International Journal of Advanced Business Studies
Volume 5. Issue 2. (2026)
ISSN: 2940-2735

Full length article

Determinants of Dividends decisions cum dividend derivatives in Botswana and Zimbabwe

Wilbert Chidaushe* [1], Tavonga Njaya[2], Precious Onneile Alade[3]
1 Botho University, Gaborone, Botswana
2 Zimbabwe Open University, Harare, Zimbabwe, email: njayat@zou.ac.zw
3 Botho University, Gaborone, Botswana, email: precious.benifield@bothouniversity.ac.bw

*Corresponding e-mail: wilbert.chidaushe@bothouniversity.ac.bw

Article Info
Received: 14.12.2025
Accepted: 04.02.2026
Available online: 30.03.2026

Keywords:
Dividends decisions, Dividends derivatives, Fixed effects model, Granger causality tests, Unit root analysis, logistic regression model, mixed methods research

DOI:
https://doi.org/10.59857/tkdhn112

ABSTRACT

The study examines the determinants of dividends decisions alongside dividends derivatives in Botswana and Zimbabwe. Further the study explored the importance of dividends derivatives for companies listed on both Stock Exchanges. The study was based on a mixed methods research approach. The research used simple random sampling of non-financial firms for the determination of dividend decisions. Documentary review research was also deployed in assessing the significance of dividends derivatives. The study was based on a sample of 27 companies listed on the Botswana and Zimbabwe Stock exchanges. Unit root analysis, test of normality, test of fixed effects and Granger causality tests were applied to evaluate the determinants of the of dividend decisions. Logistic regression analysis was applied to investigate the determinants of dividend decisions in Botswana and Zimbabwe. Granger causality was deployed to investigate the impact of short-term relationships influencing the propensity for dividend payout. The binary logit study revealed that the significant positive determinants of dividends payout were past dividends, investors preferences, derivative hedge and industry type. The fixed effect model revealed that a Chief Financial Officer possessing more than 15 years of experience, had a significant positive propensity for dividend payout in both countries. Firm size and free cash flows were viewed as having a significant and negative propensity for dividend payout from the fixed effect model. The determinants of dividend derivatives were identified as the rise of decrement indices, economic uncertainties and pandemic risks. The benefits of dividend derivatives were found as protection of investors against dividend risks during periods of existential threats, economic vulnerabilities and uncertainties.

1. Introduction

Eurex (2025) described dividend derivatives as allowing investors to take positions in, or hedge, future dividend payments and can be based on individual stocks or on equity indexes. Further Eurex (2025) observed the benefits of using dividend derivatives as multifold including providing income protection, allowing investors to lock in

expected & implied dividends to assure income returns and hedging of dividend risk particularly for structured products and equity options among others.

Determinants of dividend payout in Zimbabwe and Botswana

According to Rwaveya and Makoto (2010) leverage, profitability and firm size were identified as the determinants of dividend payout in Zimbabwe. Mwandenga (2004) asserted that the dividend decision relied on intuitive evaluation rather than on the signaling theory of dividends. Macharia and Magembe (2001) deduced that companies in Botswana pursued a consistent dividend policy that they believed would enhance their shareholders wealth.

Price Water House (PWH) (2025) affirmed withholding taxes on dividends payments to residents and non-residents as 10% and preferably at lower rates for countries with a double taxation agreement (DTA) with Botswana that include Zimbabwe with a 5/10DTA. The level of taxes imposed on dividends can have a significant effect on investors preference for dividend or capital gain.

According to BATS consulting (2025) 10 percent withholding tax is charged on dividends distributed by companies listed on the Zimbabwe Stock Exchange to resident individuals and non-residents. It is further proclaimed that 15% rate on dividends is applied to dividends paid to resident persons other than companies and all nonresidents in Zimbabwe. In addition, 1% is charged on the disposal of securities listed on the Zimbabwe Stock Exchange (ibid). ZIMRA (n.d) proclaimed that 20% is charged on the gross income of dividends received from a corporate outside Zimbabwe in terms of the Finance Act 14 (5).

Statement of the problem

Substantial controversy regarding the determinants of dividend decisions was evidenced in several studies conducted in the past. Dewasiri et al. (2018) alluded to the fact that there had been no consensus around the globe on the determinants of dividend policy. Several theories had been studied in the past decades that explained the rationale of the payment of dividends by different corporations around the globe. Few studies had been conducted in Zimbabwe and Botswana that focused on the determinants of dividend policy (Rwaveya and Makoto, 2010 and Macharia and Magembe, 2001) and these studies were not rigorous. Therefore, the present study sought to determine the factors that influence dividend payout within the context of Botswana and Zimbabwe environment.

The following is a detailed description of the different theories of dividend policies.

Theories of dividend policies

Catering theory of dividends

Baker and Wurgler (2004) proposed that the decision to pay dividends was driven by the prevailing investors' demand for dividend payers. The study constructed four stock price based measures of demand for dividend payers. It was observed that nonpayers tend to initiate dividend payments when demand was high. In addition, through some measures, payers were observed to omit dividend when demand was low. Bilel & Mondher (2021) observed that investors prefer dividends in a bear market rather than bull market. It is further stressed that

investors prefer dividends when having negative sentiments. Rochmah and Ardianto (2020) demonstrated that catering dividends measured by dividend premium had a positive effect on dividend policy. It is further postulated that the higher the dividend premium the better would a firm's dividend policy (ibid).

Life cycle theory of dividends:

Bulan and Subramanian (n.d) stressed that the lifecycle theory of dividend contended that the optimal dividend policy of a firm depends on the firm's stage in its life cycle. It is further stressed that optimum dividend payout ratio increases with maturity of the firm (ibid). Fama and French (2001) asserted that firms with low growth and high profitability tend to have a greater propensity to pay dividends than those with a low profitability and high growth prospects.In contrast, Bhattacharya et al. (2020) observed a nonlinear relationship between dividend payout and the firm's life cycle.

Pecking order theory of dividends:

Olatundun (2002) proclaimed that the pecking order theory predicts that firms prefer to use internal equity to pay dividends and finance investments. According to Myers (1984) a firm preferred internal financing to external financing in paying dividends.

Rent extraction hypothesis:

Bena & Hanousek (2008) demonstrated that large shareholders extracted rent from firms and expropriated the minority shareholders in a weak corporate governance environment of an emerging economy. It was further observed that for firms with large shareholders the target payout ratio was low. Firms with significant minority shareholders were observed to increase payout ratios to restrict the majority owner from extracting the rent.

Free cash flow theory

Rochmah and Ardianto (2020) further illustrated that free cash flows had a positive effect on dividend policy. It is further reiterated that the higher the free cash flows the better would be the firm's dividend policy(ibid).

The substitute and outcome model of dividends:

Porta et al. (2007) postulated that for the substitute model insiders interested in issuing equity in the future pay dividends to establish a reputation for decent treatment of minority shareholders. It is further stressed that for the outcome based model dividends are paid because minority shareholders pressure corporate insiders to disgorge cash (ibid). The outcome based model predicts that higher dividend payments are associated with stronger minority shareholders rights whilst the substitute based model is in contrast. Ngo et al. (2020) propounded that managers in weakly governed firms are more likely to initiate customized dividends to meet outside large shareholders' needs while simultaneously using costly external capital to finance new investment projects.

Agency cost theory

Mahmoud et al. (1995) posited that the optimum level of dividend payout is that which minimizes the agency cost structure relative to the cost of raising needed funds. Bessler et al. (2023) suggested that the agency costs of FCF are more directly relevant in explaining dividend payout policy.

Signaling theory

Deng et al. (2024) acclaimed that for firms in a strong investor protection environment, dividend changes are correlated more strongly with subsequent earning changes than is the case for firms in weak investor protection environments. Purnamasari and Heraenitanuatmodjo (2019) stressed that dividend policy has a positive effect on the value of the company. It is further pronounced that the dividend policy provides positive information to investors (ibid).

Tax preference theory

Allen et al. (2000) postulated that it is the tax difference between institutional and retail investors that determine dividend payments and not the absolute payments.

Bird-in-the-hand theory

Lintner (1956) and Gordon (1959) propounded that investors value cash dividends more than the uncertain retained earnings.

Research Questions

1. What are the determinants of the dividend decisions in Botswana and Zimbabwe?
2. What is the Granger causality between the propensity for dividend payout and dividend yield in Botswana and Zimbabwe?
3. What are the determinants of dividend derivatives in Zimbabwe and Botswana?
4. What are the benefits of dividends derivatives in Zimbabwe and Botswana?

Research Objectives

1. To examine the determinants of the dividend decisions in Botswana and Zimbabwe.
2. To investigate the Granger causality between the propensity for dividend payout and dividend yield in Botswana and Zimbabwe.
3. To review the determinants of dividends derivatives in Zimbabwe and Botswana
4. To provide the benefits of dividends derivatives in Zimbabwe and Botswana.

Research Hypotheses

Null Hypotheses

H0: The dividend decision is not significantly and positively correlated with firm specific characteristics.
H01: The null hypothesis is non-stationery
H02: The propensity to pay dividend do not granger cause the dividend yield.

Alternative Hypothesis

H1: The dividend decision is significantly and positively correlated with firm specific characteristics.
H1a: The null hypothesis is stationery
H1b: The propensity to pay dividends Granger cause the dividend yield.

2. Literature review

The theoretical framework for the present study was based on the agency theory.

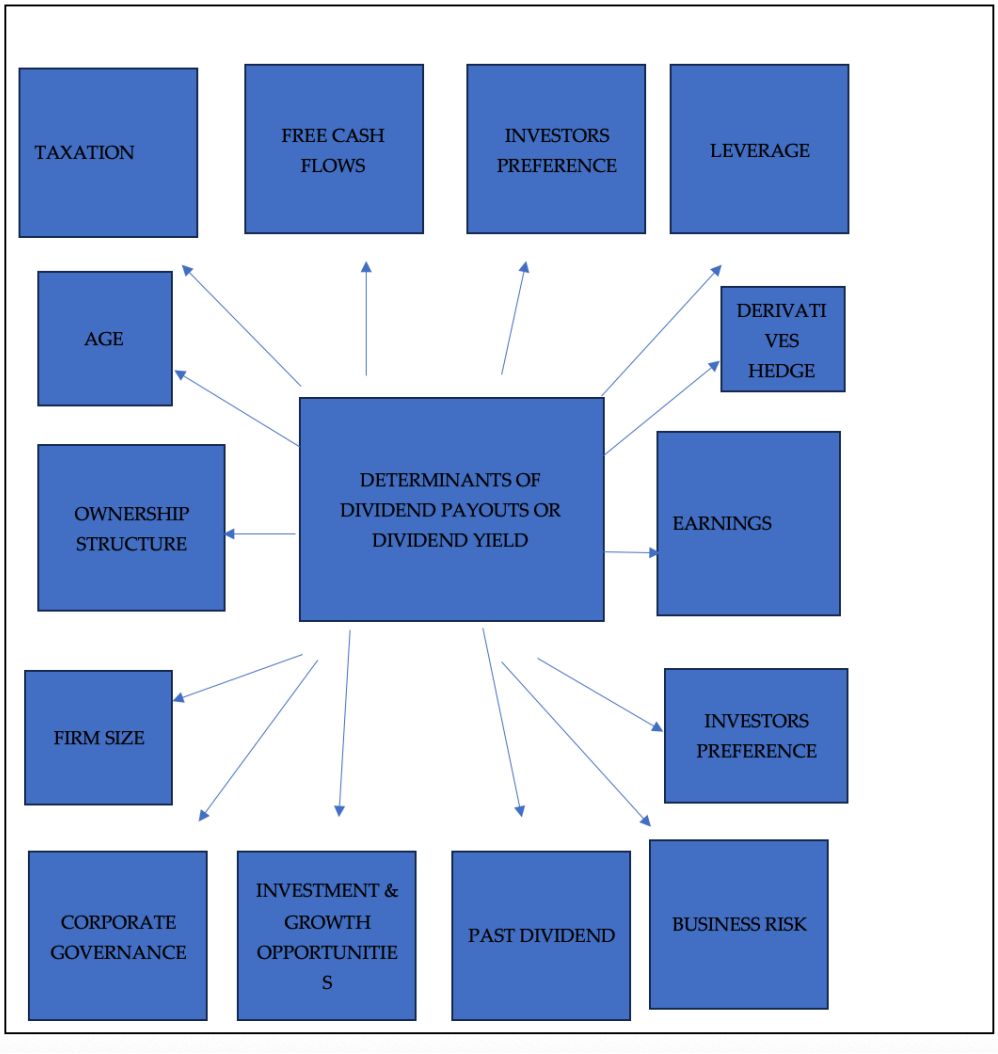

Figure 1: Conceptual framework for the determinants of dividend payouts

Source: Author, 2025

2.1. Empirical review

The determinants of dividend payouts

This section focuses on an empirical review of the determinants of dividend policy supported by the design of operational hypotheses of each of the variables of the study.

Profitability

Tran et al. (2025) stressed that return on assets plays a pivotal role on dividend payout. Ghose and Çıtak (2025) observed that firm profitability has a positive effect on dividend payout. Azekkar et al. (2025) affirmed that profitability as a primary driver of dividend decisions. Dsouza et al. (2025) declared profitability as having

a significant and positive association with dividend payout. Hariem (2021) asserted that both profitability and leverage are negatively associated with dividend payout ratio. Kahraman (2021) deduced that highly profitable Dutch firms are likely to pay dividends as compared to non-dividend payers. Louziri and Oubal (2022) affirmed that profitability had a significant positive correlation with dividend payments. Januarsi & Sanusi (2024) observed a positive association between profitability and dividend policy, suggesting that higher profit was capable of inducing firms to provide more dividend payments for the stockholders. Franc-Dąbrowska et al. (2019) identified profitability as a key significant determinant of dividend payout decision. Khupe (2016) affirmed a positive correlation between dividend payout and profitability. Mejía et al. (2023) revealed that profitability was also a significant and positive determinant of dividend policy.

Therefore, the present study proposed to test the following hypotheses

H1a: The dividend decision is affected by Profitability.
H1b: The dividend yield is significantly and positively correlated with Profitability.

Profitability was measured as the return on equity ratio as adopted in Dewasiri et al. (2019).

Firm size

Ghose et al. (2025) announced that firm size has favorable influence on the propensity of both increasing and decreasing dividend payouts. Gülal and Çıtak (2025) observed that firm firm size has a positive effect on dividend payout. Dsouza et al. (2025) found firm size as having a profound and positive relationship with dividend payout. Louziri and Oubal (2022) confirmed that firm size had a significant negative correlation with dividend payments. Kahraman (2021) observed that large firms are more likely to pay dividends. Tekin (2020) proclaimed that smaller firms that have higher information asymmetry pay lower dividends than larger firms. Dantas de Souza Junior et al. (2024) indicated that size positively influence payout. Sumail (2018) stressed that size was positively associated with dividend payout ratio. Franc-Dąbrowska et al. (2019) identified firm size as a key significant determinant of dividend payout decision. Driver et al. (2023) observed that firm size had a profound and positive relationship with dividend payout in South Africa.

Therefore, the present study proposed to test the following hypotheses

H2a: The dividend decision is affected by firm size.
H2b: The dividend yield is significantly and positively correlated with firm size.

In present study the log value of total assets (TA) was used as the proxy for firm size as adopted by Dewasiri et al. (2019).

Business risk (P/E)

Gülal and Çıtak (2025) concluded that firm risk had a negative effect on dividend payouts.Jitmaneeroj (2017) indicated that when the return on equity is greater (less) than the required rate of return, the P/E ratio and dividend payout ratio exhibit a negative (positive) relationship and positive (negative) convexity. Epaphra and

Nyantori (2018) stressed that business risk affected dividend payout. Therefore, the present study proposed to test the following hypotheses

H3a: The dividend decision is affected by business risk
H3b: The dividend yield is significantly and positively correlated with business risk (P/E).

Business risk was measured as the year-to-year volatility of earnings (VoE) as adopted in Dewasiri et al. (2019).

Corporate governance and meetings

Sumail (2018) indicated indicated that board independence, board size and institutional ownership are positively correlated with dividend payout ratio whereas the CEO duality, managerial ownership, and ownership concentration were negatively associated with dividend payout ratio. Therefore, the present study proposed to test the following hypotheses

H4a: The dividend decision is affected by corporate governance.
H4b: The dividend yield is significantly and positively correlated with corporate governance.

Binary variables were introduced to represent board independence, such that if the number of non-executive directors is over 40 percent of the board, those firms are categorized as 1, otherwise zero as adopted in Dewasiri et al. (2019). Moreover, if board meetings are held more than four times a year, those firms are categorized as 1, or otherwise as zero(ibid).

Leverage

Manowan et al. (2025) emphasized that leveraged and asset-heavy companies are more likely to keep paying dividends in Singapore. Gülal and Çıtak (2025) placed det levels as having a negative influence on dividend payout. Azekkar et al. (2025) acclaimed that leverage was a primary driver of dividend decisions. Louziri and Oubal (2022) observed an insignificant relationship between leverage and dividend policy. Akpadaka et al. (2024) revealed a negative association between leverage and dividend payout ratio for Nigerian firms. Januarsi & Sanusi (2024) stressed that increasing free cash flow strengthened the profitability-dividend policy relationship. Dantas de Souza Junior et al. (2024) indicated that leverage positively influences payout. Sumail (2018) indicated negative correlation between leverage and dividend pay out ratio. Further, leverage was found to have a negative and profound association with dividend payout for unlisted entities (Driver, 2023). Indebtedness had a profound and negative relationship with dividend policy (Mejía et al., 2023). Capital adequacy and non-performing Loans (NPL) were also considered important factors by banks in Indonesia in determining dividend policy (Setiawan et al., 2024). Therefore, the present study proposed to test the following hypotheses

H5a: The dividend decision is affected by leverage.
H5b: The dividend yield is significantly and positively correlated with leverage.

Leverage was measured in our study as total debt divided by total equity as adopted in Dewasiri et al. (2019).

Liquidity

Epaphra and Nyantori (2018) stressed that liquidity seemed to affect dividend payout. Franc-Dąbrowska et al. (2019) identified liquidity as a major determinant of dividend payout decision. Mejía et al. (2023) revealed that liquidity was a significant and positive determinants of dividend policy. Therefore, the present study proposed to test the following hypotheses

H6a: The dividend decision is affected by liquidity.
H6b: The dividend yield is significantly and positively correlated with liquidity.

Current ratio as current assets divided by current liabilities was used as the measure of liquidity as adopted by Dewasiri et al. (2019).

Tax

Dantas de Souza Junior et al. (2024) indicated that taxes positively influence payout. Sumail (2018) stressed that tax was positively associated with dividend payout ratio. Therefore, the present study proposed to test the following hypotheses

H7a: The dividend decision is affected by tax.
H7b: The dividend yield is significantly and positively correlated with tax.

Tax paid by firm i in period t was measured by dividing corporate tax by net profit before tax as adopted in Dewasiri et al. (2019).

Earnings

Tran et al. (2025) stressed that earnings play a pivotal role on dividend payout. Louziri and Oubal (2022) demonstrated a significant positive correlation between retained earnings and dividend yield. Dantas de Souza Junior et al. (2024) showed that earnings had a negative associations with dividend payout. Sumail (2018) stressed that earnings before interest were positively associated with dividend payout ratio. Driver et al. (2023) observed past profitability had a profound and positive relationship with dividend payout in South Africa. Setiawan et al (2024) noted that retained Earnings to Total Equity had a positive impact on the propensity to pay dividends. Therefore, the present study proposed to test the following hypotheses.

H9a: The dividend decision is affected by earnings
H9b: The dividend yield is significantly and positively correlated with earnings.

Earnings per share was used as an approximate measure for earnings as adopted by Dewasiri et al. (2019).

Free cash flows

Dantas de Souza Junior et al. (2024) showed that free cash flows had a negative associations with dividend payout. Franc-Dąbrowska et al. (2019) identified free cash flows as a key significant determinant of dividend payout decision. Therefore, the present study proposed to test the following hypotheses

H10a: The dividend decision is affected by free cash flows
H10b: The dividend yield is significantly and positively correlated with free cash flows.

Free cash flow was determined by multiplying cash flow by the inverse of TA (1/TA) as used in Dewasiri et al. (2019). Further, Cash flow was calculated as adopted in Dewasiri et al. (2019) Further, Cash flows were calculated as EBITDA less taxes, interest paid on debt and total dividends-(ibid).

Past dividends (Lagged dividends)

Tran et al. (2025) stressed that previous year dividend exerts the strongest influence on dividend payout. Dsouza et al. (2025) identified previous year dividend per share as having profound and positive association with current year's dividend per share. Franc-Dąbrowska et al. (2019) concluded that a company's financial situation in preceding year influences the dividend payout decision. Therefore, the present study proposed to test the following hypotheses

H11a: The dividend decision is affected by past dividends
H11b: The dividend yield is significantly and positively correlated with past dividends.

Lagged (past) dividends refered to the dividend yield of the previous year, calculated as the dividend per share at time t−1 divided by the market value per share at time t−1, as adopted in Dewasiri et al. (2019).

Growth and investment opportunities

Gülal and Çıtak (2025) identified growth opportunities as having a negative effect on dividend payout. Azekkar et al. (2025) identified growth opportunities as primary drivers of dividend decisions. Louziri and Oubal (2022) demonstrated that growth opportunities variable had a significant negative correlation with dividends pay out. Franc-Dąbrowska et al. (2019) identified growth as a profound determinant of dividend payout decision. Dąbrowska et al. (2019) observed size as a determinant of dividend payout decision. Tembo and Chipeta (2024) stressed that high GDP growth and increased financial development are linked to higher dividend payouts in African linked firms. The findings from Dabrowska et al. (2019), Tembo & Chipeta (2024) are in contradiction to the studies of Louziri and Oubal (2022) are contradictory.

Hence, the present study proposed to test the following hypotheses

H12a: The dividend decision is affected by growth and Investment opportunities.

H12b: The dividend yield is significantly and positively correlated with growth and Investment opportunities.

Ownership structure

Kahraman (2021) identified that firms with lower concentration of ownership are more likely to pay dividends than non-payers.

H13a: The dividend decision is affected by ownership structure.
H13b: The dividend yield is significantly and positively correlated with ownership structure.

In the present study, ownership structure was measured as binary variables, such that if family owners represent over 20 percent of firm ownership, firms were categorized as 1, otherwise zero. Moreover, if the state owns over 20 percent of the firm, it was categorized as 1, otherwise zero as adopted in Dewasiri et al. (2019).

Age

Louziri and Oubal (2022) observed a significant negative correlation between firm age and with the dividend payout. Driver et al. (2023) observed that age had a profound and positive relationship with dividend payout in South Africa. Setiawan et al (2024) noted that bank age had a positive impact on the propensity to pay dividends. Thereupon, the present study proposed to test the following hypotheses

H13a: The dividend decision is affected by age.
H13b: The dividend yield is significantly and positively correlated with age.

Derivatives hedge

Giraldo-Prieto et al. (2017) proclaimed that for companies exposed to exchange rate risks that use derivatives, there was a significant increase in the firm value resulting from the hedge.

Therefore, the present research proposed to test the following hypotheses

H16a: The dividend decision is affected by derivatives hedge
H16b: The dividend yield is significantly and positively correlated with derivatives hedge

Usage of derivatives was measured as a binary variable of 1 if the firm used derivatives for hedging in time t and otherwise zero.

Industry Type

Tinashe (2016) affirmed that industry influences have no effect on the dividend policies pursued by firms. The study was based on quantitative techniques that relied on Chi-square for data analysis

Hence, the present research proposed to test the following hypotheses

H17a: The dividend decision is affected by industry type
H17b: The dividend yield is significantly and positively correlated with industry type

Behavioral determinants of dividend policy

Investors preference (Dividend premium)

Brennan and Thakor (1990) propounded that the majority of shareholders may support a dividend payment for a small distribution, despite the preferential tax treatment of capital gains for individual investors. Tembo and Chipeta (2024) stressed that firms with lower investors protection are more likely to pay dividends.
Hence, the present study proposed to test the following hypotheses

H8a: The dividend decision is affected by investors' preferences.
H8b: The dividend yield is significantly and positively correlated with investors' preferences.

Demographic attributes

Nicolosi (2013) observed that firms headed by married, Republican, Christian CEOs with children maintain higher dividend yields and are more likely to considerably increase their dividend payout. García-Meca et al. (2022) observed U shaped relationship that is, for low levels of female representation in the board, women directors increase dividends in order to reduce agency conflicts, and improve reputation or legitimacy. However, after an inflection point dividend payments are reduced as a result of lower overconfidence, risk aversion and other attributes traditionally associated with women.

Therefore, the present study proposed to test the following hypotheses

H14a: Chief Financial Officer's (CFO) experience has an impact on dividend decision
H15a: Chief Financial Officer's (CFO) gender has an impact on dividend decision
H16a: Investors' Gender (ING) has an impact on dividend decision.

Gender was defined as a binary variable with male represented by binary variable of 1 and female taking a zero. Similarly, CFO experience was measured as a binary variable 1 if experience was greater than 15 years and zero otherwise as adopted by Dewasiri et al. (2019).

Other empirical review on the determinants of dividend policy

Dewasiri et al. (2019) identified past dividends, profitability, investment opportunities and investor preferences as determinants of the dividend payout. In addition, past dividend decision or payout, profitability and growth opportunities were identified as the common set of determinants of dividend policy that significantly impact on propensity to pay dividends and its payout. The study was based on a sample of 191 based on continuous data availability from the year 2010 to 2016. A binary logistic regression model was used to test the impact of potential determinants on propensity to pay dividends. Further a fixed effect model was employed to investigate factors affecting dividend payout.

Rahman et al. (2015) affirmed that returns on assets, growth and leverage are the key determinants for the payment of dividends by insurance companies. It was observed that return on assets was profoundly and positively correlated with dividends payout. Furthermore, it was revealed that dividend payout was significantly and positively correlated with growth and leverage. The study was based on a sample of 10 insurance companies quoted on the Dhaka stock exchange and Chittagong Stock Exchange. The period of the study covered by the study was from 2000 to 2009. The methodology of the study was based on quantitative research. The study applied SPSS in analyzing the data of the study.

Callen et al. (1992) identified tax changes and cashflows as the two determinants of dividend policy in Australia. The study revealed that there was no evidence that capital gearing, cost of debt and cost of equity had an impact on dividend policy. The generalized least square was applied in the study. The study was based on a sample of fifty-five companies based on top 100 companies by market capitalization, non-financial companies and for data covering the period from 1980 to 1991.

Epaphra and Nyantori (2018) disclosed a profound significant relationship between dividend yield with market value to book value ratio, retained earnings to total assets ratio, business risk and size of the firm. Furthermore, business risk, liquidity and retained earnings to total assets ratio were observed to have a significant relationship with dividend payout. The sample of the study was based on balanced panel data analysis of 6 manufacturing companies listed on the Dares alum Stock Exchange, covering the period from 2008 to 2016. The t-test was used to test the significance of the coefficient of each variable included in the model. F-test was used to the hypothesis that all slope coefficients in the two models are simultaneously or jointly equal to zero.

3. Research Methodology

The study was based on quantitative research approach based on published audited financial statements of companies listed on the Botswana Stock Exchange. The sample of the study originally consisted of all companies whose shares were quoted on the Botswana Stock Exchange but was reduced by excluding banking financial institutions that were highly leveraged.

The measures for dividend policy used in the study

The dividend payout and propensity to pay dividend was deployed as dependent variables of the study representing dividend policy. Propensity to pay dividend manifested a binary digit and was assigned a 1 in any year when dividend was paid and otherwise assigned a zero for non-payment of dividend in any year. The proxy for dividend payout used in the study was dividend yield. The dividend payout ratio was not used to prevent the study resulting in a perfect mathematical relationship between earnings per share (EPS), an independent variable and divided payout ratio (DPR) a dependent variable.

Model specifications and data analysis

A binary logistic regression model was applied in testing the impact of potential determinants of dividends payout. The study included a dummy variable to control industry effect, the binary digit 1 denoting manufacturing and otherwise zero for non-manufacturing (Ali-Najjar and Kilincarslan, 2017). The model specification for the propensity to pay dividends is laid out in equation 1 below.

Equation 1. Model specification for propensity to pay dividends

$$PPDit = \beta_0 + \beta_1 PDit + \beta_2 SOit + \beta_3 TAXit + \beta_4 LIQit + \beta_5 EPSit + \beta_6 LEVit + \beta_7 BIit + \beta_8 BMit + \beta_9 FSit + \beta_{10} FCFit + \beta_{11} ROEit + \beta_{12} MBVit + \beta_{13} INTit + \beta_{14} CFOEit + \beta_{15} CFOGit + \beta_{16} EVit + \beta_{17} INGCit + \beta_{18} DPit + \beta_{19} INDit + \beta_{20} AGEit + \beta_{21} DRSHit + \varepsilon it$$

Factors affecting the propensity to payout dividends are illustrated in the model for the fixed effects illustrated in equation 2 below.

Equation 2. Model specification for fixed effect

$$PPDit = \beta_0 + \beta_1 PDit + \beta_2 SOit + \beta_3 TAXit + \beta_4 LIQit + \beta_5 EPSit + \beta_6 LEVit + \beta_7 BIit + \beta_8 BMit + \beta_9 FSit + \beta_{10} FCFit + \beta_{11} ROEit + \beta_{12} MBVit + \beta_{13} INTit + \beta_{14} CFOEit + \beta_{15} CFOGit + \beta_{16} EVit + \beta_{17} INGCit + \beta_{18} DPit + \beta_{19} INDit + \beta_{20} AGEit + \beta_{21} DRSHit + \varepsilon it$$

Where:

DRSH-Derivatives Hedge
PPD-is the dependent variable representing the propensity to pay dividends
PD-Past dividend proxied by previous year dividend
SO- State ownership
TAX-Tax
LIQ-Liquidity
EPS-Earnings per share
LEV-Leverage
BI-Board Independence proxy for corporate governance
BM-Board Meetings proxy for corporate governance
FS-Firm size
FCF-Free Cash Flow
ROE-Return on Equity
MBV-Market to Book Value ratio
INT- industry type
CFOE-Chief financial officer experience
CFOG-Chief financial officer gender
EV-Earnings Volatility
INGC-Investors gender composition
DP-Dividend premium
INDit-Industry type
AGE-Firm age proxy for growth and opportunities
E-error term (ε)

Possible short-term lead-lags relationships between dividend payout and its determinants were investigated using the pairwise Granger causality tests. The investigations involved the evaluation of the impact of the independent variable over the current dividend pay out for the past two years of data collection signified by t-1 and t-2 years ago. Furthermore, the impact of dividend payout over the current levels of predictors was investigated over the past two years signified by t1 and t-2 years ago. In addition, an odds ratio was computed to examine the impact of binary predictors on the propensity to pay dividends. The analytical instruments deployed were intended to uncover insights into the phenomena studied.

4. Results

Results of documentary review of the importance of dividends derivatives

Johannesburg Stock Exchange (2025) asserted that derivatives futures are contracts sold along with a future with their purpose being to pay out the difference between the implied dividend and the actual dividend.

Tunaru (2014) stressed that the importance of dividend derivatives for investors on the exchanges was for protection against liquidity pressures and dividend risks. The study was based on the downward jump-diffusion model with beta distributed jumps and a stochastic logistic diffusion model.

According to Eurex (2025) the demand of dividend derivatives by investors increased significantly during the pandemic through to the year 2022 as volatility continued to rise. Further it was stressed that the sharp rise in the decrement indices had caused a dramatic rise in the demand for dividend derivatives. Eurex (2025) described decrement indices as a synthetic total return index that deducts dividend payments from its forward price by fixed amounts thereby removing dividend risk for issuers, who can set dividend payments in advance (ibid).

Soyer (2021) claimed that dividend derivatives had been one of the Eurex success stories ever since the launch of the EURO STOXX 50® dividend future in 2008. Further it was observed that the market demand for dividend derivatives had not only increased in terms of product numbers but had expanded in terms of functionality. In addition, it was observed that dividend derivatives segment had expanded over the previous twelve years towards multiple indices, such as MSCI and recently FTSE100, including single stock futures and options ibid).

Results of quantitative research of the determinants of dividends decisions

Data analysis was conducted in four stages notably commencing with the presentation of results of the diagnostic tests that included unit root analysis and normality testing followed by the deployment of the logit model that investigated the factors affecting the propensity to pay dividends. Factors influencing the payment of dividends were investigated using the fixed effects model (FEM) tests. Further short-term effects were investigated applying the Granger Causality Tests. In Table 5 the results of the Granger Causality tests showed that all the regressors did not cause dividend payout as p-value of greater than 0.05 was achieved for all the variables of the study. In addition to the presentation of the results the suitability of each test described in the preceding sentences was discussed in this section.

Normal and unit root analysis tests were performed on the data of the study. Jacque-Bera value of 4.72 with a p-value of 0.10 was achieved, showing that all the variables of the study were normally distributed. The study

applied the Augmented Dickey-Fuller (ADF) tests to test stationarity and a probability of below 0.05 was obtained for all variables in performing a unit root analysis, demonstrating that all the variables used for the study were stationary at their levels, as shown in Table 3 below.

Factors affecting propensity to pay dividends

In applying the logit model to the data of the study, the significant positive determinants of paying dividends in Zimbabwe and Botswana were observed as past dividends, investors preference (dividend premium), derivative hedge and industry type as reflected in Table 1. This result conforms with the findings of Tran et al. (2025), Tembo and Chipeta (2024), Macharia and Magembe (2001), Tinashe (2016), Franc-Dąbrowska et al. (2019), Dewasiri et al. (2019) and Giraldo-Prieto et al. (2017). The findings contradicted the study of Louziri and Oubal (2022). Chief Financial Officer (CFO)'s experience was observed to have a profound and negative association with the dividends payout in Zimbabwe and Botswana. This result is in conflict with the findings of Nicolosi (2013) and supports the findings of Garcia-Meca et al. (2022) that demographic attributes had a significant influence on dividend policies. The Logit model for the study yielded a McFadden R^2value of 0.83 above the 0.4 indicating a better fitting model for the data.

Factors affecting dividend payout

Dividend yield was used as a proxy in examining the variables that affected dividend payout. A p-value of 0.0000 less than 0.05 was obtained in conducting the Hausman test on the random effect model (FEM) and fixed effect model (FEM) and hence the FEM was appropriate for the study as shown in Table 6 below.

Further the study tested violation of regression assumptions through the application of Breusch-Pagan test for heteroskedasticity. The p-value obtained was greater than 0.05 indicating that there was no heteroskedasticity and therefore the model was homoscedastic. Further, Breusch-Godfrey test was performed on the residuals to test for serial correlation and a p-value greater than 0.05 of 0.7015 which showed that there was no serial correlation for the study reflected in table 7 below. The Ramsey reset test was also conducted in testing model misspecification and a p-value of more than 0.05 was obtained. The Ramsey reset test results revealed that the non-linear items were not significant and hence the model had no omitted variables. Therefore, the diagnostic tests performed as described unveiled the suitability of fixed effect model (FEM) used without violation of the linear regression assumptions.

Hausman test was used to select the preferred model between fixed effect model and random effect model. The Hausman test yielded a p-value of 0.0000 less than 0.05 revealing that the fixed effect model was the most appropriate between the two models. Table 6 displays the fixed effect model summary results. Table 6 revealed that the fixed effect model was significant at the 5% significant level. The $R^2$of 0.79 implied that 79% of the fluctuations in dividend yield could be explained by the predictor model variables.

CFO experience was observed as having a significant positive propensity on dividend policy for the companies listed on the stock exchange for both countries. This result contradicted with outcome of the logistic regression model discussed above. Hippel (2015) deduced the rule of the thumb that if the probabilities of the regressors are more moderate—say between .20 and .80, or a little beyond—then the linear and logistic models fit about

equally well, and the linear model should be favored for its ease of interpretation. Hence in the present study the results from the FEM were preferred over those from the logistic model in interpreting the results of CFO experience. Firm size and free cash flows were viewed as having a significant and negative propensity for dividends payout for non-financial companies listed on both the stock exchanges. The findings are in agreement with results of Gülal and Çıtak (2025), Ghose et al. (2025), Dsouza et al. (2025), Kahraman (2021), Louziri and Oubal (2022). However, the results disagree with the findings of Rwaveya and Makoto (2010) who found leverage, profitability and firm size as having positive influence on dividends policy in Zimbabwe.

The following hypotheses were not rejected for the present study.

H14a: Chief Financial Officer's (CFO) experience has an impact on dividend decision

H2a: The dividend decision is affected by firm size.

H10a: The dividend decision is affected by free cash flows

The coefficient values of the independent variables of CFO 's experience (2.20) had the highest positive influence on dividend yield. The firm size (-0.13) had the highest negative impact on dividend yield as compared to free cash flows (-0.001) as shown in Table 6.

Table 1. Significant determinants for dividends pay out decisions

Variable	Coefficient	SE	Probability
C			
Firm Size	0.008131	0.010953	0.4579
Market to book value	-0.004284	0.013887	0.7577
Firm Age	0.010155	0.012178	0.3263
Past Dividends	78.53077	18.11134	0.0000***
Dividend Premium	2.458829	1.433108	0.0462***
Derivative Hedge	5.426766	1.536248	0.0004***
Leverage	-0.004602	0.006710	0.4928
Board Meetings	0.408094	0.523937	0.4360
Board Independence	-3.177734	1.989852	0.1103
CFO Experience	-5.162691	1.49886	0.0006***
EPS	-0.005470	0.012178	0.6533
Investor Gender			
Liquidity	-0.044972	0.274240	0.8703
Industry Type	2.798016	1.012810	0.0057***
Return on Equity	0.001914	0.022317	0.9317
Sustainability			

McFadden R-Squared	0.826747	P- value	0.000000***
LR statistic	275.6613	Avg. Log Likelihood	-0.116934

Table 2. Coefficient and odds ratios of the binary explanatory variables

Explanatory variable	**Coefficient**	**Odds Ratio**
Past Dividends	78.53077	2.0382811×10^{34}
Dividend Premium (Investors Preference)	2.458829	12.18
Derivatives Hedge	5.426766	221
CFO Experience	-5.162691	0.007
Industry Type	2.798016	16.44

Table 3. Results of Unit root tests

Hypothesis	**t-statistic**	**Coefficient**	**Probability**
Leverage has a unit root	-5.8228	-0.2399	0.0000
Market to Book value has a unit root	-10.53939	-0.4933	0.0000
Firm Size has a unit root	-4.159122	-0.2198	0.0000
Firm Age has a unit root	-0.6667	-0.017195	0.5056
Earnings per Share (EPS) has a unit root	-6.339	-0.4443	0.0000
Return on Equity has a unit root	-10.95488	-0.650642	0.0000
Dividend premium has a unit root	-6.2366	-0.2721	0.0000
Past Dividend has a unit root	-4.5283	-2.2415	0.0000
Board Independence has a unit root	-3.0916	-0.1419	0.0000
Board Meetings has a unit root	-2.8125	-0.1158	0.0000
CFO Experience has a unit root	-4.8092	-0.1714	0.0000
CFO Gender has a unit root	-5.6627	-0.2252	0.0000
Industry type has a unit root	-4.1121	-0.1201	0.0000
Investors Gender has a unit root	-1.8471	-0.0763	0.0660
State Ownership has a unit root	-3.5369	-0.0957	0.0005
Sustainability has a unit root	-4.4350	-0.1291	0.0000

Table 4. Series Residuals-Normality test

	Statistic
Mean	2.64e-74
Mediam	0.04
Maximum	0.87
Minimum	-0.91
Standard Deviation	0.37
Skewness	-0.08
Kurtosis	2.34

Jacque Bera	4.72
Probability	0.10

Table 5. Relationship between dividend payout and the explanatory variables at Lag 2

Hypothesis	**F-Statistics**	**Probability**
Firm size does not Granger cause Dividend payout Dividend payout does not Granger cause Firm size	0.28746 0.45287	0.7604 0.6363
Dividend premium does not Granger cause Dividend payout Dividend payout does not Granger cause Dividend premium	1.09878 1.11346	0.3349 0.3301
Past Dividends does not Granger cause Dividend payout Dividend payout does not Granger cause Past Dividends	0.37224 0.48411	0.6896 0.6168
Sustainability does not Granger cause Dividend payout Dividend payout does not Granger cause Sustainability	1.40582 1.49315	0.2472 0.2268
Industry type does not Granger cause Dividend payout Derivatives hedge does not Granger cause Dividend payout	1.57407 0.47104	0.2093 0.6249
CFO' Experience does not Granger cause Dividend payout Derivatives hedge does not Granger cause Dividend payout	0.50630 0.31559	0.6033 0.6737
ROE does not Granger cause Dividend payout Dividend payout does not Granger cause ROE	0.31758 0.17528	0.7282 0.8393
State Ownership does not Granger cause Dividend payout Derivatives hedge does not Granger cause Dividend payout	1.23309 1.66704	0.2932 0.1909
Liquidity does not Granger cause Derivatives Dividend payout Dividend payout does not Granger cause Liquidity	0.12547 0.16875	0.8821 0.8448
Market to Book Value does not Granger cause Dividend payout Dividend payout does not Granger cause Market to Book Value	0.18482 0.62028	0.8821 0.5386
Leverage does not Granger cause Dividend payout Dividend payout does not Granger cause Leverage	0.28570 0.18875	0.7517 0.8281
Board Meetings does not Granger cause Dividend payout Dividend payout does not Granger cause Board Meetings	1.30943	0.2719

	1.25238	0.2877
Board Independence does not Granger cause Dividend payout Dividend payout does not cause Board Independence	0.16457 0.67375	0.8484 0.5113

Table 6. Relationship between propensity to pay dividends and the explanatory variables at Lag 2 (Panel least squares-Fixed effects tests summary)

Explanatory variable	**Coefficient**	**Probability**
Sustainability	0.206428	0.830
Investors Gender	-0.1303595	0.815
CFO Experience	+2.208807	0.012***
Liquidity	0.0178038	0.298
Firm Age	-0.0082805	0.875
Market to Book Value	-0.0007004	0.697
Return on Equity	0.0019452	0.798
Free Cash Flow	-0.0010568	0.019***
Firm Size	-0.1307443	0.050***
Leverage	-0.0010356	0.696
State Ownership	2.919412	0.296
Board Meetings	-0.0588424	0.828
Board Independence	-0.321273	0.783
EPS	0.0005184	0.698

Table 7. Results of Breusch-Godfrey test of serial correlation

	Statistic	**p-value**
F-statistic	**0.3550**	**0.7015**
Observed Chi-squared	**0.7640**	**0.6825**

4.1 Discussions

Discussions of quantitative research of the determinants of dividends decisions

The coefficient values extracted from the logit model signifies that past dividends followed by derivatives hedge had a strong impact on the decision to pay dividends as shown in Table 2 below. The coefficient implies that having paid dividends in the past increased the log odds of paying dividends by 79 and therefore the odds by 2.04 times 10^{34}, compared to non-payers in the preceding year. In addition, hedging with derivatives increased the log odds of paying dividends by 5 and therefore the odds by 221, compared to non-hedgers in the same year and so forth for the other coefficients in Table 2 below. The implication for this is that previous dividend payers are 2.04 times 10^{34} more likely to pay dividends in the future than non-payers in Zimbabwe and Botswana. Further firms that deploy derivatives for hedging are 221 times more likely to pay dividends in the future than non-hedgers. Manufacturing firms are more likely to pay dividends 16 times than non-manufacturing firms.

Companies that satisfy investors' preferences are 12 times more likely to pay dividends than those that are not investors centric. Companies with a CFO with experience of 15 years and above are likely to pay dividends by 0.007 times than those without, for listed companies in Zimbabwe and Botswana.

5. Conclusions

The present research found that the following factors notably past dividends, investors preference (dividend premium), derivative hedge and industry type had a positive significant influence on the dividends payout in Zimbabwe and Botswana. Further odds ratio revealed that past dividends had likelihood of 2.0382811×10^{34} times of paying dividends than non-payers for both countries studied. Listed firms that used derivatives for hedging had also a substantial likelihood of 221 times more than non-users of derivatives of paying dividends. Manufacturing firms in both countries are 16 times more likely to pay dividends than non-manufacturing firms. Quoted companies that satisfy investors preference are 12 times more likely to pay dividends than non-investors centric firms.

CFO's experience was observed to have a positive significant influence on the propensity for dividend policy in both Zimbabwe and Botswana. Firm size and free cash flows were found to have a negative profound effect on the propensity for dividend payout in both countries.

CFO's experience was identified as a single common factor that affected the determinants of dividend policy in both countries and was observed as well as a variable that significantly influencing the propensity to pay dividends.

Zimbabwe and Botswana could also seize opportunities offered by dividend derivatives by introducing these innovative products into their respective financial markets and cushioning dividends centric investors against the volatility of inflation, interest rates, exchange rates and existential threats.

Future research must be focused on the determinants of sustainable dividends for non-financial firms listed on Zimbabwe and Botswana stock exchanges.

References

Azekkar, Y., Taghouti, Y., & Abidar, B., Boustta, O., and Ouafa, K.E. (2025). "Financial and corporate governance determinants of dividend policy in family firms: A bibliometric analysis and future research agenda," Edelweiss Applied Science and Technology, Learning Gate, vol. 9(5), pages 896-914. https://ideas.repec.org/a/ajp/edwast/v9y2025i5p896-914id7040.html

Akpadaka, O. S., Farouk, M. A., Dang, D. Y., & Fodio, M. I. (2024). Does Profitability Moderate the Relationship Between the Leverage and Dividend Policy of Manufacturing Firms in Nigeria and South Africa? *Journal of Risk and Financial Management*, *17*(12), 563. https://doi.org/10.3390/jrfm17120563

Allen, F., Bernardo, A. E., & Welch, I. (2000). A Theory of Dividends Based on Tax Clienteles. *The Journal of Finance*, *55*(6), pp.2499–2536. http://www.jstor.org/stable/222392

Al-Najjar, B. (2011), "The inter-relationship between capital structure and dividend policy: empirical evidence from Jordanian data", International Review of Applied Economics, Vol. 25 (2)-pp-209-224.

Baker, M. and Wurgler, L. (2004). A catering theory of dividends. The journal of finance, Vol 59(3), pp' 1125-1165. https://www.jstor.org/stable/3694732.

BATS Consulting (n.d). Zimbabwe. https://bats-consulting.com/assets/pdf/taxrules/Zimbabwe.pdf

Bena, J. & Hanousek, J. (2008). "Rent Extraction by Large Shareholders: Evidence Using Dividend Policy in the Czech Republic," Czech Journal of Economics and Finance (Finance a uver), vol. 58(03-04), pages 106-130.

Bessler, W., Gonenc, H., Tinoco, M. H. (2023).Information asymmetry, agency costs, and payout policies: An international analysis of IFRS adoption and the global financial crisis,Economic Systems,Vol.47(1).https://doi.org/10.1016/j.ecosys.2023.101129.

Bhattacharya, D.,Chang, C-W, Li, W-H.(2020).Stages of firm life cycle, transition, and dividend policy. Finance Research Letters, Volume 33. https://doi.org/10.1016/j.frl.2019.06.024.

Bilel, H. & Mondher, K. (2021). "What Can explain catering of dividend? Environment information and investor sentiment," Journal of Economics and Finance, Springer;Academy of Economics and Finance, vol. 45(3), pages 428-450. DOI: 10.1007/s12197-021-09540-0.

Brennan, M. J., & Thakor, A. V. (1990). Shareholder Preferences and Dividend Policy. *The Journal of Finance*, *45*(4), 993–1018. https://doi.org/10.2307/2328712.

Bulan, T.L., and Subramanian, N. (n.d). *The Firm Life Cycle Theory of Dividends.* https://people.brandeis.edu/~lbulan/Book_Chapter.pdf.

Callen, T., Morling, S., and Pleban, J. (1992). The Determinants of Dividend Policy. Date accessed 14 February 2025.https://www.rba.gov.au/publications/rdp/1992/9211/determinants-of-dividend-policy-2.html

Choi, Y. M. Park, K., Kim, W. S. (2020). Corporate hedging and dividend policy: An empirical study of Korean firms, Finance Research Letters, Volume 32, SN 1544-6123,
https://doi.org/10.1016/j.frl.2018.12.034.
https://www.sciencedirect.com/science/article/pii/S1544612318306378

Dąbrowska, J. F., Sawicka, M.M. and Ulrichs, M. (2020). Determinants of dividend payout decisions – the case of publicly quoted food industry enterprises operating in emerging markets. Economic Research-Ekonomska-straživanja, Vol. 33 (1). https://doi.org/10.1080/1331677X.2019.1631201.

Dantas de Souza Junior, W. Hijazi, M.M. and Pedro da Silva, T.(2024). Determinants of Dividend Payout Policy: More EvidenceFrom Emerging Markets of G20 Bloc. https://onlinelibrary.wiley.com/doi/epdf/10.1002/ijfe.3111.

Deng, X., De Groote, S., and Li, C. K. (2024).Dividend signalling and investor protection: An international comparison. Journal of Contemporary Accounting & Economics,Vol 20(1).https://doi.org/10.1016/j.jcae.2024.100441.

Dewasiri, N.J., Yatiwelle Koralalage, W.B., Abdul Azeez, A., Jayarathne, P.G.S.A., Kuruppuarachchi, D. and Weerasinghe, V.A. (2019), "Determinants of dividend policy: evidence from an emerging and developing market", *Managerial Finance*, Vol. 45 No. 3, pp. 413-429. https://doi.org/10.1108/MF-09-2017-0331.

Driver, C., Grosman, A., Scaramozzino, P., and Lesame, K. (2023). Dividends policy and payouts: evidence from South Africa. https://www.resbank.co.za/content/dam/sarb/publications/working-papers/2023/WP%202303.pdf.

Dsouza, S., Nasseredine, H., Habibniya, H., & Tripathy, N. (2025). Do firm-level variables impact dividend pay-out? Examining application of two-step system GMM panel model. *Cogent Social Sciences*, *11*(1). https://doi.org/10.1080/23311886.2025.2472915

Epaphra, M., and Nyantori, S. (2018). Analysis of the determinants of dividend policy: evidence from manufacturing companies in Tanzania. Corporate Governance and Organizational Behavior Review, 2(1), 18-30. http://doi.org/10.22495/cgobr_v2_i1_p2.

Eurex (2025). Eurex Dividend Derivatives. https://www.eurex.com/resource/blob/80940/cb7e688c61708137f006df96deeadc73/data/presentation-dividend-derivatives.pdf.

Franc-Dąbrowska, J., Mądra-Sawicka, M., & Ulrichs, M. (2019). Determinants of dividend payout decisions – the case of publicly quoted food industry enterprises operating in emerging markets. *Economic Research-Ekonomska Istraživanja*, *33*(1), 1108–1129. https://doi.org/10.1080/1331677X.2019.1631201

García-Meca, E., López-Iturriaga, F. J., Santana-Martín, D. J. (2022).Board gender diversity and dividend payout: The critical mass and the family ties effect. International Review of Financial Analysis, Vol. 79. https://doi.org/10.1016/j.irfa.2021.101973.

Ghose, B., Tyagi, P. K., Sharma, P., Gogoi, N., Singh, P. K., Ngima, Y., Vasudevan, A., & Gope, K. (2025). Exploring New Aspects of Corporate Dividend Policy: Case of an Emerging Nation. *Journal of Risk and Financial Management*, *18*(5), 232. https://doi.org/10.3390/jrfm18050232

Giraldo-Prieto, C. A., Uribe, G.J.G. Bermejo, C. V., Herrera, D. C. F. (2017). Financial hedging with derivatives and its impact on the Colombian market value for listed companies. Elsevier, Vol 62 (5).DOI: 10.1016/j.cya.2017.04.009. https://www.elsevier.es/es-revista-contaduria-administracion-87-articulo-financial-hedging-with-derivatives-its-S0186104217301092

Gordon, M. (1959), "Dividends, earnings and stock prices", Review of Economics and Statistics, Vol. 41No. 1, pp. 99-105.

Gülal, O. S. and Çıtak, L. (2025). Determinants of dividend policy in BRICS-T countries, Vol15(2), pp.706 – 733. https://doi.org/10.30783/nevsosbilen.1614679.

Hariem, A. (2021). Profitability and Leverage as Determinants of Dividend Policy: Evidence of Turkish Financial Firms. https://ideas.repec.org/p/pra/mprapa/112134.html.

Hippel, P.V. (2015). Linear vs. Logistic Probability Models: Which is Better, and When? https://statisticalhorizons.com/linear-vs-logistic/.

Kahraman, M. (2021). Determinants of dividend policy in the Netherlands. https://essay.utwente.nl/fileshare/file/87683/Kahraman_MA_FACULTY%20OF%20BEHAVIOURAL%20MANAGEMENT%20AND%20SOCIAL%20SCIENCES.pdf.

Khupe, S. B. (2016). Financial Performance: A Study of Botswana Listed Companies. Archives of Business Research 4(4).

Januarsi, Y. & Sanusi, F.(2024). Profitability and dividend policy: How does free cash flow explain this relationship? Journal Siasat bisnis, Vol 28(1) pp.56-70.

Jitmaneeroj, B.(2017). The impact of dividend policy on price-earnings ratio The role of conditional and nonlinear relationship. Review of Accounting and Finance Vol. 16(1), pp.125-140. https://www.emerald.com/insight/content/doi/10.1108/raf-06-2015-0092/full/pdf.

Junior, W. D. S,, Mohamed Mehdi Hijazi, M. M., and Silva, T. P. (2024). Determinants of Dividend Payout Policy: More Evidence From Emerging Markets of G20 Bloc. https://doi.org/10.1002/ijfe.3111.

Lintner, J. (1956), "Distribution of incomes of corporations among dividends, retained earnings and taxes", American Economic Review, Vol. 46 No. 2, pp. 97-113.

Louziri, R., & Oubal, K. (2022). Determinants of Dividend Policy: The Case of the Casablanca Stock Exchange. *Journal of Risk and Financial Management*, *15*(12), 548. https://doi.org/10.3390/jrfm15120548.

Mahmoud A, M. & Larry G, P., & James N R. (1995). An Investigation of the Dynamic Relationship between Agency Theory and Dividend Policy," The Financial Review, Eastern Finance Association, vol. 30(2), pp.367-385,

Manowan P, Boonyanet W, Jangphanish K. (2025). Determinants of dividend yield: A comparative analysis of long-run and short-run influences in ASEAN leading countries. Journal of Infrastructure, Policy and Development. 9(1): 10711. https://doi.org/10.24294/jipd10711.

Mejía, D. A., García, J. A. C., and Ríos, C. E. C. (2023). Determinants of dividend policy in small and medium-sized enterprises of an emerging market. Cuadernos de Administracion. https://doi.org/10.25100/cdea.v39i77.12924

Mwandenga , A. (2004), "Signaling Theory of Dividends: A Review of the Literature and Empirical Evidence", The African Journal of Finance and Management, Volume 13 Issue 1 , 0856-6372.

Myers, S. C. (1984). The capital structure puzzle. The journal of finance. Vol. XXXIX, No. 3. https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1540-6261.1984.tb03646.x.

Ngo, A., Duong, H., Nguyen, T. and Nguyen, L. (2020). The effects of ownership structure on dividend policy: Evidence from seasoned equity offerings (SEOs),
Global Finance Journal,Vol. 44. https://doi.org/10.1016/j.gfj.2018.06.002.

Nicolosi, G. (2013).Demographics of dividends. Journal of Corporate Finance,Vol.23, pp.54-70.https://doi.org/10.1016/j.jcorpfin.2013.07.003.

Olatundun, A. (2002). The pecking order hypothesis and corporate dividend pay out: Nigerian evidence. *African Review of Money Finance and Banking*, pp. 75–94. *JSTOR*, http://www.jstor.org/stable/23026275. Accessed 17 June 2025.

Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. W. (2007). Agency Problems and Dividend Policies around the World. The journal of finance. https://doi.org/10.1111/0022-1082.00199.

PWH (2025). Botswana corporate Withholding Taxes. https://taxsummaries.pwc.com/botswana/corporate/withholding-taxes

Purnamasari, I. and Heraenitanuatmodjo, H. (2019). Testing of Dividend Signaling Theory. Advances in Economics, Business and Management Research, vol. 65. https:///C:/Users/S2-15-PC16/Downloads/125908026.pdf

Rahman, S. M., Dipak, D., and Naznin, C. (2015). Determinants of Dividend Payouts: Study on the Insurance Sector of Bangladesh. https://ssrn.com/abstract=2697344 or http://dx.doi.org/10.2139/ssrn.2697344

Rochmah, H. N., and Ardianto, A. (2020). Catering dividend: Dividend premium and free cash flow on dividend policy, Cogent Business & Management, 7(1). https://doi.org/10.1080/23311975.2020.1812927.

Rwaveya, E. and Makoto, R. (2010). Determinants of dividend payout policy of non-financial firms in Zimbabwe. Journal of Strategic Studies (Harare, Zimbabwe) (ISSN 2076-6645) 1(1), 103-116.

Macharia, E., & Magembe, B. (2001). The Dividend Payment Policies of Selected Listed Companies in Botswana. *African Journal of Finance and Management*, *10*(1), 53–68. https://doi.org/10.4314/ajfm.v10i1.24309.

Setiawan, S., Wahyudi, S. and Muharam, H. (2024), "Determinants of bank's dividend policy: a life cycle theory test in Indonesia", *Managerial Finance*, Vol. 50 No. 8, pp. 1409-1423. https://doi.org/10.1108/MF-12-2022-0553.

Soyer, K. (2021). Dipping into the DIPS. The growing importance of dividend derivatives. https://www.spglobal.com/market-intelligence/en/news-insights/research/dipping-into-the-dips-the-growing-importance-of-dividend-deriv

Sumail, L. O. (2018). Corporate governance and dividend payout ratio in non-financial firms listed in Indonesian Stock Exchange. http://dx.doi.org/10.15208/beh.2018.58

Tekin, H. (2020). Firm size dividend policy of European firms: evidence from the financial crisis. Marmara journal of European studies, Vol. 28(1). https://dergipark.org.tr/en/download/article-file/1388758.

Tembo, M., and Chipeta, C. (2024). Institutional determinants of dividend policy of African listed firms, Vol 53(4). https://doi.org/10.1080/10293523.2024.2406635

Tinashe, Chirima Darlington (2016), The Impact of Industry-Sector Influences on Dividend Policy. The Case of Services Firms in Zimbabwe (2009 to 2015) International Journal of Case Studies, Vol. 5, Issue 11, https://ssrn.com/abstract=2881164.

Tran, T. N., Duong, D. V., Nguyen Thi, T. H., Do Thi, N. L., Truong, D. D., Nguyen, V. H., & Pham Thi, T. T. (2025). Factors affecting dividend policy of listed manufacturing enterprises: A governance context. Journal of Governance & Regulation, 14(2), 38–48. https://doi.org/10.22495/jgrv14i2art

Tunaru, Radu, Dividend Derivatives (2014). Available at SSRN: https://ssrn.com/abstract=2514289 or http://dx.doi.org/10.2139/ssrn.2514289.

ZIMRA (n.d). Tax rates. https://www.zimra.co.zw/domestic-taxes/corporate/tax-rates