

Do women have a say? A moderated mediation model's influence on the leverage policy toward corporate sustainable growth

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Abstract

Purpose – Examining the role of women on board (WoB) toward corporate sustainable growth (CSG) through leverage policy (LP). This research also investigates the interaction effect of WoB and LP on improving CSG.

Design/methodology/approach – This study uses a moderated mediation model to examine the impact of WoB on CSG, mediated by LP. Data from 48 KEHATI IDX ESG Sector Leaders Index companies observed from 2015 to 2021 were analyzed using the structural equation model partial least square (SEM-PLS) Warp.PLS 8.0. The research applies instrumental variables (IV) to test and control endogeneity due to nonrandom sample selection.

Findings – We found evidence that LP acts as a full mediator between the presence of WoB and CSG. The presence of WoB plays a moderate role by slightly weakening the influence of LP on CSG. Furthermore, we obtained evidence showing that the relationship between WoB and CSG is J-curve-shaped, a nonlinear relationship related to critical mass. Where the WoB ratio is at least 8.35% or higher, it will increase CSG in companies that have implemented the concept of environment social governance (ESG) in Indonesia.

Originality/value – This model uses a moderated mediation model and J-curve analysis; there is an interaction between WoB and LP on different paths of the mediator to CSG. This model examines the role of WoB as a moderator of the effect of LP on CSG. A nonlinear J-curve test was conducted to determine the minimum level of WoB that can influence the increase of CSG.

Keywords Corporate sustainable growth, Leverage, Return on equity, Women on board

Paper type Research paper

1. Introduction

Gender serves as the primary dividing line where development is unevenly distributed (Chakraborty and Sengupta, 2023). Sustainable Development Goal (SDG) 5 on Gender Equality aims to attain gender equality and empower all women, as proclaimed in the 2030 Agenda. SDG 5 strives to guarantee that women can fully and effectively participate, with equal opportunities for leadership at all levels of decision-making in political, economic, and public life (WEF, 2015). Subsequent studies have acknowledged the importance of women's financial independence for economic development and gender equality (Roy and Xiaoling, 2022).

The lack of gender diversity in senior management stands out as a significant challenge for contemporary companies (Garcia-Blandon *et al.*, 2022). A key benchmark for the success

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of SDG 5 targets is the proportion of women in managerial positions, contributing to gender diversity in corporate governance and the sustainable growth of the company (Binder, 2019; Paoloni *et al.*, 2019). The SDGs advocate for changes in business strategy, urging companies aiming at long-term sustainability to integrate a human-centric approach (Kelan and Wratil, 2021). Sustainable growth involves aligning corporate growth goals with internal and external resources to formulate a cohesive strategic plan (Patel *et al.*, 2020). Corporate governance geared towards sustainable growth can ensure alignment of interests among companies, shareholders, managers, and stakeholders (Ludwig and Sassen, 2022).

Women are figures who respect competitiveness, organizational skills, and teamwork (Nicolò *et al.*, 2021). Women have superior skills in terms of internal monitoring mechanisms and improving the quality of financial reporting (Gull *et al.*, 2018; Usman *et al.*, 2021). The female leadership style will ultimately improve business and corporate culture, and a more prosperous and peaceful work environment (Akkaya and Üstgörül, 2020). Women are a unique resource regarding ideas, business solutions and corporate decision-making (Javaid *et al.*, 2021). Female directors are also more sensitive to social, environmental and ethical issues and pay more attention to stakeholder interests than male directors. For this reason, the presence of women on the board of directors can become agents of change and sustainability (Kelan and Wratil, 2021).

Women often bring backgrounds more closely tied to nonfinancial matters, displaying a heightened ethical inclination and a tendency to steer clear of breaches in social and environmental policies, rendering them more effective (Li *et al.*, 2022). The presence of gender diversity encourages companies to embrace socially responsible behavior and sustainable practices, positively influencing accountability and transparency (Paoloni *et al.*, 2019). The inclusion of women on corporate boards aims to bridge the gender gap in economic sector participation and foster the advancement of women within organizations (Neschen and Hügelschäfer, 2021).

The correlation between female directors and financial performance remains a topic of debate (Ciappei *et al.*, 2023). Women continue to face diverse challenges in pursuing a career and attaining leadership roles. The underrepresentation of women in leadership positions perpetuates the perception of their perceived lack of capability (Öberg, 2021). The presence of women in managerial roles can serve as an indication that they are capable of full participation and have equal leadership opportunities in the workplace (Martínez-Jiménez *et al.*, 2020). On average, only 20.2% of women occupy board seats in the top 100 companies listed on the leading stock exchanges in G20 member countries.

The background of this research conducted in Indonesia is shaped by several phenomena. According to data from the Ministry of Women's Empowerment and Child Protection 2022, the proportion of women in managerial positions is projected to reach only 25.84% between 2021 and 2022, marking a significant decrease of 40.54% from 2020. Data from the World Economic Forum Global Gender Gap (WEFGG) in 2022 revealed that Indonesia scored 69.7 on the Social Institutions and Gender Index, ranking 92nd among 146 countries. This score is below the global average for Economic Participation and Opportunity in East Asia and the Pacific at 72.2%, with Indonesia securing the 9th position. The share of women in senior managerial roles in the professional sphere stands at 32.4% (World Economic Forum, 2022).

Regulation Number 33/POJK.04/2014 from the Financial Services Authority regarding Directors and Board of Commissioners of Issuers or Public Companies in Indonesia does not address the proportion of women on company boards. This stands in contrast to several European Union countries like Spain, Italy, France, Belgium, Sweden, Austria, and the Netherlands, which have established a 40% threshold as the highest level to achieve gender diversity on boards, often referred to as a "critical mass" (Lefley and Janeček, 2023; Sousa and Santos, 2022; Tapver *et al.*, 2020). A gender-balanced configuration, where the proportion of women in boardrooms ranges between 40 and 60%, is noted to impact economic and risk-oriented performance in financial firms (Lafuente and Vaillant, 2019).

Evidence indicates a connection between Corporate Governance's internal control mechanisms led by women's boards and capital structure in developed countries, with these efforts still relatively minimal in developing markets (Zaid *et al.*, 2020). Women directors' influence extends to social performance (Öberg, 2021), with positive impacts noted in family companies in France (Mnif and Cherif, 2020), Japanese companies (Kubo and Nguyen, 2021), Italian banking firms (Mazzotta and Ferraro, 2020), China (Alkebsee *et al.*, 2021), and Korea (Kim and Kim, 2023). Sraieb and Akin (2021) find evidence linking female directors to positive correlations with corporate environmental performance. The board of directors serves as an internal oversight mechanism for corporate governance, acting as a source of sustainable competitive advantage, particularly in monitoring financial policy reporting (Bhardwaj, 2022). Women on the board positively impact sustainable company performance (Guizani and Abdalkrim, 2022). The positive effect of women on board extends to leverage policy (Fernandes *et al.*, 2023; Schopohl *et al.*, 2021). Board effectiveness in overseeing management performance increases with women on board (Nicolò *et al.*, 2021).

Results from a contrary study indicate that the impact of women on board has a negative effect on the sustainable performance of Malaysian companies (Ahmad *et al.*, 2020) and those in West Africa (Boubacar, 2020). The presence of female directors is associated with a negative and significant relationship between board gender diversity and earnings management (Yami *et al.*, 2023). Women's boards do not have a direct impact on corporate sustainability. The optimal proportion of women on a company's board of directors, necessary for maximizing sustainable performance, remains unidentified (Bhardwaj, 2022; Conde-Ruiz *et al.*, 2020). The relationship between leverage and corporate sustainability, analyzed by Ludwig and Sassen (2022), highlights that capital structure is not extensively discussed, and there remains insufficient research information about its relationship with corporate sustainability.

This research proposal focuses on the impact of women's representation on corporate boards in Indonesia, aligned with SDG 5 on gender equality. It examines how women on boards influence funding policies and sustainable growth. This study is crucial as Indonesia lacks regulations specifying female board representation. By using a unique research design, including moderated mediation analysis, the research reveals that companies in Indonesia implementing ESG need at least 8.35% female board members for sustainable growth. The findings also emphasize the positive interaction between women on boards, leverage policies, and sustainable growth. This research contributes to the literature by exploring the internal control mechanism of corporate governance and highlighting the WoB quota's moderate role as a decision-maker for ESG-oriented companies, promoting sustainable growth.

Given the premise above, this research is presented in the following order: Section 2 discusses the theoretical background regarding the relevance of women's presence on boards and the continued growth of corporations that implement ESG. As part of a literature review, this research develops hypotheses to answer research questions. Section 3 presents information about data sources, measurements, descriptive statistics and statistical models. Section 4 discusses the main empirical findings based on panel data regression. In the end, section 5 conveys the conclusions of the research results, complemented by practical implications and future research.

2. Literature review and hypothesis development

2.1 The critical mass, shareholders theory and sustainable growth

The critical mass theory, initially introduced by (Granovetter, 1978), posits that a certain quantity of women on company boards can lead to a turning point, affecting group interactions and behavior. This theory suggests a nonlinear relationship between the number of women on boards and board gender diversity impact (Torchia *et al.*, 2011). The shift typically occurs when

women exceed 30% representation in decision-making positions (Lafuente and Vaillant, 2019; Lefley and Janeček, 2023). Women are assuming leadership roles based on merit and internal control mechanisms, enhancing corporate control for long-term financial and nonfinancial goals, including environmental and social governance (Husted and Sousa-Filho, 2019). Improved corporate governance quality, influenced by the board of directors, reduces financial leverage (Yosra and Sioud, 2011). Shareholder theory emphasizes the role of generating profits for sustainable company growth, requiring a stable operating environment. Economic policy changes create uncertainty and increase risk (Ahsan *et al.*, 2021). Female directors enhance investment efficiency, mitigate agency problems, and reduce conflicts of interest (Shaheen *et al.*, 2022). Agency problems can be addressed by increasing control over the company, often achieved through debt financing as a bonding mechanism (Indah Lestari *et al.*, 2020). Evidence suggests that female directors or gender diversity on boards are associated with lower self-esteem and increased risk aversion (Menicucci and Paolucci, 2022; Nadeem *et al.*, 2019).

Sustainable growth refers to a company's ability to maintain a growth rate over time. The company's Sustainable Growth Rate (SGR) serves as a key indicator, integrating growth objectives with internal and external resource empowerment to formulate a consistent strategic plan. SGR gauges the alignment between internal resources and inherent industry growth opportunities, aiming for higher returns. This method estimates a firm's earnings growth rate, with a faster SGR being advantageous in high-return industries. SGR is equivalent to Return on Equity (ROE), where ROE represents the Net Income to Equity ratio (Escalante *et al.*, 2009; Patel *et al.*, 2020). SGR breaks down the return on equity into four components (Higgins, 1981): profit margin (income/sales), retention ($1 - \text{owner withdrawals}$), asset turnover (sales/assets), and leverage ($1 + \text{debt/equity}$). This model, closely linked to DuPont analysis, combines these factors to determine ROE. A decrease in any of these ratios diminishes sustainable growth and increases the likelihood of requiring financial leverage to sustain the company. The board of directors, as strategic planners, considers these components to adjust and achieve a higher or lower ROE.

2.2 Hypothesis development

Female directors play a significant role in predicting sustainability, contributing to the reduction of agency conflicts between shareholders and managers through enhanced monitoring (Amin *et al.*, 2021; Fernandes *et al.*, 2023). Internal corporate governance mechanisms, including diverse boards, guide companies toward sustainability and integrated success. Implementing robust internal corporate governance mechanisms is essential for supporting effective and sustainable management within organizations (Franczak and Margolis, 2022). Board gender diversity is recognized as a positive contributor to sustainable growth. Gender diversity, measured by the percentage of women on the board, including female independent directors, is acknowledged as crucial for effective governance (Guizani and Abdalkrim, 2022).

H1. The existence of Women on Board as a manifestation of SDG 5 has a positive effect on the corporate sustainable growth

The sustainable growth rate represents a company's long-term target growth rate, aligning with internal resources to avoid straining limited assets. Both excessively fast and slow growth pose challenges, affecting investor confidence and creating missed opportunities. Faster growth makes the capital structure riskier. Warmana *et al.* (2020) introduces the "dynamic trade-off theory," evaluating trade-off theory and pecking order theory simultaneously in capital structure decisions. Leverage structure choices significantly impact a company's profitability, even without an ideal leverage ratio. Optimal leverage decisions contribute to sustainability by reducing agency problems and default risk, with managerial perspectives focusing on stakeholders and the company's capabilities (Zhou *et al.*, 2021).

The board of directors, as a relevant internal corporate governance mechanism, plays a crucial role in financial reporting through the advisory and monitoring roles of female directors. Female characteristics are often associated with risk aversion, conservative attitudes, and financial caution, and tend to reduce excess funds based on the percentage of female directors and female independent directors. Companies led by female boards with greater cash holdings prefer leveraging, calculated as the total debt-to-total assets ratio. Women are inclined to avoid risk, making them less likely to choose risky policy options. Gender diversity and cash holdings depend on the role of female directors in the board. An increased number of female directors significantly and positively influences leverage risk (Birindelli *et al.*, 2020). Specifically, evidence suggests that women in supervisory roles, led by female directors, lead to a decrease in cash reserves (Cambrea *et al.*, 2020).

H2. The existence of women on the board has a positive effect on increasing leverage policies

Appropriate debt policies can enhance a company's financial efficiency, thereby supporting sustainable growth. The Sustainable Growth Rate (SGR) calculation requires companies to maximize Return on Equity (ROE) and income to improve leverage ratios (Adams *et al.*, 2015). Companies consistently manage debt financing to achieve sustainable growth and use equity financing for long-term sustainable growth. Leverage is the total liabilities-to-total assets ratio used as a measure of debt policy.

H3. Leverage policies can increase the corporate sustainable growth

Mediating variables are dependent variables expected to be influenced by independent variables. Applying mediating variables aims to demonstrate their role in the causal relationship between independent and dependent variables. Mediating variable depict conditions, such as activities, behaviors, or processes in progress (Wu and Zumbo, 2008). Sound debt policies can positively contribute to a company's financial performance, thereby supporting sustainable growth. The presence of female directors actively involved in designing and overseeing debt policies can be a crucial factor in achieving sustainable growth.

H4. Leverage policies may mediate the effect of women on board presence on firm corporate sustainable growth.

The application of moderating variables is employed to test whether the strength of the causal relationship between independent and dependent variables depends on the moderator variable. The WoB variable may alter the strength of the relationship between the leverage policy variable and a company's sustainable growth from strong to moderate or eliminate the connection altogether. In this study, we suspect that there is an interaction between WoB and LP concerning CSG, providing a reason to investigate its role as a moderating variable. A moderating variable possesses inherent characteristics and attributes (Wu and Zumbo, 2008), prompting us to test the role of WoB as a moderating variable.

H5. The existence of women on the board can moderate the effect of leverage policies on the corporate sustainable growth.

The research model displayed in Figure A1 [1] connects the hypotheses that have been generated and indicates how the research has been conceptualized.

3. Methodology

The study covers all companies listed on the Indonesia Stock Exchange, totaling 833 issuers. Among these, 48 are part of the KEHATI IDX ESG Sector Leaders Index. Focused on

examining the role of women on boards, the sample included companies with female representation on both boards of commissioners and directors. Out of the 48 issuers in the IDX KEHATI ESG Sector Leaders Index, only 36 have women on boards. The study utilizes secondary data from <https://www.idx.co.id/id>, collecting 252 pooled data points from these 36 issuers over a 7-year observation period. The IDX KEHATI ESG Sector Leaders Index, introduced on December 20, 2021, is based on ESG criteria with the assessment base year being 2015.

The moderated mediation model, based on [Wu and Zumbo \(2008\)](#) explanation, focuses on the moderating effect's timing or influence on an independent variable's strength or weakness, impacting the dependent variable. The moderator adjusts the strength or direction of the causal relationship. Mediation, explaining the "why" and "how" of cause and effect, seeks to identify intermediate processes between the independent and dependent variables. So, we examine the variable funding policy with debt as a mediating effect of the presence of women's councils on corporate sustainable growth. For this reason, we apply a moderated mediation model to test which variables influence corporate sustainable growth most.

$$LP = a_0 + a_1 WoB + r \quad (1)$$

$$CSG = b_0 + c' WoB + (b_1 + b_2 WoB) LP + r \quad (2)$$

The paragraph presents equations related to regression analysis. It outlines the coefficients and terms used, such as intercepts a_0 and b_0 , coefficients for Women on Board (WoB) and Leverage Policy (LP) represented by a_1 and b_1 , and the moderation coefficient for LP with WoB denoted as b_2 . The regression residual is indicated by r . [Equation \(2\)](#) clarifies how the conditional regression of Corporate Sustainable Growth (CSG) on LP can be considered contingent on Women on Board (WoB). It introduces the concept of conditional indirect effect, expressed as $f(\hat{\theta}|WoB) = \hat{a}_1(\hat{b}_1 + \hat{b}_2 WoB)$.

The PLS-SEM method was applied using the WarpPLS Version 8.0 software to perform the analysis. Recent methodological research has been conducted to accommodate more complex model structures or address data deficiencies such as heterogeneity in indicator variables and structural paths without imposing normal distribution assumptions on the data. The indicator approach to mediation is moderated using the PLS structural equation model ([Kock, 2021](#)). The primary challenge in using the PLS method for SEM equations lies in its inadequate consideration of measurement errors, leading to underestimated path coefficient estimates.

Recent research emphasizes the importance of addressing endogeneity issues in econometrics by proposing the use of instrumental variables (IV) for causal relationship estimation with observational data. The Two-Step Heckman procedure is a suitable method, accompanied by various tests, techniques, and considerations outlined by researchers when employing IV ([Bascle, 2008](#)). Non-random sample selection introduces specific endogeneity challenges ([Antonakis et al., 2010](#)). Endogeneity arises when researchers misidentify the causal relationship between independent and dependent variables, attributing the observed relationship to a third factor (mediating or moderating variables). IV is instrumental in testing and controlling endogeneity, especially when structural error terms for an endogenous variable correlate with predictor variables. IV selectively shares variability with another variable. Utilizing the "Explore analytic composites and instrumental variables" menu in WarpPLS 8.0 with the "Single stochastic variation sharing" sub-option facilitates the creation and testing of IV for endogeneity control ([Kock and Sexton, 2017](#)). If the IV-link's path coefficient to the dependent variable is small and nonsignificant, it indicates successful implementation of the Heckman procedure, signifying no significant endogeneity in the model ([Certo et al., 2016](#)).

4. Result

4.1 Result

Table A1 [1] presents the descriptive statistics for the research variables. The WoB variable has an average of 0.176 with a standard deviation of 0.147, indicating that the presence of women on boards in ESG Sector Leaders IDX KEHATI is 17.6%, still below the G20 average of 20.2%. The LP Variable, measured by Loan to Total Assets, has an average of 0.617, and the CSG variable has an average of 15.073, indicating a Return on Equity ratio of 15.073x. Construct variables LP and CSG, use formative indicators, and Table A2 [1] displays Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extract (AVE) results. Both Cronbach's alpha and CR values are satisfactory, exceeding 0.7, indicating internal consistency. The AVE surpasses 0.50, meeting convergent validity requirements and explaining at least 50% of item variance. Table A3[1] presents the correlation among latent variables with the square root of AVEs for assessing discriminant validity. The values on the table's diagonal containing the correlations are between the latent variables. Table A4 [1] confirms the absence of vertical multicollinearity in the latent variable block, as the VIF block is lower than 3.3. Table A5 [1] indicates an acceptable fit model size, with the Standardized Root Mean Square Residual (SRMR) below 0.08, and the Chi-square (X^2) being significant at 5%.

4.2 Findings and discussion

Figure A2 [1] presents the results of hypothesis testing, and Table A6 [1] displays path coefficients, standard errors, effect sizes, p -values, and decisions regarding hypothesis acceptance or rejection. The R Square value is 0.10, indicating that WoB and LP collectively account for a 10% variation in CSG, while the remaining 90% is explained by unexamined variables. The R-Square value implies that CSG is entirely dependent on WoB and LP. In comparison, the effect of WoB on LP is 0.04, suggesting that variations in WoB contribute to a 4% variation in LP. Consequently, the influence of WoB is more substantial on LP. The R-squared coefficient or adjusted R-squared coefficient above 0.02 signifies reasonable explanatory power within the sub-model.

The path coefficient values presented in Table A6[1] are divided into two sections. Part A indicates the direct effect of each variable. WoB does not have a significant effect on CSG ($\beta = 0.066, p = 0.148$), thus rejecting hypothesis 1. WoB has a positive and significant impact on LP ($\beta = 0.193, p\text{-value} = 0.005$), supporting the acceptance of hypothesis 2. Furthermore, another direct product reveals that LP significantly and positively influences CSG ($\beta = 0.226, p\text{-value} < 0.001$), confirming hypothesis 3. To reinforce these findings, we conducted a robust test, dividing the sample into two based on the number of WoB. Table A6 [1] displays two subsamples: companies with only one WoB and companies with at least 2 or more WoB. The results indicate that when there is only one WoB, the impact of WoB on LP shows a significant negative result ($\beta = -0.255, p\text{-value} = 0.022$). Adding another WoB can change the direction of the relationship to a significant positive one ($\beta = 0.459, p\text{-value} = 0.019$). The study aligns with research by Gull *et al.* (2023), asserting the need for two or more female directors to impact corporate decisions. These findings are consistent with Uddin (2021), who stated that implementing corporate governance and increasing the number of female directors decides to manage more debt in leverage structure decisions and enhance profitability.

In this study, no direct influence was found between the presence of WoB and the enhancement of CSG for both the entire sample and the subsample. These results differ from previous research by Gold and Taib (2022), stating that gender diversity on the board plays a role in guiding companies towards sustainability and achieving sustainable integration. Table A6[1] Part B illustrates a positive and significant indirect effect of WoB on CSG after

being mediated by LP. These results are sufficient to accept hypothesis 4. Full mediation occurs because the coefficient of the direct influence of the independent variable on the dependent variable, initially nonsignificant ($\beta = 0.066$, p -value = 0.148), becomes significantly positive ($\beta = 0.044$, p -value = 0.020) after going through the mediating variable LP for all samples. Thus, LP acts as a full mediator in the relationship between the influence of WoB and CSG.

Moderation testing was applied in this study to interpret whether the determinants of WoB weaken or strengthen the relationship between LP and CSG. WoB interacts significantly with CSG ($\beta = 0.193$, p -value <0.001), meaning WoB acts as a quasi-moderator. This occurs because the moderator variable also acts as an independent variable. The weakening role of WoB as a moderator is indicated by a slight decrease in the coefficient value of the direct relationship between LP and CSG ($\beta = 0.226$, p -value <0.001). Thus, hypothesis 5 is accepted. This study aligns with [Alkebee et al. \(2021\)](#), stating that the presence of women in the “board composition” of corporate governance results in an effective monitoring mechanism.

There is no direct influence from the WoB variable on the CSG variable; thus, WoB affects CSG only indirectly through LP. In this study, the relationship between latent variables becomes $WoB \rightarrow LP \rightarrow CSG$, with LP serving as the mediating variable. This model presents endogeneity concerning CSG, as the variation flows from WoB to CSG through LP, causing bias in the path estimation for the $LP \rightarrow CSG$ link through ordinary least squares regression. [Figure A2\[1\]](#) presents the solution to this issue, which involves creating the instrumental variable iCSG, which only incorporates the WoB variation that ends in CSG and nothing else, and revising the model to have the following relationships: $WoB \rightarrow LP$, $LP \rightarrow CSG$, and $iCSG \rightarrow CSG$. The $iCSG \rightarrow CSG$ link can be used to test endogeneity through p -value and its effect size. The link can also be utilized to control endogeneity, eliminating bias when estimating the path coefficient for the $LP \rightarrow CSG$ link through ordinary least squares regression. This is addressed by including the instrumental variable iCSG (iWoM), which incorporates variations from WoM that end in CSG. IV is a variable that selectively shares its variance with another variable, exclusively with that variable. Instrumental variables can be used to test and control endogeneity, a situation where the structural error term for an endogenous variable is correlated with one or more predictor variables. The path coefficient for the $iWoM \rightarrow CSG$ link is small, at 0.098, and not significant (p -value 0.57). As an implementation of the Heckman procedure for assessing and controlling endogeneity ([Bascle, 2008](#); [Certo et al., 2016](#)), this indicates no significant endogeneity to CGS in our model.

[Figure A3 \[1\]](#) shows evidence that there is a J-curve graph for the relationship between WoB and CSG, indicating that WoB levels above 8.35% will increase CSG. The results indicate that the average WoB level in 36 companies listed on the KEHATI IDX ESG Sector Leaders Index observed for seven years from 2015 to 2021 is 17.6%, positioning it to the right of the minimum point at 8.35%. This means that WoB has a positive influence and can enhance CSG. These results differ from studies in the European Union and critical mass theory, which state that there is a change when companies have between 30 and 40% women on the board of directors.

The moderating effect is evident in the hypothesis that Women on Board (WoB) moderates the relationship between Leverage Policy (LP) and corporate sustainable growth (CSG). [Figure A4 \[1\]](#), a three-dimensional (3D) graph [Kock \(2021\)](#), illustrates this moderating relationship, connecting WoB, LP, and CSG through a direct link. As the path for the direct relationship traverses the range of the moderating variable from low to high, the path coefficient's sign becomes positive, and its magnitude increases. This indicates that WoB slightly weakens the direct relationship between LP and CSG, and the effect is statistically significant. The study establishes a dynamic interaction between the moderator variable (WoB) and the mediator variable (LP), demonstrating changes in the indirect effect based on

the varying values of the moderator, highlighting the occurrence of moderation in the mediation process.

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4.3 Implication

The managerial implications of this research suggest that WoB has a positive and significant impact on LP when there are two or more WoB in companies that have implemented ESG in Indonesia. This finding indicates that the critical point is at a WoB level of 8.5%, which can enhance CSG, contrasting with suggestions from some previous studies that proposed levels above 30%. Specifically, the author supports recommendations regarding the need to increase the number of WoB to improve CSG.

The social implications of this paper highlight the importance of considering the presence of WoB when analyzing their influence on LP and CSG. The presence of WoB will affect CSG through LP, meaning that an increasing number of WoB constituents will enhance CSG by implementing LP. With their tendency to be more compliant with regulations, cautious, vigilant, and risk-averse compared to men, WoB will effectively manage financing derived from debt.

5. Conclusion and limitation

The research findings reveal that WoB significantly and positively impacts LP when there are two or more individuals in the company. However, WoB had no direct effect on CSG in both overall samples and sub-samples. The J-curve graph illustrates the relationship between WoB and CSG, indicating that a WoB level above 8.35% contributes to increased CSG. The mediation test shows that LP fully mediates the influence of WoB on CSG, demonstrating a positive and significant indirect effect. This suggests that the company's debt policy plays a crucial role in determining the effectiveness of WoB's presence. The cautious approach of WoB, prioritizing internal funding sources, has been proven to reduce company risk. The interaction between WoB and LP slightly weakens the impact of LP on CSG. WoB's cautious funding decisions limit access to external funding, impacting profit generation and, consequently, CSG. A limitation of the study is that CSG measurement could consider financial performance and governance, leaving room for future research on the influence of WoB on CSG using environmental and social proxies.

Notes

1. Please see it on the Online Appendix.

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Appendix

Supplementary material for this article can be found online.

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