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Can Green Board Committee Mitigate ESG Risk?

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Abtract

This research aims to see the influence of determinant factors, namely Green Board Committee, Board Diversity and Firm Size in mitigating ESG Risk Rating. This study uses Regression Robustness Test in data analysis on 79 companies listed on the IDX in 2023 and have ESG Risk Rating. In this study, it was found that the Green Board Committee does not have a significant influence on ESG Risk Rating but must have other variables that can mediate ESG Risk Rating such as ESG activities. then Board Diversity has a significant influence on ESG Risk Rating which means that with diversity in the board of directors, they can have many different perspectives on women who are more sensitive to environmental issues so that they can manage ESG risks well, and Firm Size has a significant influence on ESG Risk Rating which proves that the bigger the company, the more it can manage ESG risks. There are still few studies related to ESG Risk Rating in Indonesia, so it is one of the novelties in this study

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1. Introduction

In recent years, the concept of Corporate Sustainability has received increasing attention and become a core for policy makers, corporations, communities and scholars (Bani-Khalid, 2019; Sabirali & Mahalakshmi, 2023; and In et al., 2024). The concept of Environmental, Social, and Governance (ESG) is now increasingly gaining attention in various parts of the world. ESG refers to three main pillars used to assess the sustainability and ethical responsibility of a company in terms of environment, society, and governance (Gunawan et al., 2023; Li, 2024; Babu et al., 2024). Through the application of ESG principles, companies are expected to be able to run their businesses more responsibly, not only towards the environment but also towards society and aspects of corporate governance. The main goal of implementing ESG is to create a more sustainable and ethical company, which can ultimately improve longterm performance and attract more investors.

The progress of international companies that have successfully gone public in the world capital market has motivated many companies in Indonesia to take proactive steps to increase their commitme ESG (Aresteria et al., 2024; Rahmaniati & Ekawati, 2024; and Muthiah & Anggoro, 2024). Companies realize that global investors are incre--asingly considering ESG factors in assessing potential investments. Currently, companies in the international capital market are subject to strict legal and regulatory requirements regarding ESG reporting. This encourages companies to improve governance, reduce environmental impacts, and improve worker welfare.

Studies have shown that ESG performance has a positive and significant impact on corporate dividend policies in Indonesia. This means that companies that are more responsible in terms of environmental, social, and governance tend to have better dividend policies, which in turn can attract more investors (Saldi et al., 2023; Salvi et al., 2024; Sebastianelli et al., 2024). ESG has a positive impact on company performance, for example, increasing the company's ROA (return of assets) due to good ESG performance (Chen, 2024; Pramisti & Istiqomah, 2024; Shang, 2024), although it does not always affect the company's market value as measured using Tobin's Q (Ihsani et al., 2023). But investors in Indonesia already have a good understanding of ESG and show high interest in investing in stocks that implement ESG principles (Sugiarto et al., 2023) However, on the other hand, high ESG risk indicates higher vulnerability in the future and a weak management culture (Cheng & Micale, 2022; Chmielewska & Kluza, 2024; Silva & Romaro, 2024) so investors will definitely will think about investing in the company.

On the other hand, developing countries like Indonesia face different challenges in adopting ESG. Although awareness of the importance of ESG is increasing, obstacles such as limited resources, uneven regulation, and pressure to remain competitive in the global market are obstacles that must be overcome. In Indonesia, the Financial Services Authority (OJK) has launched a sustainable finance roadmap as an effort to encourage the integration of ESG aspects into the financial and business sectors. This initiative is designed to enhance the role of the financial industry in driving sustainable development and reducing negative environmental impacts (Yuspin et al., 2024). The Indonesian government has issued a number of regulations to encourage the implementation of ESG in the financial and corporate sectors. One important regulation is POJK No. 51/POJK.03/2017 concerning the Implementation of Sustainable Finance for Financial Services Institutions, Issuers, and Public Companies. This regulation requires companies to prepare sustainability reports that cover environmental, social and governance (Camilleri, 2015; Lehner & Harrer, 2019; Bosi et al., 2022; Putri & Ros Bangun, 2023). In addition, the Financial Services Authority (OJK) has introduced the Sustainable Finance Roadmap Phase II (2021-2025) which emphasizes the development of ESG-based businesses. This roadmap aims to improve the understanding and capacity of business actors in implementing sustainability practices, as well as attract more investors who care about ESG aspects and this is critical to growing a stable and inclusive national economy (Chandra et al., 2022; Pranesti et al., 2022; Prihandono & Yuniarti, 2023).

This study uses agency theory to explain the relationship between ESG performance and board composition, which includes the characteristics of the ESG committee and board diversity, and firm size which are considered important to improve the company's financial and non-financial reporting mechanisms (Birindelli et al., 2018; Popov & Makeeva, 2022; Chebbi & Ammer, 2022; Tan & Taufiik, 2022; Bigelli et al., 2023; Shah et al., 2024). As well as important in reducing information asymmetry between shareholders and top management Mangena & Pike, 2005; Manita et al., 2018; Arayssi et al., 2020; and Wang, 2024). Board size affects the dynamics and efficiency in carrying out its functions. Board diversity and firm size, together with the role of the green board committee, ensure that management acts in accordance with shareholder expectations regarding social responsibility and sustainability. This committee evaluates risk management and sustainability policies within the company. As a result, board diversity and the green committee serve as a monitoring mechanism, reducing the risk of management prioritizing short-term profits over long-term sustainability.

The Environmental, Social, and Governance (ESG) performance of a company is greatly influenced by its internal governance (Pramisti & Istiqomah, 2024). Good corporate governance not only creates transparency and accountability, but also supports essential sustainability practices in ESG. The purpose and contribution of this research is expected to be able to explore in depth whether the existence of a green board committee, the number of female and male directors in the company or Board Diversity in the corporate governance structure and company size has a significant contribution to the ESG Risk Rating of companies in Indonesia this supports the idea that adherence to sustainability principles positively affects long-term corporate reputation and value, thereby reducing ESG risks. The implications of this research in the field of accounting science have several significant dimensions. This research contributes to the development of sustainability accounting, especially in the context of ESG (Environmental, Social, and Governance) measurement and reporting (Pasha et al., 2024). The findings showing the relationship between the existence of Green Board Committee, Board Di-versity, and Firm Size and ESG Risk Rating can encourage the adoption of more comprehensive and transparent reporting standards, which are expected to increase the credibility of financial and nonfinancial information reported to stake-holders. This study also enriches the literature on corporate governance. These implications are very relevant for auditors and management ac-countants who have the responsibility to assess ESG risks and impacts on the company's financial statements.

Previous research found that the relationship between company size and ESG risk in the banking industry is non-linear (Bolibok, 2024), 2024) this study focuses on several sectors in Indonesia. Research by Romano shows positive results between the number of women on the Board of Directors and ESG Score (Romano et al., 2020). Research by Muhammad Ali also shows that Gender Diversity has a positive effect on ESG Disclosure (Ali & Firmansyah, 2023), and in previous studies there are results that gender diversity in the board of directors can weaken the esg risk rating (Wisanggeni & Rahmawati, 2024). Research by Narullia shows positive results between the CSR Committee or Green Board Committee on ESG Performance (Narullia, 2022). The findings of research by Istikomah et al., (2023) show that ESG has a negative effect on company value. Previous research reveals no relationship between sustainability related committees or csr committees and corporate ESG risk reputation (Zhang & Wong, 2022). Some Previous research studies focused on esg scores but did not look at how esg risks, as well as only looking at the effect on one particular variable so this research fills the void by looking at the company's internal factors and company size as variables. This study has a novelty that focuses on the Green Board Committee, Board Diversity, Firm Size on ESG Risk Rating. In addition, this study focuses on 2023 as the year of analysis, the measurement of the Green Board Committee uses GBCI.

Thus, this study is expected to fill the gap in previous research by providing more comprehensive insights into how internal factors of a company, Board Attributes, can influence the ESG performance of companies in Indonesia (Birindelli et al., 2018; Romano et al., 2020; and Menicucci & Paolucci, 2022). This research aims to see the influence of determinant factors, namely Green Board Committee, Board Diversity and Firm Size in mitigating ESG Risk Rating.

2. Hyphotesis Development

The Green Board Committee (GBC) is certainly responsible for developing and overseeing the company's environmental strategy, ensuring that the company not only complies with regulations but also implements best practices in sustainability for the benefit of the company so that in this case the implementation of the green board committee can have a significant impact on the ESG Risk Rating which has an impact on the company's sustainability so that the fulfillment of stakeholder expectations can improve the company's performance.

In agency theory, sustainability committees can serve as an internal oversight mechanism that helps reduce conflicts of interest between management and owners. With the Green Board Committee, companies can ensure that sustainability policies and practices implemented by management are aligned with the interests of long-term ownership and other interests (Jarboui et al., 2023)

Research shows that the existence and effectiveness of a Sustainability Committee, including the size and expertise of its members, has a positive impact on ESG Scores and the level of disclosure in sustainability reports (Jasman et al., 2023). With this committee, the company can be more effective in implementing a comprehensive sustainability strategy, which not only has an impact on improving financial performance but also provides a positive contribution to the environment and surrounding communities (Sekarlangit & Wardhani, 2021). Good ESG disclosure can improve a company's sustainability performance, with environmental and social performance being significantly positively related to a company's economic performance (Xie et al., 2019; Alsayegh et al., 2020). Companies with CSR committees tend to have lower ESG risks than companies without them. CSR/sustainability committee positively influence ESG performance in Italian banks (Shakil et al., 2020; and Menicucci & Paolucci, 2022). The existence of a green board committee in the company has an influence on risk mitigation on the environment (Driss et al., 2024) .

H_1**:** There is a significant influence of the Green Board Committee (GBC) on the Environmental, Social, and Governance (ESG) Risk Rating.

In Agency teory board diversification can significantly contribute to reducing agency costs by increasing the board's capacity to supervise management with greater efficacy (E-Vahdati et al., 2018); Ismail & Latiff, 2019; Chebbi & Ammer, 2022; and Fayyaz et al., 2023). A board characterized by diversity introduces a variety of perspectives and competencies, which can facilitate improved oversight and a more comprehensive decision-making process. Such diversity can help in reconciling the interests of managers and shareholders (Rooly, 2021) so that sustainability supervision can be carried out with various perspectives including supervision of ESG Risk Rating

Board diversity, including gender, ethnicity, and expertise, plays a crucial role in improving a company's ESG performance. Diversity among board members impacts esg disclosure and enriches discussions and increases sensitivity to esg issues (Bukarim & Widarjo, 2024). In emerging markets such as Indonesia, where a higher proportion of women on boards is correlated with lower levels of ESG risk (Kristianti, 2023). Gender diversity on corporate boards, in particular having a critical mass of female directors, correlates with a reduction in ESG controversies which may also reduce risks to esg (Issa & Hanaysha, 2023).

H_2**:** There is a significant influence of Board Diversity (BD) on Environmental, Social, and Governance (ESG) Risk Rating

Larger companies typically have greater resource allocations for advancing Environmental, Social, and Governance (ESG) initiatives. Companies often demonstrate superior capacity to implement sustainability programs, comply with environmental regulations, and adopt socially responsible business practices, all of which can have an impact on ESG Risk Ratings.

Agency Theory shows that very small and very large companies can manage agency costs more effectively than medium-sized companies, perhaps due to the scale of resources available for governance in larger companies and the simplicity of operations in smaller companies (Canarella & Miller, 2022). So a large company is certainly more aware of its ESG Risk Rating in order to meet stakeholder expectations that emphasize sustainability.

In the ESG Risk Rating on average, large company size is negative with ESG risk in the international banking industry cross-section which shows that large companies are able to overcome their ESG risks (Bolibok, 2024). By considering company size in ESG risk analysis, investors can better understand and manage the impact of size on overall risk levels such as ESG Risk Rating (Karoui et al., 2023)

H_3**:** There is a significant influence of Firm Size (FS) on Environmental, Social, and Governance (ESG) Risk Rating

3. Data and Methods

This study uses a quantitative design with a linear regression approach to analyze the effect of Green Board Committee (GBC), Board Diversity, Firm Size on Environmental, Social, and Governance (ESG) Risk Rating in companies. This study is explanatory in nature which aims to explain the causal relationship between the independent variables and the dependent variables. The population in this study are companies listed on the Indonesia Stock Exchange (IDX) that have ESG Risk Ratings listed and available for analysis. Samples were taken using the purposive sampling method, namely selecting companies that meet certain criteria. The number of samples used in this study was 79 companies taken from trusted websites and have been published by reputable institutions, namely on idx.co.id (https://www.idx.co.id/id/usaha-terrecorded/besar-esg)

Table 1. Sampling Results

No	Criteria	Total
1	Companies listed on ESG Risk Rating on IDX in 2023	79
2	Companies without ESG Risk Rating 2023	0
3	Companies that do not have an annual report and sustainability report in 2023	0
	Total Sample	79

This data includes information about the existence of GBC, Board Diversity, Firm Size and ESG Risk Rating of the company. In addition, the measured indices such as the number of directors, and the percentage of women on the board of directors will be collected through the company's official website. There are 2 variables in this study, namely dependent and independent. ESG Risk Rating is the dependent variable in this study, Green board committee, Board Diversity and Firm Size are selected as independent variables.

The ESG Risk Rating variable in this study was taken from the validated official website, namely idx and sustainalytics, with a score range, the smaller the rating, the smaller the risk related to ESG, conversely, the higher it is, the greater the risk faced.

Table 2. ESG Risk Rating

Negligent	Low	Medium	High	Severe
0-10	10-20	20-30	30-40	>40

Source : Idx

Independent variable GBC is measured based on the existence of a special committee in the board of directors responsible for the company's environmental policies and initiatives. This variable is measured using the Green Board Committee Index (GBCI) which consists of four main dimensions (Shah et al., 2021) (Table 3).

Table 3. Green Board Committee Index

Variables	Dimensions	Elements
Green Board Committee index	Strategy and policy	Information on green board committees' engagement in strategy and policy making of the firm
	Risk Management	Information on the green board Risk management Green board committee index committees' engagement in monitoring and control of the firm
	Monitoring and controlling	Information on green board committees' engagement in the sustainability reporting of the firm
	Sustainability reporting	Information on the green board committees' engagement in the risk management of the firm

The analysis was conducted using the coding method (dummy). Where when the company has all the GBCI dimensions in the annual report or sustainability report, it is given a score of 2, when the company only has at least one of the dimensions, it is given a score of 1, but if it does not have any dimensions in the GBCI, it is given a score of 0.

The independent variable Board Diversity uses the percentage of female directors on the company's board of directors (BOD). The proportion of women on the board serves as a significant indicator of gender diversity. It facilitates direct comparison and benchmarking across companies and sectors. This approach is integrated into a comprehensive framework that encompasses multiple constructs, including structural, demographic, and cognitive diversity (Behlau et al., 2024).

Firm Size variable is measured using total assets in the company. Total assets serve as a metric for company size based on its correlation with operational scale and resources (Yulianto, 2022) Total assets are often used in empirical corporate finance because of their stability in maintaining metrics and the statistical relevance of coefficients across studies. Such consistency is essential to ensure the reliability and comparability of empirical findings across research settings (Dang et al., 2018).

Data that has been obtained Regression analysis conducted using the Regression Robustness Test on the Stata Analysis Tool. The regression test will see the significant influence between the independent variables, namely Green Board Committee, Board Diversity, and Firm Size on the Dependent variable, namely Esg Risk Rating.

4. Result

Based on table 4 the ESG variable comprises 79 observations, displaying a mean of 29.32 alongside a standard deviation of 9.647, indicating considerable variability in ESG Risk Rating among the company being researched. The GBC variable have a mean of 1.531 and a standard deviation of 0.527, illustrating the differences in corporate engagement with green committees. The Board Diversity (BD) variable has an average of 0.167 and a standard deviation of 0.155 which indicates the lack of diversity in the board of directors of the companies studied. The Firm Size (FS) variable demonstrates a notable range in firm sizes, characterized by an average of 29,029.67 and a standard deviation of 4,306.451. Collectively, these statistics elucidate the diversity and scope of the factors examined.

Table 4. Descriptive Statistics

Variabel	Obs	Mean	Std. Dev.	Min	Max
ESG	79	29.320	9.647	12.670	53.100
GBC	79	1.532	0.527	0.000	2.000
BD	79	0.168	0.1555	0.000	0.667
FS	79	29029.670	4306.451	19610	35315.000

The results of the linear regression analysis in table 5 show that this model has an F-statistic of 9.66 with a probability value (Prob> F) of 0.000, indicating that this model is statistically significant at a 95% confidence level. The R^2 value of 0.279 indicates that approximately 27.88% of the variation in the dependent variable ESG can be explained by the independent varia-bles GBC (Green Board Committee), BD (Board Diversity), and FS (Firm Size). The adjusted R^2 of 0.250 indicates a more conservative adjustment, indicating that approximately 25.00% of the variation in ESG is explained by this model after considering the number of variables.

At the individual level, the GBC coefficient is -0.059 with a p-value of 0.974, indicating that

GBC is not statistically significant in influencing ESG. The BD variable has a coefficient of -26.944 with a p-value of 0.043, indicating that BD is negatively significant to ESG, meaning that an increase in board diversity tends to lower the ESG Risk Rating. The FS variable has a coefficient of -0.0005 with a p-value of 0.023, which is also negatively significant, indicating that the larger the company size, the lower the ESG Risk Rating tends to be. The model constant (_cons) has a coefficient value of 49.12105 which is statistically significant, indicating that when all independent variables are zero, the ESG value is predicted to be 49.12.

Table 5. Regression Analysis

Source	SS	df	MS			
Model Residual	2023.776	3	674.592			
	5235.267	75	69.804			
Total	7259.043	78	93.065			
ESG	Coef	SE	t	P>I t I	[95% cont. interval	
GBC	-0.057	1.820	-0.03	0.974	-3.685	3.568
BD	-26.944	6.224	-4.33	0.000	-39.344	-14.545
FS	-0.001	0.000	-2.32	0.023	-0.001	-0.000
_cons	49.121	7.455	6.59	0.000	34.271	63.971
Number of Obs	79					
F(3,75)	9,66					
Prob > F	0.000					
R Squared	0.279					
Adj	0,250					
Root MSE	8.355					

5. Discusssion

Green Board Committee and ESG Risk Rating

Based on the result Green Board Committee does not have a significant influence on the ESG Risk Rating. Green Board Committee plays an important role in monitoring management activities, the committee does not show substantial support for ESG in achieving higher market performance. GBC cannot have a direct influence in mitigating ESG Risk Rating. The Green Board Committee also often focuses on operational aspects such as strategy and risk management, which may not directly affect the ESG risk rating. Its impact is more evident in areas such as sustainability reporting and corporate social responsibili-ty, rather than changing the perception of ESG risk (Shah et al., 2021). This could be due to the lack of capacity, authority, or resources owned by this committee to make a real impact on the company's ESG Risk Rating. In this case, there must be a variable that logically mediates such as ESG Activities, so that GBC is only limited to disclosure, but there needs to be real action related to ESG in order to mitigate ESG risk.

Based on Agency Theory, principals anticipate that agents will operate in line with their optimal interests, which include increasing the value of the firm and effectively reducing risks, includeing those related to environmental, social, and governance (ESG) factors. However, agents may be driven driven by alternative incentives, such as pursuing immediate financial gain or preserving their position, often ignoring the long-term viability of the firm, especially in relation to ESG risk management (Saldi et al., 2023). The Green Board Committee can be considered as an oversight mechanism aimed at reducing conflicts of interest (Suetens, 2024) by forcing management to prioritize Environmental, Social, and Governance (ESG) considerations that may impact the firm's long-term sustainability and reputation. However, if the GBC does not have sufficient authority or resources to effectively implement ESG policies, or if management does not fully support ESG initiatives, then its impact on ESG risk assessment may be negligible. so this finding corroborates zhang's findings that there is no significant relationship between the sustainability committee or green board committee and esg risk.

Board Diversity and ESG Risk Rating

There is a significant influence between Board Diversity and ESG Risk Rating, this finding shows that where the lower the diversity in the board of directors, the higher the company's ESG Risk Rating which results in the company being more exposed to esg-related risks. Several studies have highlighted that gender diversity on the board significantly reduces the level of ESG risk. For example, in Indonesia, a higher proportion of women on the board is correlated with lower ESG risk (Kristianti, 2023).

Women tend to have a higher sensitivity to social and environmental issues than men (May et al., 2021; Subiza-Pérez et al., 2020; Mandarić & Hunjet, 2024). This can be translated into policies and decisions that are more in favor of better environmental, social, and governance (ESG) risk management. This is in line with seve-ral studies related to the significant effect of board diversity on ESG Risk Ratings, especially on the percentage of women on the board of directors. The percentage of women on a company's board has a significant impact on reducing ESG controversies (Issa & Hanaysha, 2023) and the percenta-ge of women on the board of directors has a significant impact on reducing a company's ESG risk rating. The pre-sence of women on the board helps lower ESG risk levels, indicating that gender diversity plays an important role in sustainable financial repor-ting practices (Kristianti, 2023) This is because women are often more likely to push for sustainable and responsible policies.

In line with agency theory, the inclusion of women on corporate boards can reduce conflicts of interest between management and shareholders by improving oversight mechanisms and ensuring that managerial actions are aligned with shareholder interests. This includes improving the governance of Environmental, Social, and Governance (ESG) risks, potentially leading to a reduction in overall ESG risk assessments (Chang et al., 2024). This finding strengthens the research of wisangani and rahmawati that gender diversity in a company will weaken the esg risk rating, which means that gender diversity has a significant effect on the esg risk rating.

Firm Size and ESG Risk Rating

There is significant influence between Firm Size on ESG Risk Rating this study found that the larger the size of a company will reduce ESG Risk Rating and conversely with smaller company sizes being able to increase ESG Risk Rating. Larger companies typically have greater resources to invest in ESG (Environmental, Social, and Governance) practices (Rahmah et al., 2024; Shawat et al., 2024). They can allocate more funds to sustainability programs, green technologies, and social responsibility initiatives. This allows them to be more effective in managing ESG risks, which can lower their ESG risk rating. Larger companies are typically better able to comply with increasingly stringent ESG regulations (Zhang & Sharon, 2023) because they have greater legal and administrative capacity. They can invest in better compliance systems to ensure that they comply with all relevant regulations, which helps in reducing ESG risks.

In agency theory, large companies usually have a clearer separation between owners and managers (Hiemann, 2023). Large companies tend to have more complex and stringent governance structures, which serve as additional oversight mechanisms to minimize ESG risks because one of them is that the management of large companies often faces demands from shareholders to ensure that they reduce risks, including ESG risks, to protect the value of the company (Shapira, 2023). Therefore, managers in large companies tend to be more careful in managing ESG risks to meet shareholder expectations and reduce conflicts of interest. This structure ensures that ESG risks are identified and managed properly, which contributes to a lower ESG risk rating. This finding corroborates research from Bolibok related to company size which has a significant relationship with esg risk rating.

This research provides insight into the factors that mitigate ESG risk ratings in companies in Indonesia. namely there are factors of board diversity and company size while the green board committee is not a factor that has a direct effect on ESG risk rating.

6. Conclusion and Suggestion

Conclusion

The findings of this study show that Green Board Committee does not have a significant influence on ESG Risk Rating, but Board Diversity and Firm Size have a significant influence on ESG Risk Rating which shows that the less diverse and smaller the company size will increase ESG Risk Rating which shows that the company will be more affected by ESG risk but conversely the more diverse and larger the company will decrease ESG Risk Rating or show that the company can overcome ESG risk in its company. In reducing ESG risk or ESG Risk Rating, of course, the company tries to do everything it can to meet stakeholder expectations. There needs to be diversity in the board of directors, especially women who are more sensitive to environmental issues.

Suggestion

This study focuses on public companies in Indonesia, therefore, future research can expand the scope to include international companies. In addition, the analysis does not distinguish between different types of companies, despite the fact that each sector has different characteristics, especially regarding environmental influences. Therefore, further research can investigate the analysis of each specific type of business. This study does not assess all dimensions of environmental, social, and governance factors, but only concentrates on the ESG Risk Rating score. Therefore, further research can explore each dimension to achieve a more comprehensive and nuanced understanding. In addition, the measurement of variables can also be one of the causes of the insignificance of the Green Board Committee on the ESG Risk Rating which only looks at some implementations of sustainability aspects without seeing how effective and active the committee is in supervision or implementation. And further research can explore other variables such as government regulations and different green board committee measurement methods and also by various other factors involving various stakeholders factors such as investor pressure, government regulation, or broader corporate strategy may play a more dominant role than the existence of GBC.

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