Boardroom Dynamics: The Impact of Board Gender Diversity on Discretionary Dividend Policy in US REITs

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Purpose: This research seeks to address a notable gap in the existing literature by exploring the relationship between gender diversity and dividend policy within the context of US Real Estate Investment Trusts (REITs).

Design/Methodology/Approach: We utilize a substantial dataset comprising 1,398 firm-year observations across 209 US REIT companies from 2011-2021 to address the research aims. Fixed effects models and GLS regression methods are employed in the analysis.

Findings: The results demonstrate a significant positive association between board gender diversity and higher dividend payouts among US REITs. This relationship holds after controlling for corporate governance and other firm-level factors. Our findings have strong implications that the presence of women on REIT boards contributes to a greater propensity for discretionary dividend increases in the US.

Originality: This research contributes to the literature by empirically examining female directors' role in influencing US REITs' dividend policies, an area lacking adequate prior scholarship. The paper also considers the unique regulatory environment of REITs, highlighting the importance of our study for externally financed firms.

Keywords: Corporate Governance; Gender diversity; Discretionary Dividend Policy; Board of Directors; REITs.

1. Introduction

The participation of women in the public sector in the United States has experienced significant growth in recent years, as indicated by multiple studies (Carmo et al., 2022; Dobija et al., 2022; Konadu et al., 2022). Despite this progress, women's global participation in the public sector remains low (Sanyaolu et al., 2022). In response, many countries, such as the United Kingdom, Canada, and Australia, advocate for more female directors to improve corporate governance. In contrast, others in Europe, including Belgium, France, Norway, Spain, and Italy, have implemented quotas for female directors (Poletti-Hughes and Dimungu-Hewage, 2022). Following these international movements of promoting women in leadership positions and corporate boards in the public sector (Vafaei et al., 2021), several studies evaluated the benefits of gender diversity in corporate finance (Benjamin and Biswas, 2019; Ahmed et al., 2020; Almeida et al., 2020; Gyapong et al., 2021; Khan et al., 2022; García-Meca et al., 2022; Abdullah et al., 2023). Nevertheless, these studies have primarily focused on non-financial industries. Hence, not much is known about gender diversity in financial industries, especially concerning highly capital-intensive sectors, such as Real Estate Investment Trusts (REITs), and how board gender diversity may affect corporate decision-making and dividend policy (Devine et al., 2023; Morri et al., 2023).

REITs offer a suitable study target due to their similar investment opportunities, straightforward valuation, and compliance with regulatory requirements. Unlike growth outlooks in other sectors, investors appreciate the value gained from their assets. Additionally, REITs must comply with governance mechanisms and dividend distribution policies, allowing for cross-sectional studies(Devine et al., 2023). From a geographical standpoint, the USA is an exemplary model of shareholder-oriented corporate governance due to its open market, strong shareholder activism, performance-dependent compensation structure, and punctual disclosure rules (Morri et al., 2023).

In The USA, Real Estate Investment Trusts (REITs) are required by Federal law to distribute 90% of their taxable income as dividends to maintain their tax-exempt status (Edelstein et al., 2008). Due to their reliance on external capital for growth, the impact of information asymmetry and agency expenses on fund costs is particularly evident in REITs. Compared to their investment opportunities, REITs with limited internal funds may benefit from an increased dividend policy if higher dividends attract lower-cost external financing and enhance their ability to pursue profitable projects (Morri et al., 2023). REITs are capitalized with lower debt levels than typical corporations (Zhang and Hansz, 2022). They are exempt from corporate or trust taxation. They are also considered a viable alternative to fixed-income investments by investors. Still, they may lose favor when bond yields increase (Devine et al., 2023).

Previous studies have explored the dividend policy of REITs, with three studies being particularly relevant in this context. Hardin and Hill (2008) suggest that when studying

REIT dividend policies, it is appropriate to focus on discretionary dividends, the amount by which actual dividends exceed the mandatory level. This is because investors are more interested in the discretionary level of dividends, which reflects managerial policy, rather than the total or mandatory level of dividends. Chou, Hardin, Hill, and Kelly (2013) expanded on the work of Hardin and Hill (2008) to provide further evidence of the impact of discretionary dividends on the value of REITs. Ghosh and Sun (2014) further extended the perspectives of Hardin and Hill (2008) and Chou et al. (2013) to provide additional insights into the relationship between dividends and growth in US REITs.

However, to our knowledge, no study has examined the impact of female directors on dividend policy in US REITs. According to previous studies, dividend policy is linked to cash flow uncertainty, investment opportunities, and ownership structure (Bataineh, 2021; Attig et al., 2021). Since dividends are partially influenced by conflicts between firm insiders and external shareholders, board quality is suggested to impact dividend policy. Furthermore, according to DeAngelo et al. (2006), dividend payments restrict the free cash flow available for investment, requiring managers to seek external sources of money, imposing more constraints on management by external investors, and reducing agency issues. Accordingly, dividend payments are key to addressing agency costs (Yousef et al. 2021).

Moreover, previous studies based on corporate governance showed that board gender diversity may influence the control and supervision of the board's activities (Adams and Ferreira, 2009; Martinez-Jimenez et al., 2020; Dobija et al., 2022). In this regard, most previous empirical studies provide evidence that females on the board have a significant influence on financial reporting quality (Aifuwa and Embele, 2019; Dobija et al., 2022), environmental innovation (Konadu et al., 2022), corporate social responsibility (Amorelli and García-Sánchez, 2021; Setó-Pamies, 2015), capital structure (García and Herrero, 2021), and financial performance (Singh, et al.,2022; Carmo et al., 2022). hence, McGuinness et al. (2017) argue that female directors and executives should manage their relationships with stakeholders. Female directors also provide varied perspectives to the boardroom; diversity in debate improves the board's dynamics, which improves decision-making (Nielsen and Huse, 2010; Simionescu et al., 2021). Previous research suggests that gender diversity on boards supports making fair judgments and enhances the likelihood of serving the interests of shareholders by taking agency difficulties into account (Devine et al., 2023).

The impact of female directors' participation in dividend policy was examined in various studies for instance, Gyapong et al. (2021) using Australian firms; Jiraporn et al. (2019) using French firms; Almeida et al. (2020) studying Brazilian firms; Ain et al. (2021) using Chinese data; Saeed and Sameer (2017) using emerging countries. These researches imply that female board membership affects dividend distributions. The

results of these studies are inconsistent. Moreover, these studies have focused on non-financial industries. In addition, prior research has focused on the impact of gender on dividend policy, which has predominantly focused on either a cross-industry sample (Gyapong et al., 2021; Ain et al., 2021; García-Meca et al., 2022) or a cross-country sample (Saeed and Sameer, 2017; Trinh et al., 2022; Gull et al., 2023).

However, to the best of our knowledge, no previous studies have analyzed the impact of gender diversity on dividend policy in US REITs because of their unique regulatory environment. Thus, it is beneficial to better understand the impact of gender diversity on the dividend policy of US REITs, given the importance of females on board in capital allocation, governance, firm performance, and dividend policy. Consequently, this paper aims to examine the impact of female directors on discretionary dividends in the unique regulatory environment of Real Estate Investment Trusts (REITs).

This study makes several important contributions to the existing literature. Firstly, this study examines the impact of female directors on discretionary dividends in the unique regulatory environment of Real Estate Investment Trusts (REITs). This is important because the REIT structure operates under different regulations than other industries. Thus, examining how female directors on a diversified board affect discretionary dividends in this industry is crucial. The unique characteristics and relevance of the REIT sector to the area of research are behind choosing this sector for the current study. A characteristic of REITs is the requirement to distribute a major portion of taxable income as dividends, which links back to our discussion on dividend policies. This feature creates a perfect environment to analyze the impact of gender diversity on board decisions and dividend decision-making. Besides, the REIT industry is known for its transparency in corporate governance and financial operations, largely due to its regulative nature. This transparency is beneficial for the accurate collection of data, especially in the case of board composition and dividend policies, which are the central elements of our study. Lastly, an industry-specific orientation regarding REITs yields a more structured and uniform research setting. In this manner, by focusing on this industry, we decrease the possibility of confounding parameters of inter-industrial variation, such as variations in regulatory requirements and functional models.

Secondly, most studies that establish a relation between gender diversity and dividend policy have used only one measure of gender diversity, which may not be the best proxy of the firm's diversity. Our study considers a comprehensive set of six gender diversity indices: The percentage of female directors on the board, the Blau index, the Shannon index, the executive members' gender diversity, the number of female directors in the REITs boardrooms, and a dummy variable to show the REITs with at least one female director on the boardrooms. This method is different from the methods employed in previous studies, such as Gyapong et al. (2021), who only used the percentage of female directors, or García-Meca et al. (2022), who defined board gender diversity as the

number of female directors over the total number of board members or Fadli et al. (2019) who used a dummy variable to measure board gender diversity. By considering a wider range of gender diversity indices, our study provides a more robust examination of the impact of gender diversity on discretionary dividends.

Following this introduction, this paper is organized as follows: the next section provides a theoretical background and hypothesis development. The third section details the sample, methodology, and variables utilized in the study, while the fourth section presents the results. The final section concludes the findings, acknowledges the study's limitations, and outlines potential avenues for future research.

2. Theoretical Background and Hypothesis Development

Agency theory, introduced by Jensen in 1986, has been a key foundation concept for understanding dividend policy in corporate entities. According to the theory, dividends have an important potential for reducing agency costs by constraining the managers' spheres of free cash flow (Basse and Reddemann, 2011). This limit is believed to force managers always to seek external finance, thereby subjecting them to public discipline and inspection by investors. Drawing on this theoretical basis, Jensen and Meckling (2019) analyze the agency cost and shed light on certain aspects of dividend policy. Their study extends agency theory in an alternative approach by detailing the role of information asymmetries and diverging interests between managers and shareholders in creating non-optimal firm decisions, including those concerning distributive policies involving dividends. Accordingly, they claim that such conflicts may lead to excessive retention of earnings or too much investment in projects that do not necessarily provide shareholder value (Basse and Reddemann, 2011).

The Inclusion Theory emphasizes creating a corporate environment that will be inclusive and diverse since views and backgrounds get valued and integrated into decision-making. This theory suggests that an inclusive environment drives organizational performance in solving problems and innovation (Bernstein et al., 2020). Concerning board gender diversity, the Inclusion Theory argues that introducing a female director promoted a more complex deliberation process, resulting in better governance practices. This is especially true in the case of financial decisions such as dividend policies that should take advantage of a diversity of points of view to increase the scope and value of insights and concerns (Aloulou et a., 2023).

On the other hand, Diversity Management Theory extends the discussion further by considering the viewpoint of strategic management and the utilization of diversity in organizations. This theory argues that a simple presence of diversity on corporate boards, such as gender diversity, does not produce positive effects, but rather, it is the efficient management and integration of diversity that creates benefits (Yami et al., 2023). Consequently, female directors are not just diverse in the boardroom but are

important contributors, providing unique insights, knowledge, and skill sets. These donations may lead to a more conservative and fair financial outcome, such as the determination of the distribution of dividends (Sbai, Hand Ed-Dafali, 2023).

The theoretical implications of these practical dimensions have recently been investigated in real situations. For instance, a study by Post and Byron (2015) shows that gender-diverse boards are linked with good financial performance because women have different ways of thinking and problem-solving than men, bringing various perspectives to the boardroom. Joecks et al. (2013) argue that a sufficient number of women on a board improves decision-making, resulting in better governance and financial figures.

Moreover, Konrad et al. (2008) proposed the Critical Mass Theory that a specific number of females on the corporate board (a critical mass) can significantly change board operations and decision-making. Multiple women in decision-making positions can shift the conversation and influence boardroom culture, establishing a more inclusive and holistic way of thinking that would include everyone's viewpoints. This becomes more valid even when the discussion concerns dividend policy, critical to the relations between profit distribution among shareholders and retained earnings reinvestment. Furthermore, the results of Torchia et al. (2011) prove that diversity in gender complexity triggers the boards to make active decisions and collaborate among themselves, which may lead to more innovative practices. This shared process may be essential in making the choices for dividend policy rationale to consider market demand, demands by the regulator's environmental conditions, and shareholder expectations.

The relationship between respondent gender diversity in board and REIT discretionary dividend policies is largely impacted by the outside variables, which include the Federal Reserve System's monetary policy and the U.S. tax policy changes. Interest rates are very important. A lower rate can result in higher profitability and dividends, but as rates rise, borrowing costs increase, with the potential for limiting the dividend payout. This issue is bigger for gender-diverse REIT boards with divergent opinions and risk perceptions. These boards may seize the opportunity to grow more in the favorable low-rate interest environment; in high-interest-rate situations, however, they may opt for more conservative practices, which would influence dividend policies to keep a larger cash balance.

In addition, U.S. tax policy, especially its aspects concerning corporate dividends, is an impelling factor in REIT's strategy. If the tax codes are reformed, everything appears different, and a gender-diverse board may reconcile with these changes to attract investors without sacrificing the company's long-term financial security.

Gender diversity on corporate boards has attracted increasing popularity in recent years. Assenga et al. (2018), Duppati et al. (2020), and Bennouri, Shumpelick, and Van Eenennaam (2018) reported that the number of females on the board was positively related to firm performance. Chijoke-Mgbame et al. (2020) also show the strength of gender diversity in firms with two or more female directors.

Other studies focused on female membership in the board and dividend payout. They found a positive relationship between gender diversity and dividend payment (Ain et al., 2021; Byoun et al., 2016; Chen et al., 2017; Pucheta-Martínez & Bel-Oms, 2016; Trinh et al., 2021). However, Saeed and Sameer (2017) find strong and robust evidence indicating that board gender diversity is negatively related to cash dividend payments in India, China, and Russia from 2007–2014. In Addition, Mustafa et al. (2020) found a negative relationship between gender diversity and dividend announcements.

Few studies examined the characteristics of Real Estate Investment trusts and the board of directors. Schrand et al. (2018) found that the presence of women on the Board affects REIT's Market performance. Hykaj (2016) found that the presence of women on board enhances the return of REIT's Assets and equity. Agyei-Mensah (2021) finds that independent directors and financial experts on the board can help reduce overinvestment and improve investment efficiency. However, to the best of our knowledge, no previous studies have analyzed the impact of gender diversity on dividend policy in US REITs

Several studies have investigated the presence of agency costs in REITs and have produced evidence to support this idea. Ghosh and Sun (2014), Feng, Ghosh, and Sirmans (2007), and Hardin and Hill (2008) all found indications that REITs distribute dividends to address conflicts between managers and shareholders. To explain the lack of hostile takeovers in REITs, Campbell, Ghosh, and Sirmans (2001) argued that REIT managers might collude to prevent such takeovers because REIT assets are restricted by regulation in the real estate sector. Ghosh, Petrova, and Xiao (2012) demonstrated that large cash holdings in REITs positively correlate with the likelihood of being an acquirer. Without market forces to monitor and discipline them, REIT managers may opt to retain the surplus cash and use it for their gain, such as expanding their power.

Jensen (1986) argues that dividends reduce agency costs by limiting managers' access to free cash flow and forcing them to regularly seek funding from the capital market, which subjects the firm to constant scrutiny by investors and analysts. This increased transparency and information flow helps to mitigate agency costs. In the case of REITs, discretionary dividends (the difference between actual dividends and the mandatory level) serve the same purpose as increased disclosure in unregulated firms.

Discretionary dividends' ability to limit agency costs has increased research interest. Based on Hardin and Hill (2008), REITs with higher levels of discretionary dividends

are better at using bank lines of credit; this shows that the dividend policy is used to restrain agency costs and hold additional capital from debt and equity markets, which is necessary for the development of this asset class. The connection between discretionary dividends, governance, and value is corroborated by Chou et al. (2013), who assert that discretionary dividends are more highly valued in REITs with less transparent structures. According to Ghosh, Roark, and Sirmans (2011), Discretionary dividends bring positive benefits, including reduction of agency costs and cost of equity capital, which offsets the negative effects of seasoned equity offerings on REITs.

Other authors have applied agency theory to their research into gender diversity dividend payout and dividend policy's role in conflicts of interest in organizations (Gyapong et al., 2021; Ain et al., 2021). As Jensen and Meckling (2019) note, agency costs may be the outcome of asymmetrical information between the managers and the shareholders that creates a conflict of interest between the ownership (principal) and the control of the firm (agent) and therefore, result in an agency problem that would make investors suspicious of future cash flows being absorbed.

The presence of gender heterogeneity among board members improves mutual monitoring and acts as a watchdog for shareholders. As a result, female directors may align the incentives between managers and shareholders by influencing dividend policies, which might lead to high cash flows and dividends to reduce free cash flow. Research also suggests that boards with a high percentage of female directors may reduce barriers to dividend payout. This viewpoint is supported by studies such as Ain et al. (2021), who found a positive correlation between gender diversity on boards and cash dividend payments. Similarly, Gyapong et al. (2021) suggest that board gender diversity positively impacts dividends, while García-Meca et al. (2022) contend that female directors have a distinct role with the controlling shareholder.

Ain et al. (2021) found that gender diversity can reduce agency problems by supporting monitoring and addressing conflicts of interest. Furthermore, female directors have demonstrated better monitoring capabilities than male directors (Zalata et al., 2019). Accordingly, females may regulate managers by overseeing board responsibilities, thereby minimizing agency costs (Carter et al., 2010). Female directors may be more likely to insist on good corporate governance practices such as dividend payment to reduce opportunistic behavior and the necessity of managers to go out in the capital markets to get financing. As Byoun et al. (2016) state, big dividend payments help diminish opportunistic behavior, lower the chance of over-investment, and improve monitoring in capital markets, thereby avoiding agency issues.

Therefore, according to agency theory, as the proportion of female directors increases, the likelihood of paying dividends will also increase because female directors may demand more control mechanisms to enhance their ability to monitor and supervise the

management team and other board members, leading to better decision-making that benefits shareholders. Hence, we posit the following hypothesis:

Hypothesis 1: Gender diversity significantly promotes higher discretionary dividends in US REITs.

3. Research Methodology

Our study employs a quantitative research design to investigate the relationship between board gender diversity and discretionary dividend policy in US REITs. This design is grounded in a comprehensive dataset of 1,398 firm-year observations across 209 US REIT companies from 2011 to 2021, ensuring a robust and representative sample. The methodology utilizes fixed-effect models and generalized least squares (GLS) regression techniques to analyze the data.

3.1. Sample of Study

We gather data from the Refinitiv Datastream database for financial information and the BoardEx database for board data. Our sample period covers the years from 2011 to 2021. The choice of 2011 as the starting point for this year marks a significant period after the global financial crisis of 2008-2009, during which the US real estate market and, by extension, REITs began to demonstrate signs of stabilization and recovery. Moreover, there was a growing emphasis on corporate governance reforms around the early 2010s, particularly in the context of gender diversity on corporate boards. During this period, we have witnessed an increasing global awareness and advocacy for gender diversity in leadership roles, influenced by various studies and reports highlighting the benefits of diverse boards on corporate performance and decision-making. We only consider companies classified as "Major Security" or "Primary Quote" to eliminate those that have issued securities in multiple stock markets. Additionally, we exclude firms with missing values for board size, board gender, or the International Securities Identification Number (ISIN) code. We merge the financial information from Refinitiv Datastream with the board data from BoardEx using the ISIN code.

Following the literature, we process the final data as follows. (1) We include only REIT companies based on ISIN codes. (2) We exclude firms with a null or negative value for a cash dividend. (3) We exclude firms with a null for board size and/or the number of females on the board. (4) We exclude firms with net profits that exceed their sales. Following these steps, our sample comprises an unbalanced panel of 1,398 firm-year observations from 209 REIT companies in the US from 2011 to 2021.

3.2. Model and Variables of Study

Our econometric model is designed to analyze the impact of board gender diversity on dividend payout policies in US Real Estate Investment Trusts (REITs). Formulated as follows, the model encapsulates the complex relationship between these variables:

$$DIV_{i,t} = \beta_0 + \beta_1 GenDiv_{i,t} + \sum \text{Control variables} + \varepsilon$$

Here, $\beta 0$ is the intercept, and $\beta 1$ is the coefficients, ε represents the error term. *DIVi,t* represents the dividend payout policy for the *i-th* firm in year *t*. We operationalize the dividend payout policy using various measures to capture its different dimensions, including discretionary dividends to total assets (DISDTA), discretionary dividends to total sales (DISDTS), discretionary dividends to total equity (DISDTE), discretionary dividends to operating cash flow (DISDOC), dividend payout ratio (DPR), total dividend to total assets (TDTA), total dividend to total sales (TDTS), and total dividend to total operating cash flow (TDOC).

The variable *GenDivi,t* quantifies gender diversity on the boards of the REITs, measured through several indicators: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). In addition to these primary variables, our model incorporates a range of control variables to account for other factors that might influence dividend policy. These include the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR).

3.2.1. Dependent variable (Dividend policy)

Hardin and Hill (2008) emphasized that the true impact of dividend distributions in REITs is only revealed when analyzing discretionary dividends, as the mandatory portion of dividends is a set requirement for maintaining REIT status. Discretionary dividends are calculated as the common dividends paid beyond the compulsory level of 90% of taxable income divided by total assets. According to Chou et al. (2013), the mandatory portion of dividends is 90% of taxable earnings, and the discretionary portion is the remaining amount after subtracting the mandatory portion from the total dividends. Boudry (2011) also acknowledged that REITs must pay 90% of their ordinary income to maintain REIT status, a benchmark for the mandatory portion of dividends. In this scenario, discretionary dividends are 10% of taxable income. Boudry (2011) used discretionary dividends to total assets, expressed as discretionary dividends per share multiplied by weighted basic shares and then divided by total assets. Ghosh and Sun (2013) adopted Hardin and Hill's (2008) definition of discretionary dividends, calculated as common dividends paid minus the mandatory 90% of before-tax income, divided by the current period's total assets. Therefore, we follow Hardin and Hill (2008), Boudry (2011), Chou et al. (2013), and Ghosh and Sun (2013) by using discretionary dividends as a proxy for the REIT dividend policy. Still, we use several

scales for discretionary dividends, mainly: (1) discretionary dividends to total assets (DISDTA), (2) discretionary dividends to total sales (DISDTS), (3) discretionary dividends to total equity (DISDTE), (4) discretionary dividends to operating cash flow (DISDOC). For robustness analysis, we adopt four other measures of total dividend (both discretionary and mandatory dividend): (1) dividend payout ratio (DPR), (2) total dividend to total assets (TDTA), (3) total dividend to total sales, (4) total dividend to total operating cash flow.

3.2.2. Independent variable (Female)

In measuring gender diversity in corporate boards, various methods have been used by different studies. The most widely used measure is the percentage of female directors on the board. Others consider the presence of female directors by using a binary variable or counting the number of female directors. However, these measures do not fully capture the extent of diversity when the sample has at least one female director per company or when some single-member boards are all female. To address this limitation, the diversity index captures the intensity of board diversity. This study examines two commonly used indices, the Blau and Shannon indexes (Ain et al. 2021; Shehadeh et al. 2021; Carmo et al. 2022). The Blau index (BI) ranges between 0 and 0.5, 0.5 representing the maximum diversity when the proportion of males and females is equal. The Shannon index (SI), which is logarithmic and more sensitive to changes in gender diversity, ranges between 0 and 0.69, given that only males and females are considered classifications. This paper also considers three additional measures for robustness: Executive Members' Gender Diversity (EFGD), Number of Females (NoF), and Female Dummy (FD).

3.2.3. Control variables

Several firm characteristics and corporate governance factors are included in the dividend model as control variables supported by previous evidence that can potentially affect dividend payout. The corporate governance control variables are (1) board size (BS), measured by the number of directors on the board; (2) board independence (BIND), measured by the percentage of independent directors to board size; (3) CEO Duality measured by a dummy variable that equals 1 if the CEO and chairman are the same people and 0 otherwise. The characteristics control variables are (4) firm size measured by the logarithm of total assets; (5) profitability measured by ROA; (6) leverage measured by the ratio of total debt to total assets; (7) growth opportunities measured by the market-to-book ratio. Lastly, we use year and industry dummy variables to control the potential dividend payment policy determinants. The descriptions of the variables are shown in Table 1.

[Insert table 1 here]

4. Empirical results

4.1. Descriptive Statistics

Table 2 presents the results of the descriptive analysis of the study variables. Four variables measure the discretionary dividend (excess dividend), the total paid dividend minus the mandatory dividend [90% of taxable income. The discretionary dividend is scaled by total assets (DISDTA), total sales (DISDTS), total equity (DISDTE), and total operating cash flow (DISDOC). The average (median) of DISDTA is 3.4% (1.0%), DISDTS is 21.3% (10.8%), DISDTE is 10.2% (2.7%), and DISDOC is 20.4% (9.9%). In addition, the total dividend (both discretionary and mandatory dividend) is scaled by total assets (TDTA), total sales (TDTS), and total operating cash flow (TDOC). The average (median) of TDTA is 2.9% (2.5%), for TDTS is 26.6% (21.9%), and for TDOC is 24.6% (22.2%). The small average and median for both discretionary dividend and total dividend to total assets are due to the large size of REITs in our sample, where the average REIT total assets in our sample are $8.884 billion. However, our results are almost comparable with previous studies. For example, Chou et al. (2013) found that the average discretionary dividend relative to total assets is 1.4%. Furthermore, Hardin and Hill's (2008) found that the average discretionary dividend relative to total assets is 0.60% and 0.62% median. In contrast, Ghosh and Sun (2013) found that the average discretionary dividend is 0.5%. Hardin and Hill (2008) report that the average discretionary dividend is 0.6%. Compared with the discretionary dividend to total assets or equity, the results in Table 2 show that DISDTS and DISDOC are much higher.

[Insert table 2 here]

The average dividend payout ratio is much higher than the discretionary dividend, where the average (median) for the DPR is 163.6% (109.8%). The high payout ratio is attributable to the mandatory payout policy for REITs to maintain tax-exempt status since they are lawfully required to distribute at least 90% of their taxable income to shareholders through dividends. REITs are known for paying high dividends. The high dividends REITs pay can attract investors seeking a steady income stream. In addition, REITs may offer the potential for capital appreciation as the value of the real estate assets the REIT owns increases. Although the payout ratio is high, REITs still have some discretion over dividend payout as a function of funds from total sales or operations. Moreover, the high DPR is consistent with the evidence in Ghosh and Sirmans (2006) that the average payout ratio in REITs is higher than 150 percent of earnings. Ghosh et al. (2007) argue that REITs' average payout ratio is 148%.

Table 2 also presents the results of the descriptive analysis for the gender diversity measurements. As mentioned earlier, we employ six proxies to measure the impact of the present female director in the boardroom on REITs' Dividend Policy. The average (median) board gender diversity (GD) is 18.2% (16.7%), indicating that, on average,

there are 18.2% female directors on the REITs board and 81.8% male directors. The average Shannon and Blau indexes are 27% and 41.7% respectively. The average (median) executive members' gender diversity is 13% (12.5%), lower than board gender diversity. No variable shows the average number of female directors on REIT boards, which is 1.537, indicating that, on average, there is one female director in the boardroom. This is also supported by the female dummy variable (FD) with an average of 84.1%, indicating that 84.1% of our year-firm observations have at least one female director and only 15.9% with fully board male. We will discuss this in more detail in Table 3.

[Insert table 3 here]

Table 3 shows the time-series distributions of female directors included in the analysis. As observed, the proportion of female directors on REIT boards increased slowly but gradually. From 2011 (11.5%) until around 2016 (13.8%) and starting in 2017, the growth picked up a higher rate until the percentage of female directors reached 26.5% in 2021. In comparison, around 30% of board members for the S&P 500 components in 2021 were female.

[Insert table 4 here]

Table 4 presents a comparison of the presence of female directors on REIT boards for the year 2011 versus the years 2017 and 2021. Certainly, back in 2011, the situation was grim. 73% of REITs in the sample had at least one female sitting in the boardrooms, and 27% had no female sitting in the boardrooms. In 2021, only 2% of REITs in the sample had no females sitting in the boardrooms, compared with 98% who had at least one female director present. For % REITs with at least two female directors, 24% from our sample in 2011 had at least two female directors increased to 32% in 2021. For % REITs with at least three female directors, 6% from our sample in 2011 had at least three female directors increased to 29% in 2021. For % REITs with at least four female directors, none of the REITs in the sample in 2011 had four female directors, but it increased to 9% in 2021.

4.2. Testing the relationship between dividend policy and gender diversity

We test the relationship between dividend policy and gender diversity using two methods. First, the correlation analysis (table 5) aims to analyze the relationship between the dividend policy measurements (DISDTA, DISDTS, DISDTE, DISDOC, TDTA, TDTS, TDOC, DPR) and the continuous variables of gender diversity measurements (GD, BI, SI, EFGD, NoF). The second method is the independent sample t-test that aims to test the relation between dividend policy measurements and the dummy variables of gender diversity measurement. Table 5 presents the results of the first method (correlation analysis). The findings show that there is a significant positive

correlation between dividend policy measurements (DISDTA, DISDTS, DISDTE, DISDOC, TDTA, TDTS, TDOC, DPR) and gender diversity measurements (GD, BI, SI, EFGD, NoF).

In most cases, the results are statically significant at 1% level. In Table 5, it is important to note that the correlation coefficients between gender diversity measurement variables are significantly high. For instance, the correlation between the percentage of female directors to board size (GD) and the total number of female directors on the board (NoF) is .904. This high correlation is attributable to the fact that GD and NoF are proxies to measure the same underlying construct - board gender diversity. It is essential to clarify that these high correlations do not indicate multicollinearity in the sense of regression analysis but rather reflect the conceptual similarity between these measures.

[Insert table 5 here]

Table 6 presents the results of the independent sample t-test that aims to test if there are any significant differences in the average dividend policy measurements between firms with and without female directors in the boardrooms. In other words, the independent sample t-test aims to test if the presence of a female in the boardroom will increase or reduce the dividend payments. The results in Table 6 support that the average of discretionary dividends for firms with female directors in the boardrooms is higher compared with the average of discretionary dividends for firms without female directors in the boardrooms; for example, the average DISDTA for firms with female directors is 3.8% compared with 1.5% for firms without female directors. The mean difference (2.3%) is significant at a level of 1%. These findings are consistent with all discretionary dividends' measurements (i.e., DISDTS, DISDTE, DISDOC) and the dividend payout ratio. On the other hand, the mean differences in the total divided measurement scales are insignificant at 1%.

[Insert table 6 here]

4.3. Testing hypothesis

This section tests our hypothesis that board gender diversity significantly promotes higher corporate dividend payments. In our model, the dependent variables are the dividend policy measurements, where we focused mainly on this section on discretionary dividends' measures (i.e., DISDTA, DISDTS, DISDTE, DISDOC). The main independent variables in our models are the gender diversity measurements (GD, BI, SI, EFGD, NoF, FD). With unbalanced data for 209 REITs and 1398-year firms' observations, several analysis models such as OLS, fixed effect, and random effect models were used. After that, the Hausman test was used to select the most suitable model for the research data.

Subsequently, the Hausman test is applied to determine the most appropriate model for the research data. Once the model is selected through the Hausman test, the autocorrelation and heteroscedasticity of the data will be tested. If either of these tests is violated, the authors will adjust the model using Generalized Least Squares (GLS). The xtgls command performs feasible generalized least squares fitting of linear models in panel data. This method estimates AR (1) autocorrelation within panels and cross-sectional correlation and heteroscedasticity between panels.

In this section, we primarily report the results of the Fixed Effects (FE) and Generalized Least Squares (GLS) models, chosen for their robustness in handling panel data-specificities such as autocorrelation and heteroscedasticity. While we also explored other models, including OLS and Random Effects, and found consistent results with our main variables, we have chosen not to report these additional results in detail due to space constraints. This focus allows us to present our findings more concisely while maintaining the integrity and robustness of our analysis. The next tables present the results of fixed effects models (tables 7-8) and GLS (tables 9-10).

[Insert table 7 here]

In Table 7 models 1-6, we used the discretionary dividend to total assets (DISDTA) as the dependent variable. The results of regression analysis using fixed effects models showed that all gender diversity measurements (GD, BI, SI, EFGD, NoF) have a significant positive impact on the REITs' discretionary dividend to total assets, except for the female dummy variable (FD). Models 7-12 used the discretionary dividend to total sales (DISDTS) as the dependent variable. The results of regression analysis using fixed effects models also showed that all gender diversity measurements have a significant positive impact on the REITs' discretionary dividend to total sales.

[insert table 8 here]

Table 8 uses discretionary dividends to total equity (DISDTE) and discretionary dividends to total operating cash flow (DISDOC) as dependent variables, models 13-18 and 19-24, respectively. The regression analysis results using fixed effects models also confirmed that board gender diversity significantly promotes higher discretionary dividend payments.

[Insert table 9 here]

In Tables 9 and 10, we employ generalized least squares (GLS) models based on the xtgls command in STATA to analyze the data. Using the xtgls command allows for a more flexible covariance structure in the disturbance and random effects, making it a commonly used method for panel data analysis. The xtgls command utilizes feasible generalized least squares regression methods to increase the robustness of the standard errors, resulting in a more efficient estimation of the regression coefficients. To account for the time-series structure of the data, the analysis allows for within-panel

autocorrelation using the AR(1) specification. The GLS model minimizes a weighted sum of squared residuals. In cases of heteroscedasticity, observations with expected larger error terms are weighted less than observations with smaller error terms.

The variables used in Tables 9 and 10 are the same as in Tables 7 and 8. Still, the analysis provides more robust results using the xtgls method. Separate regressions were conducted for each dependent variable.

The results of the GLS are consistent with the findings of fixed effects models. Moreover, using fixed effects models, the female dummy variable (FD) was insignificant in Tables 7 and 8. However, in Tables 9 and 10, these variable changes are positive and significant. Therefore, the results of the GLS also confirm our findings that board gender diversity significantly promotes higher discretionary dividend payments in REITs.

[Insert table 10 here]

Our argument that the presence of female directors can lead to an increase in the demand for corporate governance mechanisms, such as dividend payment, has been supported by our findings. As the proportion of female directors increases, dividend payments will likely increase. This is because female directors are expected to demand better control mechanisms for exercising greater supervision and monitoring of the management team and other board members, resulting in better decisions that benefit shareholders.

The role of corporate governance is crucial in addressing the agency problems that arise from the conflict of interests between shareholders and managers. As per La Porta et al. (2000), shareholders prefer to receive cash flows through dividends as they believe that corporate insiders may use the extra cash for their interests or invest it ineffectively. Dividend policies can be seen as an effective way to resolve these agency problems. Research also shows that a diverse and heterogeneous board can lead to more efficient and effective governance mechanisms (Adams & Ferreira, 2009). Studies indicate that companies with a higher proportion of female directors tend to be more likely to pay dividends. The presence of gender diversity on the board can help protect the interests of shareholders and enhance governance mechanisms, leading to an increased likelihood of paying dividends.

Furthermore, the inclusion of female directors is often viewed as a measure to enhance shareholder protection. This leads to increased pressure on managers for dividend payments due to the increased monitoring by these directors. There is ample evidence in prior research that supports the monitoring role of female directors (Pucheta-Martinez and Bel-Oms, 2016). Diversity on the board, particularly including women, enhances individual and team performance. Adams & Ferreira (2009) note that women tend to be more engaged in control activities, pay closer attention to contentious issues,

and are more likely to comply with requirements than their male counterparts. Thus, female directors are more likely to adhere strictly to governance rules, focus on corporate affairs, and commit to addressing agency problems by improving governance mechanisms and advocating for shareholder rights. This is associated with an inverse relationship: a higher proportion of female directors on the board correlates with a lower risk of legal disputes and, consequently, creates favorable conditions for dividend payouts. This aligns with our findings, which indicate an increased likelihood of dividend approval by female directors in REITs.

Additionally, female directors on a board lead to more effective problem-solving at the team level. Female directors bring a leadership style that emphasizes collaboration and trust, which helps facilitate the exchange of valuable information between board members and the company. Research by Gul et al. (2011) found that gender diversity on boards provides a variety of perspectives and enhances the board's decision-making process. This diverse range of views, incorporating different perspectives, leads to better-informed decisions, which may include actions that benefit shareholder interests and address agency problems. These findings support the conclusion that greater board diversity positively correlates with increased dividend payments.

4.4. Robustness check

[Insert table 11 here]

[Insert table 12 here]

In the robustness check (tables 11-14), we use the same independent and control variables used in the previous section. However, here we change the dependent variables from the discretionary dividends' measurements (i.e., DISDTA, DISDTS, DISDTE, DISDOC) to the total dividend (both discretionary and mandatory dividend) scaled by total assets (TDTA), total sales (TDTS), total operating cash flow (TDOC) as well as the dividend payout ratio. The main findings of fixed effects show that the impact of gender diversity on total dividends, in most cases, is insignificant. For example, the coefficients of gender diversity measurements (GD, BI, SI, EFGD, NoF, FD) for TDTA, TDTS, TDOC, and dividend payout ratio are insignificant at a 1% level (tables 11-12). However, the results of the GLS models in Table 13-14 show some level of significance, especially for TDTA and dividend payout ratio, where the coefficients of gender diversity measurements are positive and statically significant, confirming our findings in the previous section that female directors will reduce agency problems by enhancing dividend policy. The policy of paying dividends is crucial to mitigating agency issues within a corporation. The distribution of dividends reduces the available corporate free cash flow, necessitating managers to seek additional funding from external sources. This increased dependence on outside investors results in enhanced

regulation and closer scrutiny of management's actions, thereby resolving agency problems.

[Insert table 13 here]

[Insert table 14 here]

Our findings are consistent with the last studies that analyzed the impact of gender diversity on dividend policy for the non-REITs industry. Previous research has shown that having gender diversity on a board improves corporate governance (Adams and Ferreira, 2009; Gul et al., 2011). Adams and Kirchmaier (2016) have demonstrated the beneficial impact of having female directors in corporations listed in the science and technology sector. Gender diversity on the board enhances corporate governance. It protects the interests of shareholders, increasing the likelihood of dividend payments and higher dividend ratios.

The inclusion of female directors on a corporate board may increase its efficiency, as they are very different in their methods and characteristics. Studies reveal that female directors meet more frequently than their male counterparts and are more active (Gul et al., 2011). Additionally, they are more ethically conscious and are also more risk-averse. Board gender diversity brings opinions diversity, which helps avoid "group thinks" and better-informed decision-making (Gul et al., 2011). The integration of different opinions due to increased communication and discourse at the board level leads to better decisions for the betterment of all shareholders and the agency problem issues or the promotion of the interests of shareholders. Therefore, a greater proportion of female directors on the corporate boards will be associated with the high dividend payout.

5. Summary and Conclusions

Our research presents a fresh perspective and supports the hypothesis that female directors on the board of US REITs positively impact the likelihood of dividend payouts. This conclusion is backed by controlling for other corporate governance and firm-related variables, such as company size, board size, leverage, and cash flow. The findings align with the results of Adams and Ferreira (2009), who argued that female representation on boards can improve corporate governance by enhancing board monitoring capabilities. The study supports the idea that a diverse executive team, including gender diversity, can result in higher dividend payouts for firms.

Three key considerations drive this paper. Firstly, the issue of increasing the number of female directors in the current era is of great significance globally. Secondly, many nations are adopting corporate governance reforms to enhance board gender diversity. Thirdly, previous studies on the impact of board gender diversity on governance have mostly focused on non-REIT companies, neglecting the REIT structure with different regulatory frameworks. Typically, regulation reduces managerial discretion in

regulated industries and addresses agency problems. However, REIT regulations aim not to ensure fiduciary responsibility or protect stakeholder interests but to enhance real estate assets' liquidity, diversification, and transparency to attract institutional investors. Therefore, this paper considers the unique regulations of the REIT structure and explores the governance role of female directors and its effect on dividend payouts.

We used an unbalanced panel of 1,398 firm-year observations from 209 REIT companies in the US from 2011 to 2021. Following Hardin and Hill (2008), Boudry (2011), Chou et al. (2013), and Ghosh and Sun (2013), we use discretionary dividends as a proxy for REIT dividend policy to measure the impact of present female directors in the boardroom on REITs Dividend Policy, with several scales for discretionary dividends, mainly: (1) discretionary dividends to total assets (DISDTA), (2) discretionary dividends to total sales (DISDTS), (3) discretionary dividends to total equity (DISDTE), (4) discretionary dividends to operating cash flow (DISDOC). For robustness analysis, we adopt four other measures of dividend policy: (1) dividend payout ratio (DPR), (2) total dividend to total assets (TDTA), (3) total dividend to total sales, and (4) total dividend to total operating cash flow. To measure the impact of present female directors in the boardroom, we look at six gender diversity indices: (1) the percentage of female directors on the board, (2) the Blau index, (3) the Shannon index, (4) executive members gender diversity, (5) the number of female directors in the REITs boardrooms, (6) dummy variable to reflect the REITs with at least one female director in the boardrooms.

We employed Fixed Effect models and Generalized Least Squares (GLS) to analyze our data in this study. The use of GLS was necessary due to the presence of AR(1) autocorrelation within panels and cross-sectional correlation and heteroskedasticity across panels. Additionally, this method provides the flexibility to specify different modes of autocorrelation. Our findings reveal that female directors on the board have a significant positive impact on discretionary dividend payments in US REITs.

5.1. Implications

The findings of this research carry significant implications for policy, practice, and theory. Our results reinforce the argument that the inclusion of women directors on US REIT boards enhances board performance. From a policy perspective, our findings highlight two major implications. Firstly, they underscore the need for greater gender diversity on boards as Adams and Kirchmaier (2016) reported that several European countries have implemented laws mandating gender quotas in listed companies. The contribution of female directors to corporate governance, as evidenced by our research, should be a focal point for policymakers. Secondly, our results have career development implications for women. Gender diversity on boards can offer a broader range of approaches to resolving agency issues and enhancing corporate governance. Policymakers can further support women's career advancement by providing

professional training opportunities and fostering a competitive environment conducive to women's active participation in business.

The practical implications of our research highlight the significance of gender diversity in corporate governance (CG). Our findings indicate that female representation on the board can enhance firm-level governance. Our study sheds light on the diversity practices in the boardrooms of US companies and guides US regulatory bodies. With growing concern about the role of female directors in improving CG, a better understanding of this issue can aid academics, policymakers, and regulators in making informed decisions about the value of having female directors on boards. Our study supports the belief that gender diversity is crucial for CG and provides insights into its practical implications.

5.2. Limitation

While our study provides valuable insights, there are some limitations that future research can address. Firstly, due to data constraints, we could not include other important characteristics of female directors, such as their experience, education, and expertise. Secondly, we only considered a limited number of institutional factors in our examination of the role of female directors in governance. Future studies could expand on this by including other within-country institutional factors such as concentrated ownership, family-owned firms, and developed region firms. They could further differentiate the results between publicly and privately owned listed companies. Thirdly, we could not include company buybacks (share repurchases) in our analysis due to the unavailability of data.

Further research can include this variable. Finally, future studies can also investigate the impact of mergers and acquisitions (M&A), which deals with the relationship between gender diversity and dividend payouts, providing a more comprehensive understanding. These limitations offer fertile ground for future research to explore and build upon the findings of this study further.

While our study contributes to understanding board gender diversity and its impact on dividend policies in U.S. REITs, we acknowledge its limitation in not incorporating factors with a broader economic scope, such as monetary policies and changes in U.S. tax policy. These exogenous factors, particularly interest rate policies and tax laws, significantly influence the formulation of financial strategies and dividend distributions in the corporate realm, including REITs. The exclusion of these factors in our analysis represents a gap, pointing towards an avenue for further research. Future studies could beneficially explore the interplay between board composition, monetary policy, and tax rates to ascertain how these elements collectively influence dividend policy decisions within REITs. Such an expanded scope of research would not only enrich academic

discourse but also aid in enhancing corporate governance and the development of progressive policies in a rapidly evolving economic landscape.

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Female Director in the Boardroom: Does it affect Discretionary Dividend Policy in US REITs?

Tables

Table 1: Variable source and definitions.

Var. Names	Definition	Source
Panel A	**Dividend policy (Dependent variables)**	
DISDTA	Discretionary dividends to total assets	Refinitiv Datastream
DISDTS	Discretionary dividends to total sales	Refinitiv Datastream
DISDTE	Discretionary dividends to total equity	Refinitiv Datastream
DISDOC	Discretionary dividends to operating cash flow	Refinitiv Datastream
TDTA	Total dividend to total assets	Refinitiv Datastream
TDTS	Total dividend to total sales	Refinitiv Datastream
TDOC	Total dividend to operating cash flow	Refinitiv Datastream
DPR	Dividend payout ratio	Refinitiv Datastream
Panel B	**Gender Diversity (Independent variables)**	
GD	Gender Diversity is the percentage of female directors to board size	BoardEx
BI	Blau index is a measure of gender diversity	BoardEx
SI	Shannon index is a measure of gender diversity	BoardEx
EFGD	percentage of executive female directors to total number of executives	BoardEx
NoF	Total number of female directors in the board	BoardEx
FD	dummy =1 at least on female directors in the board and zero otherwise	BoardEx
Panel C	**Control variables**	
BS	Board size is the number of directors in the Board	BoardEx
IDR	Independence is the percentage of independent directors to board size	BoardEx
CEO	Dummy=1 the CEO and chairman are the same person and 0 otherwise	BoardEx
FS	Firm Size measured in terms of the natural log of the total assets	Refinitiv Datastream
ROA	ROA=net profit to total assets	Refinitiv Datastream
LEV	Leverage=total debt to total assets	Refinitiv Datastream
MBR	Growth measured by market to book ratio	Refinitiv Datastream

Table 2: Summary statistics

Dividend payout policy: discretionary dividends to total assets (DISDTA), discretionary dividends to total sales (DISDTS), discretionary dividends to total equity (DISDTE), discretionary dividends to operating cash flow (DISDOC), dividend payout ratio (DPR), total dividend to total assets (TDTA), total dividend to total sales (TDTS), and total dividend to total operating cash flow (TDOC). **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR).

Variables	Mean	Median	Std. Err. of Mean	Std. Dev.	P25	P50	P75
DISDTA	3.4%	1.0%	0.2%	8.5%	0.0%	1.0%	2.8%
DISDTS	21.3%	10.8%	0.8%	29.4%	0.1%	10.8%	24.8%
DISDTE	10.2%	2.7%	0.6%	22.8%	0.0%	2.7%	7.6%
DISDOC	20.4%	9.9%	0.7%	28.1%	0.0%	9.9%	24.8%
TDTA	2.9%	2.5%	0.2%	9.1%	0.8%	2.5%	4.1%
TDTS	26.6%	21.9%	1.2%	44.7%	7.0%	21.9%	35.9%
TDOC	24.6%	22.2%	0.6%	22.0%	4.7%	22.2%	38.6%
DPR	163.6%	109.8%	3.5%	132.6%	93.7%	109.8%	196.0%
GD	18.1%	16.7%	0.3%	11.7%	11.1%	16.7%	25.0%
BI	27.0%	27.8%	0.4%	14.7%	19.8%	27.8%	37.5%
SI	41.7%	45.1%	0.5%	20.9%	34.9%	45.1%	56.2%
EFGD	11.7%	11.1%	0.3%	13.0%	0.0%	11.1%	20.0%
NoF	1.537	1.000	0.028	1.075	1.000	1.000	2.000
FD	0.841	1.000	0.010	0.366	1.000	1.000	1.000
BS	8.247	8.000	0.056	2.115	7.000	8.000	10.000
IDR	76.6%	77.8%	0.3%	11.9%	70.0%	77.8%	86.7%
CEO	0.528	1.000	0.013	0.499	0.000	1.000	1.000
FS	22.241	22.299	0.032	1.213	21.541	22.299	22.985
ROA	2.2%	2.2%	0.2%	8.3%	0.6%	2.2%	3.9%
LEV	60.4%	59.2%	0.5%	19.4%	48.6%	59.2%	73.7%
MBR	2.420	1.657	0.098	3.676	1.066	1.657	2.523

Table 3: Time distribution of gender diversity measurements

Year	GD	BI	SI	EFGD	NoF	FD
2011	11.5%	18.7%	30.5%	9.7%	1.078	.725
2012	12.1%	19.4%	31.3%	9.8%	1.098	.725
2013	12.9%	20.4%	32.7%	11.1%	1.173	.750
2014	13.3%	20.7%	33.1%	11.3%	1.236	.745
2015	13.7%	21.5%	34.5%	11.3%	1.136	.780
2016	13.8%	21.4%	34.1%	9.8%	1.147	.744
2017	14.8%	22.9%	36.1%	10.4%	1.246	.765
2018	18.5%	27.9%	43.2%	11.8%	1.528	.870
2019	20.5%	30.1%	46.2%	12.4%	1.688	.900
2020	22.9%	33.1%	49.9%	13.1%	1.946	.924
2021	26.5%	36.6%	54.6%	13.9%	2.287	.977

Table 4: REIT female directors in 2011 versus 2017 and 2021

Year	2011	2017	2021
GD	**11.5%**	**14.8%**	**26.5%**
NoF	**1.078**	**1.246**	**2.287**
% REITS with at least one female director	**73%**	**77%**	**98%**
% REITs with at least two female directors	**24%**	**26%**	**32%**
% REITs with at least three female directors	**6%**	**8%**	**29%**
% REITs with at least four female directors	**0%**	**2%**	**9%**

Table 5: Correlations Analysis

Dividend payout policy: discretionary dividends to total assets (DISDTA), discretionary dividends to total sales (DISDTS), discretionary dividends to total equity (DISDTE), discretionary dividends to operating cash flow (DISDOC), dividend payout ratio (DPR), total dividend to total assets (TDTA), total dividend to total sales (TDTS), and total dividend to total operating cash flow (TDOC). **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD).

	DISDTA	DISDTS	DISDTE	DISDOC	TDTA	TDTS	TDOC	DPR	GD	BI	SI	EFGD	NoF
DISDTA	1												
DISDTS	.694**	1											
DISDTE	.854**	.745**	1										
DISDOC	.683**	.816**	.745**	1									
TDTA	.106**	.029	.059*	-.020	1								
TDTS	.004	.123**	-.040	-.079**	.599**	1							
TDOC	-.177**	-.162**	-.220**	.053*	.193**	.259**	1						
DPR	.134**	.295**	.161**	.318**	.005	.034	.086**	1					
GD	.193**	.178**	.186**	.181**	.001	.021	.042	.145**	1				
BI	.200**	.200**	.201**	.205**	.004	.017	.051	.158**	.974**	1			
SI	.187**	.197**	.190**	.199**	.006	.018	.055*	.159**	.941**	.991**	1		
EFGD	.274**	.166**	.243**	.201**	.076**	.048	.044	.092**	.208**	.209**	.205**	1	
NoF	.118**	.120**	.129**	.137**	-.005	.016	.064*	.144**	.904**	.889**	.860**	.146**	1

**. significant at 1%, *. significant at 5%

Table 6: Independent sample t test

Dividend payout policy: discretionary dividends to total assets (DISDTA), discretionary dividends to total sales (DISDTS), discretionary dividends to total equity (DISDTE), discretionary dividends to operating cash flow (DISDOC), dividend payout ratio (DPR), total dividend to total assets (TDTA), total dividend to total sales (TDTS), and total dividend to total operating cash flow (TDOC). **Board gender diversity**: a dummy variable indicating the presence of at least one female director on the board (FD). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	FD	N	Mean	Mean Diff.	Std. Err. Diff.	SD	SEM	t	Sig.
DISDTA	Yes	1211	3.8%	0.023	0.003	9.1%	0.3%	6.567	0.000***

	No	229	1.5%			3.5%	0.2%		
DISDTS	Yes	1211	23.0%	0.110	0.014	30.9%	0.9%	7.613	0.000***
	No	229	12.1%			17.2%	1.1%		
DISDTE	Yes	1211	11.2%	0.066	0.010	24.3%	0.7%	6.602	0.000***
	No	229	4.6%			10.9%	0.7%		
DISDOC	Yes	1211	21.9%	0.099	0.015	29.2%	0.8%	6.430	0.000***
	No	229	12.1%			19.4%	1.3%		
TDTA	Yes	1211	3.0%	0.002	0.005	9.6%	0.3%	0.480	0.631
	No	229	2.7%			6.4%	0.4%		
TDTS	Yes	1211	27.0%	0.023	0.026	46.4%	1.3%	0.894	0.372
	No	229	24.6%			34.2%	2.3%		
TDOC	Yes	1211	25.1%	0.035	0.016	21.7%	0.6%	2.222	0.026**
	No	229	21.6%			23.4%	1.5%		
DPR	Yes	1211	171.3%	0.479	0.087	133.9%	3.8%	5.520	0.000***
	No	229	123.3%			117.8%	7.8%		

Table 7: testing hypothesis using fixed effects models for DISDTA and DISDTS

Dividend payout policy (dependent variables): discretionary dividends to total assets (DISDTA), discretionary dividends to total sales (DISDTS). **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	DISDTA						DISDTS					
	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE
GD	0.167*** (5.964)						0.409*** (4.005)					
BI		0.133*** (6.034)						0.413*** (5.183)				
SI			0.078*** (5.216)						0.265*** (4.915)			
FD				0.012 (1.685)						0.059* (2.339)		
NoF					0.018*** (5.202)						0.043*** (3.464)	
EFGD						0.208*** (10.949)						0.567*** (8.083)
FS	-0.002 (-0.350)	-0.003 (-0.440)	-0.003 (-0.459)	-0.003 (-0.408)	-0.002 (-0.386)	-0.006 (-0.930)	-0.031 (-1.375)	-0.032 (-1.455)	-0.033 (-1.479)	-0.032 (-1.443)	-0.031 (-1.398)	-0.040 (-1.820)
ROA	-0.080** (-2.702)	-0.078** (-2.623)	-0.079** (-2.648)	-0.085** (-2.816)	-0.084** (-2.815)	-0.054 (-1.861)	-0.738*** (-6.832)	-0.726*** (-6.752)	-0.727*** (-6.753)	-0.744*** (-6.858)	-0.747*** (-6.906)	-0.664*** (-6.242)
LEV	0.022 (0.760)	0.023 (0.808)	0.022 (0.771)	0.018 (0.637)	0.017 (0.587)	0.005 (0.199)	0.095 (0.919)	0.102 (0.990)	0.100 (0.971)	0.088 (0.854)	0.083 (0.803)	0.052 (0.515)
MBR	-0.001 (-0.947)	-0.001 (-0.952)	-0.001 (-0.956)	-0.001 (-0.933)	-0.001 (-1.022)	0.000 (0.081)	-0.013*** (-4.024)	-0.013*** (-4.050)	-0.013*** (-4.054)	-0.013*** (-4.018)	-0.013*** (-4.069)	-0.011*** (-3.310)
BS	-0.006 (-0.417)	-0.012 (-0.880)	-0.013 (-0.966)	-0.009 (-0.657)	-0.033* (-2.233)	0.002 (0.174)	0.019 (0.383)	-0.001 (-0.027)	-0.008 (-0.156)	-0.001 (-0.020)	-0.046 (-0.872)	0.040 (0.833)
IDR	0.002 (0.082)	0.006 (0.209)	0.013 (0.422)	0.027 (0.870)	0.006 (0.181)	0.005 (0.169)	-0.012 (-0.111)	-0.017 (-0.151)	-0.001 (-0.006)	0.046 (0.416)	-0.004 (-0.039)	-0.012 (-0.115)
CEO	0.006 (0.756)	0.004 (0.505)	0.003 (0.377)	0.003 (0.348)	0.008 (0.937)	0.002 (0.290)	0.022 (0.731)	0.017 (0.563)	0.013 (0.443)	0.010 (0.346)	0.025 (0.849)	0.012 (0.402)
_cons	0.063 (0.485)	0.079 (0.612)	0.079 (0.608)	0.062 (0.471)	0.125 (0.954)	0.113 (0.902)	0.745 (1.579)	0.804 (1.710)	0.811 (1.722)	0.767 (1.617)	0.895 (1.882)	0.885 (1.912)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	No	No	No	No	No	No	No	No	No	No	No	No
# obs.	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398
# groups	209	209	209	209	209	209	209	209	209	209	209	209
F-test	5.821***	5.916***	4.879***	2.134**	4.863***	15.319***	9.76***	11.035***	10.717***	8.516***	9.284***	15.566***
R^2 within	0.043	0.043	0.036	0.016	0.036	0.105	0.069	0.078	0.076	0.061	0.066	0.106
R^2 between	0.028	0.046	0.047	0.015	0.023	0.049	0.066	0.080	0.078	0.048	0.054	0.032
R^2 overall	0.041	0.051	0.048	0.017	0.033	0.078	0.054	0.065	0.063	0.038	0.046	0.045

Table 8: testing hypothesis using fixed effects models for DISDTE and DISDOC

Dividend payout policy (dependent variables): discretionary dividends to total equity (DISDTE), and discretionary dividends to operating cash flow (DISDOC). **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	DISDTE						DISDOC					
	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE
GD	0.429***						0.394***					
	(5.690)						(3.913)					
BI		0.370***						0.395***				
		(6.290)						(5.042)				
SI			0.220***						0.239***			
			(5.518)						(4.500)			
FD				0.033						0.031		
				(1.772)						(1.242)		
NoF					0.043***						0.040**	
					(4.750)						(3.288)	
EFGD						0.514***						0.521***
						(10.019)						(7.523)
FS	-0.025	-0.026	-0.027	-0.026	-0.025	-0.033*	0.000	-0.001	-0.002	-0.001	-0.000	-0.008
	(-1.504)	(-1.600)	(-1.617)	(-1.550)	(-1.533)	(-2.064)	(0.010)	(-0.061)	(-0.081)	(-0.035)	(-0.014)	(-0.379)
ROA	-0.312***	-0.304***	-0.307***	-0.323***	-0.322***	-0.247**	-0.771***	-0.760***	-0.762***	-0.781***	-0.780***	-0.704***
	(-3.923)	(-3.833)	(-3.851)	(-4.013)	(-4.029)	(-3.179)	(-7.257)	(-7.180)	(-7.187)	(-7.309)	(-7.329)	(-6.704)
LEV	0.162*	0.166*	0.164*	0.154*	0.149	0.122	0.252*	0.259*	0.256*	0.245*	0.241*	0.213*
	(2.129)	(2.197)	(2.156)	(1.998)	(1.960)	(1.646)	(2.488)	(2.562)	(2.532)	(2.401)	(2.373)	(2.133)
MBR	-0.004	-0.004	-0.004	-0.004	-0.005	-0.002	-0.012***	-0.012***	-0.012***	-0.012***	-0.012***	-0.010**
	(-1.832)	(-1.844)	(-1.845)	(-1.810)	(-1.896)	(-0.908)	(-3.834)	(-3.857)	(-3.856)	(-3.812)	(-3.875)	(-3.157)
BS	0.047	0.029	0.025	0.036	-0.020	0.066	0.019	-0.000	-0.005	0.010	-0.042	0.039
	(1.279)	(0.788)	(0.677)	(0.970)	(-0.498)	(1.869)	(0.392)	(-0.008)	(-0.101)	(0.192)	(-0.802)	(0.811)
IDR	0.011	0.016	0.034	0.073	0.021	0.020	-0.131	-0.135	-0.117	-0.074	-0.122	-0.128
	(0.137)	(0.201)	(0.416)	(0.889)	(0.260)	(0.247)	(-1.197)	(-1.241)	(-1.075)	(-0.680)	(-1.112)	(-1.203)
CEO	-0.007	-0.012	-0.015	-0.016	-0.004	-0.017	0.015	0.010	0.007	0.007	0.018	0.006
	(-0.330)	(-0.573)	(-0.704)	(-0.718)	(-0.168)	(-0.798)	(0.514)	(0.350)	(0.240)	(0.236)	(0.623)	(0.196)
_cons	0.400	0.449	0.449	0.400	0.551	0.523	0.042	0.098	0.100	0.043	0.181	0.170
	(1.151)	(1.293)	(1.289)	(1.136)	(1.568)	(1.545)	(0.091)	(0.212)	(0.216)	(0.092)	(0.388)	(0.372)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	No	No	No	No	No	No	No	No	No	No	No	No
# obs.	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398
# groups	209	209	209	209	209	209	209	209	209	209	209	209
F-test	8.751***	9.58***	8.528***	5.378***	7.618***	16.595***	11.71***	12.918***	12.3***	10.065***	11.172***	16.644***
R^2 within	0.063	0.068	0.061	0.039	0.055	0.112	0.082	0.090	0.086	0.071	0.079	0.113
R^2 between	0.038	0.050	0.048	0.024	0.037	0.048	0.009	0.016	0.015	0.005	0.006	0.018
R^2 overall	0.055	0.064	0.059	0.030	0.049	0.074	0.038	0.047	0.045	0.026	0.033	0.054

Table 9: testing hypothesis using GLS models for DISDTA and DISDTS

Dividend payout policy (dependent variables): discretionary dividends to total assets (DISDTA), discretionary dividends to total sales (DISDTS). **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
	DISDTA						DISDTS					
	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS
GD	0.058***						0.268***					
	(7.987)						(8.807)					
BI		0.051***						0.331***				
		(8.566)						(16.608)				
SI			0.033***						0.225***			
			(8.146)						(17.099)			
FD				0.018***						0.090***		
				(11.514)						(17.601)		
NoF					0.006***						0.021***	
					(7.322)						(5.856)	
EFGD						0.086***						0.297***
						(14.362)						(13.543)
FS	-0.005***	-0.004***	-0.004***	-0.004***	-0.005***	-0.003***	-0.006*	-0.010***	-0.010***	-0.005	-0.005	-0.001
	(-6.473)	(-4.988)	(-4.896)	(-6.188)	(-6.637)	(-4.184)	(-2.234)	(-3.573)	(-3.700)	(-1.772)	(-1.684)	(-0.256)
ROA	-0.115***	-0.119***	-0.119***	-0.093***	-0.113***	-0.045***	-0.775***	-0.748***	-0.743***	-0.708***	-0.738***	-0.662***
	(-10.208)	(-9.816)	(-10.004)	(-10.020)	(-11.008)	(-5.969)	(-23.381)	(-21.493)	(-21.504)	(-24.083)	(-23.909)	(-23.536)
LEV	0.018***	0.013**	0.011**	0.018***	0.019***	0.019***	0.100***	0.089***	0.086***	0.082***	0.103***	0.083***
	(3.970)	(2.848)	(2.627)	(7.036)	(4.314)	(6.149)	(5.888)	(5.540)	(5.579)	(5.219)	(5.671)	(4.185)
MBR	-0.000	-0.001	-0.000	-0.000	-0.001*	-0.001***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***	-0.008***
	(-1.395)	(-1.833)	(-1.658)	(-0.500)	(-2.276)	(-3.340)	(-9.298)	(-9.380)	(-9.488)	(-10.181)	(-9.450)	(-10.520)
BS	-0.012***	-0.014***	-0.015***	-0.019***	-0.022***	-0.016***	-0.010	-0.034**	-0.033*	-0.034**	-0.045**	0.000
	(-4.106)	(-4.217)	(-4.604)	(-7.002)	(-6.771)	(-7.863)	(-0.848)	(-2.635)	(-2.514)	(-2.614)	(-2.995)	(0.002)
IDR	0.014*	0.009	0.008	0.034***	0.017**	0.019***	0.090***	0.098***	0.102***	0.125***	0.099***	0.103***
	(2.440)	(1.419)	(1.313)	(7.019)	(2.990)	(4.369)	(3.333)	(3.595)	(3.842)	(4.853)	(3.633)	(4.093)
CEO	0.001	0.001	-0.000	-0.005***	0.001	-0.002	0.014	0.011	0.009	0.000	0.012	0.009
	(0.530)	(0.338)	(-0.190)	(-3.896)	(0.510)	(-1.368)	(1.793)	(1.363)	(1.089)	(0.036)	(1.545)	(1.223)
_cons	0.127***	0.124***	0.126***	0.095***	0.151***	0.073***	0.177**	0.286***	0.282***	0.147*	0.209**	0.018
	(7.656)	(6.368)	(6.697)	(7.282)	(8.528)	(5.347)	(2.935)	(4.733)	(4.653)	(2.350)	(3.062)	(0.294)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# obs.	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392
# groups	203	203	203	203	203	203	203	203	203	203	203	203
Wald Chi^2	283***	231***	230***	563***	331***	450***	3548***	3012***	4107***	25951***	5596.3***	2800***

Table 10: testing hypothesis using GLS models for DISDTE and DISDOC

Dividend payout policy (dependent variables): discretionary dividends to total equity (DISDTE), and discretionary dividends to operating cash flow (DISDOC). **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)
	DISDTE						DISDOC					
	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS
GD	0.146*** (7.496)						0.249*** (7.277)					
BI		0.161*** (11.562)						0.237*** (8.677)				
SI			0.118*** (13.014)						0.157*** (8.679)			
FD				0.028*** (6.648)						0.041*** (5.480)		
NoF					0.013*** (6.155)						0.021*** (5.282)	
EFGD						0.175*** (11.339)						0.317*** (12.908)
FS	-0.014*** (-5.762)	-0.015*** (-6.272)	-0.016*** (-6.609)	-0.011*** (-5.185)	-0.013*** (-5.171)	-0.010*** (-5.058)	-0.007 (-1.718)	-0.008* (-2.127)	-0.008* (-2.257)	-0.006 (-1.548)	-0.006 (-1.443)	-0.003 (-0.964)
ROA	-0.341*** (-10.568)	-0.333*** (-10.379)	-0.323*** (-10.266)	-0.282*** (-10.121)	-0.358*** (-11.618)	-0.258*** (-10.034)	-0.836*** (-15.610)	-0.839*** (-16.129)	-0.837*** (-16.562)	-0.821*** (-16.766)	-0.825*** (-15.923)	-0.743*** (-17.581)
LEV	0.122*** (8.752)	0.108*** (7.971)	0.114*** (8.931)	0.140*** (13.079)	0.151*** (11.539)	0.158*** (13.867)	0.027 (1.107)	0.018 (0.750)	0.009 (0.377)	0.005 (0.221)	0.021 (0.879)	0.027 (1.528)
MBR	-0.001 (-1.423)	-0.002 (-1.763)	-0.001 (-1.667)	-0.001 (-0.989)	-0.001 (-1.016)	0.000 (0.125)	-0.006*** (-5.780)	-0.006*** (-5.966)	-0.006*** (-6.475)	-0.006*** (-6.824)	-0.006*** (-6.209)	-0.006*** (-5.581)
BS	-0.008 (-1.008)	-0.010 (-1.193)	-0.012 (-1.448)	-0.019** (-2.919)	-0.031*** (-3.690)	-0.009 (-1.576)	-0.022 (-1.923)	-0.032** (-2.623)	-0.033** (-2.730)	-0.025* (-2.246)	-0.045*** (-3.292)	0.014 (1.236)
IDR	-0.010 (-0.578)	-0.006 (-0.364)	-0.004 (-0.243)	0.024 (1.736)	0.007 (0.470)	0.006 (0.438)	0.136*** (4.305)	0.126*** (3.832)	0.130*** (3.978)	0.150*** (5.313)	0.150*** (4.810)	0.171*** (7.473)
CEO	-0.000 (-0.002)	0.000 (0.082)	-0.002 (-0.405)	0.001 (0.143)	0.000 (0.036)	-0.004 (-1.113)	0.002 (0.230)	0.001 (0.092)	-0.001 (-0.113)	-0.006 (-0.657)	0.003 (0.271)	-0.006 (-0.757)
_cons	0.302*** (5.721)	0.316*** (6.463)	0.332*** (6.854)	0.228*** (5.062)	0.299*** (5.435)	0.163*** (4.116)	0.218** (2.864)	0.274*** (3.677)	0.274*** (3.913)	0.186* (2.572)	0.238** (3.080)	0.008 (0.150)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# obs.	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392
# groups	203	203	203	203	203	203	203	203	203	203	203	203
Wald Chi^2	298***	370***	404***	380***	378***	720***	496***	629***	686***	739***	479***	1197***

Table 11: testing hypothesis using fixed effects models for TDTA and TDTS

Dividend payout policy (dependent variables): total dividend to total assets (TDTA), total dividend to total sales. **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	TDTA						TDTS					
	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE
GD	0.021						0.105					
	(0.563)						(0.566)					
BI		0.034						0.089				
		(1.143)						(0.614)				
SI			0.028						0.076			
			(1.385)						(0.776)			
FD				0.016						0.045		
				(1.685)						(0.993)		
NoF					0.001						0.015	
					(0.244)						(0.669)	
EFGD						0.066*						0.361**
						(2.496)						(2.780)
FS	-0.075***	-0.075***	-0.075***	-0.075***	-0.075***	-0.076***	-0.241***	-0.241***	-0.241***	-0.242***	-0.241***	-0.246***
	(-8.970)	(-8.989)	(-9.001)	(-9.023)	(-8.972)	(-9.108)	(-5.917)	(-5.926)	(-5.932)	(-5.945)	(-5.922)	(-6.069)
ROA	0.198***	0.200***	0.200***	0.200***	0.198***	0.208***	0.507**	0.509**	0.511**	0.511**	0.506*	0.560**
	(4.930)	(4.964)	(4.978)	(4.978)	(4.915)	(5.158)	(2.581)	(2.589)	(2.598)	(2.599)	(2.574)	(2.847)
LEV	0.098*	0.099*	0.099**	0.098*	0.098*	0.094*	-0.622***	-0.621***	-0.621***	-0.622***	-0.626***	-0.646***
	(2.553)	(2.576)	(2.581)	(2.564)	(2.539)	(2.443)	(-3.318)	(-3.312)	(-3.309)	(-3.320)	(-3.337)	(-3.453)
MBR	0.002	0.002	0.002	0.001	0.002	0.002	0.006	0.006	0.006	0.006	0.006	0.008
	(1.250)	(1.248)	(1.245)	(1.236)	(1.247)	(1.486)	(1.010)	(1.010)	(1.008)	(1.002)	(0.999)	(1.274)
BS	0.031	0.030	0.028	0.026	0.030	0.034	0.206*	0.202*	0.199*	0.190*	0.183	0.219*
	(1.702)	(1.603)	(1.534)	(1.366)	(1.500)	(1.834)	(2.297)	(2.241)	(2.196)	(2.078)	(1.898)	(2.444)
IDR	0.050	0.047	0.048	0.052	0.051	0.046	0.331	0.332	0.332	0.345	0.328	0.308
	(1.195)	(1.147)	(1.155)	(1.274)	(1.238)	(1.112)	(1.634)	(1.646)	(1.650)	(1.720)	(1.620)	(1.536)
CEO	0.012	0.011	0.011	0.010	0.012	0.011	0.002	0.001	-0.000	-0.004	0.004	-0.002
	(1.047)	(1.024)	(0.989)	(0.865)	(1.041)	(0.972)	(0.043)	(0.019)	(-0.000)	(-0.073)	(0.074)	(-0.042)
_cons	1.482***	1.487***	1.490***	1.493***	1.485***	1.500***	5.116***	5.128***	5.136***	5.146***	5.171***	5.215***
	(8.418)	(8.449)	(8.464)	(8.484)	(8.388)	(8.534)	(5.957)	(5.967)	(5.976)	(5.988)	(5.987)	(6.085)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	No	No	No	No	No	No	No	No	No	No	No	No
# obs.	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398
# groups	209	209	209	209	209	209	209	209	209	209	209	209
F-test	10.883***	11.002***	11.075***	11.186***	10.852***	11.594***	8.765***	8.771***	8.798***	8.843***	8.78***	9.643***
R^2 within	0.077	0.077	0.078	0.079	0.076	0.081	0.063	0.063	0.063	0.063	0.063	0.069
R^2 between	0.002	0.002	0.002	0.002	0.002	0.004	0.011	0.011	0.011	0.010	0.011	0.009
R^2 overall	0.009	0.009	0.009	0.009	0.009	0.011	0.000	0.000	0.000	0.000	0.000	0.000

Table 12: testing hypothesis using fixed effects models for TDOC and DPR

Dividend payout policy (dependent variables): total dividend to total operating cash flow (TDOC), dividend payout ratio (DPR). **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
	TDOC						DPR					
	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE
GD	0.084 (1.151)						0.288 (0.551)					
BI		0.083 (1.467)						0.441 (1.077)				
SI			0.051 (1.319)						0.281 (1.017)			
FD				0.006 (0.361)						0.040 (0.317)		
NoF					0.012 (1.323)						0.056 (0.888)	
EFGD						0.024 (0.464)						0.572 (1.564)
FS	0.002 (0.107)	0.001 (0.086)	0.001 (0.080)	0.001 (0.094)	0.002 (0.099)	0.001 (0.080)	-0.013 (-0.116)	-0.015 (-0.130)	-0.015 (-0.135)	-0.014 (-0.126)	-0.014 (-0.121)	-0.022 (-0.196)
ROA	0.106 (1.381)	0.108 (1.410)	0.108 (1.404)	0.104 (1.351)	0.105 (1.364)	0.106 (1.380)	-2.363*** (-4.276)	-2.345*** (-4.243)	-2.346*** (-4.245)	-2.368*** (-4.284)	-2.365*** (-4.283)	-2.284*** (-4.116)
LEV	-0.129 (-1.761)	-0.128 (-1.743)	-0.128 (-1.750)	-0.131 (-1.782)	-0.132 (-1.797)	-0.132 (-1.804)	1.446** (2.740)	1.456** (2.760)	1.454** (2.757)	1.441** (2.731)	1.436** (2.722)	1.405** (2.664)
MBR	0.004 (1.624)	0.004 (1.622)	0.004 (1.620)	0.004 (1.623)	0.004 (1.603)	0.004 (1.663)	-0.030 (-1.805)	-0.030 (-1.809)	-0.030 (-1.810)	-0.030 (-1.807)	-0.030 (-1.820)	-0.027 (-1.649)
BS	0.024 (0.690)	0.020 (0.571)	0.019 (0.541)	0.022 (0.622)	0.006 (0.169)	0.025 (0.724)	0.339 (1.341)	0.316 (1.248)	0.310 (1.217)	0.325 (1.264)	0.252 (0.928)	0.360 (1.423)
IDR	0.012 (0.156)	0.012 (0.147)	0.015 (0.196)	0.024 (0.312)	0.011 (0.133)	0.022 (0.281)	-0.308 (-0.540)	-0.334 (-0.589)	-0.317 (-0.559)	-0.266 (-0.472)	-0.333 (-0.586)	-0.326 (-0.577)
CEO	0.008 (0.382)	0.007 (0.333)	0.006 (0.301)	0.006 (0.300)	0.009 (0.443)	0.007 (0.325)	0.030 (0.198)	0.026 (0.175)	0.023 (0.150)	0.022 (0.146)	0.038 (0.248)	0.021 (0.142)
_cons	0.169 (0.504)	0.181 (0.539)	0.181 (0.540)	0.169 (0.503)	0.211 (0.626)	0.171 (0.509)	0.379 (0.157)	0.450 (0.186)	0.458 (0.189)	0.394 (0.163)	0.590 (0.243)	0.528 (0.218)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	No	No	No	No	No	No	No	No	No	No	No	No
# obs.	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398	1398
# groups	209	209	209	209	209	209	209	209	209	209	209	209
F-test	2.36***	2.453***	2.407***	2.225***	2.408***	2.235***	5.007***	5.106***	5.091***	4.983***	5.063***	5.254***
R^2 within	0.018	0.018	0.018	0.017	0.018	0.017	0.037	0.037	0.037	0.037	0.037	0.039
R^2 between	0.017	0.016	0.017	0.018	0.014	0.018	0.000	0.001	0.001	0.000	0.000	0.000
R^2 overall	0.014	0.014	0.015	0.015	0.013	0.015	0.012	0.014	0.013	0.011	0.012	0.013

Table 13: testing hypothesis using GLS models for TDTA and TDTS

Dividend payout policy (dependent variables): total dividend to total assets (TDTA), total dividend to total sales. **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
	TDTA						TDTS					
	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS
GD	0.040***						0.088*					
	(4.763)						(2.157)					
BI		0.048***						0.080*				
		(8.627)						(2.422)				
SI			0.039***						0.065**			
			(11.501)						(2.697)			
FD				0.025***						0.024		
				(16.981)						(1.575)		
NoF					0.004***						0.011*	
					(3.366)						(2.288)	
EFGD						0.027***						0.084**
						(4.548)						(3.019)
FS	-0.006***	-0.005***	-0.005***	-0.006***	-0.006***	-0.006***	0.020**	0.023***	0.023***	0.019**	0.015*	0.015*
	(-6.366)	(-6.771)	(-6.785)	(-8.761)	(-5.577)	(-5.338)	(2.970)	(3.330)	(3.432)	(2.617)	(2.194)	(2.459)
ROA	0.065***	0.090***	0.090***	0.089***	0.055***	0.108***	0.092*	0.148***	0.136***	0.033	0.043	0.108*
	(5.666)	(14.856)	(16.033)	(16.535)	(4.307)	(7.741)	(2.274)	(5.083)	(4.590)	(0.610)	(0.865)	(2.189)
LEV	-0.030***	-0.032***	-0.034***	-0.028***	-0.034***	-0.028***	-0.248***	-0.231***	-0.217***	-0.200***	-0.268***	-0.206***
	(-4.962)	(-7.399)	(-7.253)	(-7.165)	(-5.171)	(-3.886)	(-5.811)	(-5.267)	(-4.897)	(-4.591)	(-6.635)	(-5.294)
MBR	0.001**	0.001***	0.001***	0.001***	0.001**	0.001***	-0.003	-0.003	-0.003	-0.001	-0.005**	-0.009***
	(3.056)	(3.804)	(3.934)	(3.356)	(2.918)	(3.321)	(-1.669)	(-1.701)	(-1.650)	(-0.969)	(-3.161)	(-8.022)
BS	0.004	-0.001	-0.001	-0.001	-0.000	0.006	-0.032	-0.034	-0.030	-0.032	-0.039	0.007
	(1.516)	(-0.226)	(-0.531)	(-0.432)	(-0.227)	(1.465)	(-1.640)	(-1.762)	(-1.607)	(-1.689)	(-1.917)	(0.383)
IDR	-0.017*	-0.031***	-0.034***	-0.023***	-0.008	-0.002	-0.112*	-0.120**	-0.118**	-0.090*	-0.093*	-0.027
	(-2.164)	(-5.005)	(-6.151)	(-5.442)	(-0.946)	(-0.191)	(-2.546)	(-2.766)	(-2.776)	(-2.140)	(-2.246)	(-0.744)
CEO	-0.001	-0.001	-0.002	-0.003**	-0.000	-0.001	-0.005	-0.008	-0.009	-0.011	-0.004	-0.006
	(-0.489)	(-1.067)	(-1.620)	(-2.837)	(-0.054)	(-0.262)	(-0.559)	(-0.790)	(-0.900)	(-1.230)	(-0.376)	(-0.583)
_cons	0.174***	0.176***	0.173***	0.166***	0.180***	0.160***	0.100	0.042	-0.002	0.070	0.246	0.036
	(8.134)	(9.792)	(9.900)	(11.580)	(7.402)	(6.741)	(0.688)	(0.288)	(-0.016)	(0.462)	(1.700)	(0.313)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# obs.	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392
# groups	203	203	203	203	203	203	203	203	203	203	203	203
Wald Chi^2	137***	605***	1095***	853***	101***	152***	130***	675***	441***	76***	155***	394***

Table 14: testing hypothesis using GLS models for TDOC and DPR

Dividend payout policy (dependent variables): total dividend to total operating cash flow (TDOC), dividend payout ratio (DPR). **Board gender diversity**: the percentage of female directors to board size (GD), the Blau index (BI) and Shannon index (SI) as measures of gender diversity, the percentage of executive female directors to the total number of executives (EFGD), the total number of female directors on the board (NoF), and a dummy variable indicating the presence of at least one female director on the board (FD). **Control variables**: the size of the board (BS), the percentage of independent directors (IDR), a dummy variable for CEO duality (CEO), firm size (FS) measured as the natural log of total assets, return on assets (ROA), leverage (LEV), and the market-to-book ratio (MBR). ***: sig at 1%, **: sig at 5%, *: sig at 10%.

	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)
	TDOC						DPR					
	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS	GLS
GD	-0.016						0.589***					
	(-0.766)						(4.304)					
BI		0.006						0.506***				
		(0.380)						(4.437)				
SI			0.008						0.357***			
			(0.751)						(4.513)			
FD				0.008						0.147***		
				(1.440)						(3.861)		
NoF					-0.003						0.053**	
					(-1.254)						(3.024)	
EFGD						0.038***						0.520***
						(3.395)						(6.718)
FS	0.032***	0.032***	0.032***	0.031***	0.032***	0.029***	-0.053***	-0.056***	-0.056***	-0.056***	-0.058***	-0.044***
	(10.248)	(10.165)	(10.268)	(10.638)	(9.937)	(10.066)	(-3.536)	(-3.714)	(-3.823)	(-4.104)	(-3.819)	(-3.492)
ROA	0.072***	0.071***	0.071***	0.079***	0.071***	0.084***	-3.026***	-3.073***	-3.093***	-3.078***	-3.016***	-3.074***
	(4.409)	(4.354)	(4.513)	(6.047)	(3.983)	(6.590)	(-19.898)	(-19.821)	(-19.873)	(-20.250)	(-20.055)	(-23.303)
LEV	-0.118***	-0.118***	-0.117***	-0.111***	-0.118***	-0.127***	0.122	0.076	0.068	0.110	0.166*	0.277***
	(-6.969)	(-6.857)	(-6.700)	(-6.210)	(-7.275)	(-7.291)	(1.877)	(1.133)	(1.032)	(1.866)	(2.526)	(4.241)
MBR	0.001*	0.001*	0.001*	0.001*	0.001**	0.002***	-0.041***	-0.042***	-0.042***	-0.042***	-0.042***	-0.040***
	(2.055)	(2.000)	(2.018)	(2.325)	(2.758)	(4.328)	(-12.428)	(-11.790)	(-11.529)	(-12.139)	(-12.991)	(-12.971)
BS	0.003	0.000	-0.001	-0.002	0.009	0.005	0.228***	0.246***	0.247***	0.258***	0.183***	0.289***
	(0.326)	(0.047)	(-0.087)	(-0.163)	(0.769)	(0.482)	(8.751)	(12.124)	(12.852)	(13.433)	(8.047)	(8.371)
IDR	0.194***	0.194***	0.198***	0.225***	0.181***	0.214***	0.688***	0.744***	0.789***	0.860***	0.647***	0.784***
	(9.268)	(9.352)	(9.811)	(13.287)	(8.326)	(11.577)	(5.409)	(5.728)	(6.090)	(6.739)	(5.330)	(6.859)
CEO	0.005	0.006	0.006	0.007	0.004	0.007	0.012	0.004	-0.006	-0.035	0.010	-0.016
	(1.018)	(1.235)	(1.332)	(1.643)	(0.776)	(1.546)	(0.323)	(0.092)	(-0.160)	(-0.963)	(0.270)	(-0.450)
_cons	-0.584***	-0.581***	-0.583***	-0.579***	-0.593***	-0.527***	1.558***	1.541***	1.521***	1.455***	1.785***	1.117***
	(-9.676)	(-9.581)	(-9.760)	(-10.634)	(-9.297)	(-9.654)	(4.949)	(4.808)	(4.790)	(4.798)	(5.362)	(4.236)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# obs.	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392	1392
# groups	203	203	203	203	203	203	203	203	203	203	203	203
Wald Chi^2	543***	557***	614***	1215***	432***	834***	6795***	9191***	8591***	20743***	9790***	7629***