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DO FOREIGN INVESTORS ENHANCE THE ROLE OF FEMALE DIRECTORS IN CORPORATE FINANCING DECISIONS?

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Abstract
This study investigates whether board gender diversity influences the debt to asset ratio and examines the moderating role of foreign ownership within consumer non-cyclicals firms listed on the Indonesia Stock Exchange from 2020 to 2024. Analyzing a balanced panel of 170 firm-year observations across 34 companies using a Random Effect Model, the empirical evidence rejects both proposed hypotheses. The results indicate that the presence of female directors does not significantly reduce corporate leverage. Similarly, foreign ownership fails to moderate this relationship. These outcomes are largely explained by the low average female board representation (11.91%) in the sample, which falls well below the critical mass threshold required to actively shape financial policies. In this context, female participation functions primarily as tokenism. Furthermore, the highly dispersed nature of foreign ownership tends to substitute rather than reinforce board monitoring. This research highlights that merely having token female representation is insufficient to alter capital structure in an emerging two-tier board system, as corporate leverage remains overwhelmingly driven by persistent firm-specific characteristics.

Keywords: Board Gender, Corporate Financing, Foreign Ownership.

INTRODUCTION

Research Background

A firm's capital structure decision show how much of its asset base is financed through debt rather than equity sits at the core of corporate financial policy. The debt to asset ratio (DAR), one of the most widely used proxies for this decision, captures the proportion of a company's total assets funded by external borrowing. Because this choice carries direct consequences for solvency, the cost of capital, and a firm's capacity to absorb economic shocks, identifying what shapes it and who inside the firm shapes it has remained a persistent question in corporate finance research. Among the many determinants scholars have examined, board composition has drawn sustained attention, and within it, board gender diversity has emerged as a particularly active line of inquiry. The interest is not merely descriptive. A substantial body of theory and evidence suggests that boards with a meaningful presence of women approach monitoring, risk, and long-horizon planning differently than more homogeneous boards. Agency theory casts female directors as more diligent monitors who narrow the scope for managerial opportunism and, by extension, for excessive risk-taking through debt (Shahzad et al., 2025; Teodosio et al., 2023). Pecking order theory, suggesting that boards with more women may gravitate toward internally generated funds and shorter-term debt, wary of the scrutiny and rigidity that long-term borrowing imposes (Shahzad et al., 2025; Teodosio et al., 2023).

Empirically, these theoretical accounts converge on a broadly consistent pattern: firms with more women on the board tend to carry less debt, prefer shorter maturities, and once a critical mass of directors is reached, spread their obligations more evenly across time, which lowers rollover risk (Abotula et al., 2025; Askarany et al., 2025). The relationship, however, is rarely linear. Several studies report an inverted U-shape, in which the debt-dampening influence of female directors strengthens as their numbers grow up to a critical mass often placed around three women or 30 percent of the board beyond which the effect flattens or even reverses, as caution tips into excessive conservatism (Abotula et al., 2025; Kusi, 2025). Even this threshold is not fixed across settings: it has been estimated at roughly 34 percent in Ghana and closer to 28 percent in the United States, a gap that itself signals how much institutional and cultural context conditions the relationship (Aljughaiman et al., 2022; Kusi, 2025). Foreign ownership introduces a further layer of complexity to this picture. Where a meaningful share of a firm's equity sits with foreign investors, prior research suggests the monitoring and risk-averse tendencies associated with gender-diverse boards tend to be reinforced rather than diluted: foreign shareholders and directors are often credited with importing more rigorous governance standards, narrowing information asymmetry, and steering firms toward more conservative financing (Bona-Sánchez et al., 2026; Alshareef & Sulimany, 2024). Evidence from China indicates that foreign institutional investors actively favor gender-diverse boards, treating them as a signal of lower information risk when allocating capital (Ali et al., 2021). Yet foreign board presence is not an unambiguous complement: cultural distance between foreign and local directors can just as easily complicate boardroom communication, and its governance benefits appear conditional on director tenure and an inclusive board culture (Cao et al., 2019) which leaves open whether, and under what conditions, foreign ownership genuinely strengthens the financing effects of female directors.

Indonesia offers a distinctive setting in which to revisit this question. Unlike jurisdictions that mandate a minimum share of female board seats, Indonesia has no binding gender quota for listed-company boards, so whatever female representation is observed in Indonesian boardrooms reflects a largely voluntary governance choice rather than a compliance outcome. It is arguably a cleaner setting in which to observe the relationship in something closer to its unmandated, organic form. At the same time, Indonesia is an emerging capital market with a substantial and actively traded foreign shareholder base, a feature that prior research associates with governance effects of board diversity being more, rather than less, pronounced (Kamil & Appiah, 2022). The consumer non-cyclicals sector adds a further reason for focused attention. Reclassified as a standalone sector under the Indonesia Stock Exchange Industrial Classification (IDX-IC), introduced by the Indonesia Stock Exchange (IDX) in January 2021 to replace the earlier JASICA scheme, this sector comprises firms producing and distributing essential goods whose demand is comparatively insensitive to the business cycle. That characteristic gives the sector a distinctive financing profile: relatively stable, predictable cash flows can support a higher debt capacity, yet the sector's close exposure to household consumption and, across the 2020-2024 period, to the disruption and subsequent recovery associated with the COVID-19 pandemic, makes its financing choices worth examining on their own terms rather than folding them into cross-sector samples that can mask sector-specific dynamics.

This study examines two questions: first, whether board gender diversity affects the debt to asset ratio of consumer non-cyclicals firms listed on the Indonesia Stock Exchange; and second, whether foreign ownership moderates that relationship, and if so, in which direction. In addressing these questions, the study aims to contribute sector-specific, Indonesia-based evidence to a literature that has so far relied predominantly on cross-country and single-market settings elsewhere, and to offer practical input for boards, regulators, and investors interested in how governance composition and ownership structure jointly shape corporate financing behavior within an emerging two-tier board market.

LITERATURE REVIEW

Theoretical Framework

Agency theory, rooted in the separation of ownership and control, offers the most frequently invoked explanation for why board gender diversity might influence financing decisions. The theory holds that managers, left unmonitored, may pursue debt-financed growth or risk-taking that serves their own interests more than shareholders, and that board composition is one of the principal mechanisms available to constrain such behavior. Female directors have been positioned within this framework as more diligent monitors: greater board gender diversity has been linked to reduced managerial opportunism and lower agency costs, outcomes consistent with more conservative capital structures and lower leverage (Shahzad et al., 2025; Teodosio et al., 2023). Board independence more broadly of which gender diversity is one dimension is likewise predicted by agency theory to curb excessive risk-taking and reliance on debt. Pecking order theory approaches the question from the standpoint of financing preference rather than monitoring or resource access. It predicts that firms prefer internal financing first, debt second, and external equity last, largely to avoid the costs that information asymmetry imposes on outside financing. Applied to board composition, this suggests that firms with more women directors may lean more heavily on retained earnings or short-term debt, both because greater risk aversion favors financing options that carry fewer long-term commitments, and because long-term debt tends to invite closer creditor scrutiny that more cautious boards may prefer to avoid (Shahzad et al., 2025; Teodosio et al., 2023).

A further, behavioral strand of the literature helps explain why these theoretical predictions materialize in practice. Female directors have been consistently found to exhibit greater risk aversion than their male counterparts in financial decision-making, a tendency that helps account for the more conservative debt structures observed once a critical mass of women is reached (Askarany et al., 2025; Kusi, 2025). Beyond individual risk preferences, gender-diverse boards have also been credited with improving collective decision-making: more diverse boards report enhanced group dynamics and decision quality, partly because female directors are more inclined to challenge established boardroom norms and scrutinize managerial proposals that a more homogeneous board might accept without question, even if doing so can invite resistance (Wiersema & Mors, 2024). Where gender diversity coincides with nationality diversity on the same board, the combination has further been linked to improved collective decision-making and risk management, provided boardroom dynamics are actively and competently led (Rodriguez et al., 2024). These behavioral channels individual risk aversion and sharper group-level scrutiny, offer a plausible micro-foundation for the firm-level financing patterns described below, and help explain why the relationship's strength depends so heavily on whether a genuine critical mass, rather than a token presence, has been reached. Taken together, these theoretical strands point in a broadly consistent direction: board gender diversity should, on average, be associated with more conservative financing choices and lower leverage. Where they diverge is in the mechanism proposed tighter monitoring, richer resources, financing caution, or behavioral risk aversion and it is this divergence in mechanism, rather than in predicted direction, that helps explain why the relationship's strength and shape vary so markedly across the empirical settings reviewed next.

Hypothesis Development

Empirical work on board gender diversity and leverage has grown substantially over the past decade, and its findings, while not unanimous, converge on several recurring patterns. A first concerns debt maturity and type: female directors, particularly those in executive roles, have been associated with reduced reliance on long-term debt and a tilt toward short-term financing that lowers overall firm risk, while a board that reaches a critical mass of roughly three or more female directors tends to disperse its debt maturities more evenly, reducing the risk of having to refinance a large share of obligations at once (Abotula et al., 2025; Askarany et al., 2025). A second concerns the cost, rather than the quantity, of debt: gender-diverse boards have repeatedly been linked to a lower cost of debt, an outcome attributed to the reduced information asymmetry and improved transparency that comes with more diverse oversight (Usman et al., 2019).

These patterns are not, however, uniformly linear. A recurring finding across multiple studies is an inverted U-shaped relationship between the share of women on the board and leverage-reducing outcomes: the debt-dampening effect strengthens as female representation rises, up to a threshold most often placed around three women or 30 percent of the board, beyond which the relationship flattens or even reverses, as heightened risk aversion tips into financial policies conservative enough to erode firm value (Abotula et al., 2025; Kusi, 2025). This threshold is not stable across countries: Kusi (2025) reports a threshold closer to 34 percent in Ghana, while evidence from the United States places it nearer 28 percent (Aljughaiman et al., 2022), a divergence that points to national institutional and cultural context as a meaningful conditioning factor rather than a fixed universal cutoff.

In the specific case of Indonesia, the limited direct evidence available is broadly consistent with this cross-country picture while pointing to firm size as a particularly salient conditioning factor. Iryanti et al. (2023), examining Indonesian listed firms, find that firm size moderates the relationship between board gender diversity and corporate debt, suggesting that the governance channel through which female directors influence financing decisions operates differently across firms of different scale even within a single national setting. Evidence from the wider ASEAN region similarly indicates that women's board representation shapes financial policy choices beyond leverage alone, including dividend payout and cash-holding decisions, reinforcing the view that female directors' influence on financial policy in this region is not confined to a single outcome (Nadia & Hanafi, 2023). Building on this body of evidence, and consistent with agency theory's emphasis on monitoring and pecking order theory's emphasis on caution, greater board gender diversity is expected to be associated with a more conservative capital structure among the consumer non-cyclicals firms examined here.

H_1: Board gender diversity has a significant negative effect on the debt to asset ratio.

If board gender diversity's influence on financing decisions operates chiefly through monitoring, resource access, and risk aversion, then any factor that reinforces or undercuts those channels should also shape the strength of the relationship. Foreign ownership is one such factor, and the literature offers reasonably consistent, if not unanimous, support for the view that it strengthens rather than weakens the governance contribution of gender-diverse boards. The argument for reinforcement rests on what foreign owners and directors are thought to bring to a firm's governance. Foreign shareholders, particularly institutional investors, are frequently credited with importing more rigorous governance norms from their home markets, reducing information asymmetry, and thereby amplifying the governance effects already associated with gender-diverse boards (Bona-Sánchez et al., 2026; Alshareef & Sulimany, 2024). This complementary relationship appears to hold with particular strength in emerging markets, where the governance gap that foreign investors can help close is typically wider to begin with, while family ownership, by contrast, tends to substitute for rather than reinforce gender diversity's monitoring role (Alshareef, 2024; Alshareef & Sulimany, 2024). Evidence from China offers a direct illustration: foreign institutional investors have been shown to actively prefer gender-diverse boards, treating diversity as a signal of lower information risk, which in turn eases the firm's access to foreign capital (Ali et al., 2021). Where the two governance features coincide, firms have also been found to adopt more conservative financing overall lower leverage and a greater tilt toward short-term debt, particularly in emerging-market settings (Kamil & Appiah, 2022; Usman et al., 2019), and this reinforcing effect appears strongest in larger firms and those with higher foreign ownership, suggesting that scale and the depth of foreign engagement both matter for how much foreign ownership adds to gender diversity's governance contribution (Iryanti et al., 2023; Kamil & Appiah, 2022).

This is not to say the relationship is without friction. Foreign board representation, in particular, can introduce communication and coordination costs stemming from cultural distance between foreign and local directors, costs that appear to ease only with sufficient director tenure and an inclusive board culture (Cao et al., 2019). Where foreign female directors bring international experience to the board, however, evidence points toward enhanced risk management and governance quality, particularly once a critical mass of women is present (Qian & Sahari, 2025; Satrio, 2026), and boards that combine both gender and nationality diversity have been found to manage financial risk more effectively though realizing this benefit depends on how well boardroom dynamics are led (Khalaf et al., 2024; Rodriguez et al., 2024). Ownership concentration works in a related but distinct direction. Where ownership foreign or otherwise is sufficiently concentrated, the additional monitoring that a gender-diverse board would normally provide can become partly redundant, since a concentrated owner already has both the incentive and the capacity to monitor management directly (Hassan, 2025). Institutional ownership, considered separately from foreign ownership, tends to have a more direct and consistent moderating effect on outcomes such as the cost of debt, whereas foreign ownership's effect appears comparatively more context-dependent, contingent on the legal and cultural distance between the home and host markets (Das et al., 2025; Hamdan et al., 2024). For a market such as Indonesia's where board gender diversity is not mandated by regulation and where foreign ownership constitutes a substantial and actively traded share of many listed firms' equity, this body of evidence suggests foreign ownership is more likely to act as an amplifier of, rather than a substitute for, the governance contribution of female directors.

H_2: Foreign ownership significantly moderates the relationship between board gender diversity and the debt to asset ratio, strengthening its negative effect.

METHOD

This study adopts a quantitative, explanatory (causal-associative) research design intended to test the hypothesized relationships among board gender diversity, foreign ownership, and the debt to asset ratio using secondary panel data. The population for this study comprises all companies classified under the Consumer Non-Cyclicals sector of the Indonesia Stock Exchange Industrial Classification (IDX-IC) and listed on the Indonesia Stock Exchange during the 2020-2024 observation period. The sample is selected from this population through purposive sampling, applying the following criteria: (1) the company is classified under the Consumer Non-Cyclicals sector and remains listed on the IDX continuously throughout 2020-2024; (2) the company publishes complete annual financial statements and annual reports for the entire observation period, including the ownership and board-composition disclosures required to construct the study's variables; and (3) the company does not undergo delisting, trading suspension, or a change in primary sector classification during the observation period. Firms failing to meet any of these criteria are excluded from the final sample, which consists of the resulting balanced panel of firm-year observations across the five-year window. Data for this study are secondary, drawn from the audited annual financial statements and annual reports of sample firms for fiscal years 2020 through 2024, accessed through the official IDX website (www.idx.co.id) and, where necessary, individual companies' investor relations pages. Table 1 presents the measurement proxies for each variable used in the research model.

Table 1. Measurement of Variables

Variable	Measurement	Reference
DAR (Y)	$\frac{\text{Total Liabilities}}{\text{Total Assets}}$	Goh (2022)
BGD (X)	$\frac{\text{Number of Female Directors}}{\text{Total Board Size}} \times 100\%$	Setiawan (2023)
FOWN (Z)	$\frac{\text{Shares Owned by Foreign Investors}}{\text{Total Outstanding Shares}} \times 100\%$	Hasibuan & Purba (2022)

To test H_1 and H_2, this study estimates the following panel data regression model using EViews 14. Where DAR denotes the debt to asset ratio; BGD denotes board gender diversity; FOWN denotes foreign ownership; and BGDXFOWN is the interaction term capturing the moderating effect of foreign ownership on the relationship between board gender diversity and the debt to asset ratio. Consistent with H_1 and H_2, the study expects both to be negative and statistically significant, indicating that board gender diversity reduces leverage and that foreign ownership strengthens this negative effect. This moderating relationship is tested using Moderated Regression Analysis (MRA), in which the sign and significance of the interaction coefficient determine whether, and in which direction, moderation occurs.

RESULTS AND DISCUSSION

Descriptive Statistics

Purposive screening of the Consumer Non-Cyclicals sector produced 34 firms meeting every sampling criterion across the full observation window, yielding a balanced panel of 170 firm-year observations for 2020 to 2024. Table 2 reports the distribution of each variable.

Table 2. Descriptive Statistics

Statistic	DAR (Y)	BGD (X)	FOWN (Z)
Mean	0.420253	11.91130	32.92371
Median	0.424278	9.545455	20.00000
Maximum	0.888152	55.55556	94.61000
Minimum	0.067154	0.000000	0.020000
Std. Deviation	0.183079	13.37875	32.21467
Skewness	0.194405	1.116180	0.607118
Kurtosis	2.435212	3.616043	1.792144
Jarque-Bera	3.330288	37.98747	20.77746
Probability	0.189163	0.000000	0.000031
Observations	170	170	170

Leverage in the sample is moderate and tightly centred. The mean debt to asset ratio of 0.4203 indicates that roughly 42 percent of the asset base of these firms is financed by liabilities on average, and the proximity of the mean to the median of 0.4243, together with a Jarque-Bera probability of 0.1892, confirms that the dependent variable is approximately normally distributed. The spread between the minimum of 0.0672 and the maximum of 0.8882 nevertheless shows that financing policy within a single sector is far from uniform, ranging from firms that are almost entirely equity-funded to firms whose liabilities approach nine-tenths of total assets.

The distribution of board gender diversity is the single most consequential feature of the sample for interpreting what follows. Female representation on the boards of directors averages only 11.91 percent, with a median of 9.55 percent, and the positive skewness of 1.1162 confirms that the bulk of observations cluster in the lower tail while a small number of firms pull the mean upward. At least one firm-year records no female director at all. Placed against the thresholds documented in prior work, the implication is stark: the sample average falls well short of the 30 to 35 percent band identified by Kusi (2025), short of the roughly 28 percent needed before financing effects materialise in the United States (Aljughaiman et al., 2022), short of the 20 percent inflection reported for Latin American firms (González-Ruiz et al., 2025), and short even of the comparatively modest thresholds of 14.1 and 15.4 percent estimated for European firms using a panel smooth transition specification (Omri et al., 2026).

Foreign ownership, by contrast, is high on average but extraordinarily dispersed. The mean of 32.92 percent sits well above the median of 20 percent, and the standard deviation of 32.21 is almost identical to the mean itself. The kurtosis of 1.7921 is markedly platykurtic, describing a flat distribution with no pronounced central tendency rather than the peaked distribution one would expect of a variable clustered around a typical value. Read alongside a range running from 0.02 percent to 94.61 percent, this pattern suggests that the sample contains two structurally different kinds of firm: those in which foreign shareholders hold a modest portfolio stake, and those that are effectively subsidiaries of foreign parents exercising majority control. This heterogeneity is not incidental to the results reported below.

Panel Data Model Selection

The appropriate estimator was determined empirically through the standard sequence of specification tests, reported in Table 3.

Table 3. Panel Data Model Selection Tests

Test	Statistic	Prob.	Decision
Chow	Cross-section F = 46.849324 (33,134)	0.0000	Fixed Effect
	Cross-section Chi-square = 429.883378 (33)	0.0000	
Hausman	Cross-section random Chi-Sq. = 1.130812 (2)	0.5681	Random Effect
Lagrange Multiplier	Breusch-Pagan cross-section = 273.2890	0.0000	Random Effect

The Chow test rejects the pooled specification decisively, confirming that unobserved firm-level heterogeneity is present and that a common intercept across all 34 firms would be inappropriate. The Hausman test then returns a chi-square statistic of 1.1308 with a probability of 0.5681, comfortably above the five percent threshold, so the null hypothesis that firm-specific effects are uncorrelated with the regressors cannot be rejected and the random effects specification is preferred to fixed effects on efficiency grounds. The Lagrange Multiplier test corroborates this choice against the common effect alternative, with a Breusch-Pagan statistic of 273.2890 significant at the one percent level. All subsequent estimation therefore employs Panel EGLS with cross-section random effects and the Swamy-Arora estimator of the component variances. Because generalised least squares under a random effects structure explicitly models the variance components and weights observations accordingly, the estimator already accommodates the cross-sectional heteroscedasticity that would otherwise require separate correction.

Hypothesis Testing Results

Following the stepwise Moderated Regression Analysis procedure set out in the method section, board gender diversity and foreign ownership are entered first without the interaction term, after which the interaction is added. Table 4 reports the direct effect model.

Table 4. Panel Regression Results, Direct Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.401723	0.040370	9.951102	0.0000
BGD (X)	-0.000497	0.001005	-0.494974	0.6213
FOWN (Z)	0.000743	0.000683	1.087796	0.2783

The fitted direct effect equation is:

DAR = 0.401723 - 0.000497BGD + 0.000743FOWN + e …………………. (1)

Board gender diversity carries the negative sign anticipated by H1, but the coefficient of -0.000497 is statistically indistinguishable from zero, with a t-statistic of -0.4950 and a probability of 0.6213. Foreign ownership, entered here as a direct predictor rather than as a moderator, is likewise insignificant at 0.2783. Table 5 introduces the interaction term and reports the moderated regression used to test H2.

Table 5. Panel Regression Results, Moderated Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.384558	0.041416	9.285313	0.0000
BGD (X)	0.001376	0.001649	0.834429	0.4052
FOWN (Z)	0.001080	0.000718	1.504490	0.1344
BGD*FOWN (XZ)	-0.004045	0.002858	-1.415200	0.1589
R-squared	0.020371	**Adjusted R-squared**		0.002667
F-statistic	1.150631	**Prob(F-statistic)**		0.330389

The fitted moderated regression equation is:

DAR = 0.384558 + 0.001376BGD + 0.001080FOWN - 0.004045(BGD x FOWN) + e ……. (2)

The interaction coefficient of -0.004045 carries the negative sign predicted by H2, implying that the marginal effect of female board representation on leverage becomes progressively more negative as foreign ownership rises. The direction is therefore consistent with theoretical expectation. Statistically, however, the term does not reach conventional significance, returning a t-statistic of -1.4152 and a probability of 0.1589. The model again fails the joint significance test, with an F-probability of 0.3304, and although adding the interaction raises the weighted R-squared from 0.0087 to 0.0204, the adjusted R-squared of 0.0027 confirms that the improvement is trivial.

Board Gender Diversity and the Debt to Asset Ratio

The rejection of H1 appears at first to contradict agency and pecking order theory, both of which predict that gender-diverse boards restrain the use of debt. The most economical explanation, however, concerns threshold rather than direction. Critical mass theory holds that a few women on a board function as tokens rather than as a coalition, with limited capacity to shift collective decisions until their presence can no longer be treated as exceptional. Abotula et al. (2025) place that point at three female directors, Kusi (2025) between 34 and 35 percent, and Aljughaiman et al. (2022) at roughly 28 percent. Mean representation of 11.91 percent in this sample reaches barely a third of the lowest of these benchmarks. The absence of a detectable effect is therefore what the theory predicts rather than a refutation of it.

Two considerations reinforce this reading. The first is measurement. Wiersema & Mors (2024) find that women directors exert influence through preparation and persistent questioning, yet also that male colleagues may withhold recognition of them as equals, an impediment most acute where representation is thin. Qian & Sahari (2025) show that education, financial expertise, and international exposure matter more than headcount alone. A proportion variable registers presence but not standing or expertise. The second is context. Carrasco et al. (2015) and Yousuf & Aldamen (2021) demonstrate that high power distance and traditional occupational norms both depress female representation and blunt its effect once appointed, leading Hamdan et al. (2024) to caution against treating board diversity as a governance signal in markets where female participation in senior roles remains limited. Indonesia, which mandates no gender quota, fits that description closely. A third explanation is structural and specific to Indonesia. Diversity is measured here on the Board of Directors, the executive organ, whereas in a two-tier system the monitoring function that agency theory assigns to boards rests principally with the Board of Commissioners. Satrio (2026) finds that female directors and female commissioners exert differential effects precisely because their positions confer different roles. A prediction imported from single-tier settings may therefore be mis-specified when applied to the executive board alone.

The Moderating Role of Foreign Ownership

The rejection of H2 rests on different logic, and the clearest explanation lies in the composition of foreign ownership itself. Its distribution here is high on average, extremely dispersed, and platykurtic, running from near zero to 94.61 percent, which means that a single percentage conflates two opposite governance situations. Where foreign shareholders hold majority stakes, as is common among Indonesian consumer goods firms operating as subsidiaries of multinational parents, monitoring occurs through group reporting lines and financing policy may be determined above the subsidiary board entirely. Where holdings are dispersed portfolio positions, investors exercise exit rather than voice. Neither configuration produces the boardroom-level amplification that H2 posits, yet the measure records both identically.

This aligns with the substitution hypothesis of Hassan (2025), who finds ownership concentration inversely associated with board gender diversity and argues that blockholders capable of supervising management directly reduce reliance on board monitoring. Bona-Sánchez et al. (2026) report corroborating evidence, showing that the relationship between board diversity and the cost of debt reverses sign in the presence of a controlling shareholder. Where moderator and mechanism function as partial substitutes rather than complements, an insignificant interaction follows naturally. A second explanation is that moderation is itself subject to a critical mass condition. Das et al. (2025) find that the moderating influence of foreign and institutional ownership strengthens only once three or more women sit on the board. Foreign ownership can amplify a governance mechanism only where that mechanism already operates; it cannot amplify an effect that was never established. Given the rejection of H1 and mean representation of 11.91 percent, the failure of H2 follows almost as a corollary. Cultural distance may compound this, since Cao et al. (2019) show that foreign board representation can impair strategic decision-making until tenure lengthens and board culture becomes more inclusive, so that coordination costs partly offset governance benefits.

CONCLUSION

This study set out to determine whether board gender diversity influences the debt to asset ratio of consumer non-cyclicals firms listed on the Indonesia Stock Exchange, and whether foreign ownership strengthens that relationship. Using a balanced panel of 34 firms across 2020 to 2024, comprising 170 firm-year observations, and estimating a random effects model selected through the Chow, Hausman, and Lagrange Multiplier sequence in EViews 14, neither hypothesis was supported. Board gender diversity carries the anticipated negative sign but is statistically insignificant, and the interaction between board gender diversity and foreign ownership, while also negatively signed, does not reach conventional significance. Both the direct and the moderated models fail the test of joint significance. The explanation advanced here is that the conditions under which the theorised mechanisms operate were not met in this sample, rather than that the theories themselves are inapplicable. Indonesia's two-tier board structure locates the monitoring function with the Board of Commissioners rather than with the Board of Directors measured here. Cultural and institutional conditions constrain the exercise of influence even where seats have been allocated. Foreign ownership, distributed across a spectrum from negligible portfolio stakes to majority control, aggregates governance situations that are functionally opposite, and where foreign holdings are concentrated they substitute for board monitoring rather than reinforcing it.

The study makes three contributions. It supplies sector-specific Indonesian evidence to a literature dominated by cross-country panels and by single-market studies conducted elsewhere. It documents a null result in a voluntary-diversity, two-tier board setting, thereby helping to delineate the boundary conditions of propositions established mainly in mandated, single-tier environments. And it demonstrates that the moderating capacity of foreign ownership is itself contingent on the underlying governance mechanism being operative, a dependency that the moderation literature has tended to assume rather than test. Several limitations qualify these conclusions and indicate directions for further work. Board gender diversity is measured as a simple proportion of the Board of Directors, capturing neither the Board of Commissioners nor the seniority, independence, or expertise of the women concerned. Foreign ownership is measured as an aggregate percentage that does not distinguish strategic from portfolio holdings. The observation window coincides with the pandemic and its recovery, a period in which financing decisions were shaped by exogenous pressures unlikely to recur. Future research could address these constraints along several lines. Specifying board gender diversity in threshold or quadratic form, or as a dummy indicating whether a critical mass has been achieved, would test the nonlinearity that the descriptive statistics here strongly imply. Disaggregating foreign ownership into strategic and portfolio components would separate governance situations that the present measure conflates. Extending the measurement of diversity to the Board of Commissioners, or combining both organs through an index would align the construct more closely with the monitoring function agency theory describes within a two-tier system.

REFERENCES

Abotula, G., Harjoto, M. A., & Paul, D. L. (2025). Board gender diversity and debt maturity dispersion. Financial Review, 60(3), 1003–1031. https://doi.org/10.1111/fire.12436

Abu Khalaf, B., AbdulWaheed, K., & Nihamathulla, S. (2024). Exploring the Power of Gender Diversity in Boardrooms on Corporate Risk-Taking. In Alareeni B. & Hamdan A. (Eds.), Lect. Notes Networks Syst.: 1080 LNNS (pp. 475–485). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-3-031-67444-0_44

Ali, S., Rehman, R. U., Ahmad, M. I., & Ueng, J. (2021). Does Board Diversity Attract Foreign Institutional Ownership? Insights from the Chinese Equity Market. Journal of Risk and Financial Management, 14(11). https://doi.org/10.3390/jrfm14110507

Aljughaiman, A. A., Albarrak, M., Cao, N. D., & Trinh, V. Q. (2022). Cost of equity, debt financing policy, and the role of female directors. Cogent Economics and Finance, 10(1). https://doi.org/10.1080/23322039.2022.2109274

Alshareef, M. N. (2024). Does family ownership moderate the relationship between board gender and capital structure of Saudi-listed firms? Cogent Business and Management, 11(1). https://doi.org/10.1080/23311975.2024.2367732

Askarany, D., Jafari, S., Pouryousof, A., Habibi, S., & Yazdifar, H. (2025). Board Gender Diversity and Risk Management in Corporate Financing: A Study on Debt Structure and Financial Decision-Making. Risks, 13(1). https://doi.org/10.3390/risks13010011

Bona-Sánchez, C., Fleitas-Castillo, G. d. C., Pérez-Alemán, J., & Santana-Martín, D. J. (2026). Global board diversity and debt cost. Meditari Accountancy Research, 1–26. https://doi.org/10.1108/MEDAR-09-2025-3287

Cao, J., Ellis, K. M., & Li, M. (2019). Inside the board room: The influence of nationality and cultural diversity on cross-border merger and acquisition outcomes. Review of Quantitative Finance and Accounting, 53(4), 1031–1068. https://doi.org/10.1007/s11156-018-0774-x

Carrasco, A., Francoeur, C., Labelle, R., Laffarga, J., & Ruiz-Barbadillo, E. (2015). Appointing Women to Boards: Is There a Cultural Bias? Journal of Business Ethics, 129(2), 429–444. https://doi.org/10.1007/s10551-014-2166-z

Das, S. K., Dey, P. K., Akhter, T., Hasan, Md. J., & Tasnim, F. (2025). Women on boards, ownership structure, and CEO compensation: Evidence from an emerging economy. Journal of Applied Accounting Research, 26(6), 271–294. https://doi.org/10.1108/JAAR-03-2024-0102

Goh, T. S. (2022). MONOGRAF: Kinerja Keuangan Perusahaan dan Agresivitas Pajak (Pertama). Medan: Indomedia Pustaka.

González-Ruiz, J., Marín-Rodríguez, N., & Ospina-Patiño, C. (2025). Beyond Quotas: The Influence of Board Gender Diversity on Capital Structure in Firms from Latin America and the Caribbean. Journal of Risk and Financial Management, 18(9), 505. https://doi.org/10.3390/jrfm18090505

Hamdan, R. K., Hamdan, A. M., Barone, E., Sarea, A., & Shoaib, H. (2024). Institutional ownership and women representation on boards in three different institutional settings. Business Strategy and Development, 7(2). https://doi.org/10.1002/bsd2.356

Hasibuan, R., & Purba, R. C. (2022). Transfer Pricing: Pengaruhnya pada Perusahaan Jasa. Jawa Tengah: NEM.

Hassan, Y. (2025). Board gender diversity and ownership structure: Are they substitutes or complementary? Evidence from Palestine. International Journal of Disclosure and Governance, 22(1), 109–124. https://doi.org/10.1057/s41310-024-00237-4

Iryanti, I., Mawardi, W., Muharam, H., & Wahyudi, S. (2023). Gender Diversity of Board and Debt: Firm size moderating Role (Evidence from Indonesia). IBIMA Business Review, 2023. https://doi.org/10.5171/2023.530892

Kamil, R., & Appiah, K. O. (2022). Board Gender Diversity and Cost of Debt: Do Firm Size and Industry type matter? Gender in Management, 37(1), 19–38. https://doi.org/10.1108/GM-12-2020-0363

Karim, S., Naeem, M. A., & Ismail, R. B. (2023). Re-configuring ownership structure, board characteristics and firm value nexus in Malaysia: The role of board gender and ethnic diversity. International Journal of Emerging Markets, 18(12), 5727–5754. https://doi.org/10.1108/IJOEM-01-2021-0004

Kusi, B. A. (2025). Female board gender diversity and financing decisions of listed firms: Nonlinear threshold evidence using simultaneous equation modeling. Corporate Governance (Bingley), 25(3), 664–683. https://doi.org/10.1108/CG-10-2023-0432

Laique, U., Abdullah, F., Rehman, I. U., & Sergi, B. S. (2023). Two decades of research on board gender diversity and financial outcomes: Mapping heterogeneity and future research agenda. Corporate Social Responsibility and Environmental Management, 30(5), 2121–2144. https://doi.org/10.1002/csr.2510

Nadia, L. P., & Hanafi, M. M. (2023). Do women board members affect dividend policy and cash holdings? Evidence from ASEAN emerging economies. Corporate Governance (Bingley), 23(4), 705–722. https://doi.org/10.1108/CG-01-2022-0011

Naif Alshareef, M., & Ghazi H Sulimany, H. (2024). Effects of board gender and foreign directorship on the financial sustainability of Saudi listed firms: Does family ownership matter? Heliyon, 10(20). https://doi.org/10.1016/j.heliyon.2024.e39359

Omri, N. A.-E., Guenichi, H., & Alfaleh, A. M. (2026). A Non-Linear Assessment of the Relationship Between Board Gender Diversity and Firm Performance: Cross-Country Evidence. Gender, Work and Organization. https://doi.org/10.1111/gwao.70184

Qian, H., & Sahari, S. B. (2025). The impact of female directors' individual characteristics on corporate financial performance: Evidence from China's a-share listed companies. Journal of Asian Scientific Research, 15(2), 270–282. https://doi.org/10.55493/5003.v15i2.5486

Qiu, H., Gao, L., Dang, R., L'Hocine, H., & Vo, L.-C. (2025). Director Fit Matters: Evidence from Board Gender Quota in France. Management (France), 28(4), 1–26. https://doi.org/10.37725/mgmt.2025.10501

Rodriguez, J., Dandapani, K., & Lawrence, E. R. (2024). Does board gender diversity affect firms' expected risk? Studies in Economics and Finance, 41(2), 389–409. https://doi.org/10.1108/SEF-05-2023-0245

Satrio, A. B. (2026). Gender diversity, governance innovation, and sustainable corporate practices: Evidence from the two-tier board system. Innovation and Green Development, 5(1). https://doi.org/10.1016/j.igd.2026.100331

Setiawan, Y. C. (2023). Peranan Mekanisme Corporate Governance, Corporate Social Responsibility, dan Female Commissioners pada Financial Performance. E-Jurnal Akuntansi, 33(1), 1. https://doi.org/10.24843/EJA.2023.v33.i01.p01

Shahzad, A., Nazir, M. S., Morais, F., & Asghar Butt, A. (2025). Ownership structure, board composition and CEO dominance: What does really matters to corporate deleveraging policies? Corporate Governance (Bingley), 25(4), 786–814. https://doi.org/10.1108/CG-07-2023-0329

Teodosio, J., Lisboa, I., & Oliveira, C. (2023). Board gender diversity and capital structure: Evidence from the Portuguese listed firms. International Journal of Applied Economics, Finance and Accounting, 16(2), 173–198. https://doi.org/10.33094/ijaefa.v16i2.945

Usman, M., Farooq, M. U., Zhang, J., Makki, M. A. M., & Khan, M. K. (2019). Female directors and the cost of debt: Does gender diversity in the boardroom matter to lenders? Managerial Auditing Journal, 34(4), 374–392. https://doi.org/10.1108/MAJ-04-2018-1863

Wiersema, M. F., & Mors, M. L. (2024). Women Directors and Board Dynamics: Qualitative Insights from the Boardroom. Journal of Management, 50(7), 2413–2451. https://doi.org/10.1177/01492063231173421

Yousuf, A., & Aldamen, H. (2021). Female representation on the board of directors and accrual quality within the context of cultural dimensions and accounting values. Managerial Auditing Journal, 36(4), 535–563. https://doi.org/10.1108/MAJ-06-2020-2723