

EXAMINATION OF THE EFFECT OF
ESG RATINGS ON DIVIDEND PAYOUTS AND
FUTURE EARNINGS GROWTH RELATIONSHIP:
THE CASE OF TURKEY

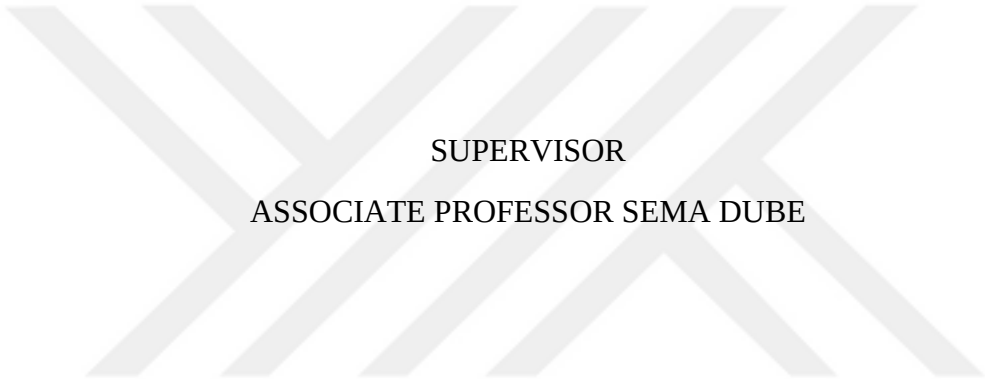


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İSTANBUL, 2023

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PLAGIARISM

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

This study aims to examine how Environmental, Social, and Governance (ESG) ratings influence the relationship between dividends and earnings growth in Turkey. By addressing this research question, the study seeks to enhance our understanding of how ESG ratings influence the correlation between dividends and future earnings growth, while considering potential effects of other financial variables. The final sample covers a period of 10 years (2012-2021) with 26 cross-sections. The findings of this study provide insights into the relationship between dividends, earnings growth, and ESG ratings in the Turkish context. Importantly, the study demonstrates that ESG ratings have a positive and significant impact on future earnings growth. Firms with higher ESG ratings in Turkey are more likely to experience higher future earnings growth, indicating that integrating environmental and social considerations, along with strong governance practices, can contribute to improved long-term financial performance and growth prospects. Furthermore, the study finds a negative and significant interaction between ESG ratings and dividend payout, suggesting that the combined effect of higher ESG ratings and increased dividend payouts may dampen future earnings growth. In conclusion, this study contributes to our understanding of the influence of ESG ratings on the relationship between dividends and earnings growth in Turkey. The findings highlight the importance of considering ESG factors in corporate decision-making and strategic planning to enhance future earnings growth potential. By integrating sustainable business practices, maintaining high ESG ratings, improving profitability, and investing in future assets, Turkish firms can foster long-term financial success and resilience.

Keywords: ESG, Earnings Growth, Dividends, Profitability, Interactions

ÖZET

Bu çalışmada Türkiye'deki şirketlerin ESG skorlarının, temettü ve kârlarındaki büyüme arasındaki ilişkiye olan etkisi incelenmiştir. Çalışmada kullanılan nihai örneklem 2012-2021 yılları arasını kapsamakta ve 26 çapraz kesitten oluşmaktadır. Bu çalışmanın bulguları, Türkiye bağlamında temettüler, kazanç artışı ve ESG derecelendirmeleri arasındaki ilişkiye dair fikir vermektedir. Daha da önemlisi, çalışma, ESG derecelendirmelerinin gelecekteki kazanç büyümesi üzerinde olumlu ve önemli bir etkiye sahip olduğunu göstermektedir. Türkiye'de daha yüksek ESG derecesine sahip firmaların gelecekte daha yüksek kazanç büyümesi yaşama olasılığı daha yüksektir, bu da güçlü yönetim uygulamalarının yanı sıra çevresel ve sosyal hususların entegre edilmesinin uzun vadeli finansal performans ve büyüme beklentilerinin iyileştirilmesine katkıda bulunabileceğini göstermektedir. Ayrıca, çalışma, ESG derecelendirmeleri ile temettü ödemesi arasında negatif ve anlamlı bir etkileşim bulmaktadır; bu da daha yüksek ESG derecelendirmeleri ile artan temettü ödemelerinin birleşik etkisinin gelecekteki kazanç artışını azaltabileceğini düşündürmektedir. Sonuç olarak, bu çalışma, Türkiye'de temettüler ve kazanç büyümesi arasındaki ilişkide ESG derecelendirmelerinin etkisini anlamamıza katkıda bulunmaktadır. Bulgular, gelecekteki kazanç büyüme potansiyelini artırmak için kurumsal karar alma ve stratejik planlamada ESG faktörlerini dikkate almanın önemini vurgulamaktadır. Türk firmaları, sürdürülebilir iş uygulamalarını entegre ederek, yüksek ESG derecelerini koruyarak, karlılığı artırarak ve gelecekteki varlıklara yatırım yaparak, uzun vadeli finansal başarı ve dayanıklılık sağlayabilir.

Anahtar kelimeler: ESG, Kazanç Büyümesi, Temettü, Kârlılık, Etkileşimler

To my family



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CHAPTER 1

INTRODUCTION

Environmental, social, and governance (ESG) factors can be important in driving corporate performance and long-term value creation. ESG considerations have gained prominence as investors, regulators, and stakeholders increasingly demand greater transparency, accountability, and sustainability in business practices. Within this context, the relationship between ESG ratings and financial outcomes has become a subject of significant interest and investigation.

1.1 Background

From the Retention Theory (Miller & Modigliani, 1961) which posits a negative association between the dividend payout ratio and earnings growth to Signaling Theory (Bhattacharya, 1979) which states that a greater dividend payout ratio is interpreted as a reflection of management's optimistic outlook regarding the company's capacity for earnings growth, from Agency Theory (Jensen & Meckling, 1976) which centers on the divergent interests that arise between managers and shareholders to Approach of (Fama & French, 2001; Rozeff, 1982) which indicated that macro-economic and market conditions can have an effect on this relationship, the correlation between the dividend payout ratio and earnings growth has been a subject of enduring interest in financial research. Therefore, in this study, this relationship is examined in the context of companies of Borsa Istanbul to have a better understanding of the concept for different circumstances, countries, markets and times.

The Turkish market, like many others, has witnessed a heightened focus on ESG issues, as companies aim to enhance their sustainability profiles and respond to changing stakeholder expectations. Understanding the impact of ESG ratings on financial performance indicators is essential for investors, policymakers, and corporate managers in Turkey. Evaluating the relationship between ESG ratings, dividend payouts, and future earnings growth can help us learn how effective sustainable business practices are and understand their influence on financial decision-making.

1.2 Research Question

Our primary research question is as follows:

Do ESG ratings affect the relationship between dividends and earnings growth in Turkey?

Several control factors representing profitability, growth opportunities, risk, size and industry are used. Interactions between dividends and ESG rating and growth opportunities are also examined.

By investigating this question, the study seeks to understand the influence of ESG ratings on the relationship between dividend payouts and future earnings growth, while considering the potential moderating effects of other financial variables.

1.3 Significance of Work

Correlation between profitability and dividend policy of a firm is a concept which has been investigated for a long time in financial studies. However, there is no single robust and exact answer which works under all circumstances for this concept. Therefore, the purpose of this study is to understand how Environmental, Social, and Governance (ESG) ratings affect this correlation in a specific case of Turkey.

This research holds significant implications for various stakeholders. For investors, understanding the impact of ESG ratings on the dividend-future earnings growth relationship can guide investment decision-making by providing insights into the financial implications of sustainable practices. Policymakers can benefit from this study by gaining a better understanding of the role of ESG factors in shaping financial performance, enabling them to design regulatory frameworks that promote sustainable and responsible business practices. Corporate managers can use the findings to inform strategic planning and decision-making, ensuring that ESG considerations are integrated into their corporate strategies to drive long-term financial success and value creation.

1.4 Definition of Terms

1.4.1 ESG ratings

Environmental, social, and governance ratings measure a company's performance and practices in terms of environmental sustainability, social responsibility, and corporate governance.

1.4.2 Dividend payouts

The proportion of a company's earnings that is distributed to shareholders in the form of dividends.

1.4.3 Future earnings growth (FEG)

The anticipated growth in a company's earnings over a specified period, reflecting its ability to generate increased profitability and create long-term shareholder value.

1.5 Organization for the Remainder of the Work

The study is organized as follows: The next section provides a comprehensive literature review, discussing the existing research on the relationship between ESG ratings, dividend payouts, and future earnings growth. The subsequent section outlines the methodology employed, including data collection, variables, and the panel GLS methodology used for regression analysis. The following section presents the regression results, discussing the findings related to the impact of ESG ratings, dividend payouts, and other financial variables on future earnings growth. The conclusion section summarizes the key findings, discusses their implications, and suggests avenues for future research.

CHAPTER 2

LITERATURE REVIEW

In this chapter first the literature on determinants of earnings growth, dividend payout ratio and ESG ratings is discussed to understand the primary drivers of these factors. Then, the key results from the prior studies on the following relationships are presented:

- relationship between earning growth and dividend payout ratio,
- relationship between earnings growth and ESG rating,
- relationship between ESG rating and dividend payout ratio
- relationship among ESG rating, dividend payout ratio and earnings growth

2.1 Determinants of Earnings Growth

Myers and Majluf (1984) analyze the impact of information asymmetry between firms and investors on investment decisions and earnings growth. They find that firms with private information may delay investment projects, leading to lower earnings growth rates, as they may face adverse selection problems in raising external capital.

Barton and Gordon (1988) explore the relationship between corporate strategy and capital structure decisions. They find that firms with aggressive growth strategies tend to have higher earnings growth rates, as they invest in expansion and innovation to capture market opportunities.

Lev and Sougiannis (1996) examine the relationship between research and development (R&D) expenditures and earnings growth. They find that firms that invest more in R&D tend to have higher earnings growth rates, indicating that R&D activities contribute to future profitability and growth.

Lang and Lundholm (1996) investigate the impact of corporate disclosure policy on analyst behavior and earnings growth. They find that firms with more transparent and informative disclosures tend to experience higher earnings growth rates, as analysts and investors can make more accurate forecasts and decisions based on the disclosed information.

Mohd-Saleh and Che-Ahmad (2008) examine the impact of ownership structure on earnings quality and growth. They find that firms with higher managerial ownership tend to have higher

earnings growth rates, as managers have stronger incentives to enhance firm performance and profitability.

Demsetz and Villalonga (2001) examine the relationship between ownership structure and corporate performance, including earnings growth. They find that concentrated ownership structures, where large shareholders have significant control, are positively associated with higher earnings growth rates.

Xie et al. (2003) investigate the relationship between earnings management, corporate governance, and earnings growth. They find that firms with stronger corporate governance mechanisms, such as independent boards and active audit committees, tend to have higher-quality earnings and sustainable earnings growth.

These studies highlight the importance of factors such as R&D investments, corporate disclosure, information asymmetry, corporate strategy, ownership structure, and corporate governance in influencing earnings growth rates. By understanding these determinants, firms and investors can gain insights into the drivers of long-term profitability and growth.

2.2. Determinants of Dividend Payout Ratio

Miller and Modigliani (1961) proposed the dividend irrelevance theory, suggesting that dividend payout ratio is determined solely by the firm's profitability and investment opportunities. According to this theory, dividend payout ratio is not influenced by other factors, such as firm's financing decisions or investor preferences.

Rozeff (1982) explored the influence of earnings stability on dividend payout ratio. His study showed that firms with more stable earnings are more likely to pay higher dividends. Earnings stability provides a measure of financial performance consistency, which increases investor confidence and encourages higher dividend payouts.

Fama and French (2001) examined the relationship between dividend payout ratio and firm characteristics. They found that profitability positively affects dividend payout ratio, as more profitable firms have higher cash flows available for distribution. Additionally, they found that firm size and leverage have a negative relationship with dividend payout ratio, implying that larger and more leveraged firms tend to retain more earnings.

Grullon et al. (2005) examined the impact of growth opportunities on dividend payout ratio. They found an inverse relationship between growth opportunities and dividend payout ratio.

Firms with higher growth prospects tend to retain more earnings to finance future investments, leading to lower dividend payouts.

DeAngelo et al. (2006) focused on the role of corporate governance in determining dividend payout ratio. They found that firms with better governance practices, such as higher board independence and stronger shareholder rights, have higher dividend payout ratios. Effective governance mechanisms ensure that the interests of shareholders are protected and enhance transparency and accountability in dividend decisions.

Al-Malkawi (2007) investigated the influence of profitability, leverage, and cash flow on dividend payout ratio across different industries. The study found that profitability and cash flow have a positive effect on dividend payout ratio, while leverage has a negative impact. Higher profitability and cash flow provide the financial resources necessary for dividend payments, while high leverage may limit the ability to distribute dividends.

Datta et al. (2012) examined the impact of ownership structure on dividend payout ratio. Their study found that firms with higher institutional ownership tend to have higher dividend payout ratios. Institutional investors typically prefer firms that distribute dividends as it provides a return on their investments and enhances the liquidity of their holdings.

These studies highlight various determinants of dividend payout ratio, including profitability, earnings stability, growth opportunities, corporate governance, leverage, cash flow, and ownership structure. Understanding these factors is crucial for both firms and investors to assess the dividend policy and make informed decisions regarding dividend distributions.

2.3. Determinants of ESG Rating

Firm performance, industry factors, corporate governance, transparency, stakeholder engagement, regulatory environment and investor are among the important factors affecting ESG ratings according to the literature.

2.3.1 Firm Performance

Numerous studies have found a positive relationship between firm performance and ESG ratings. Companies that demonstrate strong financial performance, such as higher profitability, stronger stock returns, and lower volatility, are more likely to have higher ESG ratings. This suggests that firms with better financial performance also tend to prioritize environmental, social, and governance factors (Flammer, 2015; Friede et al., 2015).

2.3.2 Industry

The industry in which a company operates can influence its ESG rating. Certain sectors, such as renewable energy, technology, and healthcare, tend to have higher ESG ratings due to their alignment with environmental and social objectives. Conversely, industries associated with higher environmental risks, such as fossil fuels or mining, may face challenges in achieving high ESG ratings (Chatterji et al., 2016).

2.3.3 Corporate Governance

Effective corporate governance practices are often associated with higher ESG ratings. Companies with transparent and accountable governance structures, independent boards, and strong shareholder rights tend to have better ESG performance. Good governance practices are seen as a foundation for integrating environmental and social considerations into business strategies (Ioannou & Serafeim, 2015; Khan et al., 2016).

2.3.4 Disclosure and Transparency

Companies that provide robust and transparent disclosure on their ESG practices are more likely to receive higher ESG ratings. Enhanced reporting on environmental impacts, social initiatives, diversity, and governance structures allows investors and stakeholders to assess a company's ESG performance. Greater transparency helps build trust and credibility, leading to higher ESG ratings (Grewal et al., 2018; Amel-Zadeh & Serafeim, 2018).

2.3.5 Stakeholder Engagement

Engaging with various stakeholders, including employees, customers, communities, and investors, can positively influence ESG ratings. Companies that actively involve stakeholders in decision-making processes, seek feedback, and address concerns are perceived as more socially responsible. Stakeholder engagement enhances a company's reputation and helps align business practices with societal expectations (Hahn & Kühnen, 2013).

2.3.6 Regulatory Environment

The regulatory framework and standards set by governments and industry bodies can influence ESG ratings. Stringent environmental regulations, labor laws, and corporate governance requirements can act as drivers for companies to improve their ESG performance. Compliance with regulations and adherence to industry-specific standards often contribute to higher ESG ratings (Luo & Bhattacharya, 2006).

2.3.7 Investor Pressure

Increasing investor demand for sustainable investments has pushed companies to improve their ESG performance. Institutional investors, such as pension funds and asset managers, increasingly consider ESG factors in their investment decisions. The pressure from investors for companies to demonstrate ESG integration and performance has a significant impact on improving ESG ratings (Kempf et al., 2007, 2019).

These determinants collectively shape a company's ESG rating and reflect its commitment to environmental stewardship, social responsibility, and strong governance practices. Understanding these factors is essential for companies aiming to improve their ESG performance and attract responsible investors. Additionally, investors can consider these determinants when evaluating a company's sustainability credentials and ESG rating as part of their investment decision-making process.

2.4. Relationship between Dividend Payout Ratio and Earnings Growth

The retention theory suggests that there is a negative relationship between dividend payout ratio and earnings growth. According to this theory, companies that retain a larger portion of their earnings by paying lower dividends can reinvest those retained earnings into profitable projects, leading to higher earnings growth. This implies that higher dividend payouts may limit a company's ability to finance future growth opportunities, resulting in lower earnings growth (Miller & Modigliani, 1961).

On the other hand, the signaling theory proposes that the dividend payout ratio can serve as a signal of a company's future earnings prospects. A higher dividend payout ratio is believed to indicate management's confidence in the company's earnings growth potential. Companies that consistently increase their dividends or have a higher payout ratio are seen as financially stable and capable of generating sustainable earnings growth. As a result, a positive relationship between dividend payout ratio and earnings growth is often observed (Baker & Powell, 2000; Bhattacharya, 1979).

Similarly, the agency theory focuses on the conflicts of interest between managers and shareholders. It suggests that managers may have a preference for retaining earnings and investing them in projects that serve their own interests rather than maximizing shareholder wealth. In this context, a higher dividend payout ratio can be seen as a mechanism to mitigate agency problems. Companies that pay out a larger proportion of their earnings as dividends

may be more disciplined in capital allocation decisions, leading to better earnings growth (Jensen & Meckling, 1976; La Porta et al., 2000).

Tax considerations can also influence the relationship between dividend payout ratio and earnings growth. In many countries, dividends are subject to higher tax rates compared to capital gains. As a result, companies may choose to retain earnings and reinvest them in growth opportunities instead of paying dividends to shareholders. This tax advantage of capital gains over dividends may result in a negative relationship between dividend payout ratio and earnings growth (Gordon, 1963).

Besides, industry and firm-specific factors can influence the relationship between dividend payout ratio and earnings growth. For example, companies operating in mature industries with limited growth opportunities may have higher dividend payout ratios and lower earnings growth. On the other hand, companies in high-growth industries may choose to retain more earnings to fund expansion and achieve higher earnings growth rates. Moreover, firm-specific factors such as financial health, profitability, and investment opportunities can also impact the relationship between dividend payout ratio and earnings growth (Gugler et al., 2006; Jagannathan et al., 2000).

Finally, economic and market conditions can play a role in shaping the relationship between dividend payout ratio and earnings growth. During economic downturns or periods of financial instability, companies may choose to conserve cash and reduce dividend payouts to protect their financial position. This conservative approach may lead to lower dividend payout ratios and potentially slower earnings growth. Conversely, during favorable economic conditions, companies may increase dividend payouts and experience higher earnings growth (Fama & French, 2001; Rozeff, 1982).

It is important to note that the relationship between dividend payout ratio and earnings growth can vary across industries, countries, and time periods. Multiple factors interact to influence this relationship, and empirical findings may differ based on the specific context and methodology employed in different studies. Therefore, further research and analysis are necessary to gain a comprehensive understanding of the dynamics between dividend payout ratio and earnings growth in specific settings.

2.5. Relationship between ESG Rating and Earnings Growth

Several studies suggest a positive relationship between a company's ESG rating and its earnings growth. Higher ESG ratings indicate better environmental, social, and governance practices, which can lead to improved operational efficiency, reduced risk exposure, and enhanced reputation. Companies with strong ESG performance are more likely to attract socially responsible investors and may benefit from increased access to capital, lower financing costs, and higher customer loyalty. These factors can contribute to higher earnings growth over time (Eccles et al., 2014; Clark et al., 2015; Flammer, 2015).

Research indicates that companies with high ESG ratings tend to focus on long-term value creation, which aligns with sustainable business practices. By integrating environmental and social considerations into their operations, companies can mitigate risks, improve resource efficiency, and build stronger relationships with stakeholders. These practices can lead to innovation, cost savings, and improved competitiveness, ultimately driving higher earnings growth in the long run (Khan et al., 2016; Oikonomou et al., 2020).

Companies with strong ESG performance often have robust risk management practices in place. They proactively identify and address environmental, social, and governance risks, such as climate change, employee safety, regulatory compliance, and ethical standards. Effective risk management can reduce the likelihood of costly legal disputes, reputational damage, and operational disruptions. By mitigating risks, companies can maintain stable operations and financial performance, contributing to sustainable earnings growth (Kotsantonis et al., 2019; Grewal et al., 2020;).

Companies with high ESG ratings often prioritize stakeholder engagement and maintain positive relationships with employees, customers, suppliers, and local communities. Engaging stakeholders can lead to improved employee productivity, customer satisfaction, and brand loyalty. Positive stakeholder relationships can also result in better access to resources, market opportunities, and partnerships. These factors can contribute to revenue growth and positively impact earnings (Serafeim, 2018; Wu et al., 2021).

The regulatory environment can influence the relationship between ESG rating and earnings growth. Governments and regulatory bodies are increasingly focusing on sustainability issues, imposing stricter environmental regulations, and requiring greater transparency in corporate reporting. Companies with higher ESG ratings are better positioned to comply with these

regulations, avoid penalties, and adapt to changing market dynamics. This compliance advantage can contribute to long-term earnings growth (Cheng et al., 2015; Jo et al., 2020).

2.6. Relationship between ESG Rating and Dividend Payout Ratio

Some studies suggest a positive relationship between a company's ESG rating and its dividend payout ratio. Higher ESG ratings are often associated with better corporate governance practices, strong risk management, and sustainable business models. Companies with high ESG ratings are more likely to have stable and reliable earnings, which provides them with the financial capacity to distribute higher dividends to shareholders (Flammer, 2015; Khan et al., 2016).

Investors are increasingly considering ESG factors when making investment decisions. Shareholders who prioritize sustainable investing may prefer companies with higher ESG ratings and a commitment to responsible business practices. These investors may reward companies with higher dividend payouts as a reflection of their support for sustainable and socially responsible strategies. Thus, companies with strong ESG performance may have a higher dividend payout ratio to attract and retain such investors (Hoepner et al., 2016; Brockman et al., 2020).

ESG factors can impact a company's financial performance and stability, which, in turn, can influence its dividend payout decisions. Companies with better ESG performance tend to exhibit lower risk profiles, enhanced operational efficiency, and improved long-term profitability. Such financial strength may allow companies to allocate a larger portion of their earnings towards dividend payouts, resulting in a higher dividend payout ratio (Derwall et al., 2011; Eccles et al., 2014).

Companies with higher ESG ratings often prioritize stakeholder engagement and maintain positive relationships with various stakeholders, including shareholders. Active engagement with shareholders and responsiveness to their concerns can foster trust and loyalty, leading to a higher likelihood of increased dividend distributions. Strong stakeholder relationships may create a positive feedback loop, with satisfied shareholders supporting the company's ESG initiatives and the company rewarding them with higher dividends (Hussainey et al., 2017; Schneider et al., 2021).

The regulatory landscape and legal frameworks around ESG issues can influence the relationship between ESG rating and dividend payout ratio. Governments and regulatory bodies are increasingly advocating for sustainable practices and responsible corporate behavior. In some cases, regulations may encourage or mandate companies to align their dividend policies with their ESG commitments. This regulatory pressure can result in higher dividend payouts for companies with stronger ESG ratings (Derwall et al., 2011; Mackey et al., 2020).

All in all, relationship between ESG rating and dividend payout ratio may be context-dependent and influenced by other factors, such as company size, industry, and financial performance. Additionally, the direction and strength of the relationship may vary across different regions and time periods. Further research is needed to understand the specific mechanisms and dynamics underlying the relationship between ESG rating and dividend payout ratio in different contexts.

2.7. Relationship among ESG Rating, Earnings Growth and Dividend Payout Ratio

2.7.1 Positive Relationship with Earnings Growth

Several studies have found a positive relationship between a company's ESG rating and its earnings growth. Higher ESG-rated companies often exhibit better risk management practices, operational efficiency, and innovation, which can contribute to stronger financial performance and higher earnings growth rates. Companies with strong ESG performance may be better positioned to generate sustainable growth, leading to increased profitability and earnings growth (Flammer, 2015; Khan et al., 2016; Grewal et al., 2020).

2.7.2 Positive Relationship with Dividend Payout Ratio

Companies with higher ESG ratings may also exhibit a positive relationship with dividend payout ratios. Improved financial performance, stability, and sustainable business practices associated with higher ESG ratings can provide companies with the capacity to distribute higher dividends. Strong earnings growth, coupled with a commitment to responsible practices, can attract shareholders who value sustainable investing and may reward the company with higher dividend payouts (Hoepner et al., 2016; Brockman et al., 2020).

2.7.3 Mediating Effect of Earnings Growth

Earnings growth can act as a mediator in the relationship between ESG rating and dividend payout ratio. Companies with higher ESG ratings are more likely to experience stronger

earnings growth, which, in turn, influences their ability to generate excess cash flows for dividend distributions. The positive impact of ESG rating on dividend payout ratio may be partially explained by the mediating role of earnings growth (Derwall et al., 2011; Eccles et al., 2014; Schneider et al., 2021).

2.7.4 Industry and Sector Variations

The relationship among ESG rating, earnings growth, and dividend payout ratio can vary across industries and sectors. Different industries may have varying levels of exposure to ESG factors and divergent financial characteristics. For example, companies in environmentally sensitive industries may face additional challenges related to ESG performance, which could influence their earnings growth and dividend payout decisions differently compared to companies in other sectors (Hussainey et al., 2017; Ioannou & Serafeim, 2017).

2.7.5 External Influences

External factors, such as regulatory frameworks, investor preferences, and stakeholder pressures, can shape the relationship among ESG rating, earnings growth, and dividend payout ratio. Government regulations and investor demands for sustainable practices can incentivize companies to improve their ESG performance, leading to positive effects on both earnings' growth and dividend payout ratios. Furthermore, stakeholder pressures and engagement can influence a company's ESG rating, which, in turn, affects its financial performance and dividend policies (Schneider et al., 2019).

CHAPTER 3

SAMPLE AND METHODOLOGY

3.1 Sample and Data

The dataset used in this study is an unbalanced panel data which is consisted of multiple variables of 26 different companies from Turkish Stock Market (Borsa Istanbul). All of those firms are included in bist100 index. Those companies are mainly selected for this study because of their available ESG (Environmental, Social, and Governance) scores over the years. Since ESG scores for Turkish market is relatively new compared to developed economies, availability of ESG scores was the most important and limiting factor in the firm selection process.

This dataset is annual and sample period of this data is 10 years, which is between 2012-2021. However, for growth calculations data of 2011 was needed. Additionally, for lagged growth calculations data of 2010 was also gathered.

At the beginning of the data accumulation process, Borsa Istanbul was examined between the years from 2010 to 2022. Ingredient companies of Bist100 index changes every year. Some companies are excluded from the index over the years while other new companies are included. From official website of Borsa Istanbul (datastore.borsaistanbul.com), ingredients of the index for each year have been collected. Over those 13 years, among the bist100 index ingredients, 55 companies stayed unchanged in the index. Therefore, those 26 companies are selected for sample of this study.

For each firm in the sample, ESG scores were directly sourced from Refinitiv Thomson Reuters Eikon, a reputable data provider. In addition to the ESG scores, various financial variables were collected from the balance sheets of the selected companies for each year. These variables include the Firm's Bottom Line Net Earnings, Ordinary Dividend Paid, Number of Outstanding Shares, Last Close Price of the Year, Book Value of Equity, Book Value of Total Assets, Total Liabilities, and Earnings Before Interest Tax Depreciation and Amortization (EBITDA), which industry the company operating in. These financial variables are crucial for assessing the financial performance and stability of the companies under investigation.

Moreover, several derived variables were computed based on the collected data to further enhance the analysis. These derived variables capture important aspects such as Earnings Growth, Lagged Earnings Growth, Future Earnings Growth, Dividend Growth, Dividend Payout, Return (Annual % Change in Stock Price), Market Value of Equity, Size, Market Value

of Assets, EBITDA Growth, Lagged EBITDA Growth, EBITDA/Assets (EOA), EBITDA/Market Value of Assets (EOMV), Return on Assets (ROA), E/MVE (EY), D/A (LEV), D/MVA (LEVMV), Annual Growth in Assets (AG), Future Asset Growth, Annual Growth in Market Value (AGMV), and Tobin's Q, ESGDP, ESGDG. These derived variables provide additional insights into the financial dynamics and performance metrics of the companies studied. Also, some dummy variables are created, such as FIND, SERVD, YEARD.

Following are the explanations and calculation methods of those variables:

ESG Score: ESG is a measure of a company's environmental, social, and governance performance. It assesses how a company handles issues related to the environment, its social impact, and its governance practices. A higher ESG score indicates stronger sustainability and responsible business practices.

Firm's Bottom Line Net Earnings(E): Bottom Line Net Earnings, also known as net income or net profit, represents the financial performance of a firm after deducting all expenses, taxes, and interest payments from its total revenue. It is the amount of money remaining for the company after all costs have been accounted for.

Ordinary Dividend Paid(D): Ordinary Dividend Paid refers to the amount of cash distributed by a company to its shareholders as dividends. Dividends are typically paid out of a company's earnings and are a way to distribute profits to shareholders.

Number of Outstanding Shares (SHARES): The Number of Outstanding Shares represents the total number of shares issued by a company and held by its shareholders. It reflects the ownership and equity stake of each shareholder in the company.

Last Close Price of the Year (PRICE): The Last Close Price of the Year refers to the final trading price of a company's stock on the last trading day of the year. It indicates the market value of the stock at the end of the year and is often used to calculate investment returns and stock performance.

Book Value of Equity (BE): The Book Value of Equity, also known as shareholders' equity or net worth, represents the residual value of a company's assets after deducting its liabilities. It indicates the value that would be distributed to shareholders if all assets were sold and all liabilities were paid off.

Book Value of Total Assets (A): The Book Value of Total Assets represents the total value of a company's assets as reported on its balance sheet. It includes both tangible assets (such as

property, plant, and equipment) and intangible assets (such as patents, trademarks, and goodwill).

Total Liabilities (D): Total Liabilities refers to the sum of all debts, obligations, and financial commitments owed by a company to its creditors. It includes both short-term liabilities (such as accounts payable and short-term loans) and long-term liabilities (such as bonds and long-term loans).

Earnings Before Interest Tax Depreciation and Amortization (EBITDA): EBITDA is a measure of a company's operating performance and profitability before deducting interest, taxes, depreciation, and amortization. It provides an indication of a company's ability to generate earnings from its core operations, excluding non-operating expenses and accounting choices.

Earnings Growth (EG): Earnings Growth represents the percentage change in a company's earnings from one period to another. It is calculated by taking the difference between the current year's earnings and the previous year's earnings, dividing it by the previous year's earnings, and multiplying by 100. Earnings Growth indicates the rate at which a company's earnings are increasing or decreasing over time.

Lagged Earnings Growth (PEG): Lagged Earnings Growth refers to the earnings growth rate of a company in the previous period. It measures the percentage change in earnings from two periods ago to the previous period. It provides insight into the trend of a company's earnings growth over time.

Future Earnings Growth (FEG): Future Earnings Growth refers to the earnings growth rate of a company in the latter period. It measures the percentage change in earnings from current period to the latter period.

Dividend Growth (DG): Dividend Growth measures the rate at which a company's dividend payments to shareholders are increasing or decreasing over time. It is calculated as the percentage change in dividends from one period to another.

Dividend Payout (DP): Dividend Payout refers to the proportion of a company's earnings that is distributed to shareholders as dividends. It is calculated by dividing the total dividend amount by the net income or earnings of the company.

Return (Annual % Change in Stock Price) (R): Return, specifically the Annual % Change in Stock Price, represents the percentage change in the price of a company's stock over a specific

period, typically one year. It measures the capital appreciation or depreciation of the stock during that period and reflects the return on investment for shareholders.

Market Value of Equity (MVE): Market Value of Equity represents the total value of a company's outstanding shares in the stock market. It is calculated by multiplying the current market price per share by the number of outstanding shares.

Size: Size is a derived variable that refers to the market capitalization of a company. It represents the size or scale of a company in terms of its total market value.

Market Value of Assets (MVA): Market Value of Assets represents the total value of a company's assets based on their market prices. It reflects the estimated worth of the company's assets if they were to be sold in the market.

EBITDA Growth (GREBITDA): EBITDA Growth measures the percentage change in a company's Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) from one period to another. It provides insights into the growth or decline of a company's operating earnings.

Lagged EBITDA Growth (LGREBITDA): Lagged EBITDA Growth refers to the EBITDA growth rate of a company in the previous period. It measures the percentage change in EBITDA from two periods ago to the previous period, providing information about the trend in a company's operating earnings growth.

EBITDA/Assets (EOA): EBITDA/Assets (EOA) is a financial ratio that represents a company's operating profitability relative to its total assets. It is calculated by dividing EBITDA by the total assets of the company and indicates the efficiency with which a company generates operating earnings per unit of its assets.

EBITDA/Market Value of Assets (EOMV): EBITDA/Market Value of Assets (EOMV) is a financial ratio that compares a company's operating earnings (EBITDA) to the market value of its assets. It is calculated by dividing EBITDA by the market value of assets.

Return on Assets (ROA): Return on Assets (ROA) is a financial ratio that measures a company's profitability and efficiency in generating earnings from its assets. It is calculated by dividing the company's net income by its average total assets. ROA indicates how well a company utilizes its assets to generate profits. A higher ROA indicates better efficiency in utilizing assets for profitability.

Earnings Yield (EY): EY stands for Earnings Yield, and it is a financial ratio that compares a company's earnings to its market value of equity. It is calculated by dividing the company's earnings per share (EPS) by its market price per share (or market value of equity per share). The formula for calculating EY is as follows: $EY = \text{Earnings per Share (EPS)} / \text{Market Price per Share}$. Earnings per Share (EPS) is typically calculated by dividing the company's net income by the number of outstanding shares. The market price per share is the current market value of a single share of the company's stock. The Earnings Yield provides a measure of the return on investment for a stock and can be useful in comparing the relative attractiveness of different stocks or evaluating the overall market. A higher Earnings Yield suggests a higher potential return on investment, while a lower Earnings Yield indicates a lower potential return.

D/A (LEV) - Debt-to-Asset Ratio: It measures the proportion of a company's assets that are financed by debt. It is calculated by dividing the total debt of a company by its book value of total assets. $D/A (LEV) = \text{Total Debt} / \text{Total Assets}$

D/MVA (LEV_{MV}) – Debt to Market Value of Assets Ratio: It assesses the ratio of a company's debt to the market value of its assets. The market value of assets is the sum of the market values of all the company's assets. $D/MVA (LEV_{MV}) = \text{Total Debt} / \text{Market Value of Assets}$

Annual Asset Growth (AG): It represents the percentage change in a company's total assets over a specific period, usually one year. It is calculated by subtracting the total assets at the beginning of the period from the total assets at the end of the period, and then dividing it by the total assets at the beginning of the period. $AG = (\text{Total Assets at the End of the Period} - \text{Total Assets at the Beginning of the Period}) / \text{Total Assets at the Beginning of the Period}$

Future Asset Growth (FAG): Future Asset Growth refers to the asset growth rate of a company in the latter period. It measures the percentage change in earnings from current period to the latter period.

Annual Growth in Market Value (AGMV): It measures the percentage change in a company's market value over a specific period, typically one year. It is calculated by subtracting the market value of the company at the beginning of the period from the market value at the end of the period, and then dividing it by the market value at the beginning of the period. $AGMV = (\text{Market Value at the End of the Period} - \text{Market Value at the Beginning of the Period}) / \text{Market Value at the Beginning of the Period}$

Tobin's Q: Tobin's Q is a derived variable that measures the relationship between the market value of a company and the replacement cost of its assets. It is named after economist James Tobin. Tobin's Q is calculated by dividing the market value of a company's equity (Market Value of Equity) by the replacement cost of its assets. The replacement cost of assets refers to the cost of acquiring or building similar assets at their current market prices. Tobin's Q is used as an indicator of investment opportunities and the market value of a company relative to its underlying assets. If Tobin's Q is greater than 1, it suggests that the market value of a company exceeds the replacement cost of its assets, indicating potential overvaluation. Conversely, if Tobin's Q is less than 1, it implies that the market value of a company is lower than the replacement cost of its assets, indicating potential undervaluation. Tobin's Q is commonly used in financial research to assess the efficiency and investment decisions of firms. It helps researchers and investors evaluate whether a company's stock is overvalued or undervalued based on the relationship between its market value and the cost of replicating its assets.

ESGDP: Product of ESG score and Dividend Payout values.

ESGDG: Product of ESG score and Dividend Growth values.

QDP: Tobin's Q * Dividend Payout

FIND: It is a dummy variable, which is equal to 1 if the company operates in the Finance or Real Estate industry, 0 otherwise.

SERVD: It is a dummy variable, which is equal to 1 if the company operates in one of the Finance, Real Estate, Construction, Telecommunication, Air Travel, Aviation, Transport Sectors, 0 otherwise.

YEARD: It is a dummy variable, which is 0 until 2020, after 2020 it is 1. This dummy variable represents the sudden change in the Earnings Growth values of the companies at that year. Which seems to correlate with the sudden rise of the inflation in Turkey after 2020. So, this variable symbolizes that sudden change.

3.1.1 Descriptive Statistics

Variables	Std. Dev.	Mean	Min.	25th Perc.	Median	75th Perc.	Max.
ESG	19.653	55.157	15.438	38.152	60.000	68.433	93.510
FEG	6.242	0.716	-14.596	-0.058	0.156	0.633	96.069
PEG	7.223	0.685	-14.596	-0.071	0.121	0.418	96.069
DG	1.367	0.236	-1.000	-0.155	0.000	0.333	14.584
DP	0.761	0.345	-2.049	0.048	0.193	0.468	7.284
R	0.396	0.176	-0.631	-0.114	0.145	0.399	2.132
SIZE	0.818	22.341	20.147	21.709	22.215	22.940	24.571
GREBITDA	25.193	1.923	-10.290	-0.070	0.140	0.529	405.500
EOA	0.070	0.068	-0.069	0.020	0.058	0.092	0.493
EOMV	0.102	0.106	-0.081	0.057	0.080	0.122	0.647
LEV	0.243	0.477	0.000	0.229	0.508	0.703	0.881
LEV MV	0.203	0.716	0.000	0.662	0.754	0.864	0.991
FAG	0.296	0.305	-0.101	0.135	0.217	0.387	3.163
AGMV	0.448	0.239	-0.488	-0.069	0.169	0.431	2.473
Q	0.559	0.739	0.097	0.343	0.740	0.900	4.710
EY	0.331	0.380	-0.681	0.208	0.321	0.523	1.917
ROA	0.058	0.057	-0.071	0.015	0.047	0.080	0.405

Table 1: Descriptive Statistics. Data is annual and is for 26 BIST 100 companies with ESG ratings for the period of 2010-2022.

Table 1 represents the descriptive statistics for the sample of 26 BIST 100 companies that have continuous ESG rating data during the period of 2010-2022. All data is annual. The descriptions for each variable listed in Table 1 are presented below:

- ESG is the ESG rating data. The mean value of 55.1571 suggests that, on average, companies in the dataset have relatively high ESG scores with a standard deviation of 19.65326. The minimum value of 15.43802 and the maximum value of 93.51 indicate the range of ESG scores observed in the dataset.

- FEG and PEG represent, future earning's growth and lagged earning's growth respectively. The mean values of 0.715767 and 0.684929 indicate positive average growth ratios for both variables. The minimum values of -14.59574 for both FEG and PEG indicate the presence of negative growth ratios, while the maximum values indicate the upper bounds of these ratios.
- DG represents dividend growth. The mean value of 0.235595 indicates a positive average dividend growth rate. The minimum value of -1 and the maximum value of 14.58423 indicate the range of dividend growth rates observed in the dataset.
- DP represents dividend payout ratios. The mean value of 0.344569 suggests that, on average, companies in the dataset pay out approximately 34% of their earnings as dividends. The minimum value of -2.049097 suggests the presence of negative dividend payout ratios, while the maximum value of 7.28353 indicates the upper bound of dividend payout ratios.
- R represents the return. The mean value of 0.176456 suggests a positive average return for companies in the dataset. The minimum value of -0.631336 and the maximum value of 2.131737 indicate the range of return values observed in the dataset.
- SIZE represents the size of companies. The mean value of 22.34061 suggests an average company size within the dataset. The minimum value of 20.14665 and the maximum value of 24.57126 indicate the range of company sizes observed in the dataset.
- GREBITDA represents EBITDA Growth. The mean value of 1.92311 indicates an average gross operating profit to total assets ratio. The minimum value of -10.28952 and the maximum value of 405.5 indicate the range of GREBITDA ratios observed in the dataset.

- EOA represents the EBITDA/TOTAL ASSETS ratio, while EOMV represents EBITDA/ Market Value of Assets ratio. The mean values of 0.068359 for EOA and 0.105636 for EOMV indicate the average values for these ratios.

Next, in Table 2 we show pairwise correlations between variables used in our study. All variables are as described above. The data is obtained annually representing the sample period of 2012-2021.

	ESG	FEG	PEG	DG	DP	R	SIZE	GREBITDA	EOA	EOMV	ROA	EY	LEV	LEV MV	FAG	Q	AG MV
ESG	1.00																
FEG	-0.05	1.00															
PEG	-0.09	0.00	1.00														
DG	0.08	0.01	0.00	1.00													
DP	-0.06	0.55	0.03	0.16	1.00												
R	0.05	0.09	-0.07	-0.03	-0.02	1.00											
SIZE	0.38	-0.05	-0.05	0.14	-0.04	0.16	1.00										
GREBITDA	0.02	0.04	-0.02	-0.01	-0.03	0.32	0.07	1.00									
EOA	-0.34	-0.07	0.05	0.22	0.03	0.22	-0.12	-0.05	1.00								
EOMV	-0.35	-0.07	0.01	0.11	-0.04	0.10	-0.19	-0.05	0.76	1.00							
ROA	-0.32	-0.06	0.06	0.20	0.06	0.21	-0.16	-0.04	0.97	0.72	1.00						
EY	0.10	-0.02	-0.03	0.02	-0.12	-0.08	-0.13	-0.06	0.04	0.29	0.06	1.00					
LEV	0.21	-0.04	0.02	0.05	0.13	0.08	0.01	0.06	-0.05	-0.47	-0.01	-0.38	1.00				
LEV MV	0.40	-0.05	-0.05	-0.11	-0.14	-0.14	0.02	0.03	-0.73	-0.58	-0.71	0.31	0.20	1.00			
FAG	0.27	0.12	-0.01	0.11	-0.04	0.24	0.27	0.06	0.05	-0.02	0.03	0.03	0.09	0.00	1.00		
Q	-0.07	-0.01	0.03	0.10	0.16	0.08	0.10	0.02	0.38	-0.17	0.38	-0.42	0.61	-0.44	0.08	1.00	
AGMV	-0.04	0.09	0.01	-0.05	0.00	0.88	0.16	0.28	0.18	0.08	0.18	-0.12	0.04	-0.20	0.22	0.09	1.00

Table 2: Correlation Matrix of the Variables. Data is annual and is for 26 BIST 100 companies with ESG ratings for the period of 2012-2021

According to Table 2 above there is a noteworthy positive relationship between

- FEG and DP,
- R and AGMV,
- ROA and EOA,

- EOA and EOMV,
- ROA and EOMV,

while there is a noteworthy negative relationship between

- LEVMV and ROA,
- LEVMV and EOA.

3.2 Methodology

We use Generalized Least Squares (GLS) method with panel data to examine our research question. GLS is a statistical estimation method employed in econometrics to address violations of the assumptions of homoscedasticity and no serial correlation in regression models (Aitken, 1934). It extends the ordinary least squares (OLS) method by incorporating appropriate weighting schemes that account for heteroscedasticity and/or serial correlation in the error terms (Tobin, 1958; Zellner, 1962).

GLS is frequently utilized in econometric analysis, particularly when dealing with time series or panel data, where violations of homoscedasticity and serial correlation assumptions are common (Arellano, 1987). By considering the variance-covariance structure of the error terms, GLS aims to produce more efficient and consistent estimates of the regression coefficients (Driscoll & Kraay, 1998).

The advantages of employing GLS include the attainment of efficient estimates, which exhibit lower variances and standard errors compared to OLS, resulting in enhanced precision in statistical inference (Greene, 2003). Furthermore, under the fulfillment of relevant assumptions, GLS provides consistent parameter estimates, ensuring convergence to the true population parameters as the sample size increases.

However, GLS is subject to certain limitations. Its effectiveness relies on the accurate specification of the variance-covariance structure of the error terms. Misspecification of this structure may lead to biased or inefficient coefficient estimates (Davidson & MacKinnon, 2004). Additionally, the implementation of GLS can be computationally demanding, particularly for large datasets or complex models (Greene, 2003). Furthermore, its applicability is contingent upon the assumption of a specific error distribution, often assumed to be normal.

Departures from this assumption may result in invalid or unreliable estimation outcomes (Greene, 2003).

GLS has a historical background, initially introduced by Alexander Aitken in the 1930s. However, it gained prominence in the field of econometrics during the 1960s and 1970s through the contributions of renowned economists such as James Tobin and Arnold Zellner. Their advancements focused on developing robust estimation techniques to address heteroscedasticity and serial correlation issues, ultimately leading to the modern methodologies employed in GLS (Greene, 2003). Heteroscedasticity and autocorrelation are corrected using panel-corrected standard errors (PCSE). PCSE is a statistical technique commonly used in econometrics to address especially the issue of heteroscedasticity in panel data analysis (Arellano, 1987; Driscoll & Kraay, 1998). It extends the traditional estimation methods by adjusting the standard errors to account for potential heteroscedasticity arising from the panel structure of the data.

When analyzing panel data, which involves observations on multiple entities over multiple time periods, the assumption of homoscedasticity (constant variance) across all entities and time periods may not hold. Heteroscedasticity can lead to biased and inefficient coefficient estimates, undermining the validity of statistical inference.

PCSE provides a solution by estimating robust standard errors that take into account both the cross-sectional and time-series dimensions of the panel data. It accomplishes this by incorporating additional variance components that capture the within-entity and between-entity variations, thereby appropriately adjusting the standard errors.

The advantages of employing PCSE include more accurate hypothesis testing, reliable coefficient estimates, and improved efficiency of statistical inference (Arellano, 1987; Driscoll & Kraay, 1998). By accounting for heteroscedasticity in panel data, PCSE allows for more robust and valid inference regarding the relationships between variables of interest.

However, PCSE also has some limitations. It assumes that the heteroscedasticity in the error terms follows a specific pattern within the panel data structure. If this assumption is violated, the corrected standard errors may still be biased or inefficient. Additionally, the computational complexity of estimating PCSE can be higher compared to traditional standard errors, especially for large panel datasets.

The development of PCSE can be attributed to the work of prominent econometricians, such as Arellano (1987) and Driscoll and Kraay (1998). These researchers proposed different

approaches to consistently estimate the corrected standard errors in the presence of heteroscedasticity in panel data. Subsequent advancements and refinements have been made to address specific challenges associated with different panel data structures and estimation techniques.

Overall, PCSE provides a valuable tool for robust statistical inference in panel data analysis, ensuring that heteroscedasticity is appropriately accounted for in the estimation of regression coefficients and hypothesis testing.

In this study, we employ the Generalized Least Squares (GLS) estimation method to account for the presence of heteroscedasticity and serial correlation within the panel dataset. By explicitly modeling the covariance structure of the error term, GLS enables us to estimate the coefficients consistently and accurately capture the relationships among variables such as dividend payout, future earnings growth, and ESG scores.

To address the potential issues of within-cluster correlation and heteroscedasticity inherent in the panel data, we employ the Panel-Corrected Standard Errors (PCSE) estimator. The PCSE estimator offers robust standard errors and covariances, which effectively adjust for both cross-sectional and temporal dependencies. By incorporating these corrections, we ensure the reliability and validity of our coefficient estimates, enhancing the credibility of our statistical inference.

By integrating GLS and PCSE methodologies, we adopt a comprehensive approach to mitigate the biases arising from heteroscedasticity, serial correlation, and within-cluster correlation in our panel dataset. This allows us to obtain accurate coefficient estimates and robust statistical inferences, bolstering the robustness and integrity of our empirical analysis.

These techniques have been widely employed in econometric studies to address the specific challenges encountered in panel data analysis, and their utilization in our research ensures that our findings are both rigorous and trustworthy.

ESG Score	ESG_{it}
Future Earnings Growth	FEG_{it}
Lagged Earnings Growth	PEG_{it}
Dividend Growth	DG_{it}
Dividend Payout	DP_{it}
Return (Annual % Change in Stock Price)	R_{it}
Size	$Size_{it}$
Ebitda Growth	$Grebitda_{it}$
Lagged EBITDA Growth	$LGrebitda_{it}$
EBITDA/Assets	EOA_{it}
EBITDA/Market Value of Assets	$EOMV_{it}$
D/A- Debt-to-Asset Ratio	LEV_{it}
D/MVA- Debt-to-Market Value of Assets Ratio:	$LEV_{MV_{it}}$
Future Asset Growth	FAG_{it}
Annual Growth in Market Value	$AGMV_{it}$
Tobin's Q	Q_{it}
Earnings Yield	EY_{it}
Return on Assets	ROA_{it}
Tobin's Q* Dividend Payout	QDP_{it}
Find	$Find_{it}$
Servd	$Servd_{it}$
Yeard	$Yeard_{it}$
Esg* Dividend Growth	$EsgDp_{it}$
Esg* Dividend Growth	$EsgDg_{it}$

Table 3: Symbols of the Variables

Models:

Following are the 44 models examined in this study:

$$1) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \epsilon_{it}$$

$$2) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \epsilon_{it}$$

$$3) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \epsilon_{it}$$

$$4) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \epsilon_{it}$$

$$5) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Find_{it} + \epsilon_{it}$$

$$6) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Find_{it} + \epsilon_{it}$$

$$7) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Find_{it} + \epsilon_{it}$$

$$8) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Find_{it} + \epsilon_{it}$$

$$9) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Servd_{it} + \epsilon_{it}$$

$$10) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Servd_{it} + \epsilon_{it}$$

$$11) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Servd_{it} + \epsilon_{it}$$

$$12) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Servd_{it} + \epsilon_{it}$$

$$13) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Year_{it} + \epsilon_{it}$$

$$14) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Year_{it} + \epsilon_{it}$$

$$15) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_9 Year_{it} + \epsilon_{it}$$

$$16) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_9 Year_{it} + \epsilon_{it}$$

$$17) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Find_{it} + \beta_{10} Year_{it} + \epsilon_{it}$$

$$18) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Find_{it} + \beta_{10} Year_{it} + \epsilon_{it}$$

$$19) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Find_{it} + \beta_7 Year_{it} + \epsilon_{it}$$

$$20) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Find_{it} + \beta_{12} Year_{it} + \epsilon_{it}$$

$$21) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Servd_{it} + \beta_{10} Year_{it} + \epsilon_{it}$$

$$22) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Servd_{it} + \beta_{10} Year_{it} + \epsilon_{it}$$

$$23) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Servd_{it} + \beta_7 Year_{it} + \epsilon_{it}$$

$$24) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Servd_{it} + \beta_{12} Year_{it} + \epsilon_{it}$$

$$25) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \epsilon_{it}$$

$$26) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \epsilon_{it}$$

$$27) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 EsgDg_{it} + \epsilon_{it}$$

$$28) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} EsgDp_{it} + \epsilon_{it}$$

$$29) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Find_{it} + \epsilon_{it}$$

$$30) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Find_{it} + \epsilon_{it}$$

$$31) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 EsgDg_{it} + \beta_7 Find_{it} + \epsilon_{it}$$

$$32) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} EsgDp_{it} + \beta_{12} Find_{it} + \epsilon_{it}$$

$$33) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Find_{it} + \beta_{11} Year_{it} + \epsilon_{it}$$

$$34) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Find_{it} + \beta_{11} Year_{it} + \epsilon_{it}$$

$$35) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 EsgDg_{it} + \beta_7 Find_{it} + \beta_8 Year_{it} + \epsilon_{it}$$

$$36) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} EsgDp_{it} + \beta_{12} Find_{it} + \beta_{13} Year_{it} + \epsilon_{it}$$

$$37) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Servd_{it} + \epsilon_{it}$$

$$38) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Servd_{it} + \epsilon_{it}$$

$$39) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 EsgDg_{it} + \beta_7 Servd_{it} + \epsilon_{it}$$

$$40) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} EsgDp_{it} + \beta_{12} Servd_{it} + \epsilon_{it}$$

$$41) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Servd_{it} + \epsilon_{it}$$

$$42) Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Servd_{it} + \epsilon_{it}$$

$$43) FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 EsgDg_{it} + \beta_7 Servd_{it} + \epsilon_{it}$$

$$44) FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} EsgDp_{it} + \beta_{12} Servd_{it} + \epsilon_{it}$$

CHAPTER 4

EMPIRICAL RESULTS

In order to examine how ESG rating affects the relationship between dividend and future earnings growth we use several control variables, alternative measures for earnings and dividends and ESG interaction terms. As mentioned in the previous section we apply 44 different models for that. Significant empirical results from our analysis are provided below.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-2.44523	0.304	
DP	1.221741	0	***
SIZE	0.101576	0.3417	
ROA	-4.55685	0.0005	***
EY	0.546881	0.0503	*
LEV	-0.52483	0.1277	
FAG	2.725028	0	***
PEG	-0.02975	0.6755	
ESG	-0.00465	0.3173	
R-squared		0.330685	
Adjusted R-squared		0.309007	
F-statistic		15.25425	***
Prob(F-statistic)		0	

Table 4. Table showcases the regression findings pertaining to Model 1: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 4 reports the regression results for Model 1.

DP (Dividend Payout): The coefficient estimate of 1.2217 indicates that an increase in the dividend payout is associated with a significant positive effect on future earnings growth (FEG).

ROA (Return on Assets): The coefficient estimate of -4.5568 suggests that a higher return on assets is significantly associated with lower future earnings growth.

FAG (Future Asset Growth): The coefficient estimate of 2.7250 indicates that higher future asset growth has a significant positive impact on future earnings growth.

EY (Earnings Yield): The coefficient estimate of 0.5469 suggests a positive but marginally significant relationship between earnings yield and future earnings growth.

ESG (ESG Score): The coefficient estimate of -0.0046 a slightly negative but non-significant association between ESG score and future earnings growth.

Overall, the regression model suggests that variables such as dividend payout, return on assets, future asset growth, and earnings yield have statistically significant associations with future earnings growth. The model's goodness-of-fit measures indicate that the selected variables collectively explain a moderate portion of the variation in future earnings growth, and the model as a whole is statistically significant.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-4.506986	0.0365	**
DP	-0.218888	0.4434	
SIZE	0.186298	0.0519	*
ROA	3.917106	0.0055	***
EY	0.183888	0.3201	
LEV	0.279329	0.4013	
FAG	0.15541	0.4836	
LGREBITDA	0.053365	0.6895	
ESG	0.004302	0.2261	
R-squared		0.071892	
Adjusted R-squared		0.041953	
F-statistic		2.401293	
Prob(F-statistic)		0.016406	

Table 5. Model 2: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \epsilon_{it}$.

***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 5 reports the regression results for Model 2.

C (Intercept): The coefficient estimate of -4.506986 indicates that there is a significant negative intercept, suggesting a baseline level of GREBITDA.

SIZE: The coefficient estimate of 0.186298 suggests a positive relationship between firm size and GREBITDA, although it is marginally significant (p-value = 0.0519).

ROA: The coefficient estimate of 3.917106 indicates a significant positive association between return on assets and GREBITDA.

Overall, the regression model suggests that firm size (SIZE) and return on assets (ROA) have statistically significant associations with GREBITDA. However, the explanatory power of the model is relatively weak, as indicated by the low adjusted R-squared values.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.104827	0.5636	
DG	-0.03576	0.3626	
ROA	-2.24057	0.0022	***
FAG	2.268737	0	***
PEG	-0.06352	0.352	
ESG	-0.00205	0.4708	
R-squared		0.310475	
Adjusted R-squared		0.296573	
F-statistic		22.33354	
Prob(F-statistic)		0	***

Table 6. Model 3: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \epsilon_{it}$.

***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 6 reports the regression results for Model 3.

ROA: The coefficient estimate of -2.240569 suggests a significant negative relationship between return on assets and FEG. This indicates that a higher return on assets is associated with lower FEG.

FAG: The coefficient estimate of 2.268737 indicates a significant positive association between FAG and FEG. This suggests that higher FAG values are associated with higher FEG.

Overall, the regression model suggests that return on assets (ROA) and FAG have statistically significant associations with FEG. The model explains approximately 31% of the variation in FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-4.14742	0.1023	
DP	3.7913	0	***
SIZE	0.156407	0.1726	
ROA	-8.17642	0.0001	***
EY	0.899747	0.0064	***
LEV	-1.5373	0.0074	***
FAG	2.596547	0	***
PEG	-0.01217	0.8671	
Q	1.646079	0.0038	***
QDP	-2.90853	0.0019	***
ESG	-0.00562	0.2977	
R-squared		0.284114	
Adjusted R-squared		0.254894	
F-statistic		9.72334	
Prob(F-statistic)		0	***

Table 7. Model 4: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \epsilon_{it}$
 ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 7 reports the regression results for Model 4.

DP: The coefficient estimate of 3.7913 indicates a significant positive relationship between DP and FEG. This suggests that higher DP values are associated with higher FEG.

ROA: The coefficient estimate of -8.176423 suggests a significant negative relationship between return on assets (ROA) and FEG. This indicates that a higher return on assets is associated with lower FEG.

EY: The coefficient estimate of 0.899747 suggests a significant positive association between EY and FEG. This indicates that higher EY values are associated with higher FEG.

LEV: The coefficient estimate of -1.537304 indicates a significant negative relationship between LEV and FEG. This suggests that higher leverage is associated with lower FEG.

FAG: The coefficient estimate of 2.596547 suggests a significant positive association between FAG and FEG. This indicates that higher FAG values are associated with higher FEG.

Q: The coefficient estimate of 1.646079 suggests a significant positive relationship between Q and FEG. This indicates that higher Q values are associated with higher FEG.

QDP: The coefficient estimate of -2.908533 indicates a significant negative relationship between QDP and FEG. This suggests that higher QDP values are associated with lower FEG.

Overall, the regression model suggests that DP, ROA, EY, LEV, FAG, Q, and QDP have statistically significant associations with FEG. The model explains approximately 28% of the variation in FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-2.26355	0.3653	
DP	1.225047	0	***
SIZE	0.090795	0.4326	
ROA	-4.39885	0.0016	***
EY	0.532804	0.0623	*
LEV	-0.48341	0.2	
FAG	2.738666	0	***
PEG	-0.02941	0.6796	
ESG	-0.00442	0.3493	
FIND	0.048063	0.8114	
R-squared		0.330808	
Adjusted R-squared		0.306326	
F-statistic		13.51197	
Prob(F-statistic)		0	***

Table 8. Model 5: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Find_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 8 reports the regression results for Model 5.

DP: The coefficient estimate of 1.225047 indicates a significant positive relationship between DP and FEG. This suggests that higher DP values are associated with higher FEG.

ROA: The coefficient estimate of -4.398852 suggests a significant negative relationship between return on assets (ROA) and FEG. This indicates that a higher return on assets is associated with lower FEG.

EY: The coefficient estimate of 0.532804 suggests a significant positive association between EY and FEG. This indicates that higher EY values are associated with higher FEG.

LEV: The coefficient estimate of -0.483407 suggests a marginally significant negative relationship between LEV and FEG. This suggests that higher leverage is associated with lower FEG.

○ FAG: The coefficient estimate of 2.738666 suggests a significant positive association between FAG and FEG. This indicates that higher FAG values are associated with higher FEG.

Overall, the regression model suggests that DP, ROA, EY, LEV, and FAG have statistically significant associations with FEG. The model explains approximately 33% of the variation in FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-4.54563	0.0245	**
DP	-0.24166	0.4158	
SIZE	0.191282	0.0366	**
ROA	3.30403	0.0357	**
EY	0.240806	0.1576	
LEV	0.349979	0.2963	
FAG	0.264182	0.1911	
LGREBITDA	0.053665	0.6885	
ESG	0.002495	0.4618	
FIND	-0.07018	0.6758	
R-squared		0.079829	
Adjusted R-squared		0.046301	
F-statistic		2.380932	
Prob(F-statistic)		0.013392	**

Table 9. Model 6: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Find_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 9 reports the regression results for Model 6.

C: The coefficient estimate of -4.545627 suggests a significant negative intercept. However, the interpretation of the intercept coefficient depends on the context of the model and the specific variables included.

SIZE: The coefficient estimate of 0.191282 suggests a significant positive relationship between SIZE and GREBITDA. This indicates that larger companies (in terms of size) tend to have higher GREBITDA.

ROA: The coefficient estimate of 3.30403 suggests a significant positive association between ROA and GREBITDA. This indicates that higher return on assets is associated with higher GREBITDA.

Overall, the regression model suggests that SIZE and ROA have statistically significant associations with GREBITDA. The model explains approximately 7.98% of the variation in GREBITDA.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.025112	0.9008	
DG	-0.02676	0.4999	
ROA	-2.07037	0.0129	**
FAG	2.164676	0	***
PEG	-0.06465	0.3407	
ESG	-0.00093	0.7438	
FIND	0.082887	0.4964	
R-squared		0.302036	
Adjusted R-squared		0.285082	
F-statistic		17.81443	
Prob(F-statistic)		0	***

Table 10. Model 7 $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Find_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 10 reports the regression results for Model 7.

ROA: The coefficient estimate of -2.070373 suggests a statistically significant negative association between ROA and FEG. This indicates that higher return on assets is associated with lower FEG.

FAG: The coefficient estimate of 2.164676 suggests a statistically significant positive relationship between FAG and FEG. This indicates that higher FAG is associated with higher FEG.

Overall, the regression model suggests that ROA and FAG have statistically significant associations with FEG. The model explains approximately 30.20% of the variation in FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-4.51167	0.0994	*
DP	3.646439	0.0001	***
SIZE	0.177389	0.1649	
ROA	-8.36363	0.0001	***
EY	0.904793	0.0074	***
LEV	-1.53504	0.0139	**
FAG	2.523333	0	***
PEG	-0.01349	0.8542	
Q	1.546074	0.0076	***
QDP	-2.72667	0.004	***
ESG	-0.0054	0.3307	
FIND	-0.09032	0.7371	
R-squared		0.275336	
Adjusted R-squared		0.242666	
F-statistic		8.427959	
Prob(F-statistic)		0	***

Table 11. Model 8: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Find_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 11 reports the regression results for Model 8.

DP: The coefficient estimate of 3.646439 suggests a statistically significant positive association between DP and FEG. This indicates that higher DP is associated with higher FEG.

ROA: The coefficient estimate of -8.363629 suggests a statistically significant negative relationship between ROA and FEG. This indicates that higher return on assets is associated with lower FEG.

EY: The coefficient estimate of 0.904793 suggests a statistically significant positive relationship between EY and FEG. This indicates that higher EY is associated with higher FEG.

LEV: The coefficient estimate of -1.535039 suggests a statistically significant negative association between LEV and FEG. This indicates that higher leverage is associated with lower FEG.

FAG: The coefficient estimate of 2.523333 suggests a statistically significant positive relationship between FAG and FEG. This indicates that higher FAG is associated with higher FEG.

Q: The coefficient estimate of 1.546074 suggests a statistically significant positive association between Q and FEG. This indicates that higher Q is associated with higher FEG.

QDP: The coefficient estimate of -2.726671 suggests a statistically significant negative relationship between QDP and FEG. This indicates that higher QDP is associated with lower FEG.

Overall, the regression model suggests that DP, ROA, EY, LEV, FAG, Q, and QDP have statistically significant associations with FEG. The model explains approximately 27.53% of the variation in FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-3.79417	0.1095	
DP	1.167127	0	***
SIZE	0.167569	0.1226	
ROA	-5.03059	0.0003	***
EY	0.669278	0.0181	**
LEV	-0.49368	0.1767	
FAG	2.525417	0	***
PEG	-0.02865	0.6873	
ESG	-0.00471	0.3081	
SERVD	-0.19693	0.3134	
R-squared		0.314407	
Adjusted R-squared		0.289325	
F-statistic		12.53485	
Prob(F-statistic)		0	***

Table 12. Model 9: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Servd_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 12 reports the regression results for Model 9.

DP: The coefficient estimate of 1.167127 suggests a statistically significant positive association between DP and FEG. This indicates that higher DP is associated with higher FEG.

ROA: The coefficient estimate of -5.030589 suggests a statistically significant negative relationship between ROA and FEG. This indicates that higher return on assets is associated with lower FEG.

EY: The coefficient estimate of 0.669278 suggests a statistically significant positive relationship between EY and FEG. This indicates that higher EY is associated with higher FEG.

FAG: The coefficient estimate of 2.525417 suggests a statistically significant positive relationship between FAG and FEG. This indicates that higher FAG is associated with higher FEG.

Insignificant Variables:

C: The constant term with a coefficient estimate of -3.794165 is not statistically significant at conventional significance levels (p-value= 0.1095).

SIZE, LEV, PEG, ESG, and SERVVD: These variables do not have statistically significant relationships with FEG as their p-values are greater than 0.05.

Overall, the regression model suggests that DP, ROA, EY, and FAG have statistically significant associations with FEG. The model explains approximately 31.44% of the variation in FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-6.13584	0.0075	***
DP	-0.22019	0.4887	
SIZE	0.281016	0.0064	***
ROA	3.011113	0.0791	*
EY	0.393943	0.0466	**
LEV	-0.15277	0.69	
FAG	0.048778	0.8567	
LGREBITDA	0.035995	0.7956	
ESG	0.002796	0.4914	
SERVVD	-0.428	0.0478	**
R-squared		0.075615	
Adjusted R-squared		0.041933	
F-statistic		2.244955	
Prob(F-statistic)		0.019904	**

Table 13. Model 10: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Servd_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 13 reports the regression results for Model 10.

C: The coefficient estimate of -6.135835 suggests a statistically significant negative intercept term. This indicates that, holding other variables constant, there is a negative constant effect on GREBITDA.

SIZE: The coefficient estimate of 0.281016 indicates a statistically significant positive association between SIZE and GREBITDA. This suggests that larger-sized firms tend to have higher GREBITDA.

ROA: The coefficient estimate of 3.011113 is marginally significant (p-value of 0.0791). It suggests a positive relationship between ROA and GREBITDA, but the significance level is relatively weak.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.159186	0.4504	
DG	-0.03441	0.3769	
ROA	-2.38769	0.0076	***
FAG	1.91834	0	***
PEG	-0.05897	0.3919	
ESG	-0.00118	0.6854	
SERVD	-0.05844	0.6161	
R-squared		0.249248	
Adjusted R-squared		0.231011	
F-statistic		13.66727	
Prob(F-statistic)		0	***

Table 14: Model 11: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Servd_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 14 reports the regression results for Model 11.

ROA: The coefficient estimate of -2.387689 is statistically significant (p-value of 0.0076). It suggests a negative association between ROA and FEG, indicating that firms with lower return on assets tend to have higher FEG.

FAG: The coefficient estimate of 1.91834 is statistically significant (p-value of 0). It suggests a positive relationship between FAG and FEG, indicating that firms with higher financial leverage tend to have higher FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-5.52467	0.0271	**
DP	3.46445	0.0001	***
SIZE	0.229103	0.0467	**
ROA	-8.45973	0	***
EY	1.020275	0.0018	***
LEV	-1.47804	0.0085	***
FAG	2.393648	0	***
PEG	-0.01018	0.8887	
Q	1.455188	0.0083	***
QDP	-2.5929	0.0043	***
ESG	-0.00533	0.2982	
SERVD	-0.29282	0.1616	
R-squared		0.273463	
Adjusted R-squared		0.24071	
F-statistic		8.349088	
Prob(F-statistic)		0	***

Table 15 Model 12: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Servd_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 15 reports the regression results for Model 12.

DP: The coefficient estimate of 3.46445 is statistically significant (p-value of 0.0001). It suggests a positive association between DP and FEG, indicating that firms with higher dividend payout tend to have higher FEG.

ROA: The coefficient estimate of -8.459726 is statistically significant (p-value of 0). It suggests a negative relationship between ROA and FEG, indicating that firms with lower return on assets tend to have higher FEG.

EY: The coefficient estimate of 1.020275 is statistically significant (p-value of 0.0018). It suggests a positive association between EY and FEG, indicating that firms with higher earnings yield tend to have higher FEG.

LEV: The coefficient estimate of -1.478039 is statistically significant (p-value of 0.0085). It suggests a negative relationship between LEV and FEG, indicating that firms with lower leverage tend to have higher FEG.

FAG: The coefficient estimate of 2.393648 is statistically significant (p-value of 0). It suggests a positive relationship between FAG and FEG, indicating that firms with higher financial leverage tend to have higher FEG.

Q: The coefficient estimate of 1.455188 is statistically significant (p-value of 0.0083). It suggests a positive association between Q and FEG, indicating that firms with higher Q ratio tend to have higher FEG.

QDP: The coefficient estimate of -2.592895 is statistically significant (p-value of 0.0043). It suggests a negative relationship between QDP and FEG, indicating that firms with lower Q ratio and higher dividend payout tend to have higher FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	2.704769	0.255	
DP	1.286716	0	***
SIZE	-0.11947	0.2565	
ROA	-3.84306	0.0043	***
EY	-0.01717	0.9349	
LEV	-1.11875	0.0007	***
FAG	1.518442	0	***
PEG	-0.01911	0.7849	
ESG	0.000927	0.8384	
YEAR	2.466928	0	***
R-squared		0.585385	
Adjusted R-squared		0.570217	
F-statistic		38.59134	
Prob(F-statistic)		0	***

Table 16. Model 13: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Year_{it} + \epsilon_{it}$.
***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 16 reports the regression results for Model 13.

DP: The coefficient estimate of 1.286716 is statistically significant (p-value of 0). It suggests a positive association between DP and FEG, indicating that firms with higher dividend payout tend to have higher FEG.

ROA: The coefficient estimate of -3.843063 is statistically significant (p-value of 0.0043). It suggests a negative relationship between ROA and FEG, indicating that firms with lower return on assets tend to have higher FEG.

LEV: The coefficient estimate of -1.118745 is statistically significant (p-value of 0.0007). It suggests a negative relationship between LEV and FEG, indicating that firms with lower leverage tend to have higher FEG.

FAG: The coefficient estimate of 1.518442 is statistically significant (p-value of 0). It suggests a positive relationship between FAG and FEG, indicating that firms with higher financial leverage tend to have higher FEG.

YEARD: The coefficient estimate of 2.466928 is statistically significant (p-value of 0). It suggests a positive association between YEARD and FEG, indicating that firms with a higher year indicator tend to have higher FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-4.93012	0.0374	**
DP	-0.22265	0.4488	
SIZE	0.205278	0.0504	*
ROA	3.604338	0.0209	**
EY	0.202024	0.2902	
LEV	0.284948	0.4554	
FAG	0.293901	0.2649	
LGREBITDA	0.063946	0.6474	
ESG	0.00397	0.299	
YEARD	-0.14661	0.4561	
R-squared		0.068865	
Adjusted R-squared		0.034937	
F-statistic		2.029738	
Prob(F-statistic)		0.0367	**

Table 17. Model 14: $Greditda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGreditda_{it} + \beta_8 ESG_{it} + \beta_9 Year_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 17 reports the regression results for Model 14.

C: The coefficient estimate of -4.930115 is statistically significant (p-value of 0.0374). It represents the intercept term in the regression Model.

SIZE: The coefficient estimate of 0.205278 is marginally significant (p-value of 0.0504). It suggests a positive association between SIZE and GREBITDA, indicating that larger firms tend to have higher GREBITDA.

ROA: The coefficient estimate of 3.604338 is statistically significant (p-value of 0.0209). It suggests a positive relationship between ROA and GREBITDA, indicating that firms with higher return on assets tend to have higher GREBITDA.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.210352	0.2829	
DG	-0.16018	0	***
ROA	-2.22848	0.0079	***
FAG	1.586196	0	***
PEG	-0.04205	0.5351	
ESG	-0.00327	0.2732	
YEARD	1.905181	0	***
R-squared		0.565176	
Adjusted R-squared		0.554613	
F-statistic		53.50757	
Prob(F-statistic)		0	***

Table 18. Model 15: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Year_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 18 reports the regression results for Model 15.

DG: The coefficient estimate of -0.160181 is statistically significant (p-value of 0). It suggests a negative relationship between DG and FEG, indicating that higher DG values are associated with lower FEG.

ROA: The coefficient estimate of -2.228479 is statistically significant (p-value of 0.0079). It suggests a negative association between ROA and FEG, indicating that firms with higher return on assets tend to have lower FEG.

FAG: The coefficient estimate of 1.586196 is statistically significant (p-value of 0). It indicates a positive relationship between FAG and FEG, suggesting that firms with higher FAG values tend to have higher FEG.

YEARD: The coefficient estimate of 1.905181 with a standard error of 0.175171 is statistically significant (p-value of 0). It suggests a positive association between YEARD and FEG, indicating that FEG tends to increase over the years.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	2.187648	0.4286	
DP	3.370546	0.0001	***
SIZE	-0.11523	0.3487	
ROA	-6.95917	0.0025	***
EY	0.353897	0.1966	
LEV	-2.25492	0.0002	***
FAG	1.272256	0.0002	***
PEG	-0.00042	0.9953	
Q	1.463529	0.0063	***
QDP	-2.25111	0.0101	**
ESG	0.00135	0.8163	
YEAR	2.617601	0	***
R-squared		0.481658	
Adjusted R-squared		0.458291	
F-statistic		20.61201	
Prob(F-statistic)		0	***

Table 19. Model 16: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 19 reports the regression results for Model 16.

DP: The coefficient estimate of 3.370546 is statistically significant (p-value of 0). It suggests a positive relationship between DP and FEG, indicating that higher DP values are associated with higher FEG.

ROA: The coefficient estimate of -6.959168 is statistically significant (p-value of 0.0025). It suggests a negative association between ROA and FEG, indicating that firms with higher return on assets tend to have lower FEG.

LEV: The coefficient estimate of -2.254918 is statistically significant (p-value of 0.0002). It indicates a negative relationship between LEV and FEG, suggesting that firms with higher leverage tend to have lower FEG.

FAG: The coefficient estimate of 1.272256 is statistically significant (p-value of 0.0002). It suggests a positive association between FAG and FEG, indicating that firms with higher FAG values tend to have higher FEG.

Q: The coefficient estimate of 1.463529 is statistically significant (p-value of 0.0063). It suggests a positive relationship between Q and FEG, indicating that higher Q values are associated with higher FEG.

QDP: The coefficient estimate of -2.251105 was statistically significant (p-value of 0.0101). It suggests a negative association between QDP and FEG, indicating that firms with higher QDP values tend to have lower FEG.

YEAR: The coefficient estimate of 2.617601 is statistically significant (p-value of 0). It suggests a positive association between YEAR and FEG, indicating that FEG tends to increase over the years.

Dependent Variable: FEG		
Variable	Coefficient	Prob.
C	3.136945	0.1939
DP	1.30089	0 ***
SIZE	-0.14857	0.1795
ROA	-3.23655	0.041 **
EY	-0.06245	0.7694
LEV	-0.93459	0.0278 **
FAG	1.55881	0 ***
PEG	-0.01849	0.7918
ESG	0.001421	0.7585
FIND	0.183606	0.4776
YEAR	2.467608	0 ***
R-squared		0.585796
Adjusted R-squared		0.56889
F-statistic		34.64961
Prob(F-statistic)		0 ***

Table 20. Model 17: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Find_{it} + \beta_{10} Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 20 reports the regression results for Model 17.

DP: The coefficient estimate of 1.30089 is statistically significant (p-value of 0). It suggests a positive relationship between DP and FEG, indicating that higher DP values are associated with higher FEG.

ROA: The coefficient estimate of -3.236546 is statistically significant (p-value of 0.041). It suggests a negative association between ROA and FEG, indicating that firms with higher return on assets tend to have lower FEG.

LEV: The coefficient estimate of -0.934594 is statistically significant (p-value of 0.0278). It indicates a negative relationship between LEV and FEG, suggesting that firms with higher leverage tend to have lower FEG.

FAG: The coefficient estimate of 1.55881 is statistically significant (p-value of 0). It suggests a positive association between FAG and FEG, indicating that firms with higher FAG values tend to have higher FEG.

YEAR: The coefficient estimate of 2.467608 is statistically significant (p-value of 0). It suggests a positive association between YEAR and FEG, indicating that FEG tends to increase over the years.

Other Variables:

C, SIZE, EY, PEG, ESG, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-5.00048	0.0349	**
DP	-0.2437	0.4293	
SIZE	0.210352	0.0498	**
ROA	3.275665	0.0616	*
EY	0.267824	0.1465	
LEV	0.353674	0.3638	
FAG	0.392633	0.13	
LGREBITDA	0.067721	0.6317	
ESG	0.002448	0.5198	
FIND	-0.05863	0.7457	
YEAR	-0.19446	0.3105	
R-squared		0.074049	
Adjusted R-squared		0.036409	
F-statistic		1.967275	
Prob(F-statistic)		0.037434	**

Table 21. Model 18: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Find_{it} + \beta_{10} Year_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 21 reports the regression results for Model 18.

C: The coefficient estimate of -5.00048 is statistically significant (p-value of 0.0349). It represents the intercept term in the regression Model.

SIZE: The coefficient estimate of 0.210352 is statistically significant (p-value of 0.0498). It suggests a positive association between firm size (SIZE) and GREBITDA, indicating that larger firms tend to have higher GREBITDA.

ROA: The coefficient estimate of 3.275665 is marginally statistically significant (p-value of 0.0616). It suggests a positive relationship between return on assets (ROA) and GREBITDA, implying that firms with higher ROA values may have higher GREBITDA.

Other Variables:

DP, EY, LEV, FAG, LGREBITDA, ESG, FIND, YEARD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of GREBITDA.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.093285	0.6678	
DG	-0.15859	0	***
ROA	-1.79905	0.0649	*
FAG	1.454479	0	***
PEG	-0.04754	0.4846	
ESG	-0.00161	0.5934	
FIND	0.052024	0.6167	
YEARD	1.856479	0	***
R-squared		0.525824	
Adjusted R-squared		0.512332	
F-statistic		38.97074	
Prob(F-statistic)		0	***

Table 22. Model 19: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Find_{it} + \beta_7 Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 22 reports the regression results for Model 19.

DG: The coefficient estimate of -0.158586 is statistically significant (p-value of 0). It suggests that there is a negative relationship between DG and FEG, indicating that as DG decreases, FEG tends to increase.

ROA: The coefficient estimate of -1.799045 is marginally statistically significant (p-value of 0.0649). It implies a negative association between ROA and FEG, indicating that firms with higher ROA values may have lower FEG.

Other Variables:

C, PEG, ESG, FIND, YEARD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

FAG: The coefficient estimate of 1.454479 is statistically significant (p-value of 0). It suggests a positive association between FAG and FEG, indicating that firms with higher FAG values tend to have higher FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	3.136187	0.2885	
DP	3.67079	0	***
SIZE	-0.16775	0.2195	
ROA	-6.95819	0.0056	***
EY	0.262205	0.3653	
LEV	-2.23641	0.0027	***
FAG	1.434238	0.0002	***
PEG	0.002561	0.9716	
Q	1.63053	0.0029	***
QDP	-2.53299	0.0042	***
ESG	0.00128	0.8334	
FIND	0.206407	0.5801	
YEAR	2.660195	0	***
R-squared		0.492947	
Adjusted R-squared		0.467908	
F-statistic		19.68669	
Prob(F-statistic)		0	***

Table 23. Model 20: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Find_{it} + \beta_{12} Year_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 23 reports the regression results for Model 20.

DP: The coefficient estimate of 3.67079 is statistically significant (p-value of 0). It suggests that there is a positive relationship between DP and FEG, indicating that as DP increases, FEG tends to increase.

ROA: The coefficient estimate of -6.958191 is statistically significant (p-value of 0.0056). It implies a negative association between ROA and FEG, indicating that firms with higher ROA values may have lower FEG.

LEV: The coefficient estimate of -2.236413 is statistically significant (p-value of 0.0027). It suggests a negative association between LEV and FEG, indicating that firms with higher leverage may have lower FEG.

FAG: The coefficient estimate of 1.434238 is statistically significant (p-value of 0). It suggests a positive association between FAG and FEG, indicating that firms with higher FAG values tend to have higher FEG.

Q: The coefficient estimate of 1.63053 is statistically significant (p-value of 0.0029). It suggests a positive association between Q and FEG, indicating that firms with higher Q values may have higher FEG.

QDP: The coefficient estimate of -2.532988 is statistically significant (p-value of 0.0042). It implies a negative association between QDP and FEG, suggesting that firms with higher QDP values may have lower FEG.

Other Variables:

C, SIZE, EY, PEG, ESG, FIND, YEARD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	2.222998	0.3349	
DP	1.210283	0	***
SIZE	-0.09073	0.3773	
ROA	-4.40541	0.0037	***
EY	0.041179	0.8427	
LEV	-1.08181	0.003	***
FAG	1.371995	0	***
PEG	-0.01804	0.7975	
ESG	0.000497	0.9131	
SERVD	-0.15574	0.4522	
YEARD	2.520575	0	***
R-squared		0.586033	
Adjusted R-squared		0.569136	
F-statistic		34.68342	
Prob(F-statistic)		0	***

Table 24. Model 21: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 Servd_{it} + \beta_{10} Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 24 reports the regression results for Model 21.

DP: The coefficient estimate of 1.210283 is statistically significant (p-value of 0). It suggests a positive relationship between DP and FEG, indicating that as DP increases, FEG tends to increase.

ROA: The coefficient estimate of -4.405407 is statistically significant (p-value of 0.0037). It implies a negative association between ROA and FEG, indicating that firms with higher ROA values may have lower FEG.

LEV: The coefficient estimate of -1.081814 is statistically significant (p-value of 0.003). It suggests a negative association between LEV and FEG, indicating that firms with higher leverage may have lower FEG.

FAG: The coefficient estimate of 1.371995 is statistically significant (p-value of 0). It suggests a positive association between FAG and FEG, indicating that firms with higher FAG values tend to have higher FEG.

YEAR: The coefficient estimate of 2.520575 is statistically significant (p-value of 0). It implies a positive relationship between YEAR and FEG, suggesting that as the years increase, FEG tends to increase.

Other Variables:

C, SIZE, EY, PEG, ESG, SERV: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-7.58036	0.0026	***
DP	-0.20806	0.5111	
SIZE	0.348212	0.0024	***
ROA	2.519268	0.1627	
EY	0.473567	0.0119	**
LEV	-0.14316	0.7405	
FAG	0.16704	0.5678	
LGREBITDA	0.04786	0.7432	
ESG	0.002026	0.6346	
SERV	-0.5001	0.0297	**
YEAR	-0.25518	0.2324	
R-squared		0.077363	
Adjusted R-squared		0.039858	
F-statistic		2.062714	
Prob(F-statistic)		0.028079	**

Table 25. Model 22: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 Serv_{it} + \beta_{10} Year_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 25 reports the regression results for Model 22.

C: The coefficient estimate of -7.580362 is statistically significant (p-value of 0.0026). It represents the intercept term in the regression Model.

SIZE: The coefficient estimate of 0.348212 is statistically significant (p-value of 0.0024). It suggests a positive relationship between SIZE and GREBITDA, indicating that larger firms tend to have higher GREBITDA.

EY: The coefficient estimate of 0.473567 is statistically significant (p-value of 0.0119). It implies a positive association between EY and GREBITDA, suggesting that firms with higher earnings yield may have higher GREBITDA.

SERVD: The coefficient estimate of -0.500095 is statistically significant (p-value of 0.0297). It suggests a negative relationship between SERVD and GREBITDA, indicating that firms with higher service duration may have lower GREBITDA.

Other Variables:

DP, ROA, LEV, FAG, LGREBITDA, ESG, YEARD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of GREBITDA.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.324567	0.1805	
DG	-0.14212	0.0002	***
ROA	-2.67585	0.0115	**
FAG	1.143239	0	***
PEG	-0.04314	0.5353	
ESG	-0.00173	0.5892	
SERVD	-0.14182	0.2344	
YEARD	1.816524	0	***
R-squared		0.424487	
Adjusted R-squared		0.408111	
F-statistic		25.92071	
Prob(F-statistic)		0	***

Table 26. Model 23: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 Servd_{it} + \beta_7 Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 26 reports the regression results for Model 23.

DG: The coefficient estimate of -0.142121 is statistically significant (p-value of 0.0002). It suggests a negative relationship between DG and FEG, indicating that firms with higher debt growth may have lower FEG.

ROA: The coefficient estimate of -2.675851 is statistically significant (p-value of 0.0115). It implies a negative association between ROA and FEG, suggesting that firms with lower return on assets may have lower FEG.

FAG: The coefficient estimate of 1.143239 is statistically significant (p-value of 0). It indicates a positive relationship between FAG and FEG, suggesting that firms with higher financial asset growth may have higher FEG.

Other Variables:

C, PEG, ESG, SERVVD, YEARD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	1.058553	0.6806	
DP	3.073826	0.0002	***
SIZE	-0.05488	0.6322	
ROA	-7.37189	0.0011	***
EY	0.432709	0.1077	
LEV	-2.03685	0.0006	***
FAG	1.128504	0.0003	***
PEG	-2.50E-05	0.9997	
Q	1.295644	0.0109	**
QDP	-2.00896	0.0155	**
ESG	0.000459	0.934	
SERVVD	-0.17638	0.4241	
YEARD	2.57261	0	***
R-squared		0.466992	
Adjusted R-squared		0.440671	
F-statistic		17.74192	
Prob(F-statistic)		0	***

Table 27. Model 24: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} Servd_{it} + \beta_{12} Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 27 reports the regression results for Model 24.

DP: The coefficient estimate of 3.073826 is statistically significant (p-value of 0.0002). It suggests a positive relationship between DP and FEG, indicating that firms with higher dividend payouts may have higher FEG.

ROA: The coefficient estimate of -7.371885 is statistically significant (p-value of 0.0011). It implies a negative association between ROA and FEG, suggesting that firms with lower return on assets may have lower FEG.

LEV: The coefficient estimate of -2.036846 is statistically significant (p-value of 0.0006). It indicates a negative relationship between LEV and FEG, suggesting that firms with higher leverage may have lower FEG.

FAG: The coefficient estimate of 1.128504 is statistically significant (p-value of 0.0003). It suggests a positive relationship between FAG and FEG, indicating that firms with higher financial asset growth may have higher FEG.

Q: The coefficient estimate of 1.295644 is statistically significant (p-value of 0.0109). It implies a positive association between Q and FEG, suggesting that firms with higher investment-to-price ratios may have higher FEG.

QDP: The coefficient estimate of -2.008958 is statistically significant (p-value of 0.0155). It indicates a negative relationship between QDP and FEG, suggesting that firms with higher quality-adjusted dividend payouts may have lower FEG.

YEARD: The coefficient estimate of 2.57261 is statistically significant (p-value of 0). It suggests a positive relationship between YEARD and FEG, indicating that there may be a trend or time effect on FEG.

Other Variables:

C, SIZE, EY, PEG, ESG, SERVD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-1.7794	0.4222	-
DP	7.705111	0	***
SIZE	-0.00343	0.9728	-
ROA	-5.09287	0.0013	***
EY	0.187987	0.4939	-
LEV	-0.011	0.9697	-
FAG	1.927949	0	***
PEG	-0.01239	0.9012	-
ESG	0.030162	0.0005	***
ESGDP	-0.12085	0	***
R-squared		0.339662	
Adjusted R-squared		0.315504	
F-statistic		14.05962	
Prob(F-statistic)		0	***

Table 28. Model 25: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 ESGDP_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 28 reports the regression results for Model 25.

DP: The coefficient estimate of 7.705111 is statistically significant (p-value of 0). It suggests a positive relationship between DP and FEG, indicating that firms with higher dividend payouts may have higher FEG.

ROA: The coefficient estimate of -5.092873 is statistically significant (p-value of 0.0013). It implies a negative association between ROA and FEG, suggesting that firms with lower return on assets may have lower FEG.

FAG: The coefficient estimate of 1.927949 is statistically significant (p-value of 0). It suggests a positive relationship between FAG and FEG, indicating that firms with higher financial asset growth may have higher FEG.

ESG: The coefficient estimate of 0.030162 is statistically significant (p-value of 0.0005). It indicates a positive association between ESG and FEG, suggesting that firms with higher ESG scores may have higher FEG.

Other Variables:

C, SIZE, EY, LEV, PEG, ESGDP: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-4.88637	0.0163	**
DP	-0.0584	0.9329	-
SIZE	0.201194	0.0269	**
ROA	4.011778	0.0057	***
EY	0.191928	0.2902	-
LEV	0.297333	0.3633	-
FAG	0.130571	0.5602	-
LGREBITDA	0.059321	0.6599	-
ESG	0.005037	0.3222	-
ESGDP	-0.00334	0.8018	-
R-squared		0.073838	*
Adjusted R-squared		0.040092	**
F-statistic		2.188016	-
Prob(F-statistic)		0.023447	**

Table 29. Model 26: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 29 reports the regression results for Model 26.

C: The coefficient estimate of -4.886374 is statistically significant (p-value of 0.0163). It represents the intercept term in the regression Model.

SIZE: The coefficient estimate of 0.201194 is statistically significant (p-value of 0.0269). It suggests a positive relationship between firm size and GREBITDA, indicating that larger firms may have higher GREBITDA.

ROA: The coefficient estimate of 4.011778 is statistically significant (p-value of 0.0057). It implies a positive association between ROA and GREBITDA, suggesting that firms with higher return on assets may have higher GREBITDA.

Other Variables:

DP, EY, LEV, FAG, LGREBITDA, ESG, ESGDP: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of GREBITDA.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.089651	0.6194	-
DG	0.141415	0.3168	-
ROA	-2.41252	0.0016	***
FAG	2.297979	0	***
PEG	-0.0654	0.3398	-
ESG	-0.00179	0.528	-
ESGDG	-0.00273	0.2054	-
R-squared		0.312595	
Adjusted R-squared		0.295897	
F-statistic		18.72037	
Prob(F-statistic)		0	***

Table 30. Model 27: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 ESGDG_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 30 reports the regression results for Model 27.

ROA: The coefficient estimate of -2.412524 is statistically significant (p-value of 0.0016). It indicates a negative relationship between ROA and FEG, suggesting that firms with higher return on assets may have lower FEG.

Other Variables:

C, DG, FAG, PEG, ESG, ESGDG: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-3.1148	0.1825	-
DP	9.725764	0	***
SIZE	0.037074	0.7206	-
ROA	-5.35227	0.0078	***
EY	0.38237	0.1633	-
LEV	-0.27873	0.5504	-
FAG	2.166139	0	***
PEG	-0.01571	0.8697	-
Q	0.63979	0.2123	-
QDP	-1.64183	0.0478	**
ESG	0.029784	0.0003	***
ESGDP	-0.13085	0	***
R-squared		0.387041	-
Adjusted R-squared		0.359408	-
F-statistic		14.00629	-
Prob(F-statistic)		0	***

Table 31. Model 28: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} ESGDP_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 31 reports the regression results for Model 28.

DP: The coefficient estimate of 9.725764 is statistically significant (p-value of 0). It indicates a positive relationship between DP (presumably dividend payout) and FEG, suggesting that firms with higher dividend payout may have higher FEG.

ROA: The coefficient estimate of -5.352265 is statistically significant (p-value of 0.0078). It indicates a negative relationship between ROA and FEG, suggesting that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 2.166139 is statistically significant (p-value of 0). It indicates a positive relationship between FAG and FEG, suggesting that firms with higher financial assets growth may have higher FEG.

QDP: The coefficient estimate of -1.641832 is statistically significant (p-value of 0.0478). It indicates a negative relationship between QDP and FEG, suggesting that firms with higher quarterly dividend payout may have lower FEG.

ESG: The coefficient estimate of 0.029784 is statistically significant (p-value of 0.0003). It indicates a positive relationship between ESG and FEG, suggesting that firms with higher environmental, social, and governance factors may have higher FEG.

Other Variables:

C, SIZE, EY, LEV, PEG, Q, ESGDP: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-2.18799	0.3235	-
DP	7.72833	0	***
SIZE	0.0234	0.8198	-
ROA	-5.84069	0.0005	***
EY	0.241171	0.3904	-
LEV	-0.24483	0.5223	-
FAG	1.91709	0	***
PEG	-0.01311	0.8955	-
ESG	0.030255	0.0004	***
ESGDP	-0.12136	0	***
FIND	-0.21445	0.3624	-
R-squared		0.344939	-
Adjusted R-squared		0.318202	-
F-statistic		12.90108	-
Prob(F-statistic)		0	***

Table 32. Model 29: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 ESGDP_{it} + \beta_{10} Find_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 32 reports the regression results for Model 29.

DP: The coefficient estimate of 7.72833 is statistically significant (p-value of 0). It indicates a positive relationship between DP (presumably dividend payout) and FEG, suggesting that firms with higher dividend payout may have higher FEG.

ROA: The coefficient estimate of -5.840685 is statistically significant (p-value of 0.0005). It indicates a negative relationship between ROA and FEG, suggesting that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 1.91709 is statistically significant (p-value of 0). It indicates a positive relationship between FAG and FEG, suggesting that firms with higher financial assets growth may have higher FEG.

ESG: The coefficient estimate of 0.030255 is statistically significant (p-value of 0.0004). It indicates a positive relationship between ESG and FEG, suggesting that firms with higher environmental, social, and governance factors may have higher FEG.

ESGDP: The coefficient estimate of -0.121363 is statistically significant (p-value of 0). It indicates a negative relationship between ESGDP and FEG, suggesting that firms with higher environmental, social, and governance factors relative to DP may have lower FEG.

Other Variables:

C, SIZE, EY, LEV, PEG, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-4.85457	0.0117	**
DP	-0.11349	0.8671	-
SIZE	0.20285	0.0213	**
ROA	3.462194	0.0311	**
EY	0.248626	0.141	-
LEV	0.375109	0.2563	-
FAG	0.237043	0.2561	-
LGREBITDA	0.057621	0.6692	-
ESG	0.003097	0.515	-
ESGDP	-0.00264	0.8418	-
FIND	-0.06006	0.7203	-
R-squared		0.080228	*
Adjusted R-squared		0.042839	**
F-statistic		2.145761	-
Prob(F-statistic)		0.021775	**

Table 33. Model 30: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsGdp_{it} + \beta_{10} Find_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 33 reports the regression results for Model 30.

C: The coefficient estimate of -4.854569 is statistically significant (p-value of 0.0117). It represents the intercept term of the regression model.

SIZE: The coefficient estimate of 0.20285 is statistically significant (p-value of 0.0213). It indicates a positive relationship between SIZE (presumably firm size) and GREBITDA, suggesting that larger firms may have higher GREBITDA.

ROA: The coefficient estimate of 3.462194 is statistically significant (p-value of 0.0311). It indicates a positive relationship between ROA (return on assets) and GREBITDA, suggesting that firms with higher return on assets may have higher GREBITDA.

Other Variables:

DP, EY, LEV, FAG, LGREBITDA, ESG, ESGDP, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of GREBITDA.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.009899	0.9605	-
DG	0.180495	0.2233	-
ROA	-2.23635	0.0096	***
FAG	2.192216	0	***
PEG	-0.06749	0.3219	-
ESG	-0.00065	0.8183	-
ESGDG	-0.00319	0.1524	-
FIND	0.080798	0.5052	-
R-squared		0.304517	-
Adjusted R-squared		0.284727	-
F-statistic		15.38732	-
Prob(F-statistic)		0	***

Table 34. Model 31: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 ESGDG_{it} + \beta_7 FIND_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 34 reports the regression results for Model 31.

ROA: The coefficient estimate of -2.236346 is statistically significant (p-value of 0.0096). It indicates a negative relationship between ROA (return on assets) and FEG, suggesting that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 2.192216 is statistically significant (p-value of 0). It indicates a positive relationship between FAG (presumably financial asset growth) and FEG, suggesting that firms with higher financial asset growth may have higher FEG.

Other Variables:

C, DG, PEG, ESG, ESGDG, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Therefore, based on the results and considering statistical significance and goodness-of-fit measures, the significant variables for predicting FEG are ROA and FAG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-3.8379	0.1018	-
DP	9.44328	0	***
SIZE	0.073238	0.4916	-
ROA	-5.26961	0.009	***
EY	0.411561	0.1429	-
LEV	-0.283	0.5818	-
FAG	2.010779	0	***
PEG	-0.01667	0.8635	-
Q	0.506651	0.3277	-
QDP	-1.39879	0.0974	*
ESG	0.030716	0.0002	***
ESGDP	-0.12977	0	***
FIND	-0.10182	0.6871	
R-squared		0.366933	
Adjusted R-squared		0.33567	
F-statistic		11.73713	
Prob(F-statistic)		0	***

Table 35. Model 32: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} ESGDP_{it} + \beta_{12} Find_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 35 reports the regression results for Model 32.

DP: The coefficient estimate of 9.44328 is statistically significant (p-value of 0). It indicates a positive relationship between DP (presumably dividend payout) and FEG, suggesting that firms with higher dividend payout may have higher FEG.

ROA: The coefficient estimate of -5.269606 is statistically significant (p-value of 0.009). It indicates a negative relationship between ROA (return on assets) and FEG, suggesting that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 2.010779 is statistically significant (p-value of 0). It indicates a positive relationship between FAG (presumably financial asset growth) and FEG, suggesting that firms with higher financial asset growth may have higher FEG.

ESG: The coefficient estimate of 0.030716 is statistically significant (p-value of 0.0002). It indicates a positive relationship between ESG (environmental, social, and governance) and FEG, suggesting that firms with higher ESG scores may have higher FEG.

ESGDP: The coefficient estimate of -0.129774 is statistically significant (p-value of 0). It indicates a negative relationship between ESGDP (ESG and DP product) and FEG, suggesting that firms with higher ESGDP may have lower FEG.

Other Variables:

C, SIZE, EY, LEV, PEG, Q, QDP, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	3.759508	0.0833	*
DP	8.273952	0	***
SIZE	-0.22962	0.024	**
ROA	-5.61017	0.0033	***
EY	-0.34845	0.1135	-
LEV	-0.61975	0.1524	-
FAG	0.716362	0	***
PEG	-0.02258	0.8168	-
ESG	0.03248	0	***
ESGDP	-0.13043	0	***
FIND	-0.00236	0.9925	-
YEAR	2.794622	0	***
R-squared		0.577366	-
Adjusted R-squared		0.558313	-
F-statistic		30.30289	-
Prob(F-statistic)		0	***

Table 36. Model 33: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 SIZE_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 ESGDP_{it} + \beta_{10} Find_{it} + \beta_{11} Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 36 reports the regression results for Model 33.

DP: The coefficient estimate of 8.273952 is statistically significant (p-value of 0). It indicates a positive relationship between DP (presumably dividend payout) and FEG, suggesting that firms with higher dividend payout may have higher FEG.

SIZE: The coefficient estimate of -0.229622 is statistically significant (p-value of 0.024). It indicates a negative relationship between SIZE and FEG, suggesting that larger firms may have lower FEG.

ROA: The coefficient estimate of -5.61017 is statistically significant (p-value of 0.0033). It indicates a negative relationship between ROA (return on assets) and FEG, suggesting that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 0.716362 is statistically significant (p-value of 0). It indicates a positive relationship between FAG (presumably financial asset growth) and FEG, suggesting that firms with higher financial asset growth may have higher FEG.

ESG: The coefficient estimate of 0.03248 is statistically significant (p-value of 0). It indicates a positive relationship between ESG (environmental, social, and governance) and FEG, suggesting that firms with higher ESG scores may have higher FEG.

ESGDP: The coefficient estimate of -0.130432 is statistically significant (p-value of 0). It indicates a negative relationship between ESGDP (ESG and DP product) and FEG, suggesting that firms with higher ESGDP may have lower FEG.

YEAR: The coefficient estimate of 2.794622 is statistically significant (p-value of 0). It represents a time trend variable, and its significance suggests a significant time effect on FEG.

Other Variables:

C, EY, LEV, PEG, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-5.21611	0.0207	**
DP	-0.10275	0.8769	-
SIZE	0.218097	0.0344	**
ROA	3.368401	0.0639	*
EY	0.263787	0.1428	-
LEV	0.355593	0.3475	-
FAG	0.337214	0.1932	-
LGREBITDA	0.0729	0.6088	-
ESG	0.003318	0.5223	-
ESGDP	-0.00274	0.8363	-
FIND	-0.05598	0.756	-
YEAR	-0.16209	0.384	-
R-squared		0.07385	*
Adjusted R-squared		0.032268	**
F-statistic		1.776007	-
Prob(F-statistic)		0.058665	*

Table 37. Model 34: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Find_{it} + \beta_{11} Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 37 reports the regression results for Model 34.

SIZE: The coefficient estimate of 0.218097 is statistically significant (p-value of 0.0344). It indicates a positive relationship between SIZE and GREBITDA, suggesting that larger firms may have higher GREBITDA.

ROA: The coefficient estimate of 3.368401 is marginally statistically significant (p-value of 0.0639). It suggests a positive relationship between ROA (return on assets) and GREBITDA, implying that firms with higher return on assets may have higher GREBITDA.

YEAR: The coefficient estimate of -0.162088 is not statistically significant (p-value of 0.384). It represents a time trend variable, but its coefficient is not significant in predicting GREBITDA.

Other Variables:

C, DP, EY, LEV, FAG, LGREBITDA, ESG, ESGDP, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of GREBITDA.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.07785	0.7132	-
DG	0.195144	0.2979	-
ROA	-2.15013	0.0298	**
FAG	1.506616	0	***
PEG	-0.05111	0.4534	-
ESG	-0.00128	0.6642	-
ESGDG	-0.00517	0.0583	*
FIND	0.036262	0.7251	-
YEAR	1.877061	0	***
R-squared		0.539678	-
Adjusted R-squared		0.524647	-
F-statistic		35.9045	-
Prob(F-statistic)		0	***

Table 38. Model 35: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 ESGDG_{it} + \beta_7 Find_{it} + \beta_8 Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 38 reports the regression results for Model 35.

ROA: The coefficient estimate of -2.15013 is statistically significant (p-value of 0.0298). It suggests a negative relationship between ROA (return on assets) and FEG, indicating that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 1.506616 is statistically significant (p-value of 0). It indicates a positive relationship between FAG and FEG, implying that firms with higher FAG may have higher FEG.

YEARD: The coefficient estimate of 1.877061 is statistically significant (p-value of 0). It represents a time trend variable and indicates an increasing trend in FEG over the years.

Other Variables:

C, DG, PEG, ESG, ESGDG, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Therefore, based on the results and considering statistical significance and goodness-of-fit measures, the significant predictors for FEG are ROA, FAG, and YEARD.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	2.665008	0.2405	-
DP	9.510718	0	***
SIZE	-0.19725	0.0576	*
ROA	-4.44415	0.0489	**
EY	-0.26684	0.2219	-
LEV	-0.3992	0.4565	-
FAG	0.7253	0	***
PEG	-0.02731	0.7744	-
Q	0.230533	0.5524	-
QDP	-0.82149	0.1877	-
ESG	0.032668	0	***
ESGDG	-0.13997	0	***
FIND	0.101162	0.6989	-
YEARD	2.625231	0	***
R-squared		0.53692	-
Adjusted R-squared		0.512044	-
F-statistic		21.58372	-
Prob(F-statistic)		0	***

Table 39. Model 36: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} ESGDG_{it} + \beta_{12} Find_{it} + \beta_{13} Year_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 39 reports the regression results for Model 36.

ROA: The coefficient estimate of -4.444154 is statistically significant (p-value of 0.0489). It suggests a negative relationship between ROA (return on assets) and FEG, indicating that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 0.7253 is statistically significant (p-value of 0). It indicates a positive relationship between FAG and FEG, implying that firms with higher FAG may have higher FEG.

YEARD: The coefficient estimate of 2.625231 is statistically significant (p-value of 0). It represents a time trend variable and indicates an increasing trend in FEG over the years.

DP: The coefficient estimate of 9.510718 is statistically significant (p-value of 0). It suggests a positive relationship between DP and FEG, indicating that firms with higher DP (dividend payout) may have higher FEG.

ESG: The coefficient estimate of 0.032668 is statistically significant (p-value of 0). It suggests a positive relationship between ESG (environmental, social, and governance) and FEG, indicating that firms with higher ESG may have higher FEG.

ESGDP: The coefficient estimate of -0.139974 is statistically significant (p-value of 0). It suggests a negative relationship between ESGDP (ESG and GDP product) and FEG, indicating that firms with a higher ESGDP may have lower FEG.

Other Variables:

C, SIZE, EY, LEV, PEG, Q, QDP, FIND: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-1.84868	0.4148	-
DP	7.944686	0	***
SIZE	0.019738	0.8525	-
ROA	-7.02907	0	***
EY	0.202749	0.4485	-
LEV	-0.42855	0.2156	-
FAG	2.10691	0	***
PEG	-0.01309	0.8929	-
ESG	0.028515	0.0004	***
ESGDP	-0.122	0	***
SERVD	-0.36201	0.0696	*
R-squared		0.382849	-
Adjusted R-squared		0.357659	-
F-statistic		15.19852	-
Prob(F-statistic)		0	***

Table 40. Model 37: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 ESGDP_{it} + \beta_{10} Servd_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 40 reports the regression results for Model 37.

DP: The coefficient estimate of 7.944686 is statistically significant (p-value of 0). It suggests a positive relationship between dividend payout (DP) and FEG, indicating that firms with higher dividend payouts may have higher FEG.

ROA: The coefficient estimate of -7.029066 is statistically significant (p-value of 0). It suggests a negative relationship between return on assets (ROA) and FEG, indicating that firms with lower ROA may have higher FEG.

FAG: The coefficient estimate of 2.10691 is statistically significant (p-value of 0). It suggests a positive relationship between financial analyst coverage (FAG) and FEG, indicating that firms with higher analyst coverage may have higher FEG.

ESG: The coefficient estimate of 0.028515 is statistically significant (p-value of 0.0004). It suggests a positive relationship between environmental, social, and governance (ESG) score and FEG, indicating that firms with higher ESG scores may have higher FEG.

ESGDP: The coefficient estimate of -0.121999 is statistically significant (p-value of 0). It suggests a negative relationship between the interaction term of ESG and DP (ESGDP) and FEG, indicating that the effect of ESG on FEG may depend on the DP level.

Other Variables:

C, SIZE, EY, LEV, PEG, SERVVD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-6.5986	0.0028	***
DP	-0.10451	0.9	-
SIZE	0.296489	0.0034	***
ROA	3.236518	0.0794	*
EY	0.398023	0.0567	*
LEV	-0.0589	0.8745	-
FAG	0.016502	0.9516	-
LGREBITDA	0.047131	0.7425	-
ESG	0.003676	0.5805	-
ESGDP	-0.00266	0.8638	-
SERVVD	-0.37209	0.1035	-
R-squared		0.077909	*
Adjusted R-squared		0.040425	**
F-statistic		2.078489	-
Prob(F-statistic)		0.026763	**

Table 41. Model 38: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsGdp_{it} + \beta_{10} Servd_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 41 reports the regression results for Model 38.

C: The coefficient estimate of -6.598596 is statistically significant (p-value of 0.0028). It represents the intercept term in the regression model and indicates the expected value of GREBITDA when all independent variables are zero.

SIZE: The coefficient estimate of 0.296489 is statistically significant (p-value of 0.0034). It suggests a positive relationship between firm size (SIZE) and GREBITDA, indicating that larger firms may have higher GREBITDA.

Other Variables:

DP, ROA, EY, LEV, FAG, LGREBITDA, ESG, ESGDP, SERVVD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of GREBITDA.

Therefore, based on the results and considering statistical significance and goodness-of-fit measures, the significant predictor for GREBITDA is SIZE, while the intercept term (C) also holds significance.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.139323	0.5061	-
DG	0.161144	0.3102	-
ROA	-2.47251	0.0066	***
FAG	1.957613	0	***
PEG	-0.06204	0.37	-
ESG	-0.00098	0.7353	-
ESGDG	-0.00307	0.2001	-
SERVD	-0.05153	0.6586	-
R-squared		0.252892	-
Adjusted R-squared		0.231633	-
F-statistic		11.89567	-
Prob(F-statistic)		0	***

Table 42. Model 39: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 ESGDG_{it} + \beta_7 Servd_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 42 reports the regression results for Model 39.

ROA: The coefficient estimate of -2.472508 is statistically significant (p-value of 0.0066). It suggests a negative relationship between ROA (return on assets) and FEG, indicating that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 1.957613 is statistically significant (p-value of 0). It indicates a positive relationship between FAG and FEG, implying that firms with higher FAG may have higher FEG.

Other Variables:

C, DG, PEG, ESG, ESGDG, SERVD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	-3.15967	0.1797	-
DP	10.07048	0	***
SIZE	0.054498	0.6139	-
ROA	-7.35952	0.0004	***
EY	0.414374	0.1191	-
LEV	-0.86442	0.0951	*
FAG	2.334037	0	***
PEG	-0.01478	0.8751	-
Q	0.87796	0.0961	*
QDP	-1.99489	0.0193	**
ESG	0.028436	0.0002	***
ESGDP	-0.12976	0	***
SERVD	-0.32024	0.1136	-
R-squared		0.435781	-
Adjusted R-squared		0.407918	-
F-statistic		15.64032	-
Prob(F-statistic)		0	***

Table 43. Model 40: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} ESGDP_{it} + \beta_{12} Servd_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 43 reports the regression results for Model 40.

DP: The coefficient estimate of 10.07048 is statistically significant (p-value of 0). It suggests a positive relationship between DP (dividend payout) and FEG, indicating that firms with higher DP may have higher FEG.

ROA: The coefficient estimate of -7.359519 is statistically significant (p-value of 0.0004). It suggests a negative relationship between ROA (return on assets) and FEG, indicating that firms with higher return on assets may have lower FEG.

FAG: The coefficient estimate of 2.334037 is statistically significant (p-value of 0). It indicates a positive relationship between FAG and FEG, implying that firms with higher FAG may have higher FEG.

QDP: The coefficient estimate of -1.994893 is statistically significant (p-value of 0.0193). It suggests a negative relationship between QDP (cash flow from operations to total debt ratio) and FEG, indicating that firms with a higher QDP may have lower FEG.

ESG: The coefficient estimate of 0.028436 is statistically significant (p-value of 0.0002). It suggests a positive relationship between ESG (environmental, social, and governance) and FEG, indicating that firms with higher ESG may have higher FEG.

ESGDP: The coefficient estimate of -0.129757 is statistically significant (p-value of 0). It suggests a negative relationship between ESGDP (ESG,DP product) and FEG, indicating that firms with a higher ESGDP may have lower FEG.

Other Variables:

C, SIZE, EY, LEV, PEG, Q, SERVD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	3.625878	0.0955	*
DP	8.409698	0	***
SIZE	-0.20449	0.0376	**
ROA	-7.26173	0.0001	***
EY	-0.37328	0.0792	*
LEV	-0.8167	0.03	**
FAG	0.744505	0	***
PEG	-0.02347	0.8079	-
ESG	0.030048	0.0001	***
ESGDP	-0.1324	0	***
SERVD	-0.24962	0.235	-
YEAR	2.937166	0	***
R-squared		0.63037	
Adjusted R-squared		0.613707	
F-statistic		37.82908	
Prob(F-statistic)		0	***

Table 44. Model 41: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 ESG_{it} + \beta_9 ESGDP_{it} + \beta_{10} Servd_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 44 reports the regression results for Model 41.

DP: The coefficient estimate of 8.409698 is statistically significant (p-value of 0). It suggests a positive relationship between dividend payout (DP) and FEG, indicating that firms with higher dividend payouts may have higher FEG.

SIZE: The coefficient estimate of -0.204487 is statistically significant (p-value of 0.0376). It suggests a negative relationship between firm size (SIZE) and FEG, indicating that larger firms may have lower FEG.

ROA: The coefficient estimate of -7.261728 is statistically significant (p-value of 0). It suggests a negative relationship between return on assets (ROA) and FEG, indicating that firms with lower ROA may have higher FEG.

LEV: The coefficient estimate of -0.816699 is statistically significant (p-value of 0.03). It suggests a negative relationship between leverage (LEV) and FEG, indicating that firms with higher leverage may have lower FEG.

FAG: The coefficient estimate of 0.744505 is statistically significant (p-value of 0). It suggests a positive relationship between financial analyst coverage (FAG) and FEG, indicating that firms with higher analyst coverage may have higher FEG.

ESG: The coefficient estimate of 0.030048 is statistically significant (p-value of 0.0001). It suggests a positive relationship between environmental, social, and governance (ESG) score and FEG, indicating that firms with higher ESG scores may have higher FEG.

ESGDP: The coefficient estimate of -0.132404 is statistically significant (p-value of 0). It suggests a negative relationship between the interaction term of ESG and DP (ESGDP) and FEG, indicating that the effect of ESG on FEG may depend on the DP level.

YEARD: The coefficient estimate of 2.937166 is statistically significant (p-value of 0). It suggests a positive relationship between the year dummy variable (YEARD) and FEG, indicating that FEG has been increasing over time.

Other Variables:

C, PEG, SERV: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: GREBITDA			
Variable	Coefficient	Prob.	
C	-7.68407	0.0013	***
DP	-0.13241	0.87	-
SIZE	0.34906	0.0015	***
ROA	2.630088	0.1927	-
EY	0.448421	0.0197	**
LEV	-0.07559	0.8561	-
FAG	0.111319	0.7065	-
LGREBITDA	0.056414	0.7044	-
ESG	0.002804	0.678	-
ESGDP	-0.00168	0.9131	-
SERVD	-0.44527	0.0634	*
YEAR	-0.19054	0.3689	-
R-squared		0.076203	
Adjusted R-squared		0.034727	
F-statistic		1.837265	
Prob(F-statistic)		0.048563	**

Table 45. Model 42: $Grebitda_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 LGrebitda_{it} + \beta_8 ESG_{it} + \beta_9 EsgDp_{it} + \beta_{10} Servd_{it} + \epsilon_{it}$ ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 45 reports the regression results for Model 42.

C: The coefficient estimate of -7.684066 is statistically significant (p-value of 0.0013). It represents the intercept term in the regression model.

SIZE: The coefficient estimate of 0.34906 is statistically significant (p-value of 0.0015). It suggests a positive relationship between firm size (SIZE) and GREBITDA, indicating that larger firms may have higher GREBITDA.

EY: The coefficient estimate of 0.448421 is statistically significant (p-value of 0.0197). It suggests a positive relationship between earnings yield (EY) and GREBITDA, indicating that firms with higher earnings yield may have higher GREBITDA.

Other Variables:

DP, ROA, LEV, FAG, LGREBITDA, ESG, ESGDP, SERVD, YEAR: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of GREBITDA.

Therefore, based on the results and considering statistical significance and goodness-of-fit measures, the significant predictors for GREBITDA are SIZE and EY.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	0.277729	0.2398	-
DG	0.270295	0.1637	-
ROA	-2.91773	0.0065	***
FAG	1.200601	0	***
PEG	-0.04639	0.5061	-
ESG	-0.00109	0.7283	-
ESGDG	-0.00615	0.0308	**
SERVD	-0.14516	0.2227	-
YEARD	1.865011	0	***
R-squared		0.441325	
Adjusted R-squared		0.423082	
F-statistic		24.19217	
Prob(F-statistic)		0	***

Table 46. Model 43: $FEG_{it} = \alpha + \beta_1 DG_{it} + \beta_2 ROA_{it} + \beta_3 FAG_{it} + \beta_4 PEG_{it} + \beta_5 ESG_{it} + \beta_6 ESGDG_{it} + \beta_7 SERVD_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 46 reports the regression results for Model 43.

ROA: The coefficient estimate of -2.917732 is statistically significant (p-value of 0.0065). It suggests a negative relationship between return on assets (ROA) and FEG, indicating that firms with lower ROA may have higher FEG.

FAG: The coefficient estimate of 1.200601 is statistically significant (p-value of 0). It suggests a positive relationship between fixed asset growth (FAG) and FEG, indicating that firms with higher fixed asset growth may have higher FEG.

ESGDG: The coefficient estimate of -0.006147 is statistically significant (p-value of 0.0308). It suggests a negative relationship between the interaction term of ESG and DG (ESGDG) and FEG, indicating that the combined effect of ESG and DG has a negative impact on FEG.

Other Variables:

C, DG, PEG, ESG, SERVD, YEARD: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Dependent Variable: FEG			
Variable	Coefficient	Prob.	
C	2.259138	0.3169	-
DP	9.442782	0	***
SIZE	-0.15546	0.1219	-
ROA	-5.83721	0.0062	***
EY	-0.29747	0.1583	-
LEV	-0.61842	0.2029	-
FAG	0.757377	0	***
PEG	-0.02743	0.7727	-
Q	0.147476	0.7046	-
QDP	-0.72068	0.2472	-
ESG	0.02999	0	***
ESGDP	-0.14042	0	***
SERVD	-0.21318	0.3131	-
YEAR	2.711311	0	***
R-squared		0.593803	
Adjusted R-squared		0.571983	
F-statistic		27.2131	
Prob(F-statistic)		0	***

Table 47. Model 44: $FEG_{it} = \alpha + \beta_1 DP_{it} + \beta_2 Size_{it} + \beta_3 ROA_{it} + \beta_4 EY_{it} + \beta_5 LEV_{it} + \beta_6 FAG_{it} + \beta_7 PEG_{it} + \beta_8 Q_{it} + \beta_9 QDP_{it} + \beta_{10} ESG_{it} + \beta_{11} EsgDp_{it} + \beta_{12} Servd_{it} + \epsilon_{it}$. ***, **, and * denote significance at the 1%, 5%, and 10% confidence level, respectively.

Table 47 reports the regression results for Model 44.

DP: The coefficient estimate of 9.442782 is statistically significant (p-value of 0). It suggests a positive relationship between dividend payout (DP) and FEG, indicating that firms with higher dividend payout may have higher FEG.

ROA: The coefficient estimate of -5.837213 is statistically significant (p-value of 0.0062). It suggests a negative relationship between return on assets (ROA) and FEG, indicating that firms with lower ROA may have higher FEG.

FAG: The coefficient estimate of 0.757377 is statistically significant (p-value of 0). It suggests a positive relationship between fixed asset growth (FAG) and FEG, indicating that firms with higher fixed asset growth may have higher FEG.

ESG: The coefficient estimate of 0.02999 is statistically significant (p-value of 0). It suggests a positive relationship between environmental, social, and governance (ESG) scores and FEG, indicating that firms with higher ESG scores may have higher FEG.

ESGDP: The coefficient estimate of -0.140424 is statistically significant (p-value of 0). It suggests a negative relationship between the interaction term of ESG and DP (ESGDP) and FEG, indicating that the combined effect of ESG and GDP has a negative impact on FEG.

YEARD: The coefficient estimate of 2.711311 is statistically significant (p-value of 0). It suggests a positive relationship between the year dummy variable (YEARD) and FEG, indicating that FEG has increased over the years.

Other Variables:

C, SIZE, EY, LEV, PEG, Q, QDP, SERV: These variables do not have statistically significant coefficient estimates, as their p-values are greater than 0.05. Therefore, they are not considered significant predictors of FEG.

Therefore, based on the results and considering statistical significance and goodness-of-fit measures, the significant predictors for FEG are DP, ROA, FAG, ESG, ESGDP, and YEARD.

CHAPTER 5

CONCLUSIONS AND DISCUSSIONS

The purpose of this study was to investigate the impact of ESG ratings on the relationship between dividend payouts and future earnings growth (FEG) in Turkey. The regression analysis was performed using panel EGLS methodology with cross-section weights, and the sample covered the period from 2012 to 2021, including 10 years and 26 cross-sections.

The findings of the study reveal several important insights. Firstly, the results indicate a positive and statistically significant relationship between dividend payout (DP) and future earnings growth (FEG). This implies that firms in Turkey that allocate a higher proportion of their earnings as dividends may experience higher future earnings growth. This finding suggests that dividend payouts can serve as an indicator of a firm's commitment to shareholder value and financial health, leading to improved future earnings growth prospects. Therefore, retention theory which suggests that there is a negative relationship between dividend payout ratio and earnings growth (Miller & Modigliani, 1961), does not really fit in Turkey's case. In addition to that, our results confirm the findings of signaling theory (Baker & Powell, 2000; Bhattacharya, 1979) which proposes that the dividend payout ratio can serve as a signal of a company's future earnings prospects.

Secondly, the study finds a negative and statistically significant association between return on assets (ROA) and (FEG). This suggests that firms with lower return on assets may face challenges in achieving higher future earnings growth. The negative relationship between ROA and FEG implies that firms with higher profitability are better positioned to generate and sustain future earnings growth. This underscores the importance of profitability as a key driver of future earnings growth for Turkish firms.

Furthermore, the study reveals a positive and significant relationship between future asset growth (FAG) and FEG. This implies that firms experiencing higher future asset growth in Turkey may have higher future earnings growth. Investments in expanding their asset base, such as property, plant, and equipment, can contribute to increased production capacity, efficiency, and innovation, leading to enhanced future earnings growth potential. This finding

highlights the role of investment in future assets as a driver of future earnings growth in the Turkish context.

Importantly, the study demonstrates that environmental, social, and governance (ESG) ratings have a positive and significant impact on future earnings growth. This suggests that firms with higher ESG ratings in Turkey are more likely to experience higher future earnings growth. The positive relationship between ESG ratings and FEG indicates that integrating environmental and social considerations, as well as strong governance practices, can enhance a firm's long-term financial performance and growth prospects. This finding supports the notion that sustainable and responsible business practices are associated with improved financial outcomes. That confirms the findings of (Flammer, 2015; Khan et al., 2016; Grewal et al., 2020) who suggest that companies with strong ESG performance may be better positioned to generate sustainable growth, leading to increased profitability and earnings growth.

Additionally, the study examines the interaction between ESG and dividend payout (ESGDP) and finds a negative and statistically significant relationship with FEG. This implies that the combined effect of ESG and dividend payout has a dampening impact on future earnings growth in the Turkish context. The negative relationship suggests that firms with higher ESG ratings may face constraints in achieving higher future earnings growth when their dividend payouts increase. This finding highlights the importance of balancing dividend distribution and investment in future growth opportunities.

In conclusion, this study provides empirical evidence supporting the notion that ESG ratings play a significant role in shaping the relationship between dividend payouts and future earnings growth in Turkey. The findings highlight the importance of considering ESG factors in corporate decision-making and strategic planning to enhance future earnings growth potential. Incorporating sustainable business practices, maintaining high ESG ratings, improving profitability, and investing in future assets can collectively contribute to the long-term financial success and resilience of Turkish firms. These insights have implications for investors, policymakers, and corporate managers seeking to promote sustainable and value-creating strategies in the Turkish market.

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