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Critical Analysis of Shareholder Benefits from Spin-Offs and Carve-Outs of Carbon-Intensive Businesses: A Study of the Energy Industry

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Abstract: The energy trilemma is a significant challenge of our time, driven by advancing climate change, social and political changes, and the impact of the war in Ukraine. This has led to the traditional business models of the energy industry and utilities being challenged. Against the backdrop of environmental sustainability, energy security, and affordability, this paper examines whether German utilities can achieve greater sustainability while creating shareholder value by divesting their carbon-intensive businesses. The analysis of the spin-off of E.ON-Uniper and the carve-out of RWE-Innogy reveals positive impacts on shareholder value, corporate performance, and a higher share price of all four companies after the splits. One conclusion that can be drawn is that divesting carbon-intensive businesses might create value for the company and its shareholders. However, it is important to note that the analysis did not demonstrate any benefits in terms of improved ESG ratings due to divestment.

Keywords: Sustainability; Energy trilemma; ESG; Spin-off; Carve outs; Divestments; Shareholder value

1. Introduction

The urgency of climate change, environmental disasters, natural calamities, extreme weather events, and geopolitical conflicts such as the Ukraine war have triggered a critical rethinking of our society and politics. This rethinking involves the implementation of zero-emission policies and a shift away from traditional energy generation models. In recent years, governments and the United Nations have introduced stricter environmental policies, putting pressure on the energy industry to adopt cleaner energy alternatives. The goal of achieving climate neutrality, which includes the phase-out of carbon-intensive energy, is challenging the business models of utility companies (Papadis & Tsatsaronis, 2020). To ensure accountability and transparency, the Intergovernmental Panel on Climate Change (IPCC) was established to monitor climate resolutions and member states' emission reductions. The European Commission has also launched its Green Deal, outlining the necessary measures to achieve net-zero emissions in the mobility sector by 2035 (European Commission, 2019). Additionally, the IPCC recommends phasing out coal-based energy generation and transitioning to renewable energy sources (Intergovernmental Panel on Climate Change, 2018).

The German Federal Environment Agency has set a goal of achieving a 100% renewable energy supply by 2050, with the energy sector being the most critical element in achieving this target (Federal Environment Agency, 2010). However, the International Energy Agency (IEA) reports that Germany still relies on fossil fuels to cover 52% of its energy needs, a figure higher than the 47% average among IEA members (International Energy Agency, 2020). This reliance on fossil fuels represents a significant risk to both companies and investors, as well as the state, if the transition to renewable energy is not managed orderly. The power generation sector plays a crucial role in maintaining the power grids that supply electricity to households, companies, and energy-intensive manufacturing sectors. Consequently, Germany's decision to phase out coal and nuclear energy poses a considerable challenge to both the state and companies, which underscores the need for studies focusing on how shareholders, society, and

the state can manage the energy transition successfully for all parties (International Energy Agency, 2020).

Sustainability has gained immense importance in society, politics, and the financial world. Investments that incorporate ESG (Environmental Social Governance) principles are becoming increasingly crucial in the investment industry, as they take into account mutual sustainability aspects. Many financial service providers and organizations have already made sustainability a crucial criterion for their investment decisions. As a result, investors and researchers are questioning how this development affects companies, shareholders, the economy, and the stock market, and how it influences the sustainability, performance, and value creation of firms.

The increasing pressure from governments, institutional investors, and society is pushing companies to adopt more sustainable business practices, while shareholders seek the highest possible profits. This raises the question of whether high returns, value creation, and climate protection are compatible with each other. As regulations and restrictions tighten to phase out fossil fuels, companies in the energy sector face the challenge of enforcing sustainable business strategies while remaining attractive to potential and existing investors. One strategy to address this issue could be the accelerated divestment of carbon-intensive business units or segments, which could improve the company's ESG score, value creation, and decrease the risk of stranded assets. However, divestments have advantages and disadvantages for both the company and its shareholders, depending on the motives and circumstances of the restructuring process (Lee & Madhavan, 2010).

Although there is a wide range of literature analyzing the impact of ESG on financial performance, there is a lack of studies that combine different economic theories and fields to explain the benefits and impacts on stock performance and shareholder value creation. In addition, divestments of various large companies have been analyzed so far, focusing on the share performance of both sites of the companies associated to related deals. Nevertheless, most studies focus on the performance and drivers of the divestments (Bergh & Sharp, 2015; Necoechea-Porras et al., 2021; Puaschunder, 2016; Rohleder et al., 2022). However, there are only limited studies, addressing how divestments of carbon-intensive businesses in the energy industry affect shareholders in times of climate change & increasing regulatory risks.

The primary objective of this survey is to address a research gap by analyzing the benefits for shareholders when energy sector companies divest their carbon-intensive business units through carve-outs or spin-offs. The analysis is based on a case study that examines the spin-off of E.ON and Uniper, as well as the carve-out of RWE and Innogy. To mitigate the impact of the COVID-19 crisis, a mostly representative timeframe has been selected for analysis. E.ON and RWE are particularly noteworthy, as they are the largest German utilities and the first European energy companies to divest business segments significantly driven -but not limited to- political, economic, and social pressure.

This paper is divided into four sections. After this introduction, the second section provides an overview of the relevant scientific theories and sustainability in value creation to provide a better understanding of divestments as sustainability-enabled value creators. The third section is the main focus of this paper and presents the case study and associated insights. Additionally, the transferability of the results to future divestments, research limitations, critical reflection, and further research approaches are discussed. Finally, this paper concludes with a conclusion and an outlook.

2. Theoretical Framework

2.1 Fundamentals of Shareholder Value and Stakeholder Theory

According to the shareholder value theory, managers should focus on profits and value creation for shareholders, stressing the economic success of companies as overarching target (Mulligan, 1986). In this context, serving shareholders becomes the main focus for the company and since the company is owned by the shareholders, no one else should benefit from it (Jensen & Meckling, 1976). This assumption consequently led to the conclusion that shareholders must employ managers who prioritize shareholders' interests. Due to the asymmetric information base between shareholders and managers resulting from agency theory, measures must be taken so that managers try to maximize shareholders' profits (Jensen & Meckling, 1976).

In contrast to the shareholder value theory, the stakeholder theory does not only consider the interests of the shareholders for creating shareholder value, but also those of all stakeholders who are defined as all crucial groups for the existence of the company - e.g., suppliers, customers, and financiers (Parmar et al., 2010). Moreover, management should have more than shareholder profit maximization on its agenda and include stakeholders' overall needs in strategic decisions. It is important to highlight that stakeholder theories do not exclude shareholders as they are a crucial stakeholder group (Freeman et al., 2004).

According to the stakeholder approach, three central, interrelated corporate problems can be identified that need to be addressed by management. The first problem for managers is management mentality. It is the problem of how to combine value creation and, at the same time, ethics with business operations. The second problem is about commerce and value creation. The core of the problem is to grasp how value is created and treated in companies. The third problem relates to the requirement that managers must be able to recognize the link between capitalism

and ethics (Parmar et al., 2010).

Therefore, the stakeholder approach recommends taking a close look at the company's relationships with each stakeholder group that has an impact on or is impacted by the company. This enables companies to make their stakeholder management more sustainable and effective (Walsh, 2005). It is also necessary to understand the relationships between the different stakeholders and analyze how they change and develop over time. Then, it is management's responsibility to nurture the relationships so that the greatest possible value is created and appropriately distributed to all stakeholders (Freeman, 1984).

2.2 Fundamentals of Resource- and Information-Based Views on Divestments

Important theories related to mergers and acquisitions (M&A) are the resource-based view (RBV) and the information-based view (Hettich, 2014). According to the RBV, firms are viewed as organizations with a diverse set of tools rather than considering only capital, land, and labor (Wernerfelt, 1984), and furthermore, resources and their effective utilization are the key limiting or supporting factor for firm growth (Kor & Mahoney, 2004). However, resources can be defined in two different dimensions, either as intangible and tangible assets for the implementation and development of business strategies (Barney & Arikan, 2005) or as something that can be either a strength or a weakness for the company (Wernerfelt, 1984). Whether resources are a strength or a weakness depends on the effectiveness of the company's use of resources (Hoopes et al., 2003). In addition, a resource must have the three characteristics of rarity, difficult imitability, and value to create a sustainable competitive advantage. Inimitability and value take precedence, while rarity is considered critical only if the resource is valuable and difficult to imitate (Hoopes et al., 2003).

The RBV makes two key assumptions. First, it assumes that all resources are heterogeneously distributed across firms and that they are imperfectly mobile across firms (Hoopes et al., 2003). Second, firms occupy different positions in the market. Depending on their market position, they can acquire and expand other resources through different strategies, such as mergers and acquisitions (Wernerfelt, 1984). Despite the existing differences between definitions and capabilities, firms can compete in the same market due to the heterogeneous distribution and mobility of resources. The key differentiator for competing firms is finding an optimal long-term strategy (Miller, 2019).

The RBV explains two economic aspects, namely competitive advantage and economic rents (Peteraf & Barney, 2003). Competitive advantage occurs when a firm can create more value than its competitors in the market, while economic rents occur when the returns of a particular factor are higher than the potential opportunity costs (Peteraf & Barney, 2003). According to Wan et al. one of the best approaches to explain the creation of shareholder value is to apply the RBV. This means that a company can create shareholder value by focusing its resources on its core business and destroy shareholder value when companies diversify in ways unrelated to their core business (Wan et al., 2011). This also applies to divestments. When a company divests businesses or segments that do not fit its core strategy, these divestments can free up liquidity to invest in resources and segments related to the core business. This can increase efficiency and strengthen the internal capital structure.

The second important approach to explaining divestment factors and value creation is the information-based approach. This approach focuses on the agency problem and the asymmetric distribution of information between managers and shareholders (Chen & Feldman, 2018; Maas et al., 2019). The economic agency problem, or the principal's problem, is to choose an appropriate reward system that induces the agent to behave according to the principal's preferences. The critical part of the theory is the contract and incentive system, as it is responsible for controlling the risk conditions, the distribution of incentives, and the information that forms the basis for the agent's decisions and actions (Ross, 1973). The agent's behavior never meets the investor's requirements; the agent acts out of self-interest.

Agency conflicts between shareholders and managers often result in missed opportunities to change the company's scope of action for the better through strategically sound acquisitions or divestments because they are often seen as weaknesses (Chen & Feldman, 2018). Moreover, the separation of control and ownership allows managers to pursue goals for their own benefit. Due to the poorer information base of shareholders, it is difficult for them to monitor managers and ensure that they are operating in a manner that maximizes shareholder value (Yermack, 2006). As a result, managers may prefer to divest small business units to maintain a high level of returns, while owners may prefer to divest larger units to reduce the degree of overdiversification. This is related to the self-interest of managers and owners (Bergh & Sharp, 2015). However, managers who also own shares in the company approach corporate governance differently by working toward shareholder value creation and reducing managerial opportunism (Sanders, 2001).

2.3 Characteristics of Divestments and Limitations

The main reasons given by companies for divesting business units are that certain assets or business units are no longer part of the core business and therefore do not generate sufficient synergies and profits. In addition, a

poor market position or insufficient growth opportunities are often cited as decisive reasons for divestments (Defensive M&A for a resilient portfolio, 2020). Therefore, focusing on promising technologies and divesting segments with poor market prospects can free up capital to increase investments in promising businesses and thus increase value for shareholders and the company. However, regardless of the reasons for the decision to divest, there are three different methods for divesting a subsidiary or business segment. These restructuring methods result in a change in capital structure, a change in shareholder structure, and a redistribution of assets within the companies (Pearson Prentice Hall, 2004).

The first form is spin-off, which describes the process of creating a new, independent company. This is done by allocating or selling new shares in one of its business units or subsidiaries to the existing shareholders of the issuing company. This form does not serve to raise liquidity, as no new initial public offering (IPO) is carried out. However, it does change the capital structure, i.e., the debt-to-equity ratio, by creating an entirely new, independent company (Pearson Prentice Hall, 2004).

The second form is the equity carve-out, which is an initial public offering of a partial or full investment in a subsidiary or business unit of the parent company. This involves the creation of an entirely new publicly traded company in which the parent company no longer holds an interest, or only a partial interest, depending on the size of its remaining stake in the carved-out entity. In contrast to the spin-off, here the company receives fresh liquidity for the sale of the shares, and the shareholder structure changes as new shares are issued to the public (Pearson Prentice Hall, 2004).

The third option is the asset sell-off. Its form describes the sale of a subsidiary or business unit to another company. In return, the parent company usually receives cash or, less frequently, shares or other assets as compensation and no longer has an interest in the divested subsidiary (Pearson Prentice Hall, 2004). Because this divestiture method completely separates shareholders and stockholders from the business unit and offers them no benefits other than cash and a downsized company, this form is excluded from the analysis in this paper, and the focus is on the benefits to shareholders in the case of spin-offs and spin-offs of carbon-intensive business units (Jain, 1985).

In the following Figure 1, the three different restructuring methods are shown graphically:

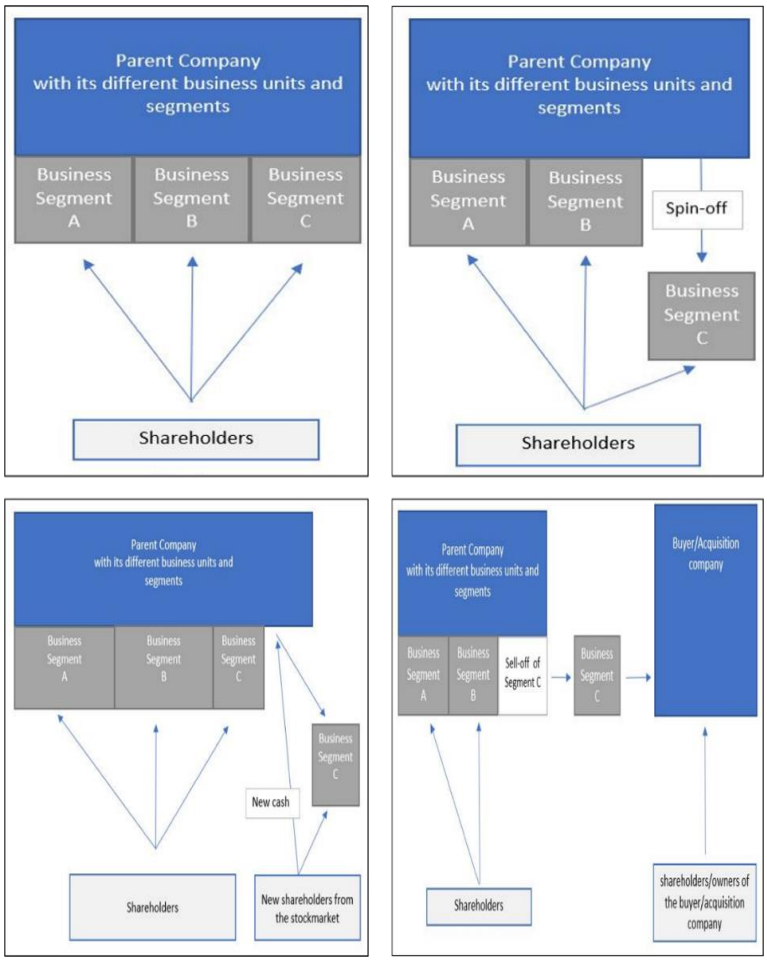

Figure 1. Owner and business structure pre- and after spin-off, post partial carve-out and Post asset sell-off

2.4 Classification of Sustainable Finance

The discipline of sustainable finance has gained much importance in the last two decades. However, for a better understanding, it is essential to specify the term "sustainability" as it does not only refer to environmental aspects, but rather means a holistic view of economic, social and environmental dimensions (United Nation, 2005). Overall, sustainable finance aims to gather information before capital is invested, monitor what happens to the invested capital, facilitate diversification, and promote trade and risk management. By funding and allocating resources, capital providers can influence strategic decisions of companies, especially with regard to their sustainability orientation (Schoenmaker, 2017).

The importance of sustainable financing stems from the fact that today's economy is characterized by resource scarcity and overconsumption. Conservation of resources and the planet requires an equitable distribution system (Daly & Farley, 2011). To address the problem of overconsumption, various strategies and organizations such as the Global Reporting Initiative (GRI) or the Sustainable Development Goals (SDGs) were launched in 2015 and 2017, respectively, which concretize 17 goals to achieve a more livable planet (Global Reporting Initiative, 2021). According to Rockström & Sukhdev (2016), these 17 goals can be categorized as environmental, social, and governmental. However, arguably the most influential and important milestone for today's sustainable finance was the creation of the United Nations Principles for Responsible Investment (UN PRI) in 2006, which established the concept of ESG investing and was dedicated to creating a sustainable financial market. The success of the PRI has been tremendous, and international support for ESG investing continues to grow as more investors, companies and governments have signed on to the PRI program (United Nations Principles for Responsible Investment, 2021).

In the last decades, the concepts of socially responsible investing (SRI) and corporate social responsibility (CSR) had gained great importance before ESG became the most modern concept in the investment world (Amel-Zadeh, 2018). In general, ESG investments can be defined as investments that consider each of the ESG pillars and factors as part of the investment decision-making process to manage risk, invest sustainably, and generate long-term returns (MSCI, 2018). By specifying each pillar, it becomes clearer what aspects ESG investing covers. The "Environment" pillar addresses issues such as energy and power consumption, pollution, climate change, global warming, and other aspects related to preserving our planet. The "Social" indicator measures how companies treat the health and safety of their employees. It also considers aspects of corporate citizenship and philanthropic activities. The "governance" indicator looks at corporate culture, ethics, accounting structure, board independence, and executive compensation (Desclée et al., 2016).

The continued increase in demand for ESG-related financial products is visible through the monitoring of ESG assets under management. The U.S. Sustainable Investment Forum indicated that U.S.-domiciled ESG assets will increase from $639 billion in 1995 to $16.6 trillion in 2020. From 2018 to 2020, it increased 42 percent from $12 trillion to $17.1 trillion. Simply put, this means that one in three dollars of U.S. assets is already managed with ESG involvement (U.S. SIF Foundation the Forum for Sustainable and Responsible Investment, 2020). Despite the popularity and importance of ESG, each ESG provider has developed its own methodology and definition, resulting in a diverse, opaque, and complex ecosystem of ESG ratings, although the Sustainability Accounting Standards Board (SASB) and GRI have developed two widely accepted and used concepts (Eccles et al., 2020). Furthermore, the heterogeneity of metrics leads asset owners and asset managers to use and weight the importance of each metric and pillar differently (Desclée et al., 2016).

3. Divestments in the Energy Industry

3.1 Current state of Research and Research Questions

The literature on ESG performance, divestment and shareholder value creation is extensive (Giese et al., 2019). Modern research describes divestment as an important tool for business strategy and management (Kengelbach et al., 2014). On the one hand, there are reactive divestments, which are usually motivated by the need to divest from an unsuccessful business segment in order to return the company to profitability (Peruffo et al., 2018). On the other hand, proactive divestments are planned well in advance to strategically strengthen the company's market position. Therefore, reactive divestments are considered as contingency plans, while proactive divestments are considered as planned strategic decisions (Moschieri & Mair, 2008).

The meta-analysis by Wan et al. (2011) found that diversification unrelated to the core business leads to the destruction of shareholder value, while diversification related to the core business creates value. Lee and Madhavan's meta-analysis on divestment found that divestment leads to value creation for the parent company. However, they pointed out that this is only true for strategic and not for tactical divestments, provided that they are carefully planned with the right motivations (Lee & Madhavan, 2010). In addition, the study by Kengelbach et al. (2014) correctly found that divesting non-core assets increases the company's and shareholders' returns. Moschieri & Mair (2011) found that companies divest units, retain shares or relationships with the divested units, and later reappropriate the value created. In this way, the parent company can outsource the risk of innovative,

young, and novel development projects (Moschieri & Mair, 2011). In addition, proactive divestments that focus on refocusing the company on its core segments and that are executed with clarity lead to the creation of shareholder value in most cases (Lloyd-Owen et al., 2013). However, the path and success of divestments depend on the market environment (Kengelbach et al., 2014). The findings of the studies are consistent with the key messages of the resource-based view, which states that companies need to focus on their core business, core resources, and know-how to be competitive and generate positive returns (Wernerfelt, 1984). Thus, current research largely agrees that reactive divestments tend to be value-destroying, while proactive divestments tend to be value-creating (Teschner & Paul, 2020).

Although there are numerous studies in the field of M&A and divestment, these studies mainly examine the creation of shareholder value in the commodity, beverage, or transportation industries (Hall, 2018). Moreover, most studies compare and analyze different metrics to find out which metric has the highest explanatory power for the development of shareholder value and firm value, but rarely examine their contribution to divestment (Burksaitiene, 2009). In addition, many studies analyze which metrics are most appropriate for which industries or types of companies (Hall, 2018). Another extensive body of research focuses on divestment factors for industries or companies (Bass & Grøgaard, 2021; Ito & Rose, 1994).

In analyzing recent studies on disinvestment in the energy industry, most focus on risk-adjusted returns and the impact of regulation, stock performance, and how investors should manage their portfolios (Choi et al., 2020; Feldman, 2021). Hunt & Weber (2019) pointed out that there are few studies focusing on the economic impact of fossil fuel phase-out and found in their analysis of the Canadian energy market that green energy portfolios can lead to higher returns. Henriques & Sadorsky (2017) as well as Trinks et al. (2018) also reached similar conclusions, pointing to a positive return effect of fossil fuel divestment and underscoring investors' fears of fossil fuel devaluation.

However, there has been insufficient analysis of how these divestments contribute to sustainable value creation from a shareholder perspective, and there is a lack of accurate sectoral analysis for utilities. Especially since most studies compare and analyze ratios to find out which ratio has the highest explanatory power for the development of shareholder and company value, but rarely examine their contribution to divestments (Burksaitiene, 2009). Moreover, many studies analyze which metrics are most appropriate for which industries or types of companies (Hall, 2018). In particular, the conventional energy sector requires special considerations as it faces policy regulations, phase-out opportunities, and societal pressures (Papadis & Tsatsaronis, 2020; Powering Past Coal Alliance, 2022). Therefore, it is important to analyze how energy companies can take action in these challenging times to strengthen or improve their business models while increasing sustainability and shareholder value.

To address this research gap, this study analyzes the shareholder benefits of linking value-based and accounting-based performance measurement methodologies with ESG when the energy sector parent company divests its carbon-intensive businesses through a carve-out or spin-off. This paper focuses on German energy utilities.

To answer this research question, three sub-questions are explored in the case study. The first question is whether divestment of carbon-intensive business units leads to better firm performance in terms of accounting metrics and stock market performance. The second question posed is whether restructuring through spin-offs and carve-outs leads to higher shareholder value creation. Third, this study aims to find out how divestments affect the ESG score and whether sustainable shareholder value has been created.

3.2 Data and Methodology

The analysis is based on a case study of the divestments of German utilities E.ON and RWE in 2016, starting with an analysis of stock market performance and deriving the companies' key performance indicators from their annually reported figures. The companies' financial results for the period 2014-2020 are sourced from Refinitiv Eikon following the companies' annual reports. In addition, datasets were taken from Bloomberg, as only this provider has the complete dataset for calculating the value-based ratios. The Refinitiv Eikon platform also serves as the provider for the ESG data. Since Bloomberg lacked the figures for interest expense, these were supplemented from the respective official annual reports. In addition, key figures and numbers are retrieved from Refinitiv Eikon and Bloomberg.

The period of analysis extends from 2014 to 2020 and allows for a holistic view of the pre- and post-divestment phases. The purpose of starting the analysis two years before the divestments is to capture the negative development of the share price and performance of E.ON and RWE and then to analyze the impact of the divestments as well as the restructuring of the company and the results achieved by the end of 2020.

The analysis continues with the assessment of the share price and market capitalization development and works its way from the accounting and performance-related key figures to the value-related key figures. Since legislation gives companies leeway in accounting policies and there are no mandatory standards, each company applies its own value reporting system, which is why this work relies on the cfrv/FOM standard to ensure comparability. The standardized cfrv/FOM concept addresses the problem of individually reported "profit before" as well as the different concepts of after and before taxes (Bhattacharya et al., 2007; Hitz, 2010). The residual profit measure

used in the cfrv/FOM concept is earnings before interest and taxes (EBIT), which is calculated here on the basis of the income statement and can thus be adjusted for distortions due to tax effects and different financial structures of the companies. This makes EBIT comparable despite the different reporting methods. The cfrv/FOM value added is the equivalent of economic value added (EVA), only as a standardized pre-tax concept instead of being calculated after taxes (Kümpel et al., 2021). Interest-bearing capital is calculated as the sum of total annual average equity and non-current debt excluding deferred taxes and current debt.

In the following, accounting and performance measures used in the upcoming case study are differentiated accordingly.

3.3 Presentation of the Objects of Investigation

The structure of the German energy industry has changed significantly since 2011, as the German government took the Fukushima incident as a consequence to phase out nuclear energy, while there is a positive trend towards renewable energies. However, Germany significantly relies on fossil fuels to an average of 52% (IEA members 47%) (International Energy Agency, 2020). The four largest utilities operating the remaining power plants are RWE, E.ON, Vattenfall and EnBW, which are also responsible for over 50 % of conventional electricity generation in Germany (International Energy Agency, 2020).

As this paper will specifically examine the advantages and disadvantages of divestments in the energy industry, the divestments of E.ON and RWE are of particular interest as they are among the largest European energy utilities and both hold large stakes in conventional and nuclear power generation. In addition, the divested companies Uniper and Innogy are also among the largest utilities in Germany.

The first company considered is E.ON, a German listed company owned by private investors and headquartered in Essen, with an annual turnover of €60.944 billion and 78.126 thousand employees in 2020. In 2019, E.ON and RWE agreed on an asset swap in which E.ON acquired Innogy and transferred Innogy's renewables division to RWE. E.ON intended to focus entirely on customer solutions and distributions grids. The 2020 balance sheet figures are distorted as the renewables segment had not yet been separated from E.ONs annual report, so the revenue and employees were still included. In terms of profit, E.ON reported an adjusted EBITDA (earnings before interest, taxes, depreciation, and amortisation) of € 6.905 billion, a net profit of €1.270 billion and a ROCE of 6.2% (Brüsseler Platz, 2020). Following the post-asset swap with RWE, E.ON has now two operating segments since the deconsolidation of renewable energy production. The segments are divided into Customer Solutions, which includes supplying customers with power, gas, heat, and other customised solutions, and Energy Networks, which consists of the gas and power distribution network (Brüsseler Platz, 2020). E.ON aims to become climate-neutral by 2050 and has become one of the largest energy grid suppliers in Europe (Brüsseler Platz, 2020).

The second company considered is RWE, a German stock listed company with annual revenue of € 13.688 million (excluding natural gas tax/electricity tax), an adjusted EBITDA of € 3.235 million, a net income of € 995 million, and 19.498 thousand employees (converted to full-time positions) in 2020 (RWE Aktiengesellschaft, 2020). RWE has five operating segments, four of them being core businesses, while the fifth segment, coal/nuclear power generation, is being phased out under the German government's plans. The five segments after the asset swap with E.ON are offshore wind energy, onshore wind and solar energy, hydro, biomass, and gas energy, supply and trading as well as nuclear and coal energy.

The further restructuring and transformation of E.ON and RWE following their divestments in 2016 were supported by an asset swap between the two companies in 2019. As a result of the asset swap, E.ON acquired Innogy, in which RWE held a 75% stake, and RWE received a 17% stake in E.ON in return. RWE then acquired the entire new energy business of E.ON and Innogy, while E.ON took over the rest of Innogy's business and the grids and distribution network. RWE also announced its intention to invest in renewables between € 1.5 and € 2 billion net annually (RWE Aktiengesellschaft, 2020). Furthermore, by swapping assets with E.ON, RWE became one of the world's largest renewable energy producers and strives to become carbon neutral by 2040 (RWE Aktiengesellschaft, 2020).

However, coming to the divestments, E.ON and RWE had been both urged to reinvent themselves by the government and their investors, as their stock prices, profits, revenues, and market capitalisation considerably dropped after facing challenging years. In addition, both energy portfolios had a high share of fossil fuels and nuclear energy, which are facing political phase-out. RWE generated 76% of its fuels from conventional energies and E.ON 53% in 2015 (Kiyar & Wittneben, 2015). Therefore, they decided to undertake divestments of their core business, to become more attractive to investors again, to restructure the business and to be able to focus on promising segments such as renewable energy grids and production (Heiligtag et al., 2019).

Due to macroeconomic, political, social and investor pressures, the spin-off of E.ON-Uniper and the carve-out of RWE-Innogy were undertaken, which aimed to restructure and future-proof the companies. The first mover was E.ON by announcing the spin-off of Uniper, a fully owned subsidiary of E.ON, in November 2014. Uniper started its operation on the 1st of January 2016 as a private investor-owned stock listed company based in Essen. It remained largely owned by E.ON and was later on fully acquired by Fortum. In 2020, they reported annual revenue

of € 50.968 million, an adjusted EBITDA of € 998 million, a net income of € 402 million, and had 11,751 thousand employees. On the 8th of June 2016, the majority of the shareholders approved to spin-off a 53.35% majority stake of the fully owned subsidiary and to list it via spin-off on the stock market (Brüsseler Platz 1, 2016a). The shareholders of E.ON received Uniper stocks in the ratio of 10:1, meaning that for owning ten E.ON shares, every shareholder received one Uniper share (Brüsseler Platz 1, 2016b). On the 26th of June 2018, E.ON sold its remaining 46.65% stake in Uniper to Fortum for €3.8 billion including dividends paid to E.ON, which completely separated Uniper from Brüsseler Platz 1 (2019). The Uniper spin-off in 2016 was a critical restructuring step for E.ON because it freed the company's core segments from its expensive legacy burdens. The newly created entity Uniper entity took over the carbon-intensive conventional power generation, which had become unattractive due to the political phase-out (Brüsseler Platz 1, 2016a). However, it was a political requirement for the parent company to retain the nuclear energy division, which was then transferred to the PreussenElektra unit to reduce regulatory risks and uncertainties for the parent company Brüsseler Platz 1 (2016a).

The carve-out of RWE-Innogy in September 2016 took the opposite approach of E.ON by divesting the renewables while retaining the conventional power segment and trading business (RWE Aktiengesellschaft, 2016). RWE's decision to spin off Innogy was driven by the desire to give the new entity all possibilities to focus entirely on renewables, knowing that E.ON would keep the nuclear segment. In October 2016, RWE completed the carve-out of Innogy, which took over the renewable energy generation, supply, and networks. RWE preserved a 76.8% stake in Innogy and raised €2.6 billion from the sale of Innogy shares, while Innogy was able to generate €2 billion cash. Innogy was a private and investor-owned German stock listed company with RWE as the majority shareholder until its delisting after being merged into E.ON and RWE within the asset swap 2019.

Innogy's figures are only available until 2018 when it had annual revenue of €36.984 million, an adjusted EBITDA of €4.097 million, a net income of €-653 million, and 42.904 thousand employees. The delisting allowed RWE to raise capital, reduce debt and gain more financial leeway to focus on conventional divisions and corporate restructuring. RWE intended to bundle its promising segments in Innogy and benefit from their development by receiving high returns on its shares in the form of dividend yields and other payments. Investors had great confidence in Innogy's business model, which was reflected in the opening share price exceeding the upper end of the discussed price range at €37.30 per share. It is worth examining whether RWE benefited from this approach or whether it was disadvantageous to spin off its promising business areas.

3.4 Results

The analysis begins by evaluating the share price and market capitalisation development, progressing from accounting- and performance-based measures to value-based ones. Prior to the divestments, E.ON, RWE and their shareholders faced challenging times as sales, profits, and share prices had been declining steadily since early 2008. E.ON's market capitalisation reached its peak at €89.4 billion on January 10, 2008, and RWE's at €53.3 billion on January 7, 2008. Afterward, the market capitalisations of RWE and E.ON continued to decline until they reached their lowest valuations of €5.3 billion (RWE) and €12.5 billion (E.ON) on September 28, 2015, before the official announcement of the divestments. The following chart in Figure 2 illustrates the market capitalisation developments of E.ON, RWE, Uniper and Innogy.

As shown in the graph, the market capitalisations of E.ON and RWE fell between 2014 and 2016. After the divestments between 2016 and 2020, the market capitalisation of E.ON almost reached the level of 2014, while RWE's exceeded the 2014 level in 2020. Despite separating significant business areas, E.ON and RWE were worth more after one year following the divestments. From a market capitalisation perspective, the divestments created shareholder value by increasing the valuation of the individual companies. Additionally, the stock price development reflects the increase of every single share. Figure 2 portrays the development of E.ON’s, RWE’s, Uniper’s, and Innogy’s stock prices.

The chart depicts that RWE's and E.ON's stock prices experienced a significant decline, losing almost two-thirds of their value between 2014 and 2016. However, after executing the divestments, the share prices began to recover, with RWE even surpassing its 2014 value at €35 per share. Although E.ON's progress was not as remarkable as RWE's, they were also able to reach their 2014 stock price again. However, after the asset-swap between E.ON and RWE, RWE demonstrated better share price development than E.ON, as shown in the data after 2018. On the other hand, Innogy and Uniper's development was generally positive, with Uniper achieving the overall best share price development. In this respect, all four companies created shareholder value by increasing the equity market value of the shares between 2016 and 2021. Specifically, E.ON's stock increased by 63%, while RWE's increased by 208% from January 1st, 2017, until December 1st, 2021. Uniper's stock price also rose significantly, by 279%, from their listing in September 2016 until December 1st, 2021, whereas Innogy's stock increased by 36% from its listing in December 2016 until its delisting.

The market valuation must be considered as it reflects investors' confidence in the company and its future profitability. However, the value of total assets relative to the market capitalisation of companies shows how much "fantasy" or confidence investors have in the company. The total assets are the substantial book value of the

company, while the market capitalisation is related to the price investors are willing to pay for the company. The comparison of the contrasting companies Uniper and Innogy is particularly interesting.

The graph shows that E.ON and RWE were running similar in terms of market capitalisation, while their assets were developing differently. The difference between the conventional energy-based utility Uniper and the renewable-focused utility Innogy becomes obvious. Between 2016 and 2017 the total assets of Uniper were higher than Innogy's, while in 2017, Innogy's were only slightly higher than Uniper's. The observation of the market valuation reveals huge differences. Innogy started after its listing on the stock exchange by being valued higher than RWE and Uniper together with a market capitalisation of € 18.339 billion. In contrast, Uniper started with a market capitalisation of € 4.800 billion. This means, even though Innogy and Uniper almost had the same worth in total assets, Innogy was almost valued four times higher than Uniper, starting immediately as the highest valued German utility.

Continuing with the traditional performance-based measurements ROCE, EPS, ROA and ROE the results are presented in Figure 3. The graph for the ROCE shows a slightly positive trend since 2016, as all companies except Innogy bottomed out there. Thereafter, performance improved on average, and no negative ROCE was generated after 2016. It is noticeable that Innogy has developed very consistently with a slight downward trend. However, if looking more closely at the ROCE of E.ON and RWE, it improved significantly from 2016 to 2017 after the divestments. Furthermore, from 2017 on, E.ON was able to cover the capital costs, but their performance showed a downwards trend. RWE had always a positive ROCE except for 2016. In 2019 their ROCE was exceptionally high. Nevertheless, overall, the ROCE improved after the divestments. Uniper had a positive development as well, but they were never able to cover the capital costs before 2019, where they had almost the same ROCE as E.ON in 2019 and 2020.

As the EPS are also based on the profit, the chart shows a similar progression as ROCE. The EPS behave like the ROCE over the years, showing a general positive tendency, except for Innogy showing the slightly decreasing tendency again. However, the EPS declined strongly from 2014 to 2016 and then recovered into positive earnings for E.ON and RWE, while Uniper could reach positive earnings again in 2019. In addition, the ROA is also considered as it shows the profitability in relation to the companies' assets. This metric is also interesting as the asset structures changed with the divestments and profitability.

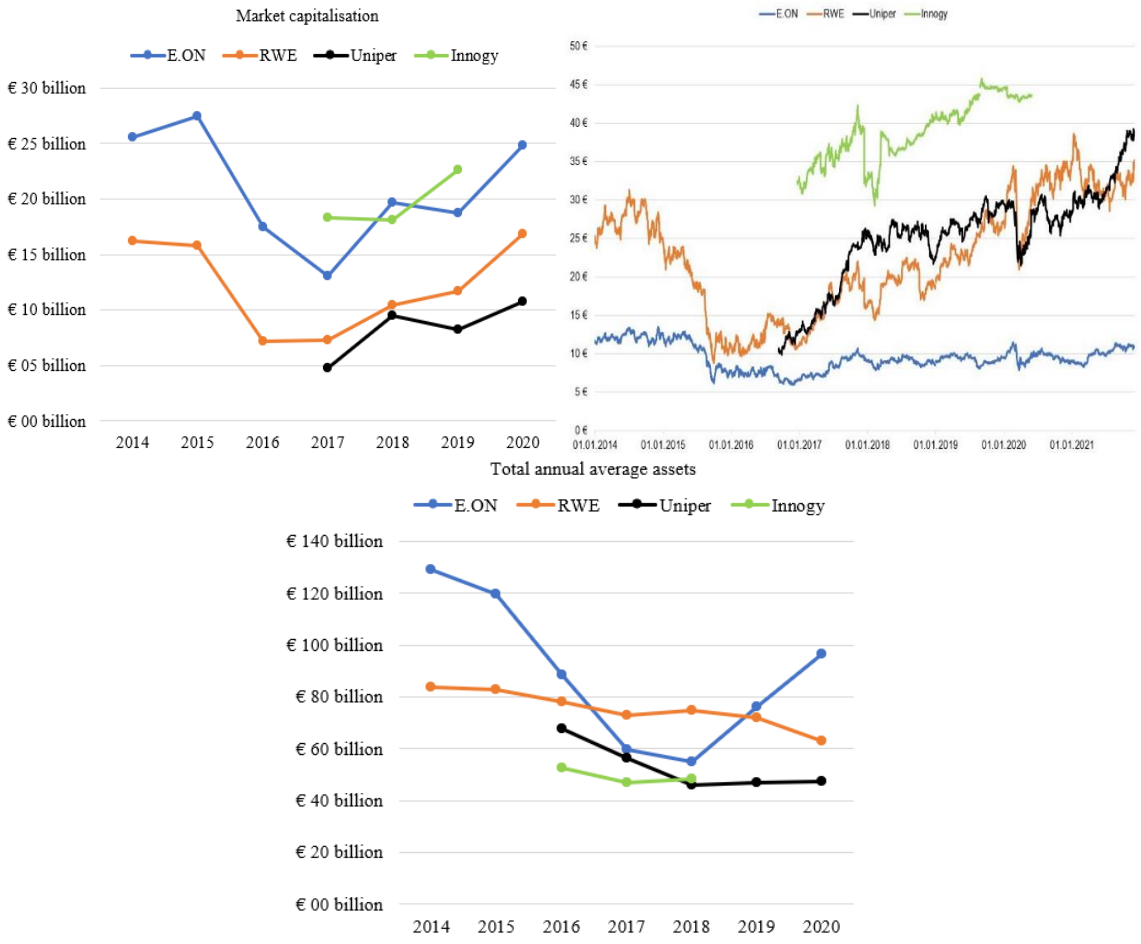

Figure 2. Market capitalization, stock price comparison and total annual average assets

Here again, it is remarkable that E.ON's and RWE's profitability declined from 2014 to 2016 while RWE is more profitable than E.ON until 2016. After the divestments, this reverses until the asset swap in 2019, after which RWE performs better than E.ON again. In addition, Uniper, which started 2016 with ROA of -5.86%, shows a positive development and reaches ROA of 2.28% in 2019, but remains profitable at 1.62% in 2020. In general, the ROA analysis shows that after the divestments in 2016, E.ON, RWE and Innogy show a positive ROA for all years, while Uniper does so from 2019 onwards. Furthermore, the graph for the ROW shows a similar overall picture as the previous ones, including the typical positive performance jump from 2016 to 2017. Additionally, it portrays Innogy´s slowly decreasing performance and the performance progressions of RWE and E.ON. Additionally, all ROEs were positive from 2016 onwards, except for Uniper, which again reached profitability from 2019 onwards, as was the case with the previous key figures. Therefore, the trend that the performance of all companies, except for Innogy, improved after the divestments remain intact.

After the accounting- and performance-based measurements above, the analysis will now address the value-based perspective with the cfrv/FOM value added, value added per share, value rate and price-value-ratio. Starting with the cfrv/ FOM value added, the analysis shows that E.ON was destroying shareholder value by earning less than required to cover the equity and debt capital costs. However, the divestment led to a positive value added of € 2,539 billion in 2017. The value added then decreased again to € 84 million in 2019 but could recover to € 705 million in 2020. RWE´s picture is slightly different, they had also a drop in 2016 to € -6,377 billion and reached then € 1,320 billion in 2017. However, their value added could recover to € 6,910 billion in 2019 but fell to € -1,598 billion in 2020. Therefore, their value added is very volatile, but shows a positive trend. In contrast, Uniper started its operation by destroying € -4,018 billion value in 2016, but it reduced its losses to € -184 million in 2019. In 2020 their loss in value added increased to € -650 million. Innogy again had a different route by starting with a positive value added of € 1,842 billion, which decreased to a loss of € -554 million in 2019. Nevertheless, it is shown that only E.ON, who divested its conventional energies and Innogy, who was created to take over the renewables maintained an overall positive value added. However, the overall trend of RWE and Uniper has been positive since 2016.

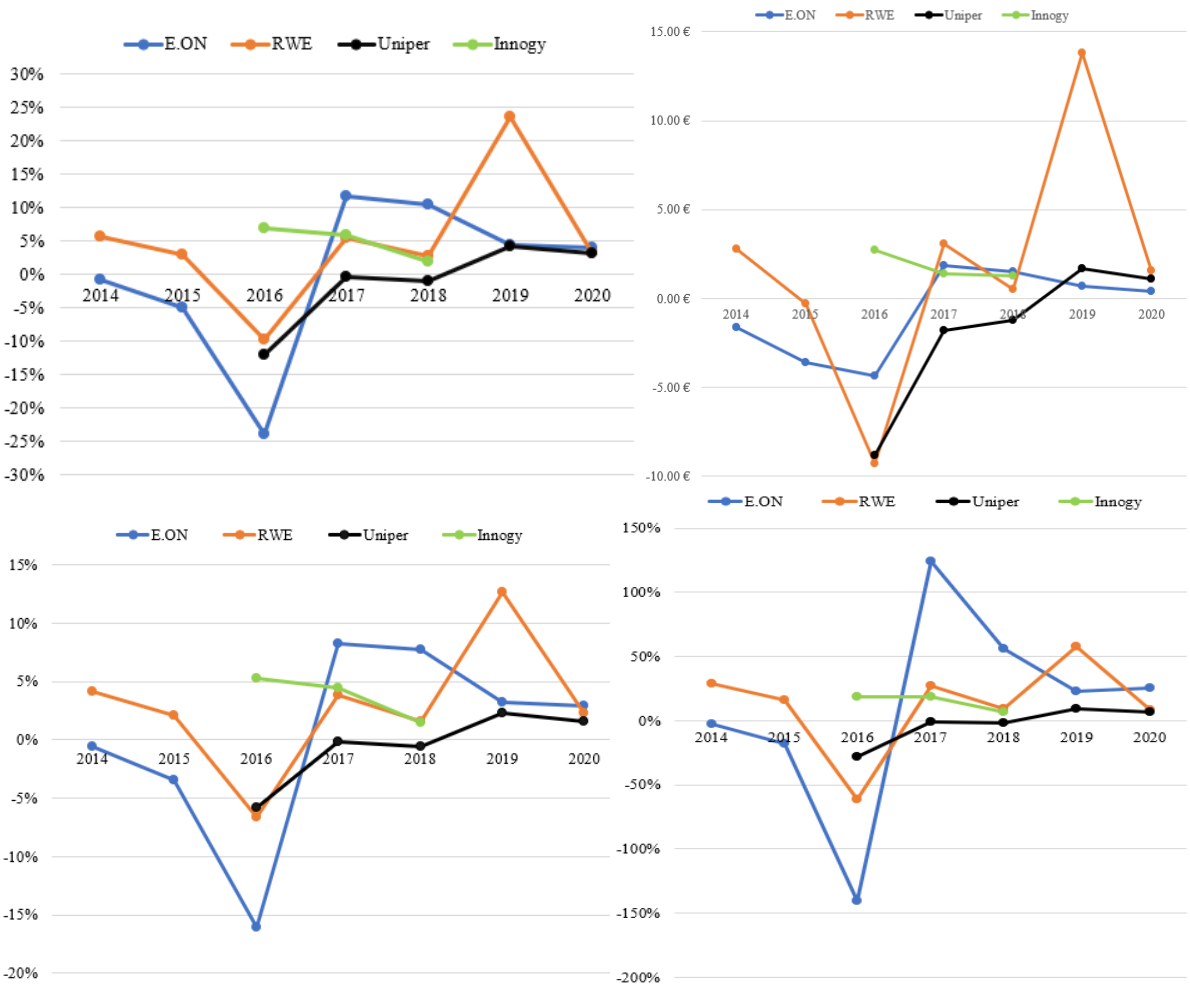

Figure 3. Results for ROCE, EPS, ROA and ROE of the objects of investigation

The cfrv/FOM Value added per share shows a similar progression as the metrics before. The graph shows that especially the shareholders of E.ON received every year a value increment, while RWE´s value added had large deflections. But due to the high profit in 2019, RWE shows overall the highest value added per share for the whole period considered. Innogy´s value added per share considerably decreased year to year sliding into a negative value added per share in 2018. Uniper showed a positive trend but was again never able to generate a positive value added per share to cover the equity and debt capital costs.

The cfrv/FOM value rate shows now the relative value added performance independent from the company size. This consideration makes it possible to measure the value added in percentage terms. As a result, again RWE was very volatile, and E.ON was the only firm covering the debt and equity costs for every year after 2016.

The price-value ratio categorises the companies in performance groups, meaning the smaller the price-value ratio, the higher the performance and therefore, the more attractive the investment. In detail, companies can be divided into three categories. The first category comprises companies with a higher price return than 10% price-value ratio less than or equal to 10. The second category is a return between 5-10% and a price-value-ration bigger than 10 or ≤ 20. The last category consists of firms with a return below 5%, having a higher price value ratio than 20. When the price-value ratio is negative, there is no value created at all (Wolf, 2017). The illustration shows that Uniper was never able to generate value added. E.ON was able to get below a ratio of 10 in 2017. Then they were only able to generate a small positive price-earnings ratio. Innogy could reach below 10 in 2016 and decrease in 2018 to a negative ratio. RWE could reach below 10 in 2017 and 2019.

Overall, the cfrv/FOM value-based analysis indicates for most measures a similar picture that the trend of the value creation was overall positive except for Innogy. However, in contrast to Uniper, Innogy was able to create shareholder value in 2016 and 2017. Although Innogy showed better performance, it had a downward trend, whereas Uniper showed an upward trend.

The analysis, visualized in Figure 4 provides insights that the performance of the companies and the respective stock market valuation are not always correlated, as the example of Innogy and Uniper shows. However, especially in the stock market, news related to the business orientation towards renewable energies seems to have a positive effect on the share price, the valuation, and the investors belief in the company. Furthermore, for value creation and the analysis of traditional return ratios, a positive trend can be seen with divestments or takeovers such as asset swaps. However, further analysis is needed to establish a definite relationship.

Figure 4. Results for cfrv/FOM value added, value added per share, value rate and price-value-ratio of the objects of investigation

ESG Score (Weight 100.0%)				
	E.ON	RWE	Uniper	Innogy
2014	A-	B+		
2015	A-	B+		
2016	A-	B+	C+	D+
2017	B+	B+	B	B
2018	A-	B+	B	B+
2019	A-	B+	B	
2020	B+	B+	B	

Social Pillar Score (Weight 33.9%)				
	E.ON	RWE	Uniper	Innogy
2014	A-	B		
2015	B+	B+		
2016	B+	B	C+	D
2017	B+	B+	B-	B+
2018	A+	B-	B-	A-
2019	A-	C+	B-	
2020	A-	B	B-	

Environmental Pillar Score (Weight 42.5%)				
	E.ON	RWE	Uniper	Innogy
2014	A	A		
2015	A-	A		
2016	B+	A	B	D
2017	B	A	B+	B+
2018	B	A	B+	A-
2019	B	A-	B+	
2020	B	A-	B	

Governance Pillar Score (Weight 23.6%)				
	E.ON	RWE	Uniper	Innogy
2014	A-	B		
2015	B+	C+		
2016	B+	B	C	C-
2017	B+	C+	A-	B+
2018	A+	B-	A-	B-
2019	A-	C+	B+	
2020	A-	B	B+	

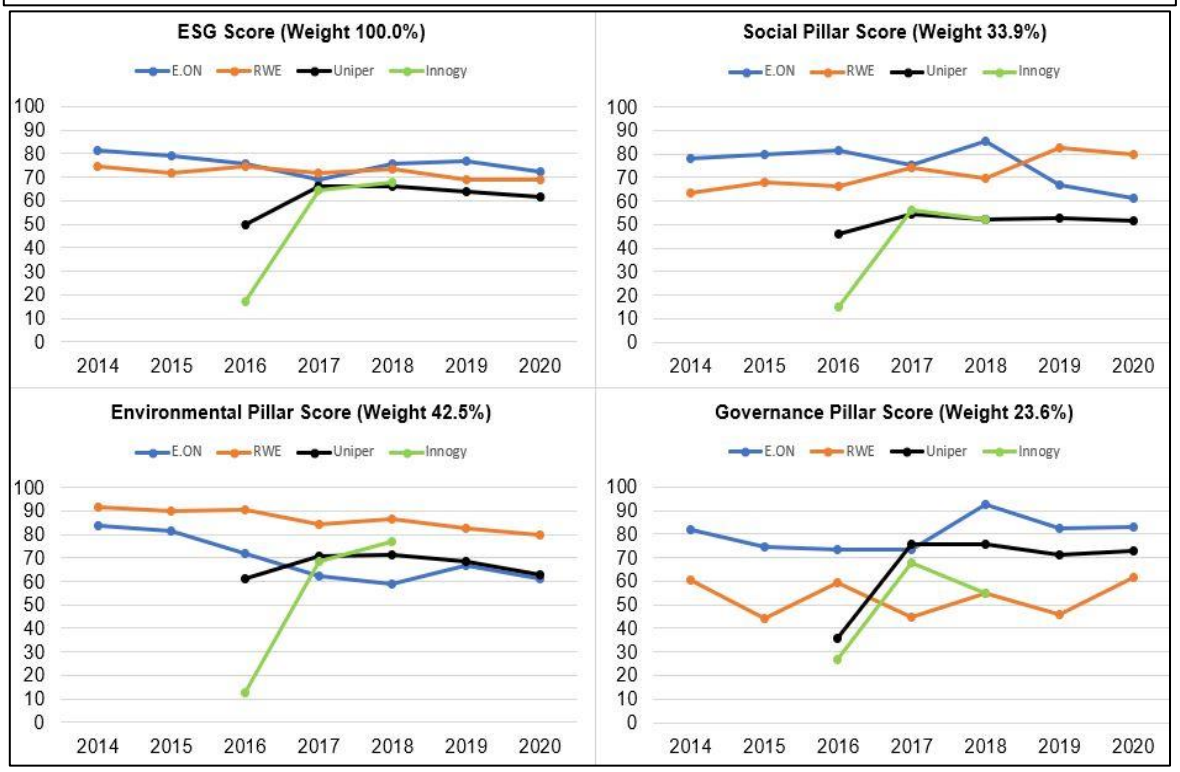

Figure 5. ESG rating comparison

Finally, the analysis considers the divestments from a sustainability perspective, meaning the ESG development and performance of the firms is analyzed, to observe how the business restructurings impacted the ESG ratings. The development of the ratings is shown in Figure 5, where the tables describe the published ratings in letters, while the chart shows the metrics in numbers to visualize the ESG scores. Contrary to expectations, the figures above show an overall negative ESG score development. Although Innogy was carved out as a renewable generation segment and Uniper as a so-called "sin" stock, both Uniper and Innogy had the worst ESG score in all years, except for 2016, where Innogy's ESG score was extraordinarily low due to incomplete reporting.

However, even though RWE kept only the nuclear and conventional power production, their ESG score has only slightly changed. The same applies to E.ON, divesting its legacy burdens and, despite retaining promising networks and nuclear power due to the political requirement, decreased in the overall ESG rating. Only the governance score increased improved after the divestments. Concluding, it is not possible to identify a positive connection between the divestments and the ESG ratings.

3.5 Critical Discussion and Limitations

The analysis provides a range of insights. From a stock market perspective, it was found that after the divestments in 2016, both share price and market capitalization increased until the end of 2020 (except for Innogy, which was delisted at the end of 2018). This suggests that the stock market has faith in renewable energy. Innogy was valued at almost four times the value of Uniper, despite having similar total assets. This finding supports the idea that the stock market favors the energy transition to renewables. However, it cannot explain why the shares of Uniper and RWE have outperformed those of Innogy and E.ON. One possible explanation is that the demand for conventional energies cannot be neglected to maintain secure and reliable energy supply.

From the perspective of traditional measures such as ROCE, EPS, ROA, and ROE, there was an overall positive trend post 2016. Uniper improved key metrics, but almost all figures were negative, meaning they only generated minor returns post 2018. In contrast, E.ON and RWE had an exceptionally superior performance in 2016, and they continued to generate profits, but overall, the profits decreased from 2017 to 2020. The only exception is RWE, which had an outlier in 2019, related to the asset swap with E.ON announced in 2018, in which RWE acquired all of E.ON's renewable generation and Innogy.

The value-based analysis showed a similar picture to the traditional measures. RWE and E.ON had a positive trend after 2016, while Innogy's value creation reached the highest value at the beginning and then declined. Uniper improved again but was unable to create value in any year and showed the worst performance. E.ON and Innogy were the most constant companies in creating value. Even though their returns declined between 2016 and 2020, they remained positive. RWE was relatively volatile, alternating between positive and negative developments, but the overall trend was positive. The analysis of the impact of the asset swap would provide a more detailed conclusion, but the delisting of Innogy in 2019 limits the analysis of these companies.

The analysis of the value- and performance-related key figures shows that the divestments represented a turning point for stock market performance, profitability, and value ratios. Another important finding is that the parent companies and the divested companies performed positively on the stock market after 2016, and their returns were better on average. The only exception is Innogy, which was only listed for three years before being part of the asset swap, limiting comparability. The asset swap announced by E.ON and RWE in 2018 correlated positively with RWE's announcement to acquire renewable power, which was well received by the capital market and led to a robust performance by RWE in 2019. In contrast, Innogy has deteriorated in every respect except market capitalization and share price, despite acquiring renewables and promising businesses.

The analysis showed that E.ON and RWE shareholders benefited from the divestments, as the valuation and stock prices increased after 2016. Furthermore, both companies showed a positive trend in performance and value creation. The comparative valuation of Innogy and Uniper provided insight into sustainable value creation for shareholders. However, it is not possible to compare how the companies would have developed without the divestments, and the analysis cannot cover all key figures and the extent to which investments will be profitable in the future.

The study was unable to identify any clear benefits or disadvantages related to divestments with respect to ESG performance. It is important to note that sustainable energy production alone does not necessarily lead to an improved ESG score, as many factors are taken into consideration for ESG ratings. It is therefore critical to consider the results of this study with caution, since every rating provider applies its own methodologies and ESG-weightings to evaluate performance. Despite this caveat, the analysis of ESG aspects does provide valuable insights for companies and investors who are considering divestment of carbon-intensive businesses. It highlights the fact that reducing emissions alone is not sufficient to achieve an improved ESG performance or rating. Future research should consider analyzing the three pillars and their individual components in order to make accurate statements about the impact of disinvestments on ESG scores. In conclusion, this study underscores the importance of analyzing ESG performance in a comprehensive and nuanced manner. It serves as a reminder that businesses and investors should take a holistic approach when evaluating ESG performance and not rely solely on one area, such as emissions reduction, to drive improvements in ESG scores.

4. Conclusion and Outlook

The analysis presented provides a solid foundation for further research into the potential for creating shareholder value through divestments towards sustainable business models. The results indicate that divestments that reduce risk and carbon emissions are viewed positively by the stock market, as evidenced by the analyzed company base. These findings have significant implications for future studies that seek to determine if this is a general trend across different sectors and geographic markets. The results can also assist companies in preparing for potential regulatory risks or exit issues.

In the specific case of RWE, the approach of divesting the more promising fields instead of the burdening segments resulted in higher market valuations for the divested companies. However, the overall valuation of the parent companies was not significantly different, suggesting that RWE's approach resulted in higher overall

valuation. RWE's asset swap with E.ON and the acquisition of Innogy made it the largest renewable energy producer in Germany. Both companies were valued higher after the divestments than before, and their stock prices increased over the years following the divestment, creating shareholder value. Analysis of traditional and value-based metrics showed a positive trend following the divestments.

Although Innogy's performance has declined since listing, the greener companies have shown better performance and higher stock market valuations relative to their total assets. The divestments were able to deliver the greatest benefit to shareholders from a stock market and share price perspective, and value creation and returns improved on average. It is difficult to determine whether sustainable shareholder value has been created in the form of ESG performance, as the analysis in this paper did not identify any significant positive or negative impact of the divestments. Nevertheless, sustainable performance and value creation were created for the items discussed.

Future research could investigate how a green business focus impacts performance, ESG ratings, and stock market behavior in other utilities and carbon-intensive divestitures. The study can also provide insights for companies and investors looking to divest legacy assets or establish subsidiaries that focus entirely on low-carbon technologies. Appropriate research areas would include the mobility sector, logistics, public transportation, construction, chemicals, and the automotive sector. An analysis of other divestments in different geographic markets could also be conducted to investigate whether this is a local or global phenomenon. Additionally, a study explicitly focused on ESG performance after divestments and how it contributes to the overall performance of the parent and subsidiary would be necessary.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

Amel-Zadeh, A. (2018). Social responsibility in capital markets: A review and framework of theory and empirical evidence. *SSRN*. https://doi.org/10.2139/ssrn.2664547.

Annual Report 2016: Powering. Reliable. Future. (2016). Essen, Germany: RWE Aktiengesellschaft.

Barney, J. B. & Arikan, A. M. (2005). The Resource-based View: Origins and Implications. In The Blackwell Handbook of Strategic Management, Hitt, M. A., Freemann, R. E., & Harrison, J. S. (Eds.). Wiley Online Library. pp. 123-182. https://doi.org/10.1111/b.9780631218616.2006.00006.x.

Bass, A. E. & Grøgaard, B. (2021). The long-term energy transition: Drivers, outcomes, and the role of the multinational enterprise. *J. Int Bus. Stud., 52*(5), 807-823. https://doi.org/10.1057/s41267-021-00432-3.

Bergh, D. D. & Sharp, B. M. (2015). How far do owners reach into the divestiture process? Blockholders and the choice between spin-off and sell-off. *J. Manag., 41*(4), 1155-1183. https://doi.org/10.1177/0149206312456705.

Bergh, D. D., Peruffo, E., Chiu, W., Connelly, B. L., & Hitt, M. A. (2020). Market response to divestiture announcements: A screening theory perspective. *Strateg Organ., 18*(4), 547-572. https://doi.org/10.1177/1476127019851083.

Bhattacharya, N., Black, E. L., Christensen, T. E., & Mergenthaler, R. (2007). Who trades on pro forma earnings information. Account Rev., *82*(3), 581-619. https://doi.org/10.2308/accr.2007.82.3.581.

Burksaitiene, D. (2009). Measurement of value creation: Economic value added and net present value. *Econ. Manag.*, (14), 709-714.

Chen, S. & Feldman, E. R. (2018). Activist-impelled divestitures and shareholder value. Strateg Manag. J., *39*(10), 2726-2744. https://doi.org/10.1002/smj.2931.

Choi, D., Gao, Z., Jiang, W., & Zhang, H. (2020). Global carbon divestment and firms' actions. Working Paper. https://www.wiwi.hu-berlin.de/en/Professorships/bwl/finance/seminars/papers-fin-acc-res-seminars/21ws/choi.pdf.

Daly, H. E. & Farley, J. (2011). Ecological Economics: Principles and Applications. Island Press.

Deloitte. (2020). 2020 Global Divestiture Survey: Defensive M&A for a resilient portfolio. https://www2.deloitte.com/content/dam/Deloitte/us/Documents/mergers-acqisitions/2020-global-divestiture-survey.pdf.

Desclée, A., Hayman, J., Dynkin, L., & Polbennikov, S. (2016). Sustainable investing and bond returns. Research study into the impact of ESG on credit portfolio performance. https://www.investmentbank.barclays.com/content/dam/barclaysmicrosites/ibpublic/documents/our-insights/esg/barclays-sustainable-investing-and-bond-returns-3.6mb.pdf.

E.ON Annual Report 2016. E.ON. (2016a). Essen, Germany: Brüsseler Platz 1. https://www.eon.com/content/dam/eon/eon-com/investors/annual-report/EON_Annual_Report_2016.pdf.
E.ON Annual Report 2019. E.ON. (2019). Essen, Germany: Brüsseler Platz 1. https://www.eon.com/content/dam/eon/eon-com/investors/annual-report/GB19_US_final.pdf.
E.ON Annual Report 2020. E.ON. (2020). Essen, Germany: Brüsseler Platz 1. https://www.eon.com/content/dam/eon/eon-com/eon-com-assets/documents/investor-relations/en/annual-report/GB20_US_final_internet.pdf.
Eccles, R. G., Lee, L., & Stroehle, J. C. (2020). The social origins of ESG: An analysis of innovest and KLD. *Organ. Environ., 33*(4), 575-596. https://doi.org/10.1177/1086026619888994.
Energy target 2050: 100 % renewable electricity supply. (2010). Germany: Federal Environment Agency. https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/energieziel_2050_kurz.pdf.
Feldman, E. R. (2021). Restructuring and divestitures. *Strategic Management: State of the Field and Its Future*. https://faculty.wharton.upenn.edu/wp-content/uploads/2016/11/Restructuring-and-Divestitures.pdf.
Freeman, R. E. (1984). Strategic management: A stakeholder approach. Boston: Cambridge University Press. https://doi.org/10.1017/CBO9781139192675.
Freeman, R. E., Wicks, A. C., & Parmar, B. (2004). Stakeholder theory and the corporate objective revisited. Organ. Sci., *15*(3), 364-369. https://doi.org/10.1287/orsc.1040.0066.
General Assembly: Resolution adopted by the General Assembly on 16 September 2005. United Nation. (2005). https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_60_1.pdf.
Germany 2020: Energy Policy Review. (2020). Germany: International Energy Agency. https://www.iea.org/reports/germany-2020.
Giese, G., Lee, L., Melas, D., Nagy, Z. Z., & Nishikawa, L. (2019). Foundations of ESG Investing: How ESG affects equity valuation, risk, and performance. *J. Portfoli Manag., 45*(5), 69-83. https://doi.org/10.3905/jpm.2019.45.5.069.
Hall, J. H. (2018). Value creation measures: An industry-based study. *International Journal of Productivity and Performance Management, 67*(2), 426-444. https://doi.org/10.1108/ijppm-08-2016-0178.
Heiligtag, S., Kleine, J. F., & Schlosser, A. (2019). Fueling the energy transition: Opportunities for financial institutions. McKinsey Insights. https://www.mckinsey.de/~/media/McKinsey/Industries/Electric%20Power%20and%20Natural%20Gas/Our%20Insights/Fueling%20the%20energy%20transition%20Opportunities%20for%20financial%20institutions/Fueling-the-energy-transition-Opportunities-for-financial-institutions-vF.pdf.
Henriques, I. & Sadorsky, P. (2017). Investor implications of divesting from fossil fuels. *Glob Financ J., 38*, 30-44. https://doi.org/10.1016/j.gfj.2017.10.004.
Hettich, E. (2014). M&A in der wissenschaft : Theoretische perspektiven und einblicke in die forschung. *M&A Rev. J., 25*(5), 186-191.
Hitz, J. M. (2010). Information versus adverse anlegerbeeinflussung: Befund und implikationen der empirischen rechnungswesenforschung zur publizität von pro-forma-ergebnisgrößen. *J. Betriebswirtsch., 60*(2), 127-161. https://doi.org/10.1007/s11301-010-0059-5.
Hoopes, D. G., Madsen, T. L., & Walker, G. (2003). Guest editors' introduction to the special issue: why is there a resource-based view? Toward a theory of competitive heterogeneity. *Strategic Manage J., 24*(10), 889-902. https://doi.org/10.1002/smj.356.
Hunt, C. & Weber, O. (2019). Fossil fuel divestment strategies: Financial and carbon-related consequences. *Organ. Environ., 32*(1), 41-61. https://doi.org/10.1177/1086026618773985.
Information to the shareholders of E.ON SE: Allocation of the acquisition costs and book values of the shares in E.ON SE subsequent to the spin-off. E.ON. (2016b). Essen, Germany: Brüsseler Platz 1. https://www.eon.com/content/dam/eon/eon-com/investors/shareholders-meeting/2016/E.ON_Allocation_of_acquisition_costs_and_book_values.pdf.
Ito, K. & Rose, E. L. (1994). The genealogical structure of Japanese firms: Parent-subsidiary relationships. Strategic Management Journal, 15. https://doi.org/10.1002/smj.4250151004.
Jain, P. C. (1985). The effect of voluntary sell-off announcements on shareholder wealth. *J. Financ, 40*(1), 209-224. https://doi.org/10.1111/j.1540-6261.1985.tb04945.x.
Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *J. Financ Econ., 3*(4), 305-360. https://doi.org/10.1016/0304-405x(76)90026-x.
Kengelbach, J., Roos, A., & Keienburg, G. (2014). Don't miss the exit: Creating shareholder value through divestitures. BCG. http://media-publications.bcg.com/MA_2014_Dont_Miss_the_Exit_Sep_2014.pdf.
Kiyar, D. & Wittneben, B. F. (2015). Carbon as investment risk-the influence of fossil fuel divestment on decision making at Germany's main power providers. *Energies, 8*(9), 9620-9639. https://doi.org/10.3390/en8099620.
Kor, Y. Y. & Mahoney, J. T. (2004). Edith Penrose's (1959) contributions to the resource-based view of strategic management. *J. Manage. Stud., 41*(1), 183-191. https://doi.org/10.1111/j.1467-6486.2004.00427.x.

Kümpel, T., Werner, J. M., & Wolf, R. (2021). Erklärungsgehalt wertorientierter kennzahlen zur performancemessung der unternehmen des BEL 20 aus sicht der behavioral finance. *Zeitschrift Für Inter Rechnungslegung, 17*(6), 277-284.

Lee, D. & Madhavan, R. (2010). Divestiture and firm performance: A meta-analysis. *J. Manag., 36*(6), 1345-1371. https://doi.org/10.1177/0149206309360931.

Lloyd-Owen, R., Knowles-Cutler, A., & Sriram, P. (2013). Divestments: Creating shareholder value. In Deloitte: Upfront in Brief. https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/corporate-finance/deloitte-uk-ma-upfront-in-brief-divestments.pdf.

Maas, A. J. J., Heugens, P. P. M. A. R., & Reus, T. H. (2019). Viceroys or emperors? An institution-based perspective on merger and acquisition prevalence and shareholder value. *J. Manag. Stud., 56*(1), 234-269. https://doi.org/10.1111/joms.12335.

Members of the Alliance. Powering Past Coal Alliance. (2022). https://www.poweringpastcoal.org/members?/about/Powering_Past_Coal_Alliance_Members.

Miller, D. (2019). The resource-based view of the firm. *Oxford Res Encyclopedia Bus. Manag*. https://doi.org/10.1093/acrefore/9780190224851.013.4.

Moschieri, C. & Mair, J. (2008). Research on corporate divestitures: A synthesis. *J. Manag. Organ., 14*(4), 399-422. https://doi.org/10.5172/jmo.837.14.4.399.

Moschieri, C. & Mair, J. (2011). Adapting for innovation: Including divestitures in the debate. *Long Range Plann., 44*(1), 4-25. https://doi.org/10.1016/j.lrp.2010.11.002.

MSCI. (2018). Introducing ESG Investing. MSCI. https://www.msci.com/documents/1296102/7943776/ESG+Investing+brochure.pdf/bcac11cb-872b-fe75-34b3-2eaca4526237.

Mulligan, T. (1986). A critique of Milton Friedman's essay 'the social responsibility of business is to increase its profits'. *J. Bus Ethics, 5*(4), 265-269. https://doi.org/10.1007/bf00383091.

Necoechea-Porras, P. D., López, A. L., & Salazar-Elena, J. C. (2021). Deregulation in the energy sector and its economic effects on the power sector: A literature review. *Sustain., 13*(6), 3429-3429. https://doi.org/10.3390/su13063429.

Papadis, E. & Tsatsaronis, G. (2020). Challenges in the decarbonization of the energy sector. Energy, *205*, 118025-118025. https://doi.org/10.1016/j.energy.2020.118025.

Parmar, B. L., Freeman, R. R., Harrison, J. S., Wicks, A. C., Purnell, L., & De Colle, S. (2010). Stakeholder theory: The state of the art. *Acad. Manag. Ann., 4*(1), 403-445. https://doi.org/10.5465/19416520.2010.495581.

Peruffo, E., Marchegiani, L., & Vicentini, F. (2018). Experience as a source of knowledge in divestiture decisions: Emerging issues and knowledge management implications. *J. Knowl Manag., 22*(2), 344-361. https://doi.org/10.1108/jkm-04-2017-0155.

Peteraf, M. A. & Barney, J. B. (2003). Unraveling the resource-based tangle. *Manag Decis Econ., 24*(4), 309-323. https://doi.org/10.1002/mde.1126.

Powering ahead: Annual Report 2020. (2020). Essen, Germany: RWE Aktiengesellschaft. https://www.rwe.com/-/media/RWE/documents/05-investor-relations/finanzkalendar-und-veroeffentlichungen/2020-Q4/2021-03-16-rwe-annual-report-2020.pdf?sc_lang=en.

Principles for Responsible Investment: An Investor initiative in partnership with UNEP finance initiative and the UN Global Compact. United Nations Principles for Responsibe Investment. (2021). https://www.unpri.org/download?ac=10948.

Puaschunder, J. M. (2016). The role of political divestiture for sustainable development. *J. Manag. Sustain., 6*(1), 76-91. https://doi.org/10.5539/jms.v6n1p76.

Report on US Sustainable and Impact Investing Trends 2020. US SIF Foundation the Forum for Sustainable and Responsible Investment. (2020).

Rockström, J. & Sukhdev, P. (2016). The SDGs wedding cake. Stockholm Resilience Centre. https://www.stockholmresilience.org/research/research-news/2016-06-14-how-food-connects-all-the-sdgs.html.

Rohleder, M., Wilkens, M., & Zink, J. (2022). The effects of mutual fund decarbonization on stock prices and carbon emissions. *J. Bank. Financ.*, 134, Article ID: 106352. https://doi.org/10.1016/j.jbankfin.2021.106352.

Ross, S. A. (1973). The economic theory of agency: The principal's problem. *Am Econ Rev J., 63*(2), 134-139.

Sanders, G. (2001). Behavioral responses of CEOs to stock ownership and stock option pay. *Acad. Manage J., 44*(3), 477-492. https://doi.org/10.2307/3069365.

Schoenmaker, D. (2017). Investing for the common good: A sustainable finance framework. Bruegel Essay and Lecture Series, 80. https://www.bruegel.org/sites/default/files/wp_attachments/From-traditional-to-sustainable-finance_ONLINE.pdf.

Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and

efforts to eradicate poverty. (2018). Cambridge, UK and USA: Intergovernmental Panel on Climate Change, from https://www.ipcc.ch/sr15/chapter/spm/.

Takeovers, restructuring, and corporate governance. Weston, J. F., Mitchell, M. L., & Mulherin, J. H. (2004). N.J: Pearson Prentice Hall.

Teschner, N. & Paul, H. (2020). The impact of divestitures on shareholder wealth – The DACH case. *Eur J. Manag. Bus Econ., 30*(1), 55-71. https://doi.org/10.1108/ejmbe-08-2019-0133.

The European Green Deal. (2019). Brussels, Belgium: European Commission. https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF.

The GRI Standards: A guide for policy makers. (2021). Amsterdam, The Netherlands: Global Reporting Initiative. https://www.globalreporting.org/media/nmmnwfsm/gri-policymakers-guide.pdf.

Trinks, A., Scholtens, B., Mulder, M., & Dam, L. (2018). Fossil fuel divestment and portfolio performance. *Ecol Econ., 146*, 740-748. https://doi.org/10.1016/j.ecolecon.2017.11.036.

Walsh, J. P. (2005). Book review essay: Taking stock of stakeholder management. *Acad. Manage J., 30*(2), 426-438. https://doi.org/10.5465/amr.2005.16387898.

Wan, W. P., Hoskisson, R. E., Short, J. C., & Yiu, D. W. (2011). Resource-based theory and corporate diversification. *J. Manag., 37*(5), 1335-1368. https://doi.org/10.1177/0149206310391804.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strateg Manag. J., 5*(2), 171-180. https://doi.org/10.1002/smj.4250050207.

Wolf, R. (2017). KGV oder KVV zur performance-messung der TOP-unternehmen in deutschland, frankreich und Italien. *Betriebswirtschaftliche Fragen zu Steuern, Finanzierung, Banken und Management*, 205-224. https://doi.org/10.1007/978-3-658-16730-1_13.

Yermack, D. (2006). Flights of fancy: Corporate jets, CEO perquisites, and inferior shareholder returns. *J. Financ Econ., 80*(1), 211-242. https://doi.org/10.1016/j.jfineco.2005.05.002.