Dividend Policy – Performance Linkages: The Moderating Role of Board Structure Elements in an Emerging Economy

***Mr. Ronald Ebenezer ESSEL**

Abstract

This inquiry investigates the moderating role of board size (BS), board independence (BI), and board gender diversity (BGD) on the relationship between dividend policy (DP) and firm performance (FP) in Ghana, a lower-middle income emerging West African economy, south of the Sahara. The study utilized financial data from 14 purposively selected listed firms in Ghana, spanning 2010–2018. A dynamic panel data System-GMM was espoused for the empirical estimation. Results indicate that, while dividend per share (DPS) and dividend payout ratio (DPR) demonstrated significantly positive relationships with FP, dividend yield (DY) exhibited a significantly negative relationship with FP. Additionally, while BI moderated the relationship between DP and FP, BS and BGD had no moderating influence on FP. This inquiry contributes to the literature by incorporating the uncharted board structure metrics of BS, BI, and BGD to assess their moderating role on the relationship between DP and FP from an emerging African economy's perspective, thus filling an essential lacuna in the extant finance literature.

Keywords: Board size. Board independence. Board gender diversity. Dividend policy. Firm performance. Ghana

1. Introduction

Dividend policy (DP) refers to a corporation's adopted plan used in dispensing distributable profits to stockholders, taking into consideration the pattern and proportion of the payment. Dividends are cash or stock payments made from past and/or present earnings to shareholders relative to the percentage of shareholdings in the corporation (Ross et al., 2019). DP deliberations and their linkages vis-à-vis firms' payment/non-payment of dividends and their corresponding effect on firm performance (FP) have been and continue to be a subject matter of strong academic/scholarly research interest (Akinlo and Olayiwola, 2021). This is because the payment/non-payment of dividends has strong fortunes on the primary objective of shareholders' wealth maximization (Ahmed, Shah and Bhatti, 2020).

The objective of this inquiry is to empirically investigate the moderating role of corporate governance (board structure) elements like board size (BS), board independence (BI), and board gender diversity

* Tutor, University of Cape Coast, Ghana, Email: esselronald@gmail.com

(BGD) in the relationship between DP and the performance of listed firms in Ghana. A Shareholder's interest in a business is twofold. The first is income that is received periodically in the form of dividends. Shareholders such as pensioners interested in receiving periodic dividends, tend to invest in high-yielding stocks of matured firms in industries such as food, apparel, etc., which are normally not adversely affected by the worsening macroeconomic conditions and are sure of having a consistent flow of income. The second is share price growth (capital appreciation) which is occasioned when the investor disposes of his/her shares. Investors interested in price gains (growth stocks) tend to invest in emerging firms operating in high-growth industries such as advanced technology, electronic, or energy industries who seldom pay cash dividends but the value of their stock continues to grow to give the required return. An interaction exists between dividends and capital appreciation. If all distributable profits are paid out as dividends, the firm will have no reserve to reinvest in others to create wealth for shareowners. Hence, all profitable firms have a decision to make with respect to the proportion of earnings to be paid out as dividends to shareholders and the proportion to be retained for future investment. Dividends constitute a major cash outlay for firms and so the debate has been whether profits made by firms be kept in the business or paid immediately to shareholders (Ross et al., 2019).

There are two schools of thought on this contentious issue. The first supports the view that dividend payment does not affect the firm's value i.e., DP irrelevancy school of thought. The second is the dividend relevancy school of thought, who believes that dividend payment is relevant and that it enhances firm value. Franco Modigliani and Merton Miller, proponents of the dividend irrelevancy school of thought developed the Modigliani and Miller (MM) model in their seminal paper in 1961.

In finance theory, the DP decision is regarded as one of the crucial decisions corporate financial managers make alongside capital structure (financing) decisions, capital budgeting (investment or long-term financial planning) decisions, and working capital management (short-term financial planning) decisions (Ross et al. 2019). In today's contemporary finance environment, it is the responsibility of corporate financial managers in collaboration with the Board of Trustees of corporations, in accordance with the firm's DP to make decisions regarding this never-ending controversial DP (Ahmed, Shah and Bhatti, 2020). The nature and pattern of DP varies over time, between businesses and across economies be it emerging or advanced, and even among industries/sectors in a particular nation.

In view of the importance of DP decisions, it is highly imperative for modern financial managers to establish a sound DP with which to operate. However, establishing a DP is not a straight jacket decision, i.e., one size does not fit all. A number of researchers concur that businesses prefer to pay dividends smoothly (Ahmed, Shah and Bhatti, 2020). The signaling theory suggests that an increase in dividends signals management confidence that future earnings will be strong enough to support the new and higher dividend. A cut in dividend payment on the other hand signals that management is uncertain about the firm's future earnings. As such, management will only cut dividends if they expect that adverse market conditions are likely to preserve as this move sends a negative signal to the business community which may result in a dip in stock prices.

Several studies have been conducted to assess the impact of DP on FP globally. The majority of these researches were conducted in advanced economies with limited studies performed in emerging economies, Ghana inclusive. This present article's main motivation lies in the fact that there exists a clear lacuna in the DP - FP nexus literature in Ghana. The extant literature also depicts evidence of varied and inconclusive empirical findings so far as the impact of DP on FP is concerned. While some researchers found a positive influence of DP on FP (Akinlo and Olayiwola, 2021), others found the reverse (Zhao, 2014) while others still found insignificant impact relationships (Velnampy, Nimalthasan and Kalaiarasi, 2014).

The inconclusive empirical evidences have rendered it relevant and pragmatic to investigate the influence of DP decision on FP. Such varied results have raised the debate that ensuing studies should consider the possibility of moderating the relationship between DP variables and FP metrics to strengthen the said relationship as the direct link is regarded as too simplistic (Galbreath, 2018). In addition, scholars such as Ofori-Sau, Abor, and Osei (2017) have called for deeper and further investigations from ensuing researchers on the impact of DP on FP via stock owner's value maximization in emerging African markets like Ghana, where literature of this kind is near-absence.

Again, in the Ghanaian situation, past studies ignored examining the moderating influence of board structure elements like BS, BI, and BGD on the relationship between DP and FP. The three board structure elements of BS, BI, and BGD may have an uncharted catalytic influence on DP and FP among Ghanaian listed companies. Given the above-identified research gap, the author is motivated to perform this inquiry by investigating the moderating role of BS, BI, and BGD on the relationship between DP and the performance of firms listed on the Ghana Stock Exchange (GSE) to address this ignored phenomenon.

The unique contribution of this study to the extant finance literature is the exploration of the moderating influence of board structure elements like BS, BI, and BGD on the association between DP and the performance of firms listed on the GSE, which to the best of the author's knowledge no such moderating analysis has been conducted within the Ghanaian context.

The remaining sections of this paper is structured as follows: The first section is a literature review and hypotheses development; This is followed by research methodology in section two; A presentation and discussion of the research findings constitute the three section; The study's conclusion, policy implication relevance of the study, limitation of the study and areas for future studies ends the article in section four.

Literature Review and Hypotheses Development

Theoretical Literature

Underpinning Theory – Dividend Relevance Theories [DRT]

The relevancy of DP has been studied widely, but diminutive agreement has been reached from the study results. Scholars assert that the factors that influence a particular firm's DP are numerous,

some of which include agency cost, the firm's cash flow generation pattern, and risk faced by thefirm among others. Graham and Dodd (1951) propounded the traditional relevancy of dividend theory (TRDT). According to the TRDT, business owners assign more weight to companies that pay dividends regularly, and as such those companies have higher market value for their shares. The key argument of the TRDT is that liberal DP has a favorable influence on the share price. DRT scholars contend that DP almost always influences the value of the firm, and as such a firm's investment policy cannot be detached from its DP.

Empirical Literature

Modern DP theories are the result of the groundbreaking work of Modigliani and Miller (MM)-1961, which is regarded as the first and one of the most significant DP models in the discipline of finance. This proposition has since stirred scholars and researchers alike in both industry and academia to deliberate on this subject matter and the debate is still ongoing. MM (1961) contends that, under a certain set of conditions, a dividend is irrelevant in that, the share price is independent of a particular DP followed. They argued that the value of a firm depends on the firm's earnings which results from the firm's investment policies. Thus, when the investment decision of a firm is given, the dividend decision i.e., the split of earnings between dividends and retained earnings is of no significance in altering the value of the firm. MM's (1961) theory was heavily criticized as scholars of the DRT believe the proposition is well suited on paper and cannot be replicated in real-world situations.

A number of researchers have investigated the DP-FP linkages. While empirical evidence on the effect of DP on FP is mixed, the majority of the empirical findings support the assertion that DP influences FP positively. For instance, Agyemang (2020) examined the effect of the association between DP and the performance of companies listed on the GSE for the period 2012-2018. Deploying panel data methodology, the study indicated that DP is a major factor that impacts FP in Ghana.

The Effect of Dividend Per Share (DPS) on FP via the Moderating Influence of BS, BI, and BGD

DPS is computed as the ratio of dividends paid out to shareholders from present/past firm earnings relative to the number of shares outstanding in the company. Evidences from prior empirical inquiries depicts that DP decisions are beneficial and DPS as a proxy for DP has a positive effect on the value of shareholders' investment (Eryomin et al., 2021). For example, Ofori-Sasu et al (2017) assessed the impact of the DP decision on the shareholder value of firms listed on the GSE, for the period 2009 to 2014. Deploying pooled ordinary least square (POLS) estimation technique, the study revealed that DPS surges shareholders' value. Similarly, Boachie (2021) found a significantly direct association between DPS and FP. Equally, Eryomin et al. (2021) examined the influence of dividends on the market value of Russian companies and found that dividends have a positive effect on capitalization.

Again, Oniyama, Olaoye, and Ogundajo (2021) examined the impact of DP on shareholders' wealth and indicated that DP had a significant impact on market price per share, as DPS had a significant

positive impact on stock prices. Oktafiani et al. (2022), also analyzed the effect of DP on stock prices of 30 LQ45 companies listed on the Indonesian Stock Exchange for the period 2017-2021. Utilizing a causal research design and multivariate linear regression, the study found that DPS had a positive and significant impact on stock price.

Also, Chung et al. (2003) revealed that BI impacts FP positively via the ability of outside (non-executive) directors, who offer efficient management-monitor services. Nonetheless, Aktan et al. (2018) found an indirect relationship between BI and FP. In a more recent study, Mubaraq et al (2021) assessed the moderating effect of board structure elements on the association between DP, financial leverage, and FP, and revealed that a direct correlation exists between DP and the value of the firm. Additionally, the study depicted that board structure elements moderate a substantial influence on the association between DP and FP. On the basis of the evidence in the extant finance literature, this present study formulates the first hypothesis as follows:

$H_{1:}$ There is a positive relationship between DPS and FP; BS, BI, and BGD moderate the relationship between DPS and FP.

The Effect of Dividend Payout Ratio (DPR) on FP via the Moderating Influence of BS, BI, and BGD

The DPR signifies how much money a firm is giving back to its owners as against the amount being retained in the business for plough-back and reinvestment purposes. The DPR is also beneficial for examining a dividend's sustainability. Businesses are highly unwilling to reduce dividend payments because it has the tendency to cause a dip in stock prices and reflect poorly on management's capabilities.

The majority of the past research supports the proposition that dividend payout policy favorable impact on FP. For instance, Hafeez et al. (2018) employed a panel data regression model, utilizing return on investment (ROI) as an FP metric and DPR for fifteen manufacturing firms in Pakistan, spanning 2014-2017. The study's results discovered that DPR significantly and positively influenced FP. A strong direct association backing the assertion of a positive impact of DPR on FP metrics was noticed by Setiawan et al. (2019) and Hu et al. (2020) for firms listed on NYSE, AMEX, and NASDAQ. Bakri et al. (2020), having studied 3258 listed companies from twenty-two developing countries, found that financial market development exhibited a positive moderating effect on the association between DPR and FP. In a Ghanaian study, Adam, Buckman, and Setordzi (2020) examined the impact of DP on the share price of 14 firms listed on the GSE and revealed that DPR had a significantly positive impact on the share price. Nevertheless, Dividend-price-ratio was indirectly significant at a ten-percentage error margin.

Likewise, Mai and Syarief (2021) investigated the effect of board structure elements on the DP of banks operating in the Indonesian Stock Exchange from 2009 to 2019 and found that BS demonstrated a favorable effect on banks' tendency to pay dividends and DPR. Besides, inquiries depict that the

association between DP and shareowner value can be impacted by the board of directors' dynamics. lso, Oniyama, Olaoye, and Ogundajo (2021) examined the impact of DP on shareholders' wealth and noticed that the study's findings revealed that DP had a significant impact on the market price per share, as DPR negatively but insignificantly impacted stock prices.

Sterenczak and Kubia (2022) investigated the linkages between DP and the liquidity of shares listed in fourteen Central and Eastern European countries for the period 2010-2020 and found a robust, direct association between the liquidity of shares and DP, which corroborates the assertion that share liquidity reduces the information asymmetry between insiders and outsiders, thus generating more motivations to increase the DPR.

With respect to the moderating influence of board structure elements like BS, BI, and BGD in the relationship between DP and FP, the study results are conflicting. This notwithstanding, the majority of the empirical findings support the assertion that BS, BI, and BGD positively impact FP. For example, Aldehayyat et al. (2017) found no moderation influence of BS, BI, or BGD in the relationship between DP and FP; Gurusamy (2017), Aktan et al. (2018), and Handriani and Robiyanto (2019) revealed a moderation effect between DP and FP. On the basis of the evidence in the extant finance literature, this present study formulates the second hypothesis as follows:

H_2: There is a positive relationship between DPR and FP; BS, BI and BGD moderate the relationship between DPR and FP.

The Effect of Dividend Yield (DY) on FP via the Moderating Role of BS, BI, and BGD

DY is a financial ratio expressing a business' periodic dividend paid to shareowners relative to its market share price. A firm's DY is linked to the mean of the industry's yield to which the firm belongs. The DY denotes a specification of the dividend explicit return of a security or portfolio of assets. It provides more information on an investment's rate of return and can be beneficial in relating diverse income-paying securities. Also, Al-Sa'eed (2018) assessed the impact of DP on manufacturing companies listed on the Amman Stock Exchange, Jordan, for the period 2011-2014. The study deploying panel data regression analysis and using Tobin's Q, ROA, ROE, and net profit margin (NPM) as proxies for FP and DY as a proxy for DP, the study indicated that DY demonstrated a significant positive impact on FP.

In a Nigerian study, Abu and Adebayo (2020) investigated the effect of DP decisions on the share price of conglomerate firms listed on the Nigerian Stock Exchange. Deploying multivariate regression analysis, the study findings revealed that DY had a significantly positive impact on share price. Oniyama, Olaoye, and Ogundajo (2021) examined the impact of DP on shareholders' wealth and noticed that the study's findings revealed that DP had a significant impact on the market price per share as DY exerted a significant negative impact on the share price. In an Indian study, Srikumar (2022) investigated the impact of DP decisions on the financial performance of ninety-two industrial/ service sector firms listed on the Amman Stock Exchange (ASE), India for the period 2015-2019 and

observed a strong positive correlation between DY and FP. Utilizing diverse performance metrics in Ghana, BS, BI, and BGD has been found to positively correlate to FP (Boachie, 2021). On the basis of the evidence in the extant finance literature, this present study formulates the third and final hypothesis as follows:

$H_{3:}$ There is a positive relationship between DY and FP; BS, BI, and BGD moderate the relationship between DY and FP.

In view of the heterogenous/inconclusive results from the reviewed extant literature on the influence of DP on FP, authors such as Ofori-Sau, Abor, and Osei (2017) have called for deeper investigations and further inquiries from ensuing researchers on the impact of DP on FP via stock owner's value maximization in emerging African economies like Ghana. This study therefore seeks to investigate the moderating role of board structure factors like BS, BI, and BGD on the relationship between DP and the performance of listed companies in Ghana.

Conceptual Framework [Research Model]

This inquiry's research model (conceptual framework) is built on the linkages between variables [prognostic, control, moderating, and outcome] in previous studies. Figure 1 presents the study's research model, depicting that DP decisions of listed companies in Ghana affect FP via the moderating influence of board structure elements as follows: DP variables proxies by DPR, DY DPS influences FP proxies by accounting-based profitability metric i.e., ROA and market value metric i.e., TQ via the moderating influence BS. BI. and BGD.

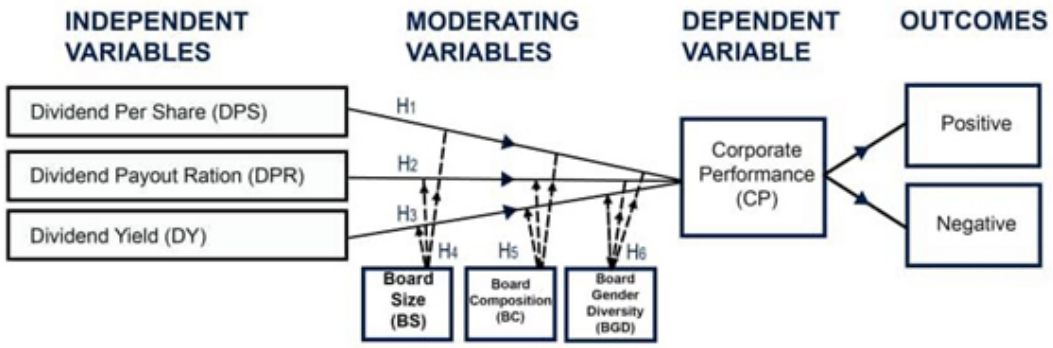

Figure 1: Conceptual/Theoretical Framework (Research Model)

Research Methodology

Sample and Data

This study's population/universe comprised all the 36 firms listed on the GSE. The study utilized a non-probabilistic (non-random) sampling technique i.e., purposive sampling to select 14 listed firms in Ghana, utilizing data for the period 2010-2018 i.e., pre-COVID-19 period. The specified period was

selected in view of data availability and the peculiarities of the happenings on the GSE, resulting in atotal of 126 balanced panel firm-year observations. The inclusion and exclusion criteria used for selecting the 14 companies are as follows: (1) The company must be listed on the GSE for the study's specified period. (2) The company must have had its initial public offering before 2010. (3) The company must regularly publish its audited annual report and must have comprehensive research data for the study period. (4) The company must be in good standing i.e.; it must not be classified as a delisted or suspended company. (5) The company must have paid dividends at least twice over the study period.

Seven companies were delisted from Ghana's bourse from 2017-2021, for varying reasons such as [revocation of license - UT Bank]; [regulatory breaches - Transaction Solutions Ghana, Pioneer Kitchenware, and Golden Web]; [weak financial standing - African Champion Industries]; and [application for voluntary delisting - PZ Cussons and Mechanical Lloyd]. Furthermore, Ghana's central bank i.e., Bank of Ghana (BoG) suspended dividends payment since the advent of the novel COVID-19 pandemic.

As a result of the above and other peculiar happenings on the GSE, only 14 listed firms have paid dividends at least twice over the last ten years [source: www. https://tesahcapital.com/2021/01/consistent-dividend-paying-stocks-on-the-ghana-stock-exchange-gse]. These 14 listed companies therefore constituted the sampling frame and size for the present study. In view of the above considerations, espousing a probabilistic or random sampling technique for the current study will be difficult if not inappropriate because the chance/probability of a listed firm that does not meet the study's inclusion/exclusion criteria and has been selected is equal.

Put differently, it will be difficult if not impossible to assess the influence of DP on FP, utilizing listed firms that have not declared and paid dividends for the specified study period. Notwithstanding, the adversative impact of the novel COVID-19 pandemic on companies which compelled Ghana's central bank to suspend dividend payments, commencing 2019, some of these companies maintained at least a 10% payout ratio. Financial data gathered from the audited annual reports of the 14 companies were obtained from the GSE Fact Book and the websites of the firms via abstraction methodology.

Econometric estimation technique

The study utilized a robust dynamic panel system-GMM estimation approach i.e., Blundell and Bond (1998) estimator to establish the nexuses between DP and FP from the perspective of the Ghanaian economy as used in the extant literature (Asongu and Acha-Anyi, 2019). The choice of the system-GMM estimator is based on the accompanying benefits and reliability of results associated with it. The advantages of utilizing Systems-GMM over the other econometric estimation techniques are as follows: Systems-GMM allows us to take account of the dynamics of the phenomenon under investigation. It doesn't eliminate cross-firm variations in the estimation (Asongu and Acha-Anyi, 2019). It can deal with unobserved heterogeneity with time-invariant indicators and endogeneity problems via an instrumentation process. It can deal with heteroscedasticity issues. System-GMM is preferred

in this current inquiry because it presents the lowest bias and highest precision when the time dimension (t) in the panel is small (in this case 9 years) when compared to other widely used estimators like the fixed effect (FE), random effect (RE) or the level or difference GMM. This current study treated all regressors strictly as exogenous except the lagged dependent variables used as instruments in the models. By lagging the prognostic variables and utilizing them as predictors in the dynamic panel model, it aids in solving endogeneity problems as well as helps control for reverse causality and spurious/bias/inconsistencies results triggered by omitted variables.

Last, of all, 4 tests were used to corroborate the System-GMM model comprising 2 serial-correlation tests: AR(1) and AR(2) - Arellano and Bond (1991), Sargan and Hansen overidentification restrictions tests (OIR) and contemporaneous correlation test (CD3) for correcting cross-sectional dependence. AR(1) test is based on the null hypothesis of no first-order correlation of the idiosyncratic terms and the AR(2) test, is based on the null hypothesis of no second-order correlation between the stochastic disturbance terms. Sargan and Hansen's (OIR) tests must be insignificant because their null hypotheses are the positions that instruments are valid or uncorrelated with the white noises. In essence, while the Sargan OIR test is not robust but not weakened by instruments, the Hansen OIR is robust but weakened by instruments. To enforce identification restrictions, the author has ensured that instruments are lower than the number of cross-sections in most specifications (Asongu and Acha-Anyi, 2019). The estimated model is valid when the null hypotheses of the AR(1) and AR(2) tests are both accepted. For the Sargan and Hansen (OIR) test, it is expected that the null hypothesis is accepted, resulting in instruments that are uncorrelated with the residual terms.

The deployment of any good dynamic panel GMM estimation technique necessitates the substantiation of its framework with identification, simultaneity, and exclusion restrictions (ER). Identification denotes the selection of the outcome, endogenous variables explaining the strictly exogenous variables. Simultaneity bias, a problem that results when the explanatory variables are correlated with the residuals is solved with lagged explanatory variables deployed as instruments. ER is the procedure by which the strictly exogenous variables solely via the endogenous explaining variables impact the outcome variable. ER concept means that some of the exogenous variables may not be present/ observable in the dynamic models and it's mostly expressed by saying the coefficient next to that exogenous variable is zero, which may make this restriction (hypothesis) testable. As far as ER is concerned, only time-invariant variables are treated as strictly exogenous but all other explanatory variables are treated as suspected endogenous/predetermined variables (Asongu and Acha-Anyi, 2019). These time-invariant variables influence the outcome variables exclusively via the suspected endogenous/predetermined variables, which is in line with the identification process. Also, the fundamental ER axiom is statistically valid if and only if the null hypothesis relating to the Difference in Hansen Test (DHT) for instrument exogeneity is supported.

Empirical model specification

This inquiry utilized two measures of FP i.e., accounting profitability - ROA and stock market metric– TQ as a means of avoiding potential variable mismatch issues. Notwithstanding the associated

advantages of utilizing the accounting measure-ROA, it can possibly be manipulated by the firm's management. The stock market value metric – TQ on the other hand is difficult to manipulate even hough it reflects investors' subjective assessment instead of the true economic reality of the corporation. As such, this study utilized both measures as a robustness check, and also, one measure's strengths might possibly offset the shortcomings of the other. The first set of models regressed ROA for firm '*i*' at a time '*t*' on DP variables as well as the related control and moderating variables included in the models as follows:

$$ROA_{it} = \beta_0 + \beta_1 ROA_{it-1} + \beta_2 DPS_{it} + \beta_3 BS_{it} + \beta_4 DPS_{it} * BS_{it} + \beta_5 BI_{it} + \beta_6 DPS_{it} * BI_{it} + \beta_7 BGD_{it} + \beta_8 DPS_{it} * BGD_{it} + \beta_9 CR_{it} + \beta_{10} DER_{it} + \beta_{11} TAT_{it} + \beta_{12} TANG_{it} + \beta_{13} GROW_{it} + \beta_{14} SIZE_{it} + \beta_{15} AGE_{it} + \mu_i + \lambda_t + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$ **[MODEL 1]**

$$ROA_{it} = \beta_0 + \beta_1 ROA_{it-1} + \beta_2 DPR_{it} + \beta_3 BS_{it} + \beta_4 DPR_{it} * BS_{it} + \beta_5 BI_{it} + \beta_6 DPR_{it} * BI_{it} + \beta_7 BGD_{it} + \beta_8 DPR_{it} * BGD_{it} + \beta_9 CR_{it} + \beta_{10} DER_{it} + \beta_{11} TAT_{it} + \beta_{12} TANG_{it} + \beta_{13} GROW_{it} + \beta_{14} SIZE_{it} + \beta_{15} AGE_{it} + \mu_i + \lambda_t + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$ **[MODEL 2]**

$$ROA_{it} = \beta_0 + \beta_1 ROA_{it-1} + \beta_2 DY_{it} + \beta_3 BS_{it} + \beta_4 DY_{it} * BS_{it} + \beta_5 BI_{it} + \beta_6 DY_{it} * BI_{it} + \beta_7 BGD_{it} + \beta_8 DY_{it} * BGD_{it} + \beta_9 CR_{it} + \beta_{10} DER_{it} + \beta_{11} TAT_{it} + \beta_{12} TANG_{it} + \beta_{13} GROW_{it} + \beta_{14} SIZE_{it} + \beta_{15} AGE_{it} + \mu_i + \lambda_t + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$ **[MODEL 3]**

The second set of models regressed TQ for firm '*i*' at time '*t*' on DP variables as well as the associated control and moderating variables as follows:

$$TQ_{it} = \beta_0 + \beta_1 TQ_{it-1} + \beta_2 DPS_{it} + \beta_3 BS_{it} + \beta_4 DPS_{it} * BS_{it} + \beta_5 BI_{it} + \beta_6 DPS_{it} * BI_{it} + \beta_7 BGD_{it} + \beta_8 DPS_{it} * BGD_{it} + \beta_9 CR_{it} + \beta_{10} DER_{it} + \beta_{11} TAT_{it} + \beta_{12} TANG_{it} + \beta_{13} GROW_{it} + \beta_{14} SIZE_{it} + \beta_{15} AGE_{it} + \mu_i + \lambda_t + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$ **[MODEL 4]**

$$TQ_{it} = \beta_0 + \beta_1 TQ_{it-1} + \beta_2 DPR_{it} + \beta_3 BS_{it} + \beta_4 DPR_{it} * BS_{it} + \beta_5 BI_{it} + \beta_6 DPR_{it} * BI_{it} + \beta_7 BGD_{it} + \beta_8 DPR_{it} * BGD_{it} + \beta_9 CR_{it} + \beta_{10} DER_{it} + \beta_{11} TAT_{it} + \beta_{12} TANG_{it} + \beta_{13} GROW_{it} + \beta_{14} SIZE_{it} + \beta_{15} AGE_{it} + \mu_i + \lambda_t + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$ **[MODEL 5]**

$$TQ_{it} = \beta_0 + \beta_1 TQ_{it-1} + \beta_2 DY_{it} + \beta_3 BS_{it} + \beta_4 DY_{it} * BS_{it} + \beta_5 BI_{it} + \beta_6 DY_{it} * BI_{it} + \beta_7 BGD_i \beta_8 DY_{it} * BGD_{it} + \beta_9 CR_{it} + \beta_{10} DER_{it} + \beta_{11} TAT_{it} + \beta_{12} TANG_{it} + \beta_{13} GROW_{it} + \beta_{14} SIZE_{it} + \beta_{15} AGE_{it} + \mu_i + \lambda_t + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$ **[MODEL 6]**

Moderation effect is present in these models if, the coefficient of the interaction between the explanatory variables (DPS, DPR and DY) and the moderator variables (BS, BI, BGD) is statistically significant. In this study, the board structure metrics of BS, BI and BGD were treated strictly as pure moderators and not quasi-moderators as they interact with DP variables but have no direct correlational impact with FP. The variables in the model were selected based on information availability and peculiarity of the happenings so far as the 14 listed companies and DP-FP issues were concerned. The measurements of the study's variables, their definitions, and empirical source literature are presented in Table 1.

Table 1: Measurement of variables

Variables	Measurement	Variable Type	Sources
ROA	Represents return on assets, measured as earnings before interest and tax (EBIT) divided by total assets	Dependent	Braimah et al (2021); Obeng et al. (2021)
ROAit-1	one-year lags of ROA	Independent	Braimah et al (2021); Obeng et al. (2021)
TQ	Represents Tobin's Q, measured as [(market value of equity) plus (book value of assets) minus (book value of equity)] all divided by book value of assets	Dependent	Adams & Quansah (2019); Baldavoo & Nomlala (2019)
TQit-1	one-year lags of TQ	Independent	Adams & Quansah (2019)
DPS	Represents dividends per share, measured as dividends paid divided by No. of shares outstanding	Main explanatory	Ofori-Sasu, Abor & Osei (2017)
DPR	Represents dividend-payout-ratio, measured as DPS divided by Earnings per share (EPS)	Main	García-Meca, Lopez-Iturriaga & Santana Martín (2022)
DY	Represents dividend yield, measured as DPS divided by market price per share	Main explanatory	Ofori-Sasu, Abor & Osei (2017); Wibowo (2019);
BS	Represents board size, measured as the log of the number of members on the board	Moderating	Foong (2019); Essel & Addo (2021)
BI	Represents board independence, measured as the number of non-executive or outside directors on the board divided by the total number of directors on the board	Moderating	Jessica (2020); Essel & Addo (2021)
BGD	Represents board gender diversity, measured as the number of female directors on the board divided by total number of directors on the board	Moderating	Adeabah, Gyeke-Dako, & Andoh (2019); Essel & Addo (2021)

Variables	Measurement	Variable Type	Sources
CR	Represents the current ratio, measured as current assets (CA) divided by current liabilities (CL)	Control	Essel & Brobbey (2021)
DER	Represents debt-to-equity-ratio, measured as total debt divided by total equity	Control	Djan, Zehou & Bawuah (2017)
TAT	Represents, total assets turnover, measured as total assets divided by sales	Control	Agyei, Sun & Abrokwah (2020)
TANG	Represents tangibility i.e., total fixed assets turnover, measured as total fixed assets divided by total assets	Control	Ofori-Sasu, Abor & Osei (2017); Agyei, Sun & Abrokwah (2020)
GROW	Measured as current sales less the previous year's sales divided by the previous year's sales	Control	Agyei, Sun and Abrokwah (2020)
SIZE	Measured as the natural logarithm of total assets	Control	Agyei, Sun and Abrokwah (2020);
AGE	Represents the number of years of firm existence	Control	Ofori-Sasu, Abor and Osei (2017);
$\hat{a}_0$	Constant/intercept		Essel & Brobbey (2021)
$\hat{a}_{1.....}\hat{a}_{15}$	Beta parameters (coefficients) to be estimated		Essel & Addo (2021)
μ_i	Unobservable heterogeneity (firm-specific effects)		Essel & Brobbey (2021)
$ë_t$	Time dummy variable (time fixed effects)		Essel & Brobbey (2021)
ε_{it}	Residual/Error / Stochastic disturbance term / white noise		Essel & Addo (2021)
I	Cross-sectional dimension		Essel & Addo (2021)
T	Time dimension		Essel & Brobbey (2021)

NB: Variables were winsorized at the 1st & 99th percentiles so as to minimize the effect of possible extreme values acting as outliers, except for the firm-specific effects and time-fixed effects dummy variables.

Source: Compiled by Author (2022)

Results and Discussion

Descriptive statistics

Table 2 presents the summary descriptive statistics of the outcome, prognostic, moderating, and control variables. The variables in the study's dataset are normally distributed as depicted in the closeness of the skewness values to zero. The 14 selected companies recorded an average profitability-ROA of 0.09, meaning that for each cedi in assets, the firms generated 9 percent in profits.

The mean TQ for the firms was 0.63, suggesting that a great number of the firms on average did not break–even; as their replacement costs were less than their current market values. With respect to the DP variables, the study recorded a DPS of 0.13 implying that, sampled firms on average paid dividends of 0.13 pesewas with the maximum and minimum being GH¢6.98 and GH¢0.01, respectively, which is considered low. The average DPR for the sampled firms was 17 percent with a minimum and maximum payout ratio of 10 percent and 45 percent, respectively. Again, the study recorded a mean DY of 2.22 which is relatively on the low side. The relatively low dividend payments suggest that the 14 selected firms generated low earnings from which dividends could be paid, suggesting further that, the majority of the firms embarked on a high earnings-retention strategy so as to take advantage of future investment opportunities for growth prospects.

The firms recorded an average CR of 1.56, an indication of a fairly good liquidity position stemming from good working capital management. With respect to leverage, listed firms utilized more debt financing than equity financing as the firms recorded a mean DER of 70.98 percent. This gives an indication of the undeveloped nature of Ghana's capital market as a source of raising equity finance. An average of 66 percent and 68 percent were recorded for TAT and TANG, respectively, implying that, the listed firm's total assets generated 66 percent of their sales, while 68 percent of their total assets were injected into fixed assets. The mean firm's sales growth rate was 22 percent, and an 8.89 average SIZE was recorded for the 14 selected firms. The study recorded a mean age of 41 years, with the youngest firm (Enterprise Insurance Group) being ten years, and the oldest (Total Ghana Limited) having been in operations for 67 years in Ghana. There were 8 board members on average with a maximum BS of 14 and a minimum size of 5. On average, 60 percent of the board members were non-executive (outside) directors which is good for corporate governance purposes and 16 percent of board members were females which is rather on the low side.

Table 2 : Descriptive summary statistics of dependent and independent variables

Variables	Obs.	Mean	Std. Dev.	Min.	Max.	Skewness
ROA	126	0.09	0.05	-0.10	0.35	0.01
TQ	126	0.63	0.04	0.15	1.83	0.25
DPS	126	0.13	0.05	0.01	6.98	0.05
DPR	126	0.17	0.02	0.10	0.45	0.21
DY	126	2.22	0.25	0.01	29	0.08
DER	126	0.70	0.01	0.51	0.85	-0.21
CR	126	1.56	0.47	1.01	2.04	1.20
TAT	126	0.66	29.55	0.25	0.85	0.75
TANG	126	0.68	0.06	0	0.81	0.90
GROW	126	0.22	0.08	0.14	0.88	1.24
SIZE	126	8.89	0.36	1.25	9.15	1.23
AGE (years)	126	41.36	12.20	10.00	67.00	0.25
BS	126	8.27	2.28	5.00	14.00	0.48
BI	126	0.60	0.14	0.10	0.92	0.75
BGD	126	0.16	0.11	0	1	0.24

Source: Author's Computations with STATA (2022)

Correlation analysis

Pearson's correlation analysis was performed to determine whether the issue of multicollinearity existed in the sampled dataset. In addition, the test was conducted to ascertain the relationships between the outcome variables and the prognostic variables as well as explore the relationships among all the independent variables. This was done to avoid a situation where two or more variables with high correlation would be included in a regression model. Table 3 presents the correlation analysis with ROA and TQ as the outcome variables against the other predictor variables.

Table 3 : Correlation analysis/matrix for dependent and independent variables

ROA	TQ	DPS	DPR	DY	DER	CR	TAT	TANG	GROW	SIZE	AGE	BS	BI	BGD	
ROA	**1**														
TQ	0.26**	**1**													
DPS	0.22**	0.41**	**1**												
DPR	0.49**	0.32**	0.39**	**1**											
DY	-0.30**	-0.21**	-0.36	-0.57*	**1**										
DER	-0.51**	-0.30**	-0.29*	-0.23*	-0.52*	**1**									
CR	0.27**	0.25**	0.28**	0.17	0.21***	0.12**	**1**								
TAT	0.40**	0.48**	0.29	0.39**	0.42	0.34***	0.43	**1**							
TANG	0.33**	0.54**	0.44**	0.35*	0.50	0.21**	0.27	0.47	**1**						
GROW	0.29**	0.44**	0.57*	0.29*	0.41*	0.39	0.33	0.24***	0.37**	**1**					
SIZE	0.26**	0.37**	0.29	0.31	0.19***	0.28	0.14*	0.12	**0.58**	0.22	**1**				
AGE	0.47**	0.28**	0.43**	0.30**	0.39	0.41	0.26	0.41	0.24*	0.33**	0.48	**1**			
BS	0.29**	0.46***	0.34	0.32	0.19	0.28	0.50	0.49	0.36	0.28	0.39	0.34	**1**		
BI	0.55**	0.38***	0.55	0.50	0.25	0.36	0.31	0.24	0.41	0.39	0.50	0.44	0.24	**1**	
BGD	0.42**	0.22*	0.43*	0.40	0.33	0.42	0.39	0.27	0.50	0.44	0.27	0.37	0.42	0.59	**1**

Note: ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Source: Author's computations with STATA (2022)

The correlation test conducted shows that the correlation between the variables included in the regression fell below Hair et al. (2016) recommended threshold of 0.6, and as such, the non-existence of multicollinearity in the dataset. DER depicted an indirect and significant relationship with ROA and TQ, implying that, highly geared firms performed abysmally. This can be attributed to the high cost of debt financing options via high interest rates on loanable funds on the Ghanaian market. All the other predictor and moderating variables depicted significantly direct relationships with ROA and TQ.

Empirical baseline regression results and discussion

The results of the system-GMM estimator are presented in Tables 4 and 5 with ROA and TQ, respectively s response variables. All the 4-test executed to confirm the system-GMM estimator demonstrated to be statistically valid as Sargan and Hansen test corroborated the non-existence of overidentification issues, AR (1) and AR (2) passed the test for no first and second-order autocorrelation in errors and the CD^3 test showed no problem of cross-sectional dependence in the study results.

Table 4: System GMM regression results of DP effect on *ROA* as the dependent variable

Variables	Model 1	Model 2	Model 3
Constant	1.6544	1.5364	1.2347
Main Independent Variables			
DPS	0.0349** (0.0037)		
DPR		0.0740** (0.0083)	
DY			-0.0372** (0.0076)
Control Variables			
$ROA_{(t-1)}$	0.7763*** (0.0154)	0.5014*** (0.0002)	0.5364*** (0.0063)
DER	-0.0064*** (0.0007)	-0.0069*** (0.0006)	-0.0093*** (0.0048)
CR	0.0026* (0.0002)	0.0016* (0.0003)	0.0051* (0.0004)
TAT	0.0733** (0.0055)	0.0701** (0.0010)	0.0703** (0.0045)
TANG	0.0692*** (0.0311)	0.0540*** (0.0212)	0.0588*** (0.0062)
GROW	0.0137*** (0.0023)	0.0179*** (0.0055)	0.0112*** (0.0055)
SIZE	0.0166* (0.0032)	0.0194* (0.0088)	0.0258* (0.0035)
AGE	0.0032* (0.0005)	0.0071* (0.0004)	0.0052* (0.0006)
Moderating Variables			
BS	0.0144*** (0.0019)	0.0201*** (0.0012)	0.0123*** (0.0042)
BI	0.0158*** (0.0022)	0.0190*** (0.0013)	0.0133*** (0.0021)
BGD	0.0146*** (0.0021)	0.0137*** (0.0003)	0.0200*** (0.0013)

Weighted Statistics			
R^2	0.6801	0.6737	0.6532
Adjusted R^2	0.6615	0.6512	0.6324
S.E. of Regression	0.3015	0.3221	0.3135
F-Statistics	199.27	197.91	195.88
Prob(F-statistics)	0.0000	0.0000	0.0000
Mean VIF	1.3698	1.2354	1.3572
AR(1) *p*-value	0.3236	0.2353	0.2365
AR(2) *p*-value	0.8305	0.6175	0.5365
Sargan OIR	0.3852	0.2247	0.3251
Hansen OIR	0.4988	0.7924	0.8258
CD^3 – Pasaran CSD	0.4159	0.2365	0.3914
DHT for instruments			
(a) Instruments in levels			
H excluding group	(0.2652)	(0.6673)	(0.7105)
Dif(null, H=exogenous)	(0.3125)	(0.6124)	(0.5915)
(b) IV (years, eq (diff))			
H excluding group	(0.2115)	(0.6587)	(0.8725)
Dif(null, H=exogenous)	(0.2812)	(0.2625)	(0.5227)
m^2	0.9423	0.5162	0.6351
Observations	126	126	126
Group count	14	14	14
Instrument count	18	19	21

Note: The robust standard errors (SEs) are reported in parentheses. The three models (1, 2, and 3) ecorded the highest VIF of 1.3698, 1.2354, and 1.3572 respectively for the explanatory variables. These VIFs fall below the criteria of 10, suggesting the absence of multicollinearity (Kennedy, 1998). Each model estimation incorporated both time and industry dummies, but the estimates are not reported. ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively. Instru, Dif, and CD^3 – Pasaran CSD stand for instrument, difference, and pasaran cross-sectional dependence test, respectively.

Source: Authors' computations with STATA (2022)

Using ROA as the outcome variable, the regression results depict that, the independent variables explained 66.15%, 65.12%, and 63.24% of the variance in the outcome variables for models 1, 2, and 3, respectively. The F-statistics reveal satisfactory validity of the estimated models i.e., the balanced panel regression models have a good fit depicting that the predictor variables explained a considerable proportion of the variation in the outcome variables in the models. The findings of the study indicate that except for DY and DER which revealed negative associations with FP-ROA, all the other predictors demonstrated positive relationships with ROA.

The System-GMM results from Table 4 depict a significantly positive association between DPS and ROA. This implies that listed firms that paid high DPS earned high ROA since investors expect high returns on their investments.

This is consistent with the DRT, particularly the signalling theory as payment of dividends communicates strong financial standing especially a solid cash flow position, which provides a signal to current and potential investors of the sound financial health of the firm to attract more investors. These findings corroborate the first section of hypothesis 1 [H_1] i.e., DPS has a positive relationship with FP-ROA, and it's in line with the findings of authors such as Ofori-Sasu and Abor (2017), Adam, Buckman, and Setordzi (2022).

Similarly, the study findings reveal a significantly positive relationship between DPR and ROA, suggesting that listed firms that increased their DPR increased their ROA. These results also support the DRT as a 1 percent increase in dividend payout yielded a 0.17unit increament in profitability-ROA. This finding supports the first part of hypothesis 2 [H_2] i.e., DPR has a positive relationship with FP-ROA, and it is in line with the findings of Adam, Buckman, and Setordzi (2022) but at loggerheads with Lotto (2021).

DY however exhibited a significantly negative association with ROA, suggesting that a 1 percent rise in DY led to a 2.22 fall in ROA. This demonstrates that any rise in DY is an indication of a fall in market share price with the overall effect seen in a dip in FP-ROA, which is not a good signal to investors. These results reject the first section of hypothesis 3 [H_3], i.e., DY positively relates to FP-

ROA and is in line with the findings of Adams, Buckman, and Setordzi (2020) but at loggerheads with Putri et al. (2022).

For generalization purposes, DP had a strong impact association on FP and the study findings are in line with past research work. With respect to the control variables, empirical results presented in Table 4 show that, except for DER which exhibited a negative relationship with ROA, all the other control variables demonstrated significantly positive association with ROA for all three regression models.

DER exhibiting an indirect relationship with FP-ROA, shows that highly leverage firms did not perform satisfactorily, an indication of probable high cost on debt financing arising from high-interest rates on loanable funds on the Ghanaian financial market which invariably affected FP-ROA adversely. These findings are in line with Sewelén (2018) but in contraction with the findings of Huguet and Gandia (2016).

CR associates directly with ROA, indicating that profitable listed firms managed their working capital well, which culminated in improved ROA. This finding is in line with the findings of Agyei, Sun, and Abrokwah (2020).

TAT also correlates directly with ROA, suggesting that, listed firms with high sales generation via total assets utilization achieved high ROA levels. This finding is in line with the findings of Agyei, Sun, and Abrokwah, (2020).

TANG also relates positively with ROA, meaning, listed firms with high investment in non-current assets experienced improvement in FP-ROA. This finding is in line with the findings of Agyei, Sun, and Abrokwah (2020) but in contradiction to the findings of Ofori-Sasu and Abor (2017).

GROW relates directly with ROA, implying high sales growth levels yielded high ROA. This result is in line with the findings of Agyei, Sun, and Abrokwah (2020).

Similarly, SIZE associates directly with ROA, revealing that larger firms performed comparatively better than the smaller companies, as larger corporations optimize their economies of scale in addition to the fact that they have the upper hand in terms of assessing loanable funds from financial institutions to enhance their business operations. These findings agree with the findings of Agyei, Sun, and Abrokwah (2020) but at loggerhead with Ofori-Sasu and Abor (2017).

Likewise, AGE relates directly with FP-ROA, implying that grown-up companies performed better compared to their younger counterparts as long-existing firms have developed better operational and managerial competencies via direct/indirect practical on-the-job experience resulting in high ROA. his result is in line with the findings of Agyei, Sun, and Abrokwah (2020).

Table 5: Moderator Analysis Results

Econometric Specification / Technique	Estimate	*SE*	95% CI		*P*
			LL	*UL*	
Dynamic Panel System-GMM Intercept	1.654	.040	.041	.198	.03
Interaction Terms					
DPS * BS	.011	.002	.002	.153	.16
DPS * BI	**.022**	**.005**	**-.074**	**.034**	**.02**
DPS * BGD	.018	.002	-.001	.042	.04
DPR * BS	.019	.001	-.060	.054	.23
DPR * BI	**.020**	**.003**	**-.005**	**.034**	**.03**
DPR * BGD	.017	.001	.002	.199	.17
DY * BS	-.017	.003	-.022	.155	.19
DY * BI	**-.019**	**.002**	**.-040**	**.197**	**.01**
DY * BGD	-.018	.003	.-041	.156	.23

*Note.*CI = confidence interval; *LL* = lower limit; *UL* = upper limit; *SE* = standard error; *P* = alpha or significance level. **Source: Authors' computations with STATA (2022)**

With respect to the pure moderating effect, expect for BI which moderated the relationship between DP variables and FP-ROA [evident in the significant (at 5%, 1%, and 10%) results depicted in Table 5], BS and BGD had no moderating influence on the relationship between DP variables and FP-ROA (as indicated in the insignificant results presented in Table 5). In view of the above, the second parts of hypotheses 2 [H_2] and 3 [H_3] are rejected. Hypothesis 1 [H_1], is however accepted.

Results from Table 5 indicate that BS did not moderate the relationship between DP and FP-ROA. This portrays that, the strength of the impact of DP on FP is independent of the number of directors on the boards of the 14 selected firms. The findings of this study do not support the view that large BS influences institutions to access funds to run the operations of firms. Findings from this study are also not in support of the notion that larger BS results in improved FP via diversified experience, technical and managerial expertise, and know-how to assist in effective oversight monitoring,

supervision, and control. In the same vein, findings from this study are not in support of the view that the presence of female directors on the board improves the decision-making of the board to influence DP for enhanced FP via improved ROA. Again, results from this study demonstrate that the composition of the board via the involvement of non-executive (outside) directors (i.e., high BI) aids in improving the checks and balances of internal corporate activities thereby resulting in enhanced FP-ROA. The regression results with Tobin's Q, as a dependent variable are presented in Table 6.

Table 6: System GMM regression results of DP effect on ***TQ*** as the dependent variable

Variables	**Model 1**	**Model 2**	**Model 3**
Constant	1.9651	1.5432	1.8714
Main Independent Variables			
DPS	0.0231** (0.0021)		
DPR		0.0541** (0.0036)	
DY			-0.0258** (0.0077)
Control Variables			
$TQ_{(t-1)}$	0.7217*** (0.0136)	0.5864*** (0.0003)	0.8022*** (0.0064)
DER	-0.0058** (0.0004)	-0.0066** (0.0002)	-0.0049** (0.0002)
CR	0.0041* (0.0003)	0.0036* (0.0004)	0.0035* (0.0005)
TAT	0.0625** (0.0054)	0.0586** (0.0019)	0.0699** (0.0057)
TANG	0.0688*** (0.0299)	0.0538*** (0.0212)	0.0588*** (0.0038)
GROW	0.0185*** (0.0052)	0.0213*** (0.0033)	0.0117*** (0.0032)
SIZE	0.0166* (0.0039)	0.0177* (0.0072)	0.0278* (0.0036)
AGE	0.0035* (0.0003)	0.0069* (0.0002)	0.0041* (0.0004)
Moderating Variables			
BS	0.0153*** (0.0022)	0.0212*** (0.0041)	0.0113*** (0.0034)
BI	0.0147*** (0.0034)	0.0181*** (0.0029)	0.0131*** (0.0030)
BGD	0.0135*** (0.0030)	0.0146*** (0.0004)	0.0122*** (0.0029)

Weighted Statistics			
R^2	0.6605	0.6724	0.6899
Adjusted R^2	0.6515	0.6647	0.6724
S.E. of Regression	0.3276	0.3312	0.3188
F-Statistics	199.55	196.88	195.07
Prob(F-statistics)	0.0000	0.0000	0.0000
Mean VIF	1.9972	1.7724	1.4955
AR(1) *p*-value	0.4249	0.2271	0.3589
AR(2) *p*-value	0.7455	0.8775	0.7821
Sargan OIR	0.3885	0.4851	0.6251
Hansen OIR	0.8188	0.9899	0.9843
CD^3 – Pasaran CSD	0.4712	0.5510	0.6314
DHT for instruments			
(a)Instruments in levels			
H excluding group	(0.4632)	(0.6251)	(0.5215)
Dif(null, H=exogenous)	(0.3125)	(0.7724)	(0.5185)
(b) IV (years, eq (diff))			
H excluding group	(0.4145)	(0.8678)	(0.6782)
Dif(null, H=exogenous)	(0.3831)	(0.4513)	(0.2981)
m^2	0.6114	0.5193	0.6755
Observations	126	126	126
Group count	14	14	14
Instrument count	20	19	19

Note: The robust standard errors (SEs) are reported in parentheses. The three models (1, 2, and 3) recorded the highest VIF of 1.9972, 1.7724, and 1.4955 respectively for the explanatory variables. These VIFs fall below the criteria of 10, suggesting the absence of multicollinearity (Kennedy, 1998). Each model estimation incorporated both time and industry dummies, but the estimates are not reported. ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively. Instru, Dif, and CD^3 – Pasaran CSD stand for instrument, difference, and pasaran cross-sectional dependence test, respectively.

Source: Authors' computations with STATA (2022)

The empirical results indicate that the predictor variables explained 65.15%, 66.47%, and 67.24% of the variance in the response variables, an indication of fairly high predictive power. The F-statistics depict acceptable validity of the estimated models i.e., the balanced panel regression models have a good fit. As in the case of ROA, the study findings show that, except for DY and DER which revealed negative associations with FP-TQ, all the other predictor variables demonstrated a positive relationship with ROA.

The results from the Blundell and Bond (1998) estimator presented in Table 6 show a significantly direct correlation between DPS and TQ.

This means that the higher the DPS, the more enhanced the market value stock becomes. As explained earlier, this is an indication of the impact of dividend payments on the market value of shares as a 1 percent increase in DPS resulted in a 0.0231 unit rise in the stock market price. This corroborates the DRT, such as the signalling theory in view of the information dividend payment communicates to prevailing and potential investors. This finding is consistent with the findings of Oktafiani et al. (2022). These results, therefore, support the first part of hypothesis 1 [H_1].

Equally, the results presented in Table 6 reveal a statistically significant and direct relationship between DPR and TQ, buttressing the earlier assertion that dividend payments enhance stock market value as a 1 percent increase in DPR yielded a 0.0541 unit rise in stock market value. This result supports the first part of hypothesis 2 [H_2] and it is in agreement with the findings of Sugathadasa (2019) but at loggerheads with Nguyen, Biu, and Do (2019). The results are also in line with the DRT which stipulates that dividend payment almost always enhances the value of the firm,

DY, however, exhibited a statistically significant and indirect association with FP-TQ. This means that a 1 percent increase in DY led to a 0.0258 unit fall in TQ. The indication here is that an increasing DY implies falling stock market values since DY relates inversely with stock market price which is not a good signal to current and potential investors. This result therefore rejects the first part of hypothesis 3 [H_3] and is in line with the findings of Ofori-Sasu and Abor (2017), Lotto (2021) but at logger heads with the findings of Sugathadasa (2019), Nguyen, Bui, and Do (2019).

Also, results from Table 6 indicate that TQ_{it-1} was statistically significant and positive, meaning the preceding year's TQ_{it} had information content that communicated to the investment world that, the previous year's TQ_{it} increases present year market share price.

DER exhibited an inverse association with FP-TQ, informing industrial players of the unfavorable impact of debt financing on the market values of listed firms in Ghana. This finding is in line with the findings of Jessica (2020).

Again, CR had a statistically significant and positive association with TQ, depicting fairly liquid firm positions. This result is in line with the findings of Chanda and Sharma (2015)

TAT also correlates directly with TQ, and the findings are consistent with Chanda and Sharma (2015). TANG also correlates directly with TQ. This finding is consistent with the findings of Chanda and

Sharma (2015). GROW correlates directly with TQ, meaning high sales growth levels resulted in high TQ, and this is consistent with the findings of Chanda and Sharma (2015). SIZE correlates directly with TQ, implying larger firms generated better market value indicators via better performance than their smaller counterparts.

This finding is in line with the findings of Ohaka et al. (2020). Similarly, AGE correlates directly with TQ, meaning aged firms yielded better market value metrics compared to their younger counterparts. This finding is consistent with the findings of Chanda and Sharma (2015).

Table 7: Moderator Analysis Results

Econometric Specification/Technique	Estimate	*SE*	95% CI		*P*
			LL	*UL*	
Dynamic Panel System-GMM					
Intercept	1.559	.020	.044	.201	.14
Interaction Terms					
DPS * BS	.012	.003	.001	.156	.19
DPS * BI	.023	.004	-.079	.047	.03
DPS * BGD	.018	.002	-.005	.034	.24
DPR * BS	.013	.003	-.069	.059	.26
DPR * BI	.013	.004	-.015	.126	.04
DPR * BGD	.015	.007	.001	.196	.19
DY * BS	-.015	.007	.020	.159	.16
DY * BI	-.017	.003	.036	.192	.02
DY * BGD	-.017	.008	.040	.158	.37

*Note.*CI = confidence interval; *LL* = lower limit; *UL* = upper limit; *SE* = standard error; *P* = alpha or significance level. **Source: Authors' computations with STATA (2022)**

Regarding the pure moderating influence, BI representing the composition of the board of directors of the 14 firms under study, moderated the association between DP variables and TQ [evident in the significant (at 5%, 1%, and 10%) results depicted in Table 5]. However, BS and BGD did not moderate

the association between DP variables and TQ (as indicated in the insignificant results presented in Table 7). These results reject the second part of hypotheses 2 [H_2] and 3 [H_3] but support hypothesis [H_1]. Results from Table 7 reveal that BS had no moderating influence on the relationship between DP variables and TQ. This gives an indication that the strength of the effect of DP on FP does not depend on the BS of the 14 firms. This study's results reject the notion that large BS influences corporations to access financing to run the day-to-day operations (working capital management) as well as the investment (capital-intensive) activities of the firms. The results from this study do not also support the assertion that the bigger the BS, the better the FP.

Similarly, results from this study do support the notion that the presence of female directors on the board improves the decision-making of the board to influence DP for enhanced FP-TQ. Also, the study findings reveal that boards with independent minds i.e., high BI help in improving the internal checks and balances of corporate activities thereby resulting in enhanced TQ.

Conclusions, Policy Implications, Limitations, and Areas for Further Studies

Conclusion

This inquiry investigated the moderating influence of BS, BI, and BGD on the relationship between DP variables and FP. Utilizing a robust system-GMM that controls for unobserved heterogeneity, endogeneity, heteroscedasticity, simultaneity, reverse causality, contemporaneous or cross-sectional dependence, and over-identification issues, the study concluded that, all the predictors had a statistically significant impact on FP. Except for DY and DER which exhibited negative associations with FP, all the other predictors demonstrated positive relationships with FP. In addition, BI moderated the relationship between DP variables and FP. The study found no moderating influence of BS and BGD on the association between DP and FP in Ghana. This study's results are generally in conformity with similar research findings in the extant literature.

The study concludes that DP has a strong association with the worth of shareowners and as such proposes that companies should espouse DY as the ideal measurement/metric for ascertaining DP.

Policy Implications

There are several managerial and scholarly implications of this study that are highly imperative for corporate financial managers and imminent research for the improvement of dividend theories. This inquiry's implication for policymakers and stakeholders is to aid corporate financial managers in making crucial financial decisions on DP so as to optimize the market share price of corporations. The study recommends corporate financial managers improve their profitability levels via engagement in diversified investment projects that yield positive net present values to guarantee sufficient and sustained cash flows, from which dividends could be paid or earnings could be retained for future investment in anticipation of growth prospects. This would ensure increased return on investment (ROI) for shareholder wealth optimization.

Again, results from this current study suggest that the strength of the impact of DP constituents i.e., DPS, DPR, and DY on FP is independent of the number of directors on the boards of the firms. As such it is recommended that companies in general and Ghanaian listed firms, in particular, should engage an optimal/ideal board size, one that is not too large or too small to guarantee that diseconomies of scale do not set in during board meetings whilst ensuring the availability of all-inclusive board members with well-endowed skills, capabilities, technical and managerial acumen, and rich practical on-the-job experience to aid in the strategic direction, supervision, monitoring and control of the firms' operations. Also, it is recommended that firms in general and listed firms, in particular, should diversify the composition of their board of directors with more outside/non-executive directors to instill internal checks and balances to aid in shaping the operations of the firms. Furthermore, since BGD did not moderate the relationship between DP and FP, thereby influencing FP-(ROA and TQ), much exertion and attention must not be dedicated to gender neutrality on the board, but rather the board of directors' engagement should be purely based on merit irrespective of the gender skewness.

From investors' perspective, investors should invest in companies with superior growth prospects. In addition, top-level management is advised to utilize more retained earnings as an internal financing source to minimize the high-interest cost of debt financing. Furthermore, the study recommends policymakers and the Ghanaian exchange's authorities to revamp Ghana's bourse to encourage equity investment in other to enable firms to access long-term capital necessary for their business operations.

Limitations and Areas for Further Studies

This study is not without limitations. The research is entirely based on listed firms in Ghana, ignoring non-listed firms. Macroeconomic variables such as taxation, GDP, inflation, exchange rate, interest rate, etc. were all not captured in the dynamic panel system-GMM estimation models. For greater generalizability of the study's findings, ensuing studies should consider the incorporation of these macroeconomic metrics and other non-listed firms to have a broader picture of the effect of DP on FP in Ghana.

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