

The Effect of Sustainability Innovation on the Dividend Policy: empirical study on the Egyptian Listed Firms

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Abstract:

Sustainability is an increasing concern for investors, practitioners, and managers. The Environmental, Social, and Governance (ESG) score serves as a measure of a firm's sustainability. This study investigates how sustainability, reflected by ESG practices, influences dividend policy in Egyptian listed firms. To achieve this objective, data from Egyptian non-financial firms in the EGX100 index was used. The sample comprises 94 non-financial firms for the period from 2018 to 2023, identifying top performers. The analysis reveals that the environmental score has a significant positive effect on dividend policy, while social performance has a significant negative effect. However, the governance score shows no significant impact. The study emphasizes the importance of considering sustainability metrics alongside financial indicators in investment decisions for long-term company success.

Keywords: Sustainability, Dividend Policy, environmental score, social score, governance score, dividend payout.

تأثير الابتكارات في مجال الاستدامة على سياسة توزيع الأرباح: دراسة تطبيقية على الشركات المصرية المقيدة بالبورصة

الملخص:

تمثل الاستدامة مصدر قلق متزايد للمستثمرين والممارسين والمديرين. حيث تعد المؤشرات البيئية والاجتماعية والحوكمة (ESG) بمثابة مقياس لاستدامة الشركة. تهدف هذه الدراسة في كيفية تأثير الاستدامة التي تعكسها الممارسات البيئية والاجتماعية والحوكمة على سياسة توزيع الأرباح في الشركات المصرية المدرجة بالبورصة. ولتحقيق هدف الدراسة، تم استخدام بيانات للشركات غير المالية (EGX100 (2018-2023)، فاصبحت العينة ٩٤ شركة في الفترة من ٢٠١٨ و حتى ٢٠٢٣، وتم تحليل البيانات من الشركات غير المالية، وتم تحديد الشركات ذات الأداء الأفضل. وكشفت النتائج عن وجود علاقة إيجابية ذات دلالة احصائية بين المؤشرات البيئية وسياسة توزيع الأرباح، في حين ان هناك علاقة سلبية ذات دلالة احصائية للمؤشرات الاجتماعية على سياسة توزيع الأرباح. ومع ذلك، لا تظهر نتيجة مؤشرات الحوكمة أي تأثير معنوي علي سياسة توزيع الأرباح . تؤكد الدراسة على أهمية مراعاة مقاييس الاستدامة إلى جانب المؤشرات المالية في قرارات الاستثمار لتحقيق نجاح الشركة على المدى الطويل.

الكلمات المفتاحية: الاستدامة، سياسة توزيع الأرباح، النتيجة البيئية، النتيجة الاجتماعية، درجة الحوكمة، توزيع الأرباح.

1- Introduction:

Sustainable innovation can be defined as the enhancement of the products, services, and organizational processes that not only enhance economic performance but it will also deliver environmental and social benefits in the short and long term (Bos-

Brouwers, 2010) by meeting stakeholders' current and future expectations (Dyllick & Hockerts, 2002; Giovannoni & Fabietti, 2013), and protect the environment as well (Matuszewska-Pierzynka, Mrzygłód, & Pieloch-Babiarz, 2023). Therefore, Achieving sustainable innovation involves integrating Environmental factors (such as greenhouse gas emissions, water pollution, and natural resource management), social factors (including labor standards, working conditions, and community involvement), and governance factors (such as corporate governance and managerial decisions) (Calik & Bardudeen, 2016).

ESG (Environmental, Social, and Governance) information provides additional insights into future performance, which is why it attracts global investor attention (Verheyden, Eccles, & Feiner, 2016). Investors are increasingly concerned with ESG issues, as companies that are socially irresponsible have more risk legal penalties and reputational damage (Sultana, Zulkifli, & Zainal, 2018). Consequently, organizations are prioritizing ESG standards (Rounok, Qian, & Alam, 2023). The World Investment Report 2023 highlighted positive trends in Egypt's foreign direct investment inflows, which more than doubled to USD 11 billion in 2022 due to increased cross-border Mergers & Acquisitions, compared to USD 5.12 billion in 2021. Additionally, the number of announced green-field projects in Egypt more than doubled, reaching 161 projects in 2022, with international project finance

deals increasing by about 67% to USD 24 billion. Significant projects in sustainable energy include the ReNew Suez Canal Economic Zone Green Hydrogen Plant Project and a 400-MW Solar-Powered Desalination Plant Project as top projects among various SDG sectors projects announced in developing countries in 2022. This comes as a result of the tremendous efforts exerted by the government of Egypt to create a favorable investment climate and attract foreign direct investments (Center, July 2023).

Companies must recognize their effects on the economy, environment, and people. By demonstrating reliability and accountability, they can identify sustainability risks and opportunities, such as mitigating climate change, protecting human rights, or ensuring employee health and safety. The New Country Partnership Framework, launched in May 2023 between the Arab Republic of Egypt and the World Bank Group for FY 2023-2027, aims to create resilient, green, and inclusive development. This partnership supports Egypt's Vision in 2030 and the National Climate Change Strategy (NCCS) 2050 through initiatives in sanitation, housing, water, and renewable energy. Moreover, the Egyptian Cabinet approved incentives for green hydrogen projects, including a cash incentive of 33%-55% of the incurred tax value, exemption from value-added tax for equipment, machinery, raw materials, and exports (Center, July 2023).

One key indicator of a company's financial performance is its dividend policy, which determines the amount and timing of dividend payments to shareholders. Companies with high dividend payments attract investors seeking stable income, while those with low dividend payments reinvest in growth, offering potential capital gains (Khan, Serafeim, & Yoon, 2016). According to the 'bird in hand' theory, investors prefer cash dividends over capital gains due to the certainty they provide, reducing investment risk (Gordon, 1962; Lintner, 1962).

Nowadays, investors consider ESG factors in their investment decisions. Up to the early 21st century, ESG metrics were rarely included in annual reports, but now more companies are incorporating them (CFA Society Egypt, 2020). This shift allows investors to assess a company's growth prospects and risks by analyzing both financial and non-financial factors (Wardah Awwalin Ikhsaniah Saldi, February 2023) including ESG considerations. Dividend policies reflecting ESG aspects indicate a company's commitment to responsible and sustainable business practices. Understanding this relationship aids stakeholders in making informed decisions about investments and developing sustainable business strategies. Companies that transparently disclose ESG information are perceived as higher value (Filman & Rahmayanti, 2024; Yoo & Managi, 2022).

A well-crafted dividend policy is crucial for a company aiming to maximize shareholder wealth. Moreover, the dividend

decisions, like investing and financing decisions, are critical for maximizing corporate value (Hasan & Habib, 2020), and positively affect the corporate social responsibility (Farooq, Ahmed, Khan, & Munir, 2024).

Over recent decades, this topic has drawn significant attention from financial analysts globally. It has sparked considerable debate and become a focal point of extensive theoretical and empirical research. One of the most contentious issues remains the relationship between dividend policy and the sustainability. Therefore, the objective of this paper is to analyze the impact of ESG practices on the dividend policy of Egyptian listed firms. To the best of our knowledge, this study is considered the first study in the Egypt that explored the effect of sustainability on the dividend policy of Egyptian companies.

The structure of this study can be organized into the following sections. Section 2 covers the theoretical background, and hypotheses development. Section 3 describes the research methodology used. Section 4 is analyzing the data. Finally, Section 5 covers the conclusions of this study.

2- Theoretical background and Hypotheses development:

2-1 Theoretical background

The primary source of funding the organization's activities is its own capital, a significant part of which comes from retained earnings. The payment of dividends decreases the volume of

reinvested profits, thus affecting the company's internal sources of financing and, indirectly, the size of debt capital it can attract. In other words, while dividend payments can enhance the attractiveness of shares, they may also limit the growth of the company's capital base and reduce opportunities to invest in sustainable projects.

Consequently, there are ongoing debates in the literature regarding the impact of sustainability on dividend policy and the optimal proportion of profits to distribute among shareholders. Numerous perspectives and extensive research exist, each supporting different views, all grounded in several key theories of dividend policy, such as

The **bird-in-hand theory** (Lintner, 1956; Walter, 1963), encapsulated by the saying “a bird in the hand is worth two in the bush”, This theory posits that shareholders prefer a safe return due to their risk aversion. They find immediate dividends less risky than potential future capital gains. Consequently, shareholders favor high dividends, which can also increase the market value of a corporation's shares (Livoreka, Hetemi, Shala, Hoti, & Asllanaj, 2014). Gordon's (1959) dividend relevance theory supports this perspective, suggesting that investors value the certainty of dividends over the uncertainty of future capital gains.

On the other hand, this theory challenges the dividend irrelevance theory (Miller & Modigliani, 1961). According to Miller and Modigliani, dividend policy is irrelevant and has no effect on the required rate of return. They argue that investors are indifferent to dividend policy, as the firm's value is strongminded by its earnings and investment strategy, not by how earnings are distributed. This is based on the assumptions of a perfect capital market with no transaction costs or taxes, equal information among investors, and managers acting in the best interests of the firm. They suggest that if a firm's dividend policy aligns with shareholder preferences, it will attract a suitable clientele. In the long run, an equilibrium will be reached where investment choices and dividend preferences are balanced, and the firm's valuation remains unaffected by its dividend policy. Under perfect market conditions, changes in dividend policy do not significantly impact a firm's valuation, as investors can shift to firms with dividend practices that match their preferences (Muriungi & Mwangi, 2020). Conversely, both theories recognize that investors' behavior is influenced by dividend payouts, leading them to favor firms with higher dividend payouts, which can, in turn, command a higher market price (Morni, Iskandar, & Banchit, 2019). Notably, ESG-oriented companies are often better positioned to sustain and potentially increase dividends over time due to their focus on long-term value creation and risk management. This stability can be

perceived as providing the "bird in hand" in the form of consistent dividends (Friede, Busch, & Bassen, 2015).

Another theory is the **agency theory** which posits that the separation of ownership and management in a company leads to information asymmetry between managers and shareholders, resulting in potential conflicts of interest, particularly in firms with substantial free cash flow. This surplus can lead to overinvestment by managers, diminishing shareholder value. This issue extends to corporate social responsibility (CSR) investments, where managers might exceed optimal levels due to personal benefits, such as reputation enhancement and personal satisfaction. However, such tendencies can be curbed by insider ownership and leverage, which impose internal and external monitoring (McColgan, 2001). Dividend payments can address agency costs by limiting the free cash flow available for potential misuse by managers, thus serving as a monitoring mechanism (Cheung, Hu, & Schwiebert, 2018). However, higher dividends necessitate external financing, which involves additional transaction costs and requires firms to disclose more financial information (Cuadrado-Ballesteros, Garcia-Sanchez, & Martinez Ferrero, 2016). Companies can mitigate information asymmetry through a focus on (ESG) criteria and by providing supplementary non-financial details about their ESG practices. Such transparency generally leads to beneficial economic

outcomes (De Villiers & Marques, 2016) and has a significant financial impact (Bizoumi, Lazaridis, & Stamou, 2019). Dividends also serve as signals of a company's profitability and future prospects to investors, though the signaling impact of ESG initiatives remains ambiguous. While deeper engagement in ESG practices might reduce dividend payouts, it underscores the company's commitment to broader stakeholder interests (Bilyay-Erdogan, Danisman, & Demir, 2023)

Additional theory is the **stakeholder theory**, which proposes that managers have a responsibility beyond maximizing shareholder value to consider the interests of all stakeholders. This comprehensive approach may involve striking a balance between dividends and ESG investments, potentially leading to reduced dividends in favor of sustainable growth. However, adopting responsible corporate behavior can lower financing costs and improve available cash flow for dividends, aligning with the long-term perspective of stakeholder theory. Consequently, companies heavily involved in ESG and Corporate Social Responsibility (CSR) initiatives may be better equipped to sustain consistent dividend payouts, signaling their commitment to all stakeholders (Benlemlih, 2019). This alignment of a high dividend level with high ESG scores sends a strong positive message to financial markets and stakeholder groups (Cheung et al., 2018), improving stakeholder relations, enhancing staff productivity, and optimizing asset allocation,

thereby contributing to favorable dividend policies (El Ghouli, Guedhami, Kwok, & Mishra, 2011), showcasing the corporation's dedication to broader societal interests. Firms may opt to allocate smaller short-term cash flows for dividend distribution to reinvest profits and continue enhancing ESG performance (Dhaliwal, Li, Tsang, & Yang, 2011; Ould Daoud Ellili, 2020). In summary, these concepts demonstrate how sustainable dividend policies can be achieved through a balanced approach integrating stakeholder interests and ESG considerations (Zahid, Taran, Khan, & Chersan, 2023).

Moreover, **Signaling theory** delves into the dynamic interaction between those conveying signals and those receiving them within financial markets (Ambarish, John, & Williams, 1987). According to this theory, company management typically possesses superior insight into future corporate earnings compared to shareholders. When a Board of Directors announces a dividend exceeding market expectations, it signifies optimism regarding the company's financial prospects. Investors interpret this move as a sign that management is confident in sustaining positive trends, indicating anticipation of forthcoming prosperity (Zahid et al., 2023). Consequently, this optimistic signal prompts investors to increase stock purchases, thereby driving up current stock prices. Conversely, a dividend reduction is perceived as a negative signal, implying challenging times ahead, leading to a decline in stock prices. Thus, if companies

adhere to signaling theory, they must carefully assess the message conveyed by their dividend decisions to investors (Livoreka et al., 2014).

On the other hand, according to the **tax differential theory** (Brennan, 1970), Brennan modified the CAPM model to make lower dividends more appealing for companies. This theory suggests that shareholders prefer lower income and capital gains from their financial securities over receiving dividend income. Supporting this theory, some fiscal systems promote the reinvestment of profits and retention of earnings to stimulate corporate growth by discouraging the payment of dividends. It is also important to note that taxes on dividends are paid in the year they are distributed, whereas taxes on capital gains are paid when the shares are sold, creating a potential advantage for retaining earnings (Eryomin, Likhacheva, & Chernikova, 2021). Tax Differential Theory and ESG principles approach investment from different angles, they intersect in shaping investor preferences, corporate behavior, and market dynamics. Investors and companies must navigate the complex interplay between tax considerations, sustainability goals, and stakeholder interests to achieve both financial objectives and broader societal impact.

In summary, the conclusion is supported by two key channels: the debt cost channel and the earning channel. The debt cost channel suggests that sustainability considerations, such as ESG practices, can lower transaction costs, reduce risk, and

enhance corporate governance, ultimately increasing a company's capacity to pay dividends. On the other hand, the earning channel highlights how sustainability efforts can directly impact a company's profitability and financial performance, leading to increased earnings and a stronger ability to distribute dividends. These channels underscore the importance of integrating sustainability factors into dividend policy to support both shareholder value and sustainable corporate practices.

2-2 Hypotheses development:

In recent years, (ESG) considerations have become integral to corporate strategies, significantly influencing financial decisions and overall business performance. The relationship between ESG scores and dividend policy is an area of growing interest as firms balance shareholder returns with sustainable practices. Understanding how ESG dimensions affect dividend payouts can provide insights into how companies manage their resources, align with stakeholder expectations, and navigate financial markets, especially in diverse economic contexts.

This hypothesis development aims to explore the nuanced relationship between ESG scores and dividend policy, highlighting both positive and negative impacts. It also considers the varying effects across developed and developing countries, reflecting different regulatory, market, and cultural dynamics.

2-2-1- Environmental Score and Dividend Policy

Environmental scores reflect a company's commitment to sustainable practices, such as reducing carbon emissions and managing natural resources. The relationship between environmental performance and dividend policy is complex, as firms must balance the costs of environmental initiatives with the desire to provide shareholder returns. While some studies suggest a positive correlation between environmental scores and dividends, others highlight potential conflicts where environmental investments might limit dividend payouts.

Several studies indicate a positive relationship between environmental scores and dividend policy. Companies with high environmental scores often exhibit strong financial performance and stability, leading to higher dividend payouts. For instance, firms that invest in environmental sustainability attract investors who value long-term risk mitigation and lower capital costs, thereby enhancing their ability to pay dividends (El Ghoul et al., 2011; Zahid & Simga-Mugan, 2019). Moreover, firms with robust environmental practices have higher earnings, which translate into increased dividends (Benlemlih, 2019; Cheung et al., 2018). In addition, companies with higher environmental performance tend to have more stable dividend policies, as they attract investors who value sustainability and risk management (Rakotomavo, 2012).

On the other hand, some studies highlight potential negative impacts or no significant relationship between environmental scores and dividends. This can occur when the costs of environmental initiatives outweigh the immediate financial benefits. Some studies noted that the effect of environmental initiatives on dividend stability is statistically significant and negative when other ESG dimensions are not considered (Matuszewska-Pierzynka et al., 2023). Furthermore, investments in environmental sustainability might reduce the funds available for dividend payouts, especially in firms focusing heavily on long-term environmental goals (Niccolò, Battisti, Papa, & Miglietta, 2020).

In developing countries, the relationship between environmental scores and dividends can be influenced by regulatory frameworks, market conditions, and resource availability. Ismillah & Faisal (2023) found a positive relationship between environmental performance and dividend payouts in ASEAN-5 countries, suggesting that firms in these regions benefit from aligning with global sustainability standards. However, Fadhil et al. (2023) reported a negative relationship between financial sustainability and dividend policy in Malaysia, indicating that companies prioritizing environmental investments might pay fewer dividends due to limited financial resources.

Based on these findings, we hypothesize that:

H1: The Environmental Score has a positive effect on the Dividend Policy.

2-2-2- Social Score and Dividend Policy:

Social scores encompass a company's initiatives in areas such as community engagement, employee welfare, and social responsibility. The impact of social scores on dividend policy can vary depending on how these initiatives influence stakeholder perceptions and financial performance. While some research suggests a positive relationship between social scores and dividends, others highlight the potential for conflicting priorities.

Some studies suggest that firms with high social scores may experience enhanced stakeholder relations, leading to increased earnings and stable dividend policies, which align with the interests of stakeholders and reduce information asymmetry (Oh & Park, 2021). Moreover, companies with strong social commitments tend to have more stable and predictable dividend policies, as these initiatives enhance corporate reputation and stakeholder trust (Samet & Jarboui, 2017).

However, some research indicates that high social scores might not always lead to increased dividends. This can occur

when social initiatives require substantial investments that could otherwise be distributed as dividends. Studies have shown that companies involved in high-quality social practices might slow dividend growth to allocate resources toward social projects (Bilyay-Erdogan et al., 2023). On the other hand, some research shows there is no significant relationship between social scores and dividend yield in Nordic firms, suggesting that social investments do not always translate into higher dividends (Johansson & Fahlén, 2019).

In developing countries, the relationship between social scores and dividends can be influenced by social norms, regulatory environments, and the emphasis on corporate social responsibility. Singh (2023) found a significant positive relationship between social scores and dividend policy in Indian firms, indicating that companies prioritizing social responsibility may benefit from enhanced stakeholder relations and financial performance. Moreover, Hitten et al. (2019) reported that dividend initiation has a significant and positive effect on sustainability practices in Indonesia, suggesting that firms are balancing social commitments with shareholder returns.

We hypothesize that:

H2: The Social Score has a positive effect on the Dividend Policy.

2-2-3- Governance Score and Dividend Policy

Research indicates that companies with high governance scores are more likely to adopt transparent and shareholder-friendly dividend policies. Some studies found that firms with strong governance practices tend to have lower information asymmetry, which supports stable and predictable dividend payments (Khang & King, 2006). Moreover, other studies show that higher governance scores correlate with higher dividend payouts, as these companies demonstrate a commitment to shareholder interests and long-term financial stability (Ellili, 2022; Verga Matos, Barros, & Miranda Sarmiento, 2020).

However, some studies highlight that high governance scores might not always lead to increased dividends, particularly if governance improvements involve substantial costs or if firms prioritize other financial strategies. Some studies show that governance investments might reduce funds available for dividends, especially in firms focusing on enhancing governance structures at the expense of short-term financial gains (Niccolò et al., 2020). Moreover, some have reported a negative relationship between governance scores and dividend payout ratios, indicating that some firms might prioritize reinvestments over dividend distributions to improve governance practices (Ghibran & Kurniawan, 2024).

In developing countries, the impact of governance scores on dividend policy can be influenced by regulatory requirements, market conditions, and the emphasis on improving governance standards. Ellili (2022) found a positive relationship between governance scores and dividend policies in ASEAN-5 countries, suggesting that firms in these regions benefit from aligning with global governance standards and enhancing transparency. Moreover, Hitten et al. (2019) noted that improvements in governance practices positively impact dividend policies in Indonesia, reflecting the growing importance of governance in developing markets.

We hypothesize that:

H3: The Governance Score has a positive effect on the Dividend Policy.

By examining the relationship between environmental, social, and governance scores and dividend policy, this hypothesis development highlights the complex interplay between ESG considerations and financial decisions. The proposed hypotheses provide a foundation for understanding how firms balance sustainable practices with shareholder returns in diverse economic contexts, including developed and developing countries.

3- Research methodology:

3-1- Sample and data collection:

The data of this research was collected from the data stream database for the Egyptian listed firms. The total sample of the EGX100 non-financial companies is 565 observations for 94 companies from the period 2018 to 2023.

3-2- variable measurement:

The measurement of variables are comprised in Table 1. Panel A consists of the dependent variable of dividend policy. Panel B is included the independent variables that contain the sustainability scores, which include the ESG scores, Panel C include the control variables.

Table 1: variables measurement:

<i>Variable name</i>	<i>Code</i>	<i>Measurement</i>
Panel A: dependent variable:		
Dividend payout ratio	divpayR	ratio of dividends per share to earnings per share for the last financial period
Panel B: independent variables:		
Environmental score	EnvS	weighted average relative rating of a company based on the reported environmental information
Social score	SocS	weighted average relative rating of a company based on the reported social information
Governance score	GovS	weighted average relative rating of a company based on the reported governance information
Panel C: control variables		
Firm size	Siz	Log Total asset
Leverage	Lev	Total Debt/Total equity
Profitability	ROA	Net income/total asset
Liquidity	Liq	Current asset/current liability

3-3- Model specification:

$$Y_{it} = \beta_0 + \beta_1(EnvS)_{it} + \beta_2(SocS)_{it} + \beta_3(GovS)_{it} + \beta_4(Siz)_{it} + \beta_5(Lev)_{it} + \beta_6(ROA)_{it} + \beta_7(Liq)_{it} + \varepsilon_{it}.$$

Where Y signifies the is the dividend payout ratio; (*EnvS*) denotes the environmental score; (*SocS*) stands for the social score; (*GovS*) represents the governance score; (*Siz*) represent the firm size, (*Lev*) represents the leverage, (*ROA*) represent profitability, and (*Liq*) represents the liquidity ratio, for the period from 2018 to 2023. This study employed the SPSS statistical computing software to conduct panel data analysis.

4- Data Analysis:

4-1- Descriptive Statistics:

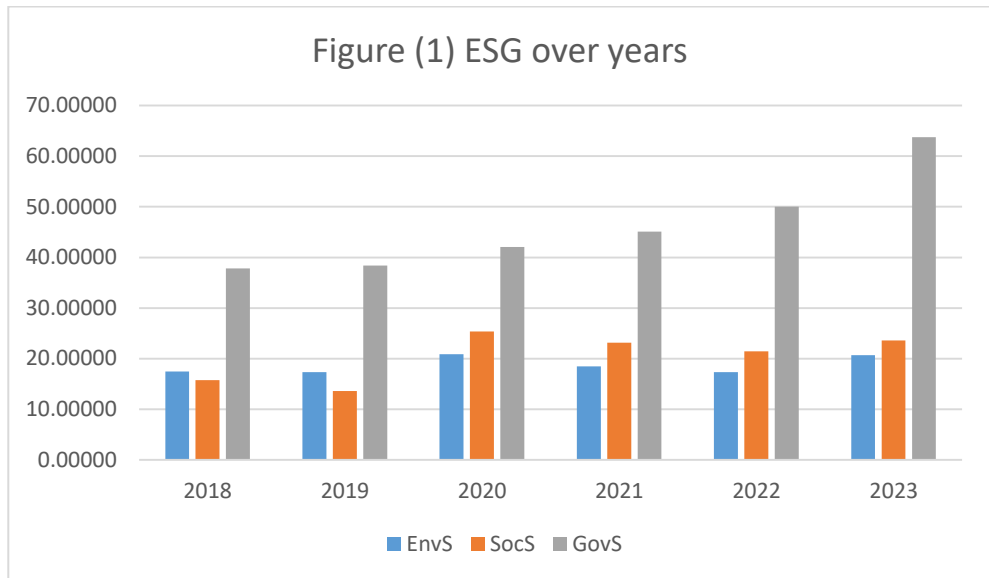


Figure 1 depicts the Environmental, Social, and Governance (ESG) scores for EGX100 from 2018 to 2023. The figure shows that the environmental score increases from 2018 to 2020, then decreases, and increases again in 2023. Similarly, the social score decreases in 2019, increases in 2020, decreases in 2021, and remains stable until 2023. On the other hand, the governance score increases steadily until 2023.

The increase in the environmental score from 2018 to 2020 can be attributed to heightened environmental regulations and initiatives by the Egyptian government, such as the launch of the National Strategy for Sustainable Development in 2018, which aimed to promote green investments and sustainable practices. The decrease after 2020 may be linked to economic challenges and the global impact of the COVID-19 pandemic, which may have diverted attention and resources away from environmental initiatives. The rise again in 2023 could be a result of renewed focus on sustainability as part of post-pandemic recovery efforts and international pressure to adhere to environmental standards.

The fluctuations in the social score are reflective of various socio-economic changes in Egypt. The decrease in 2019 coincides with social unrest and economic challenges that affected corporate social responsibilities and workforce stability. The increase in 2020 can be associated with corporate efforts to support communities and employees during the pandemic, such

as increased health and safety measures and community support programs. The decrease in 2021 may relate to the economic fallout from prolonged lockdowns and disruptions. Stability from 2021 to 2023 suggests that firms have adjusted to the new normal and have stabilized their social initiatives.

The steady increase in the governance score indicates continuous improvements in corporate governance practices among Egyptian firms. This trend is likely influenced by regulatory reforms and increased enforcement of governance standards by the Egyptian Financial Supervisory Authority (EFSA). Efforts such as the introduction of new corporate governance codes and increased transparency requirements have likely contributed to this upward trend, reflecting a commitment to better governance practices.

These interpretations align the observed ESG score trends with significant national events and policies, providing a comprehensive understanding of the underlying factors influencing these changes.

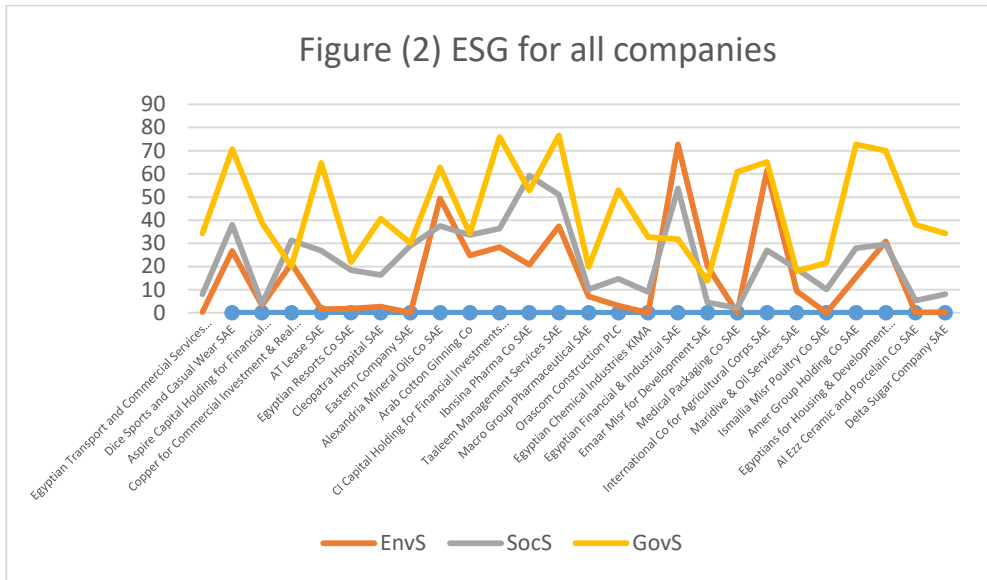


Figure (2) displays the environmental, social, and governance scores for all the companies over the period. Regarding the environmental score, the firms with the highest environmental score include El Sewedy Electric Co SAE, Sixth of October Development, Cleopatra Hospital SAE, Juhayna Food Industries, and Edita Food Industries SAE.

However, in terms of the social score, the top-performing firms are El Sewedy Electric Co SAE, Sixth of October Development, Tenth of Ramadan for Pharmaceutical, Cleopatra Hospital SAE, and Juhayna Food Industries. In contrast, for the governance score, the leading firms are GB Auto SAE, Edita Food Industries SAE, Sixth of October Development, Juhayna

Food Industries, Taaleem Management Services, and Cleopatra Hospital SAE.

We can conclude that El Sewedy Electric Co SAE, Sixth of October Development, Cleopatra Hospital SAE, and Juhayna Food Industries consistently rank high across environmental, social, and governance scores, indicating strong overall sustainability performance. Edita Food Industries SAE also stands out for its high scores in environmental and governance aspects. These findings suggest a positive trend towards sustainable practices among these companies, which may contribute to their long-term success and reputation in the market.

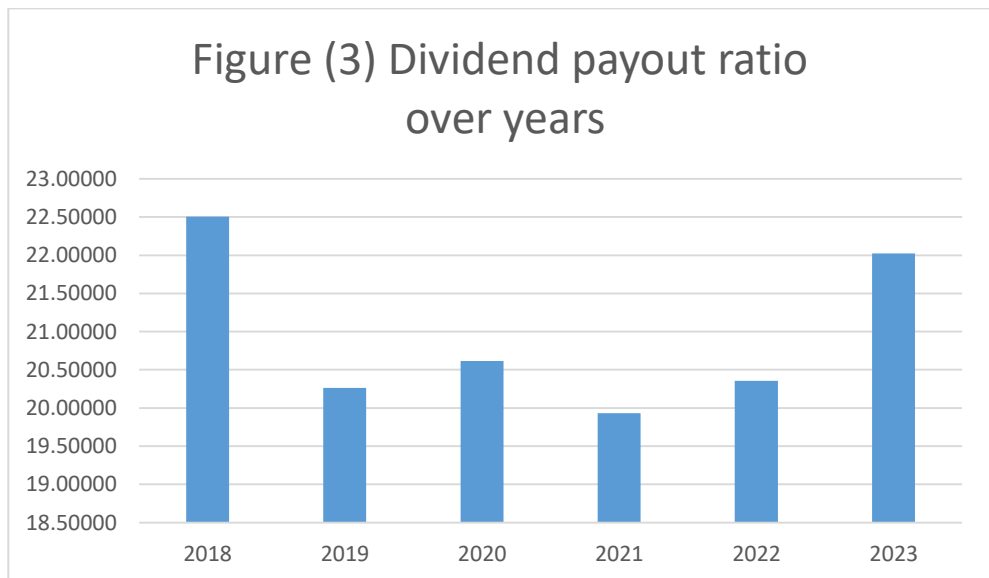


Figure 3 shows the dividend payout ratio for the EGX100. The figure indicates that the dividend payout ratio is very high for Egyptian firms in 2018, then decreases and fluctuates slightly from 2019 until 2022, before returning to its peak in 2023.

The high dividend payout ratio in 2018 can be attributed to a period of economic stability and growth in Egypt, following the economic reforms initiated in 2016, which boosted investor confidence and corporate profitability. Companies were able to distribute a larger portion of their earnings as dividends.

The subsequent decrease and slight fluctuations in the dividend payout ratio from 2019 to 2022 can be linked to several factors. The onset of the COVID-19 pandemic in 2020 brought economic uncertainty and disruptions, causing firms to adopt a more conservative approach to dividend distribution to preserve cash flow and navigate the challenging economic environment. Additionally, firms may have reinvested earnings into their operations to mitigate the impact of the pandemic and support long-term growth.

The return to a peak in 2023 suggests a recovery in the Egyptian economy and increased corporate earnings as businesses rebound from the pandemic's effects. This resurgence is likely supported by the government's economic stimulus

measures and improved market conditions, allowing firms to restore higher dividend payouts to shareholders.

By aligning the observed trends in the dividend payout ratio with significant national events and economic policies, this explanation provides a clear understanding of the factors influencing these changes.

The ESG scores and dividend payout ratio trends for Egyptian firms from 2018 to 2023 reflect the broader economic and regulatory environment in Egypt. The initial rise in environmental and social scores alongside a high dividend payout ratio in 2018 can be attributed to economic stability and investor confidence following economic reforms. The subsequent fluctuations in both ESG scores and dividend payouts from 2019 to 2022 correlate with the economic uncertainty and operational disruptions caused by the COVID-19 pandemic, which led companies to adopt more conservative approaches in both sustainability initiatives and dividend distributions to preserve cash and ensure long-term viability. The steady increase in governance scores throughout this period underscores a continuous improvement in corporate governance practices, likely driven by regulatory reforms and increased enforcement by the Egyptian Financial Supervisory Authority (EFSA). The resurgence of high dividend payouts in 2023, alongside renewed improvements in environmental scores, indicates a recovery in

the economy, allowing firms to both enhance their ESG performance and return more profits to shareholders, supported by governmental stimulus measures and an overall improved economic outlook.

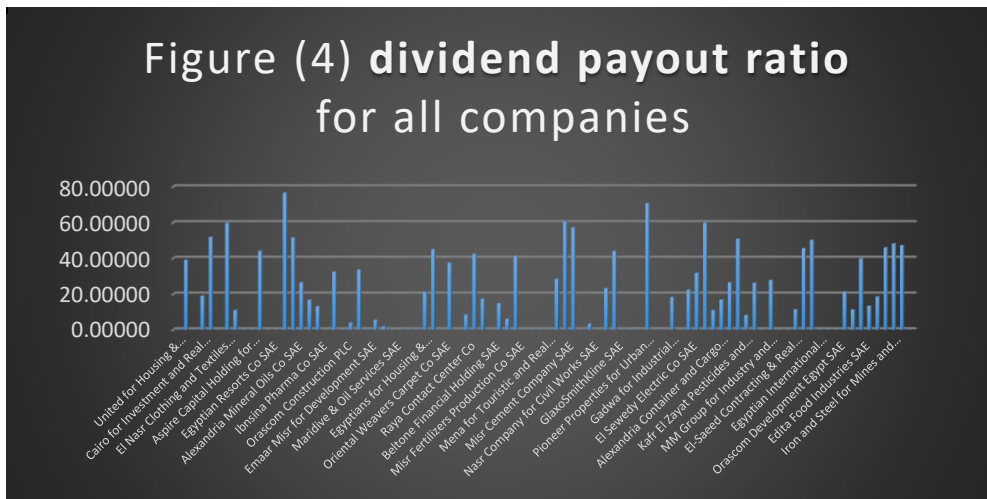


Figure 4 shows the dividend payout ratio for all the companies. The figure indicates that Cleopatra Hospital SAE and Pioneer Properties for Urban Development have payout ratios of more than 70%. Moreover, Abu Qir Fertilizers and Chemical Industries Co SAE, El Nasr Clothing and Textiles Company SAE, Eastern Company SAE, Madinet Masr for Housing and Development SAE, and Misr Cement Company SAE have payout ratios of more than 50%."

Table 2: Descriptive Statistics:

	Mean	Std. Deviation
divpayR	28.72200	28.081496
EnvS	19.32185	23.351574
SocS	21.44938	17.318394
GovS	45.09015	22.327443
Siz	7.3372	.58374
Lev	.32	2.027
ROA	.0039	.00464
Liq	1.1598	.66730

Table 2 shows the descriptive statistics of all the variables used. The table indicates that the average dividend payout ratio is 28.7%. Moreover, the average environmental score is 19, and the average social score is 21. On the other hand, the average governance score is 45.

4-2- Correlation analysis:

Table 3: correlation analysis:

	divpayR	EnvS	SocS	GovS	Siz	Lev	ROA	Liq
divpayR	1.000							
EnvS	-.188	1.000						
SocS	-.289***	.730***	1.000					
GovS	-.236**	.292***	.381***	1.000				
Siz	-.271***	.126	-.171*	.042	1.000			
Lev	-.020	.102	.101	.116	.057	1.000		
ROA	.486***	-.151	-.070	-.004	-.389***	.025	1.000	
Liq	.298***	-.302***	.071	-.043	-.391***	-.040	.248**	1.000

Where *, **, *** Represent significance at 0.1, 0.05 and 0.01 levels, respectively

Table 3 presents the correlation matrix between the dependent variable, the dividend payout ratio (a measure of dividend policy), and the independent variables, which include sustainability metrics such as environmental, social, and governance scores. Additionally, the table includes control variables related to firm characteristics, such as firm size, leverage, profitability, and liquidity. The table also shows the correlation matrix among the independent variables themselves. Multicollinearity is a concern if the correlation between independent variables exceeds 0.80. The correlation matrix in Table 3 indicates that multicollinearity is not an issue, as the highest correlation observed is 0.730 between the environmental score and the social score, and the lowest is 0.004 between the governance score and profitability.

4-3- Linear Regression:

Table 4: Linear Regression:

	B	Std. Error	t	Sig.	Tolerance	VIF
(Constant)	77.442	45.784	1.691	.096		
EnvS	.554	.211	2.629	.011	.323	3.099
SocS	-.981	.290	-3.390	.001	.311	3.219
GovS	-.152	.137	-1.104	.274	.830	1.205
Siz	-7.634	5.828	-1.310	.195	.675	1.482
Lev	.285	1.397	.204	.839	.974	1.027
ROA	2.555	6.614	3.348	.001	.806	1.241
Liq	13.528	5.117	2.644	.011	.670	1.493
R square	0.435539					
F	6.283029					
Sig	.000					

Table 4 presents the linear regression results showing the effect of sustainability on dividend policy. The results indicate that the environmental score has a significant positive effect on dividend policy; therefore, we accept H3. On the other hand, the social score shows a negative effect on dividend policy; therefore, we reject H5. However, the governance score has no effect on dividend policy; therefore, we reject H7.

5- Summary and conclusion:

This study aimed to analyze the impact of Environmental, Social, and Governance (ESG) practices on the dividend policy of Egyptian listed firms. Data was collected from the data stream database for EGX100 non-financial companies, resulting in a sample of 565 observations across 94 companies from 2018 to 2023.

In conclusion, our analysis highlights the exemplary performance of certain companies across both sustainability and financial metrics in the Egyptian market. El Sewedy Electric Co SAE, Sixth of October Development, Cleopatra Hospital SAE, and Juhayna Food Industries consistently demonstrate strong environmental, social, and governance practices, indicating a commitment to sustainability that could enhance their long-term success and reputation.

Additionally, the examination of dividend payout ratios reveals notable trends among Egyptian listed firms. Cleopatra

Hospital SAE and Pioneer Properties for Urban Development stand out with payout ratios exceeding 70%, signaling robust returns to shareholders. Furthermore, several other companies, such as Abu Qir Fertilizers and Chemical Industries Co SAE, El Nasr Clothing and Textiles Company SAE, Eastern Company SAE, Madinet Masr for Housing and Development SAE, and Misr Cement Company SAE, exhibit payout ratios surpassing 50%, suggesting a commitment to distributing profits to investors.

Moreover, the results show a significant positive impact of environmental score on dividend policy, indicating that companies with higher environmental performance tend to have higher dividend payouts. Conversely, a negative effect of social score on dividend policy implies that companies with stronger social performance may allocate fewer resources to dividends. Interestingly, governance score does not appear to have a significant effect on dividend policy.

In summary, our findings underscore the complex interplay between sustainability performance and dividend policy in the Egyptian market. Companies with strong environmental performance may align their dividend policies accordingly, while social and governance considerations also play significant roles in shaping dividend decisions. Investors and stakeholders should therefore take into account these sustainability factors alongside financial metrics when assessing company performance and

making investment decisions. The findings suggest that ESG practices have a significant influence on the dividend policy of Egyptian listed firms. Environmental performance positively impacts dividend policy, while social performance shows a negative effect. Governance practices do not significantly affect dividend policy.

Analysis and discussion:

A positive relationship between environmental scores and dividend payouts can be attributed to several factors: enhanced management quality and operational efficiency, risk mitigation, investor attraction, long-term strategic focus, improved corporate reputation, and compliance with ESG investment criteria. Firms with high environmental scores tend to exhibit superior management practices, leading to cost savings and profitability, supporting higher dividend payouts. Additionally, their proactive stance in environmental management reduces risks, attracting investors and accessing capital at lower costs, further supporting dividend distribution. In Egypt, this trend may be exemplified by companies implementing sustainable practices amid increasing investor interest in ESG criteria, potentially leading to higher dividend payments as their financial performance and reputations improve. For instance, a news article discussing how Egyptian companies with strong environmental initiatives are attracting

more investors and demonstrating sustainable growth could illustrate this trend.

One example from the EGX100 that illustrates the trend of Egyptian companies with strong environmental initiatives attracting more investors and demonstrating sustainable growth is the case of El Sewedy Electric Co SAE, Sixth of October Development, Cleopatra Hospital SAE, Juhayna Food Industries, and Edita Food Industries SAE. In recent years, these companies have implemented initiatives to reduce their carbon footprint, improve energy efficiency, and optimize water usage in their manufacturing processes.

The result is consistent with (Benlemlih, 2019; Cheung et al., 2018; El Ghouli et al., 2011; Ismail & Latiff, 2019; Zahid & Simga-Mugan, 2019), and inconsistent with (Fadhil, Ramakrishnan, Mustafa, Raza, & Abdullah, 2023; Matuszewska-Pierzynka et al., 2023).

The negative effect of social scores on dividend payouts in Egyptian firms could stem from a strategic shift towards prioritizing sustainability initiatives over short-term shareholder returns. Companies with higher social scores likely allocate more resources towards sustainability projects to bolster their long-term competitiveness and reputation, driven by stakeholder expectations, risk management considerations, and market

dynamics. This trend mirrors recent developments in Egypt, where companies are increasingly recognizing the importance of corporate social responsibility (CSR) amid growing pressure to address environmental and social issues. For example, reports from Egyptian news outlets highlight the rising prominence of sustainability initiatives in the country's corporate landscape, with companies investing in renewable energy projects, community development programs, and ethical business practices to enhance their social standing and mitigate risks. One example from the EGX100 that illustrates the trend of Egyptian companies with strong social initiatives is El Sewedy Electric Co SAE, Sixth of October Development, Tenth of Ramadan for Pharmaceutical, Cleopatra Hospital SAE, and Juhayna Food Industries. The result is consistent with (Bilyay-Erdogan et al., 2023). However, it is inconsistent (Oh & Park, 2021; Samet & Jarboui, 2017; Singh, 2023).

In Egypt, despite efforts to enhance corporate governance practices, recent studies have found that governance scores may not have a significant effect on dividend payout ratios. This could be due to several reasons, including the dominance of financial performance metrics in investor decision-making, industry-specific norms influencing dividend policies, and the potentially longer time horizon required for governance improvements to translate into observable effects on dividend decisions. Such findings underscore

the complex interplay of factors shaping dividend policy in Egyptian firms and highlight the need for further research to understand the nuanced relationship between governance practices and dividend payout ratios. This is particularly relevant in the context of Egypt's ongoing economic reforms and efforts to attract foreign investment, where the alignment of governance practices with investor expectations remains a key consideration for sustainable growth and market stability.

One example from the EGX100 that illustrates the trend of Egyptian companies with strong governance initiatives is the case of leading firms such as GB Auto SAE, Edita Food Industries SAE, Sixth of October Development, Juhayna Food Industries, Taaleem Management Services, and Cleopatra Hospital SAE. The result is inconsistent with (Ghibran & Kurniawan, 2024; Hitten, Mustaruddin, & Rustam, 2019).

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