63% with a positive relationship between ESG conduct and financial performance, 14% with a negative relationship, and 22% with a neutral or mixed relationship. Friede et al. (2015) combines the findings of some 2,200 individual studies, and they report some 90% of studies with a "non-negative" relationship, with the majority of studies showing positive findings. The positive relationship appears stable over time, and the results vary between portfolio and non-portfolio studies, regions, sectors, and asset classes (e.g., equities vs. bonds vs. real estate). Friede et al. (2015) also discusses the ambiguity in individual E-, S-, and G-specific findings in the many studies they review (e.g., Endrikat et al., 2014; Dixon-Fowler et al., 2013; Love, 2010; Gillan & Starks, 2007).

Even research findings post-2015 are somewhat unsure about ESG conduct and financial performance relationship (e.g., Ahmad et al., 2021; Whelan et al., 2021; Petitjean 2019). We discuss below this considerable doubt, especially among mainstream firm stakeholders, fund managers, investors, and researchers, whether firms that engage in high levels of ESG conduct would succeed in producing competitive returns. ESG conduct is not always associated with high returns, and these recent studies have shown that the superior performance of ESG-conscious firms may be concentrated in certain industries with certain kinds of customers and employees (Kotsantonis et al., 2016). Furthermore, studies are warning against confusing association with causal relationships between ESG conduct and above-market shareholder returns (Cappucci, 2018).

Post-2015 studies have tried to explain the inconclusive findings by the lack of ESG reporting standards which impact ESG disclosure consistency, comparability, transparency, and the evaluation of firm ESG conduct. For example, Tamimi and Sebastianelli (2017) provides descriptive statistics that reveal S&P 500 firms differ in their level of disclosures across E, S, and G; the highest level of transparency is found on G, and the lowest on E. Moreover, there is much variability in the percentage of S&P 500 firms disclosing information about S. The authors also find significant differences in transparency on the S and G components among industry sectors, as well as adding that large-capitalization firms have significantly higher ESG disclosure scores than mid-capitalization firms. Understanding the transparency in disclosures can help stakeholders assess practices and policies for better ESG evaluations (Almeyda & Darmansya, 2019).

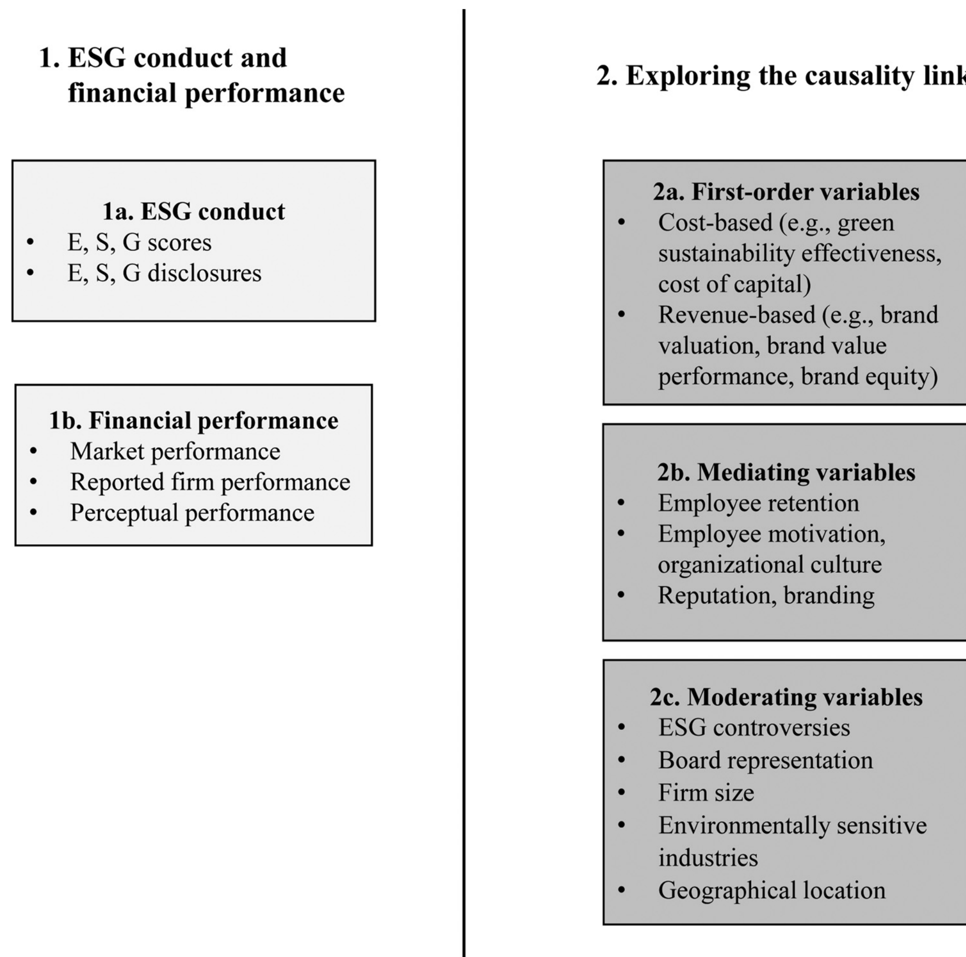

Fig. 1. Literature evaluation structure.

Virtually all post-2015 studies use ESG data from rating agencies to measure the extent to which firms are ESG-oriented. Drempetic et al. (2020) employs neo-institutional theory to explain that firms need to remain legitimate to survive, and this depends on their acceptance by society. Because firm stakeholders, fund managers, investors, and even researchers are unable to assess company ESG conduct on their own, they depend heavily on ESG scores reported by rating agencies. These scores may reduce information asymmetry along with financial information for making analytical, investing, and research decisions. However, it is not often discussed what rating agencies ESG scores really measure, nor what firm stakeholders, fund managers, investors, and researchers want the scores to measure.

Drempetic et al. (2020) also argues that the current ESG scores do not realistically measure firm ESG conduct either. Rather, ESG scores depend on firm size, and firm size is the main determinant of data availability and resources that generate ESG information. The authors suggest that it may be better for firms to invest in reliable and consistent ESG reporting rather than ESG conduct itself. Rating agencies only provide as much information as firms report, and this does not reduce the entire asymmetrical distribution of ESG information for users. Therefore, firm stakeholders, fund managers, investors, and researchers should be cautious when using ESG scores because they can lead to a misallocation of investment funds with respect to idyllic ESG conduct.

To understand the impact of ESG information disclosures on economic, environmental, and social conduct, Alsayegh et al. (2020) uses ESG disclosure scores and sub-scores from Bloomberg as a proxy for Asian firms' transparency in reporting their ESG score. The aim is to understand how firm-level ESG disclosures are associated with ESG scores in the Thomson Reuters Asset 4 database. They find evidence that disclosing E and S strategy implementation in an effective system of corporate governance can strengthen ESG conduct. Similarly, Shakil et al. (2019) indicates a positive association of emerging market banks' E and S performance with their financial performance, but G performance does not influence financial performance.

Of the 43 studies we evaluate in the Appendix, 34.7% used ESG data from Thomson Reuters, 30.6% from Bloomberg ESG database, and the remaining 34.7% from other sources (e.g., RobecoSAM database, KLD Stats database, Eikon DFO database, WISEfn database, MSCI ESG database, World Bank Statistic, Sustainalytics database). Reliance on various rating agencies and lack of consistency of ESG ratings, in particular heterogeneous ESG measurement concepts, across different agencies seem to explain, in part, the inconclusive findings on the link between ESG conduct and financial performance (Chatterji et al., 2016; Dorfleitner et al., 2015). In addition, utilizing a wide range of financial performance variables adds another layer of complexity that may explain unconvincing evidence on ESG conduct.

Financial performance

The majority of studies measure financial performance using a combination of three measurement approaches: (1) market

performance, (2) reported firm performance, and (3) perceptual performance. Market measurement approaches, which rely on financial performance information from the Wall Street and other financial markets, are the most commonly used across studies (Peloza, 2009). Share price and its variations, including abnormal daily stock returns (e.g., de Franco, 2020; Capelle-Blancard & Petit, 2019; Landi & Sciarelli, 2019), annual stock returns (e.g., Khan, 2019), and market-adjusted return (e.g., Farooq, 2015), dominate financial performance variables. It is because market-based variables are publicly-available which enables investors to evaluate, monitor, and compare firm performances and their link to ESG conduct over time, within the industry, across different sectors, and/or geographical locations. More recently, Tobin's Q, also known as the Q ratio, has become an increasingly popular measure for investors and academics to evaluate whether ESG conduct impacts a firm's market value to be under or over its assets' replacement cost (e.g., Gillan et al., 2021; Alareeni & Hamdan, 2020; Ajour El Zein et al., 2020).

Reported firm performance variables are also widely used, and often accompany market variables (e.g., Gillan et al., 2021; Batae et al., 2020; Cek & Eyupoglu, 2020; Ajour El Zein et al., 2020). Under this approach, the variables are calculated from firms' financial reports such as earnings per share (EPS), return on assets (ROA), return on sales (ROS), return on equity (ROE), return on capital (ROC), and return on capital employed (ROCE). These variables show how efficiently firms use their assets to create profit margins and firm value from their assets. While the definitions of these variables are well known, the calculations are inconsistently applied and rely on the period-end timing and the firms' decisions to report specific components of these measures. Some ESG studies rely on both market and reported firm performance variables in analyzing financial performance. Examples of composite variables are operational performance (Alareeni & Hamdan, 2020; Buallay, 2019), economic performance (Ionescu et al., 2019; Tarmuji et al., 2016), and corporate efficiency (Alsayegh et al., 2020).

Perceptual variables include third-party reputational rankings, and/or survey responses from firms' management, employees or consumers to assess financial performance (Starks et al., 2017). For example, Starks et al. (2017) considers the investment horizon of fund managers and institutional investors in relation to their appetite for ESG conduct in more than 3,300 actively managed U.S. domestic mutual funds. Investors with longer horizons tend to prefer higher ESG firms significantly compared to short-term investors. Investors also have more patience toward high ESG firms in their portfolios as compared to their other holdings, selling relatively less after negative earnings surprises or poor stock returns. In a variation on the financial performance dependent variable, Ajour El Zein et al. (2020) examines the impacts of sustainable investment in the financial sector by modeling and testing relationships between ESG scores and firms' brand value. Analyzing sectoral and regional effects, the authors observe a positive relationship between ESG scores and brand equity value as measured by consumers' willingness to spend money on one branded product versus another one.

Currently, research has under-utilized perceptual variables as proxies for financial performance because of the dominance of market and/or reported firm performance variables (El Khoury et al., 2021; Cek & Eyupoglu, 2020; Dalal & Thaker, 2019; Velte et al., 2017; Han et al., 2016), and because of "perceived lack of credibility or rigor" compared to market and/or firm performance variables (Peloza, 2009). Not surprisingly, recent ESG studies show that the trend towards using both market and reported firm performance variables or composite variables continues relative to perceptual-based performance variables. For example, Alareeni and Hamdan (2020) investigates S&P 500-listed firms' ESG component disclosures represented by component scores and their impact on ROA, ROE, and Tobin's Q. The authors find that E and S disclosures are negatively associated with ROA and ROE but positively related to Tobin's Q, and the G component is positively related to ROA and Tobin's Q but negatively related to ROE.

Cek and Eyupoglu (2020) examines the overall and individual influences of corporate E, S, and G conduct on economic performance in S&P 500 firms. Economic performance was measured as client loyalty, shareholder loyalty, and overall performance, which imply firms' abilities to general long-term shareholder value and sustained financial wealth, which was measured based on ROA, market value, and share price. The authors reveal mixed evidence: Corporate E conduct does not have any significant effect on firm economic performance, while S and G conduct significantly influence firm economic performance.

As a result, the lack of coherent results in post-2015 studies may also be attributed to the adoption of firm-level analysis and variables within the three financial performance approaches. While all approaches use somewhat comparable variables that are publicly-available, these are "capture-all" measures that are inappropriately used to understand ESG conduct, which is an activity or initiative level of analysis. Therefore, many questions still arise with inconclusive findings between ESG conduct and financial performance including: (1) that market variables capture more than just ESG conduct; (2) that both market and accounting variables arguably reflect on historical performance; (3) the timing in the causality between ESG conduct and financial performance; and (4) whether accounting variables are appropriately applied at the correct level of analysis because they measure firm-level performance rather than ESG conduct performance. In the following sections, we draw on the relatively few non-archival studies to make a case that appropriate variables should be chosen to focus at the ESG conduct level, and as close as possible to the ESG activities or initiatives to demonstrate causality.

Exploring causality links

First-order variables

Rather than firm-level or a higher-order financial performance variables, specifying first-order variables can focus research studies on analyzing the "direct" or immediate performance effects of the ESG conduct. This approach is used in the economics, management, marketing, and psychology literatures to understand causality by explaining the influence of employee and firm behavior, and firm decision-making as they relate to financial phenomena (e.g., Lee et al., 2022; He et al., 2020; Lee & Raschke, 2020). In an ESG context, the two main approaches to selecting first-order variables that roll up into firm-level or higher-order financial performance variables include cost-based and revenue-based variables (Peloza, 2009). Cost-based variables assess the extent to which ESG conduct changes the cost structure of the firm such as human capital investments, waste reduction, and energy conservation; reduces the firm's risk profile; and improves the firm's cost of capital (He et al., 2020; Sharfman & Fernando, 2008). While these immediate effects are important, cost variables have an inbuilt potential for bias as firms focus on cost savings which overlooks the investment side associated with ESG conduct (Bofinger et al., 2022).

On the other hand, revenue-based variables for ESG conduct show changes in firm revenues by, for example: (1) garnering loyalty among current customers, (2) generating new market opportunities, and (3) trading carbon emissions (Lee et al., 2022). While professional consultants and research institutes have directed studies into revenue effects, research academics have yet to examine the revenue outcomes from ESG conduct in detail.

We evaluate below a handful studies examining the impact of ESG conduct on the first-order cost-based or revenue-based variables. Ng and Rezaee (2015) investigates KLD database firms from 1991 to 2013 and show that E and G conduct significantly reduces cost of

capital, while S initiatives do not result in a reduced cost of capital unless economic sustainability performance is taken into account. Ellili (2020) looks into 30 publicly-traded companies in UAE and report similar results to those of Ng and Rezaee (2015). This study reveals that weighted average of cost of capital is significantly decreased by E and G activities but not by S activities. Lee and Raschke (2020) analyzes 15 U.S.-listed automotive firms that account for more than 95% of the U.S. market share and find that organizational ambidexterity in green innovations, employee satisfaction, and emission performance are antecedent conditions for maintaining high ESG ratings.

Feng et al. (2016) examines the effects of ESG conduct on brand value creation and report that G conduct has a significant impact on brand value creation, while E and S conduct have no or mixed effects on brand value creation, respectively. The authors measure brand creation based on financial performance of branded products and services, consumer-purchasing decisions associated with brand, and competitive strength of branded products and services. Loh and Tan (2020) investigates ESG conduct of 74 Singapore publicly-traded companies and find that the presence of sustainability reporting on firms' economic, E, and S activities, and the quality of the report have significantly positive effects on brand value. Alour El Zein et al. (2020) also shows that higher overall ESG scores lead to higher brand equity in 1,100 companies in the S&P 500 and EURO 600-Bloomberg. Lee et al. (2022) demonstrates that emission performance, employee satisfaction and automotive firms' historical financial performance precede brand valuation. These results indicate that E (i.e., emission reduction) and S (i.e., employee training and equal compensation) conduct as well as investment activities in both tangible and intangible assets significantly enhance consumers' perception of brand quality.

Collectively, findings on the link between ESG conduct and the first-order cost-based or revenue-based variables suggest that first-order variables at the ESG conduct level of analysis can provide a better understanding of financial performance that might not be visible in higher-order or firm-level variables that include market-based and accounting-based performance measures. Higher-order or firm-level variables are "capture all" measures that offer limited guidance about ESG performance because they do not specifically provide insights into how and why the ESG conduct leads to or does not lead to a change in financial performance. Firm stakeholders, fund managers, investors, and researchers may benefit from the first-order variables that are applied much closer to the ESG conduct level for investment decisions.

Mediating variables

In addition to the first-order variables, mediating variables can improve our understanding between ESG conduct and financial performance. The mediating effects help to demonstrate cause and effect through associations and correlations with a system of non-financial and financial variables that eventually flow into firm-level financial performance variables, explaining the ESG value-enhancing process. That is, the how and why ESG conduct affects the first-order variables, and in turn, higher-order firm-level financial performance variables. There are generally three classes of mediating variables, and these classes involve organizational behaviors in leadership and employees that support financial performance (Lee et al., 2022; Nirino et al., 2021; Tamimi & Sebastianelli, 2017; Peloza, 2009).

The first involves employee retention, which reduces hiring costs and turnover costs and enhances productivity. The second relates to employee motivation and organizational culture, which can stimulate innovation, and product and service leadership. The third concerns firm reputation and branding, which benefit from firm leaders that are able to successfully retain employees and manage their firm culture in pursuit of enhancing its brand portfolio and firm reputation. To date, ESG research with mediating variables is underexplored. Only a few studies have used publicly-available integrated reporting - defined as firm disclosures about social, employee, and leadership performance in ESG reports and financial reports - to introduce mediating variables when examining ESG conduct and financial performance.

For example, Mervelskemper and Streit (2017) investigates the effectiveness of ESG stand-alone and integrated reporting as a mediator of ESG performance, measured by ESG combined and individual scores, on firm market valuation. The authors find that that ESG performance is more highly valued when firms publish an integrated ESG report. Fatemi et al. (2018) analyzes 1,640 firm-year observations for publicly-traded U.S. firms and show that the link between ESG conduct (its reported strengths and weaknesses complied by KLD Research and Analytics) and firm valuation (accounting and market measures) is mediated by firm disclosures (measured Bloomberg). Xie et al. (2019) demonstrates that the effects of 209 listed Chinese firms' green process innovation on financial performance are through green product innovation, and that firms' green image moderates the relationship between green product innovation and financial performance. Similarly, Chouaibi et al. (2021) uses UK and Germany panel data and report that green innovation is part of the relationship between ESG conduct and financial performance.

Overall, incorporating mediating variables in future studies may reveal the underlying causality between ESG conduct and financial performance. ESG conduct creates non-financial effects that manifest in leadership, employees, and organizational culture. The impact of these effects will likely flow through and reveal themselves in the first-order variables and ultimately higher-order firm-level financial performance variables.

Moderating variables

Currently, there are a small number of studies examining the changes in the ESG conduct and financial performance relationship contingent upon moderating variables, particularly in the presence of "ESG controversies". Aouadi and Marsat (2018, 1027) defines ESG controversies as "... news stories such as suspicious social behavior and product-harm scandals that place a firm under the media spotlight ...", causing firms to come under a significant level of scrutiny and criticism by fund managers, investors, and academics. ESG controversies can cause unintended negative effects on stakeholders' interest, inclusive of firm reputational risk, potentially raising doubts about a firm's future financial prospects and negatively affecting share prices (Stevens, 2020). Consistent with this view, de Franco (2020) shows that European and the U.S. publicly-traded firms embroiled in ESG controversies experience adverse reactions from fund managers and investors in the form of abnormal negative stock returns, and face slower recovery from losses compared to Asian-Pacific-listed firms.

In contrast, Aouadi and Marsat (2018) analyzes an international dataset of 4,312 firms associated with more than 3,000 ESG controversies reported between 2002 and 2011, and find that corporate social performance (CSP) scores and ESG controversies have positive effects on firm value after controlling for firm size and other market value predictors (i.e., ROA, research and development expenses, sales growth). The strong positive impact of ESG controversies dissipates when the authors include the CSP interaction, yet the positive effect of CSP on firm value still remains. These results suggest that ESG controversies do not affect the CSP firm value relationship negatively, and may play an important role in gaining significant attention from fund managers, investors, and academics. In fact, this study demonstrates that high-attention firms, larger firms located in countries with greater press freedom, benefit from ESG controversies because their CSP scores lead to improved firm value relative to low-attention firms.

Wong and Zhang (2021) investigates ESG controversies by examining the value relevance of corporate reputation risks from adverse media coverage of ESG issues on share price performance. Investors perceive corporate reputation as a valuable intangible asset and that ESG controversies via media channels have a significant negative effect on firm valuation. Analyzing industry classifications reveals that ESG controversies do not significantly affect share price performance of firms in the alcohol, tobacco, and gaming industries. Instead, firms in the candy and soda, steel works, banking, and insurance industries are the most susceptible to investors' repercussion from ESG controversies. As a result, firm characteristics, corporate reputation status, and industry explain differences in investors' reactions to ESG controversies.

In addition to ESG controversies, prior studies document the effects of ESG conduct on firm performance moderated by the type of board representation (Nekhili et al., 2019; Nekhili et al., 2021), firm size (Minutolo et al., 2019), environmentally-sensitive industries (Yoon et al., 2018), and geographic location (Duque-Grisales & Aguilera-Caracuel, 2019; Ortas et al., 2015). For example, Nekhili et al. (2019) reports that ESG conduct has a negative influence on firm value when employees represent part of the board of directors. These results reveal that fund managers and investors perceive the presence of employee board representation as being value destructive, as employee directors are potentially maximizing the interests of employee stakeholders to the detriment of shareholders' interests. On the other hand, Nekhili et al. (2021) shows that the effect of ESG conduct on firm value is positively moderated by employee shareholder representation in the presence of employee directors, but negatively moderated by labor representation where the presence of employee directors is elected by the right of employment. Both Nekhili et al. (2019, 2021) also suggest that fund managers and investors react sensitively to the type of board representation when evaluating ESG conduct.

Minutolo et al. (2019) examines 467 firms in the S&P 500 from 2009 to 2015 and demonstrate that the influence of ESG conduct (measured by ESG score) on firm performance (measured by Tobin's Q) is greater for larger firms than smaller firms (measured by sales or total employees). Yoon et al. (2018) analyzes 7,056 Korean firms between 2010 and 2015 and find that the value-enhancing effect of ESG conduct diminishes when firms operate in environmentally sensitive industries such as in the energy, materials, and utilities sectors.

Duque-Grisales and Aguilera-Caracuel (2021) reports that the ESG conduct to financial performance relationship is significantly negative in the Latin American businesses, with evidence of financial slack and geographic international diversification having a moderating effect. Ortas et al. (2015) also demonstrates that firms' geographical locations serve as a moderator between firms' ESG conduct and financial performance. Japanese firms have higher E effects on firm value, but lower E effects on ROA compared to Spanish and French firms. Firms in Spain report greater S effects on firm value than French and Japanese firms. The authors attribute these results to differences in culture: a "Christian versus a Confucian cultural background may lead to a different emphasis on social versus environmental priorities [and a different impact on firm value or performance]" (Ortas et al., 2015, 1949).

In sum, research on moderating variables suggests that the effects of ESG conduct on financial performance vary by context (e.g., countries with greater media coverage/freedom, cultural differences between Christian and Confucian countries, investors' sensitivity to specific industries, geographic location) or by firm characteristics (e.g., firm size, corporate reputation, types of board of director representation). Countries with greater media coverage and media freedom and investors' insensitivity to specific industries diminish the negative impact of ESG controversies. Labor representation on the board of directors magnify positive effects of ESG conduct on firm performance, while financial slack and geographic diversification mitigate negative effects of ESG conduct on firm performance. Future research can broaden our understanding of the role that context-specific and/or firm characteristic variables play in explaining the link between ESG conduct, first-order variables, mediating variables, and financial performance.

Discussion and conclusion: Research themes

Overall, prior research shows that engaging in ESG as a business model has more positive effects on financial performance than negative effects, and that the effects are context-dependent. What is evident from our literature evaluation is that there is no clear consensus and definitive understanding about how ESG conduct leads to financial performance, and that the link is not straightforward. In light of these complexities in ESG performance research, we discuss three important themes below that aim to fill in the existing research gaps and spearhead future studies with implications and conclusions for fund managers, investors, and researchers.

First, we describe the importance of model specification using a process and integrated approach because it forces researchers into thinking about the ESG conduct level of analysis, first-order variables, mediating variables, and moderating variables that impact financial performance. Second, we propose a new idea that ESG conduct should be centered around the possibility that all of its components need to be balanced in harmony in order to achieve financial performance. Using extensions of established management theory, we outline the motivation for considering balanced ESG components when building process and integrated models that test the relationships between ESG conduct and financial performance. Third, we discuss future research relating to greenwashing, an emerging issue that is becoming increasingly important for fund managers, investors, and academics.

Model specifications

Process and integrated models

We propose that researchers examine the link between ESG conduct and financial performance using a value-enhancing process and integrated modelling approach that encompass our analysis above of first-order variables, mediating variables, and moderating variables. Value creation commences with the ESG conduct that directly affects first-order non-financial and/or financial firm variables such as organizational culture, employee motivation, employee retention, reputation, and branding. These variables, in turn, mediate the link between ESG conduct and the first-order cost variables and revenue variables at an operational level, which in turn, influence financial performance at a higher-order firm-level of analysis. Moderating variables may be considered in the model specification to evaluate whether the value-enhancing process varies by context (e.g., ESG controversies, environmental sensitive industries, geographic locations) and/or by firm characteristics (e.g., firm size, board representation).

Our literature evaluation reveals that firm location and industry contexts serve not only as moderating variables, but also as a means to introduce control variables that explain differential ESG conduct and financial performance. Control variables have featured in many recent ESG studies, where various regulations, policies, and operating cultures in different locations and/or industry sectors provide explanations for financial performance outcomes. Of the 43 ESG studies we evaluated since 2015, the majority utilize ESG panel data associated with firm located in Asia (11), Europe (13), North America (10), and worldwide (9), while a few use data in firms operating in Africa (1), Middle East (1), and South America (1). As for industry sectors, the majority of studies (28) rely on cross-industry data to evaluate the changing effects of ESG conduct on financial performance. Modelling

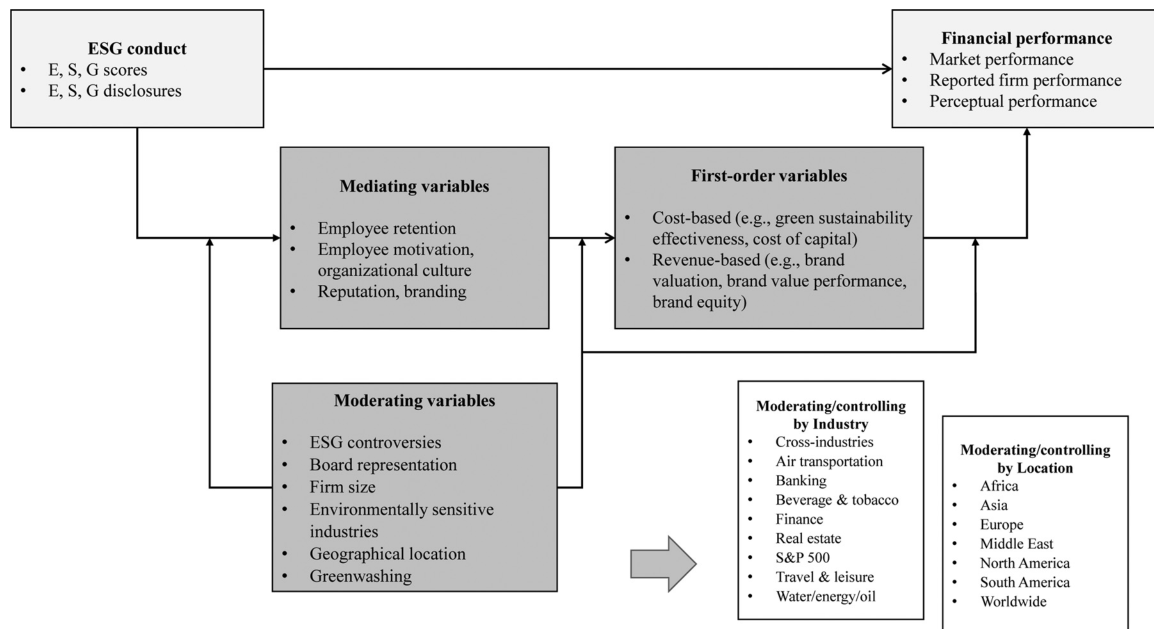

Fig. 2. A process and integrative model for ESG conduct and financial performance

location and industry differences can provide further insights into a value-enhancing process and integrated modelling approach.

Fig. 2 depicts the general value-enhancing process and integrated approach, and provides research guidance for future ESG conduct and financial performance model specifications.

We propose that researchers identify a particular ESG conduct and specify a process and integrated model that examines the link between a particular ESG conduct and financial performance while considering first-order variables, mediating variables, and moderating/control variables. Employing relevant theory and empirical evidence on ESG can inform researchers about the appropriate variables and their related relationships in the model specification. Take for example an automotive brand's E conduct when the firm introduces a new range of electric vehicles (EVs) to their product lineup. The E conduct is at the EVs level of analysis. Researchers can connect the production of new EVs directly to increases in E performance and E scores, and the combined ESG score by way of reduced emissions and increased fuel economy (e.g., Lee & Raschke, 2020; Lee et al., 2022). This model may be empirically tested with non-financial mediating variables (e.g., corporate culture, employee satisfaction) and/or financial mediating variables (e.g., corporate reputation/branding; brand valuation) to show the indirect path from E conduct (introduction of a new range of electronic vehicles to the production lines) to E performance (reduced emissions and increased fuel economy), and the first-order performance variables. Often, firms track the cost, revenue, profit margins, and earnings related to these EV model lines at the operational level. These first-order variables ultimately affect reported financial performance variables (e.g., ROA, ROI, ROE) and market performance variables (e.g., share price, Tobin's Q). Gaining insights into the first-order cost variables or revenue variables can broaden our understanding of the direct and indirect impacts of E conduct on financial performance. It can also offer opportunities to examine the role of context-specific variables (e.g., countries with greater media coverage/freedom) and/or firm characteristic (e.g., corporate reputation/branding) variables in moderating the relationship between E conduct and the first-order performance variables and its relationship between first- and higher-order performance variables.

Methodological approaches

A majority of ESG studies use archival data from ESG rating agencies (e.g., Bloomberg, MSCI, Sustainalytics, Thomson Reuters) to characterize ESG conduct and its effects on firm performance. Of the 43 papers evaluated post-2015, only one study utilizes a survey to measure portfolio managers' opinions about integrating ESG conduct into their investment decisions (van Duuren et al., 2016). We do not find any papers using case studies, interviews, and experiments. Future studies could expand on the available research methods to supplement the insights gained from existing archival studies (Huarng et al., 2021). Surveys and experiments can add detailed dimensionality by examining the behavioral influence of ESG conduct on stakeholder judgement and decision-making as the firms pursue financial performance. These stakeholders may be internal (e.g., firm executives, board of directors, controllers, employees), external (e.g., auditors, customers, suppliers), and lateral (e.g., competitors, government and non-profit organizations) (Sirgy, 2002; Morgan & Hunt, 1994).

Larcker et al. (2019) uses a survey to understand how CEOs and CFOs in S&P 1500 firms incorporate ESG conduct into their strategic planning and investment decisions, which affects firm value. Survey responses from over 200 participants reveal that: (1) 89% of firm executives already consider stakeholders' ESG interests very important or important for management to pursue business goals; (2) 40% of firm executives perceive both shareholders' and stakeholders' interests as equally important in long-term firm management; (3) 96% of firm executives are very or somewhat satisfied with the job their firms do in meeting stakeholders' interests; (4) 37% of firm executives view the cost of meeting stakeholders' interests have a high or moderate impact on firm value; and (5) 43% of firm executives believe that their largest institutional shareholders really care about stakeholders' interests including ESG conduct because they know that it is central to firm success.

The Larcker et al. (2019) study illustrates that future ESG research could use case studies, surveys, interviews, or experiments to gain insights into stakeholders' judgements and their decision-making processes involving ESG conduct. New studies can use a mixed research method combining survey, interviews, experiments, and/or archival to develop compelling models that show a process and integrated approach between ESG conduct, employees' organizational

commitment, job performance, and financial performance. Future research could also use experimental designs to identify situational context in which internal stakeholders such as the board of directors and/or employees respond more or less sensitively to ESG conduct, potentially leading them to make judgements and decisions that may influence financial performance.

Various analytical tools are available for evaluating archival, case study, interview, and experimental data. Finding definitive results can depend on the rigor of the statistical tools chosen (Woodside, 2016). Theory-building analysis is often undertaken using qualitative comparative analysis (QCA) (Huarng et al., 2021). QCA and its extension fuzzy-set qualitative comparative analysis (fsQCA) analyze systems or sets of conditional variables using Boolean algebra and fuzzy set theory to identify recipes for outcome variables (Lee & Raschke, 2016; Woodside, 2013). QCA and fsQCA generate causal complexity from data analysis and supports complex theory-building (Woodside, 2014).

Where the theoretical foundation is more established, multiple regression analysis (MRA) is commonly used to test and validate relationships in subsets of the systems or sets of conditional variables and outcome variables (Huarng et al., 2021). By analyzing the correlations between hypothesized dependent and independent variables using strong theory, researchers confirm or deny the causality among sub-groups of variables about a particular phenomenon (Lee & Raschke, 2016). MRA tools extend to structural equation modelling (SEM), which utilizes similar but more powerful MRA to measure and analyze complex relationships involving observed and latent variables or constructs. SEM analyzes linear, mediating, moderating, and interactions in causal relationships among latent constructs while simultaneously accounting for construct measurement error (Hoyle, 1995). Factor analysis can also supplement MRA or SEM to explore and incorporate items underlying stakeholders' perceptions of ESG dimensions into an integrated model specification while controlling for the industry sector and/or geographical locations (Gyonyorova et al., 2021; Huarng et al., 2021).

ESG balance

One area where researchers have yet to explore is whether the concept of ESG balance, the equal emphasis placed by firms on E, S, and G components, mediates, moderates, and impacts financial performance. Current studies using combined ESG scores do not question the given E, S, and G weightings assigned by ratings agencies. So far, we highlight that the findings related to financial performance are inconclusive because it is dependent on relatively under-explored model specifications. We have not really considered whether the ESG component weights used in the combined ESG scores may explain differential financial performance. What if the balance among firms' ESG components in model specification impacts financial performance?

The idea of ESG balance and financial performance is based on an extension of organizational ambidexterity theory, which refers to the premise that organizational "adaptation requires both exploitation and exploration to achieve persistent success" (March, 1991, 205). Exploitation is innovation that makes improvements in existing components and build on the existing learning trajectory, whereas exploration is innovation that shifts to a new or next generation learning trajectory (Benner & Tushman, 2002; Gupta et al., 2006).

In the research literature, continuous improvement and the acquisition of new knowledge are central to exploitation, exploration, and ultimately long-term performance (Lee & Raschke, 2020; Lee & Gaudioso, 2020). He and Wong (2004) are the first to test the ambidexterity hypothesis in a sample of 206 manufacturing firms. They found that interaction between exploitation and exploration has a positive association with sales growth, while the relative imbalance between exploitation and exploration has a negative impact. Uotila et al. (2009) uses 15 years of archival data for 279 manufacturing firms in the S&P 500 companies to show the tradeoff between exploitation and exploration, and that the optimal balance depends on environmental conditions. An inverted U-shaped curve was shown between the relative share of exploration and financial performance which was moderated by firms' research and development intensity. Furthermore, Stettner and Lavie (2014) finds that balancing exploitation and exploration through internal organization, alliance, or acquisition modes enhances financial performance.

From an ESG perspective, firms should have the ability to continue its current ESG activities while simultaneously developing new ESG capabilities for the future. Scholars may consider this ambidextrous approach to ESG because corporate leaders see ESG as part of their strategic management and as a source of innovation (Husted & Allen, 2006). Extending the evidence demonstrated by organizational ambidexterity theory to ESG raises the compelling question of whether firms that equally focus their attention on E, S, and G conduct are most likely to maximize financial performance. Therefore, while emphasizing individual conduct components may lead to financial performance, balancing the three components may provide maximum levels of financial performance. Future research should examine these relationships as firm emphasis shifts between E, S, and G to determine whether there are levels that maximize financial performance.

The major challenge with examining ESG ambidexterity, and one that warrants discussion, is how ESG balance can be measured. We previously observed that ESG combined and individual ratings are provided by third-party agencies. These agencies provide limited and quite ambiguous explanations about what they really measure with individual and combined ESG scores. Currently, ESG ratings agencies (e.g., Refinitiv/Thompson Reuters/ASSET4) compiles a combined and individual score based on data collected from annual reports, company websites, non-governmental organization websites, stock exchange filings, company ESG reports, and news sources. While ratings agencies provide the weights that each individual component contributes to the combined score, they do not provide details about how they derive the weights for their combined score. At the same time, it is not helpful that fund managers, investors, and researchers do not clearly articulate what they want the scores to measure. There are opportunities to undertake future research on a measure representing ESG balance.

ESG greenwashing

Greenwashing is the act of intentionally misleading consumers with false claims about firms' environmental practices and impacts. Greenwashing is characterized by poor ESG performance and positive communication about ESG performance (Delmas & Burbano, 2011). Consumers are becoming discerning and cynical of firms as they claim to protect the environment, but fail to demonstrate their actions (Torelli et al., 2020). Greenwashing can have quite a negative effect on consumer and investor confidence, especially in claimed green products, and this green marketing tactic can scar, erode, and/or damage the consumer market for these products and the participation of investors in capital markets (Bofinger et al., 2022). Furthermore, firms engaged in greenwashing are often embroiled in lawsuits, sometimes class actions, for false advertising (Torelli et al., 2020).

There are a small number of papers studying the effects of greenwashing, but research is making inroads in three areas. First, there are studies that have only begun defining greenwashing (e.g., Szabo & Webster, 2020; Marquis et al., 2016; Delmas & Burbano, 2011). Szabo and Webster (2020) uses two case study interviews to show that greenwashing not only relates to ESG perceptions, but also to consumers' happiness while interacting with firms' websites. In

contrast, Marquis et al. (2016) shows that firms that are more environmentally unfriendly, especially those in countries where there is more exposure to scrutiny, are less likely to engage in selective greenwashing. Delmas and Burbano (2011) defines greenwashing in terms of environmental performance versus positive/no communications about environment performance. Greenwashing refers to poor environmental performers who provide positive communications about environmental performance. Green firms are good environmental performers regardless of communications, while brown firms are poor environmental performers who provide no communications about environmental performance.

Second, there are studies that empirically demonstrate the incidence of greenwashing (e.g., Du, 2015; Parguel et al., 2015). Using Chinese companies, Du (2015) provides evidence that greenwashing is negatively and significantly associated with cumulative abnormal returns (CAR) around greenwashing exposure, but is positively and significantly associated with CAR in environmentally-friendly firms via contagion effects. Paraguel et al. (2015) examines the use of nature-evoking elements in advertising to artificially enhance a brand's ESG image by conducting three experiments on French consumers. They find that these elements mislead consumers in their evaluation of a brand's ESG image especially in a low knowledge situation.

Third, there are studies that examine the effects of greenwashing on consumers and firms (e.g., Pimonenko et al. 2020; Schmuck et al. 2018; Berrone et al. 2017). Pimonenko et al. (2020) demonstrates that a one-point increase in greenwashing is associated with a 0.56-point decline in a firm's green brand, and that website and social media information was the culprit for greenwashing. Schmuck et al. (2018) utilizes an affect-reason-involvement model to show that misleading advertising about the environmental features of products affect how consumers perceive advertising and brands. False claims harm consumers' attitudes toward advertising and brands, although vague claims do not seem to have a significant effect. Berrone et al. (2017) collects longitudinal data about 235 publicly-traded U.S. firms in polluting industries to show that E activities help firms gain ESG legitimacy. However, some conduct can damage this legitimacy if ESG performance deteriorates and the firm comes under intense public and media scrutiny.

More research is required under these three streams of greenwashing research. Once a unified definition and standard measure is defined, researchers can draw on meaningful theory and ask questions about whether greenwashing explains the negative or lack of significant findings between ESG conduct and financial performance. The greenwashing variable may be incorporated into a process and integrated model as a mediating or moderating variable to understand its effects on the first-order and the higher-order financial performance variables.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix. Summary of ESG conduct and financial performance papers evaluated

	Journal title (alphabetically)	2015	2016	2017	2018	2019	2020	2021
1	*Accounting and Management Information Systems*						Batae et al. 2020	
2	*Asian Journal of Sustainability and Social Responsibility*		Han et al. 2016					
3	*Business Strategy Environment*			Mervelskemper & Streit 2017		Minutolo et al. 2019		
4	*Centre for Sustainable Business, NYU-Stern*						Whelan et al. (2021)	
5	*Cogent Business & Management,*							Ahmad et al. 2021
6	*Corporate Governance*						Alareeni & Hamdan 2020	
7	*Corporate Governance: An International Review*							Nekhili et al. 2021
8	*Energy Economics*					Petitjean 2019		
9	*EuroMed Journal of Business*							Chouaibi et al. 2021
10	*Financial Analysts Journal*					Khan 2019		
11	*Global Finance Journal*				Fatemi 2018			
12	*International Journal of Trade, Economics and Finance*		Tarmuji et al. 2016					
13	*IPTEK Journal of Proceedings Series*					Almeyda & Darmansya 2019		
14	*IUP Journal of Corporate Governance*					Dalal & Thaker 2019		
15	*Journal of Advertising*							
16	*Journal of Applied Business Research (JABR)*	Farooq 2015		Velte 2017				
17	*Journal of Asset Management*	Dorfleitner et al. 2015						
18	*Journal of Business Ethics*	Du 2015	van Duuren et al. 2016	Berrone et al. 2017	Aouadi & Marsat 2018	Duque-Grisales & Aguilera-Caracuel 2019; Capelle-Blancard & Petit 2019	Drempetic et al. 2020	
19	*Journal of Business Research*					Xie et al. 2019		
20	*Journal of Corporate Finance*							Gillan et al. 2021
21	*Journal of Global Responsibility*			Velte 2017				
22	*Journal of Sustainable Finance & Investment*	Friede et al. 2015						El Khoury et al. 2021
23	*Management of Environmental Quality: An International Journal*					Buallay 2019; Shakil et al. 2019		
24	*Social Responsibility Journal*					Landi & Sciarelli 2019		
25	*Strategic Management Journal*		Chatterji et al. 2016					
26	*Sustainability*	Ortas et al. 2015			Yoon et al. 2018		Ajour El Zein et al. 2020; Alsayegh et al. 2020	
27	*Technological and Economic Development of Economy*					Ionescu et al. 2019		
28	*Technological Forecasting and Social Change*							Nirino et al. 2021
29	*The British Accounting Review*							Wong & Zhang 2021
30	*The International Journal of Human Resource Management*					Nekhili et al. 2019		
31	*The Journal of Investing*						de Franco 2020	
	Total: 43	**5**	**4**	**4**	**3**	**13**	**7**	**7**

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