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# DOES BEING SOCIALLY GOOD SAVE FIRMS FROM BANKRUPTCY? A SYSTEMATIC LITERATURE REVIEW AND BIBLIOMETRIC ANALYSIS

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ABSTRACT: The purpose of the review was to find out, does being responsible saves firms from bankruptcy? What is the relationship between corporate social responsibility and default risk? What methods and measures are used in the literature to evaluate this relationship? And what is the theoretical underpinning of the studies? Moreover, to explore what are the gaps for future work, Web of Science and Scopus databases were utilised to obtain the relevant articles for review. A total of 24 articles were reviewed using PRISMA systematic literature review and bibliometrics. This review finds that the literature has an unidirectional inverse relationship between corporate social responsibility and default risk. Moreover, most literature utilises the stakeholder perspective as the theoretical framework. A research gap exists in explaining the relationship between different theories and extending the model with various aspects of macro- and micro-economics as well as finance. This article contributes to the theoretical aspect by classifying methods, proxies, and theoretical underpinnings used in the research for corporate social responsibility and default risk.

KEYWORDS: default risk, corporate social responsibility, systematic literature review, bibliometric analysis, PRISMA

## Introduction

Understanding corporate social responsibility (CSR)'s impact on default risk mitigation may be critical for improving ideas about the social side of corporate strategy and having practical consequences for firm management. Firms face many risks. However, default risk is among the most deadly ones (Mushafiq, 2021; Mushafiq et al., 2021; Mushafiq et al., 2022). First, CSR is a corporate investment that deviates from focusing on the firm's immediate clients (El Ghoul et al., 2011). This societal-focused endeavour may appeal to a larger spectrum of stakeholders than other corporate expenditures, resulting in a multi-faceted protective mechanism that shields the company from risks. Extending this protection to default risk highlights CSR's unique and previously unknown functions.

Second, CSR possesses a specific "attribution" feature that other strategic investments do not. Through CSR, customers might identify themselves as stakeholders and build deeper ties with firms (Korschun et al., 2009). Linking this one-of-a-kind function to baseline outcomes like default risk validates the possibility of implementing CSR activities strategically and encourages managers to explore CSR alternatives alongside other business expenditures. Third, existing research focuses on the impact of CSR on a firm's immediate success, such as consumer metric benefits.

Those advantages, while significant, cannot reflect the firm's overall health. CSR, for example, boosts financial benefits while consuming a large amount of financial and human capital (Galant & Cadez, 2017; Habib & Hasan, 2016). Default risk is an essential measure of the profits and costs of a company's investment. As a result, tying CSR to default risk is a more efficient approach to illustrate CSR's true worth. Default risk, on the other hand, is a company's forward-looking performance measure. Verifying CSR's relationship to this risk factor enhances the firm's strategic planning and expands its understanding of its long-term characteristics (Sun & Cui, 2014).

Nevertheless, the studies were primarily focused on the unidimensional relationship between default risk and corporate social responsibility. The idea remained simple as it is a direct relationship between corporate social responsibility and default risk. Moreover, only a few articles provide this relationship's theoretical underpinning. There has not been any study performing the systemic literature review on the relationship between default risk and corporate social responsibility. However, the work of (Breitenstein et al., 2021) is somewhat closer to this study as it discusses the general environmental responsibility for a firm's risk.

This research examines the fundamental research on default risk and its relationship with corporate social responsibility. The study focuses on four



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major questions (1) Does being socially responsible save firms from bankruptcy? (2) What is the relationship between CSR and default risk? (3) What are the existing theoretical frameworks supporting and gaps for future works? and (4) What methods and measures are utilised to explore the relationship? To accomplish objectives, a systematic literature review based on the PRISMA statement is conducted to identify and discuss relevant quality research. A systematic literature review presents evidence of the dependency of a firm's default risk on corporate social responsibility. The theoretical idea behind this dependency is that socially responsible firms show lower default risk levels.

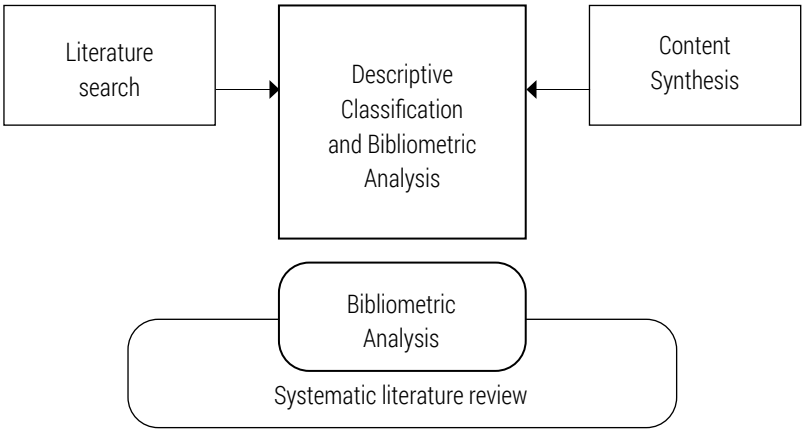


**Figure 1**. Pathway of the study

Figure 1 shows the pathway of this research, Section 2 discusses the systematic literature review and bibliometric analysis methods followed to obtain and narrow down the articles. Section 3 and 4 elaborates on descriptive classification and bibliometric analysis. Synthesis from the reviewed articles is done in section 5. The conclusion and future directions are mentioned in section 6.

## Methodology

### Systematic Search Results

This study utilised a search strategy to identify the relevant articles in the two significant sources, i.e., Web of Science Core Collection and Scopus. Only these two databases were included as the journals indexed in both databases are indexed with rigorous quality checks, enabling this study to focus on the



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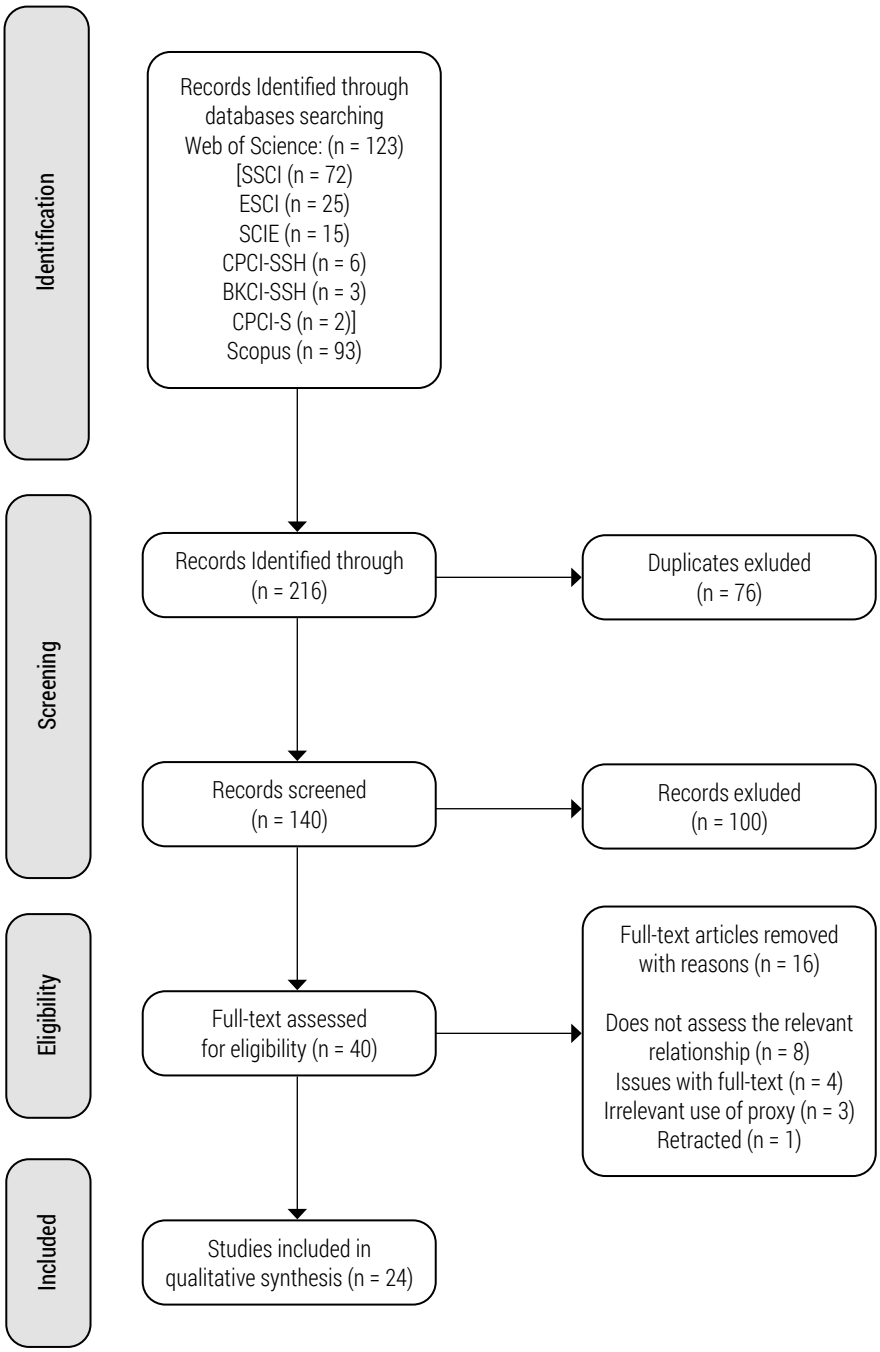


**Figure 2.** PRISMA flow chart of the conducted systematic literature review



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articles published in reputable journals. The search strategy was ("Default Risk" OR "Probability of Default" OR "Bankruptcy" OR "Likelihood of bankruptcy" OR "Financial Distress") AND ("Corporate Social Responsibility" OR "Sustainable Performance" OR "Corporate Social Performance" OR "Environmental Performance" OR "Environmental, Social, & Governance")[1]. The search was not limited in terms of time or the type of articles. As stated in Figure 2, this systematic literature review follows the PRISMA statement 2020 (Page et al., 2021). The search strategy focused on mapping literature related to default risk and corporate social responsibility. It allowed for searching throughout the study based on the original journal articles, conference papers, and book chapters. Both databases' duplicates and available publications were removed at the initial screening stage. The following step was regarding screening the articles using titles and abstracts. All the titles, keywords, and abstracts were examined in detail to see if the article fulfilled the criteria of exploring the relationship between default risk and corporate social responsibility in some manner, i.e., direct or indirect relationship. At this review stage, out of 140 publications, 100 were excluded as the relationship between default risk and corporate social responsibility was not examined, and 40 were extracted for further screening.

The final screening process before synthesising the articles was about exploring the full-text articles for the relationship between the variables referring to corporate social responsibility and default risk. 16 articles were removed based on the following reasons. 8 of the articles did not explore the relationship between the default risk and corporate social responsibility. 4 articles' full text was either not accessible, or the available full text was not in English. 3 articles were excluded as they used an irrelevant proxy or had non-firm level data. 1 article was excluded as it was retracted from the journal based on plagiarism. Therefore, 24 articles were based on the following criteria (1) The study must have explored the relationship between default risk and corporate social responsibility (2) The articles were original publications in journals, conferences, and book chapters. (3) The articles must be in English. The first search yielded a total of 123 articles in WoS and 93 in Scopus. Therefore, no limitations in terms of the field area were made.

## Bibliometric Analysis

Data statistics such as author, affiliation, and keywords are available through bibliometric analysis. Several software programs, including Gephi and VOSviewer, have previously been used for bibliometric analysis, each with its features and limitations. This study used the Visualization Of Similarities (VOS) viewer (van Eck & Waltman, 2010) due to the ease of use; with

[1] Databases were accessed on 2nd January 2022.



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many advantages of VOSviewer, there are disadvantages as well. The major drawback of using the VOSviewer is the data inputting limitations. In this study, the issue was regarding how articles from the Webs of Science and Scopus can be analysed simultaneously, as the VOSviewer only accepts one format at a time. To resolve this issue, the base template of Scopus was used, and the articles from the Web of Science were manually inputted into the Scopus file. This allowed for the analysis of articles from both databases simultaneously. This study utilises the bibliographic coupling (Kessler, 1963) and co-citation analysis (Small, 1973) to explore the clusters of influence between the studies. When two documents cite the same third document, this is called bibliographic coupling. According Martyn (1964), "two papers that share one reference contain one unit of coupling, and the value of a relationship between two papers having one or more references in common is stated as being of strength one, two, etc., depending on the number of shared references." Citations are used in bibliographic coupling to provide insight into the similarities between two works, authors, institutions, or countries. This technique is based on the notion that two publications citing the third article are closely connected and should be concentrated in a visualisation map cluster solution. The total number of references or citations of other third texts they share determines the intensity of the bibliographic coupling. A co-citation network comprises nodes representing journal articles and edges or linkages reflecting the co-occurrence of the nodes (articles) in other publications. As a result, two publications are deemed co-cited if they appear in the reference lists of other works together. Papers often referenced together are more likely to provide comparable or related subject areas (Hjørland, 2013).

## Classification of articles

### Articles published in the year

Figure 3 depicts the total number of published articles and the trend in the articles. The number of articles published from 2012 to 2016 was 1 (4.17%) each year and dropped to 0 (0.00%) in 2017. From 2018, the increasing trend can be seen in the number of articles published. In 2018 2 (8.33%) articles were published, which increased by 1 article in 2019, totalling 4 (16.67%) articles. In 2020 5 (20.83%) articles were publish and 10 (37.50%) in 2021.



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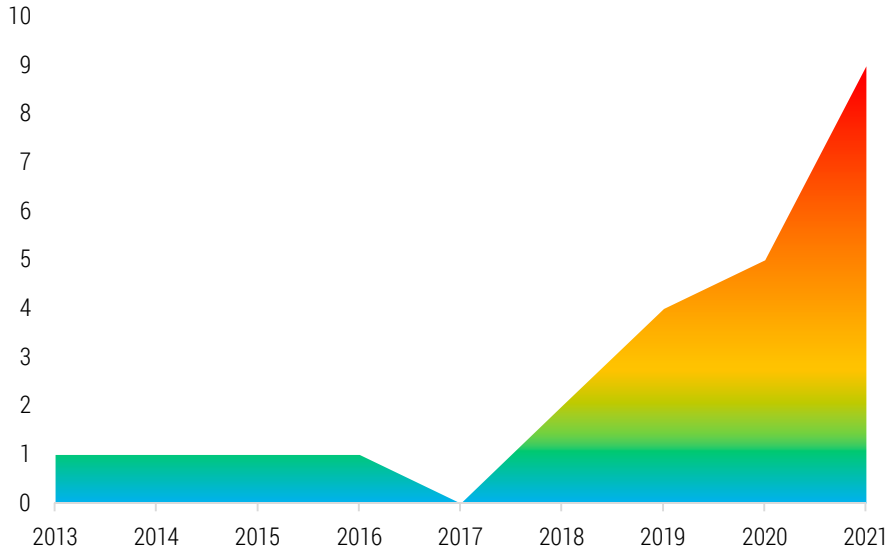


**Figure 3.** Articles published throughout the years

## Articles in each index

Figure 4 depicts the classification of articles based on the indexes. Articles with the Social Sciences Citation Index and Scopus form a substantial chunk of the total studies accounting for 67% of total articles, which sums up to 16 articles. The next category belongs to the articles indexed in the Emerging Source Citation Index and Scopus, having 25% (6 articles) of the share of the total articles. The articles in only Emerging Source Citation Index and Scopus account for 8% (1 article each).

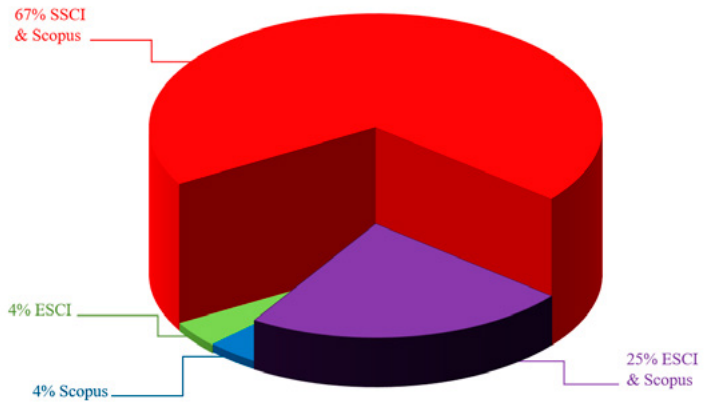


**Figure 4.** Classification of articles based on an index

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## Classification of the methods used

Figures 5 and 6 depict the baseline methods used to examine the relationships and procedures utilised as the robustness test results. The most used way to explore the relationship between default risk and corporate social responsibility is Fixed effect regression, as 10 (41.67%) utilise it. 8 (33.33%) studies have used ordinary Least Square. The model addressing endogeneity, i.e., generalised method of movements, has been used by 3 (12.50%) articles. 2 (8.33%) of the pieces use multiple models to assess the baseline impact of corporate social responsibility on default risk. 1 (4.17%) article used Probit regression to explore the relationship.

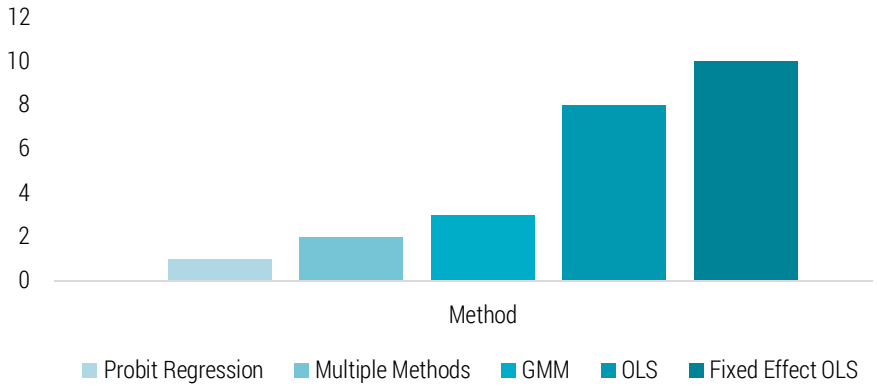


**Figure 5.** Classification of articles based on baseline methods used

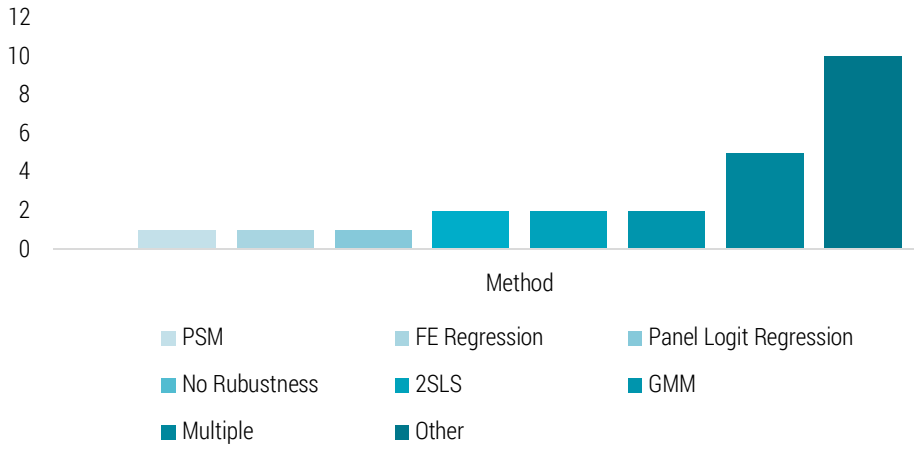


**Figure 6.** Classification of articles based on robustness methods used

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To evaluate the robustness of the results, 10 (41.67%) articles used different proxies in the model instead of using other econometrical models to prove that the results are robust. 5 (20.83%) articles used multiple models to assess the robustness of the results. A total of 4 (16.67%) articles used econometrical models that accounted for the endogeneity. The models included GMM and 2SLS. 1 (4.17%) article each used panel logistic regression, fixed effect regression, and propensity score matching as the methods to evaluate the robustness of the results. 2 (8.33%) articles do not use any kind of robustness tests.

## Classification of the proxies

Figures 7 and 8 depict the classification of the articles based on the proxies used. The pareto chart shows that 50% of the studies have utilised the Altman Z-score (Z-Score) as the measure for the default risk. A total of 4 (16.668%) articles have used either the probability of default (PD) or distance to default (DD). For the proxy of Corporate Social Responsibility, most of the studies used the CSR Scores and Rankings (CSR Score, ASSET4, KLD Ranks) accounting for 54% of the total articles.

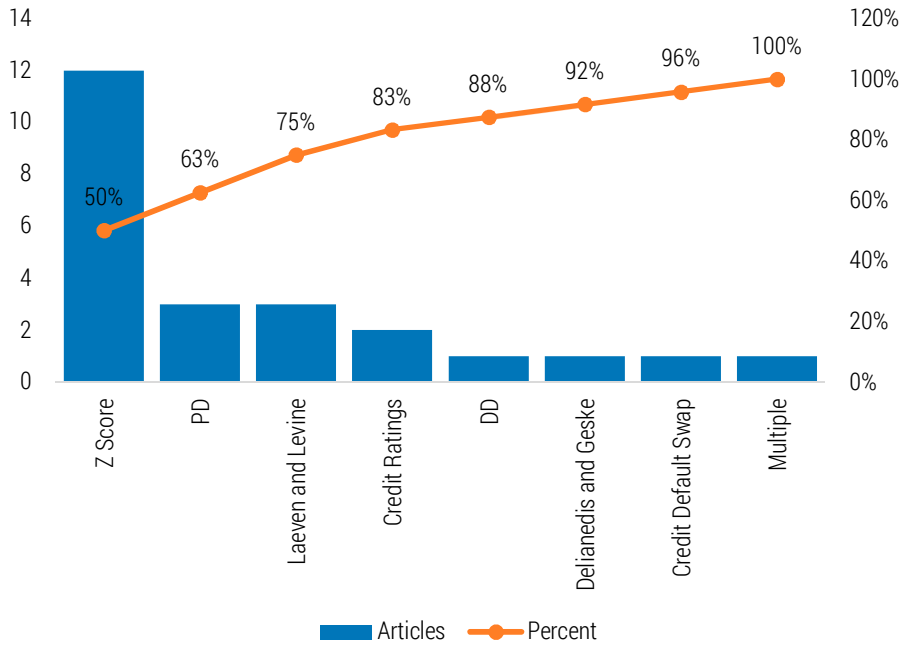


**Figure 7.** Classification of articles based on proxies used for default risk

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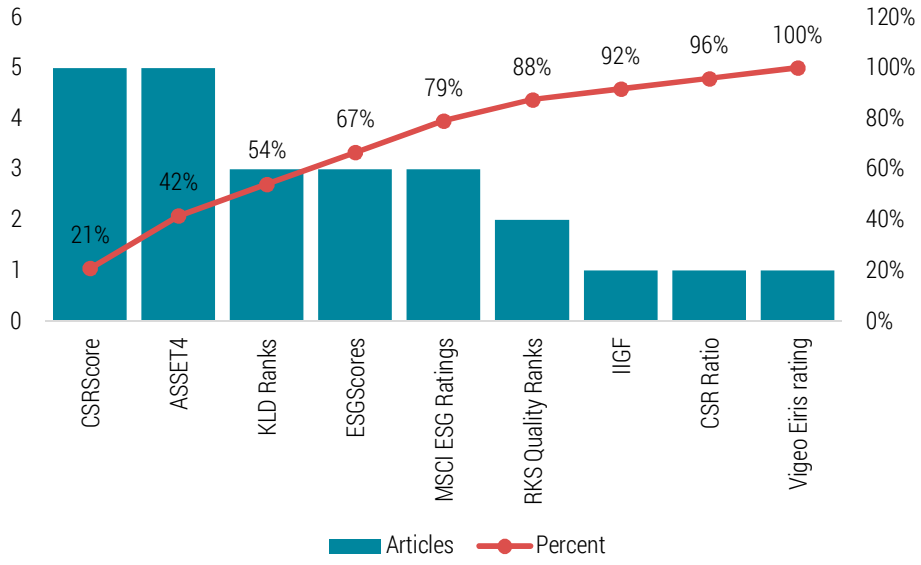


**Figure 8.** Classification of articles based on proxies used for CSR

## Variable wise distribution

Figure 9 and Table A2 (in Appendix) show the box plot for descriptive statistics of variables of interest. The minimum mean value for the default risk is -1.525, whereas for CSR value is -0.311. To draw meaning to this number, we can see that most researchers used either Altman or Z-Score (Altman, 1968) or Probability of Default.

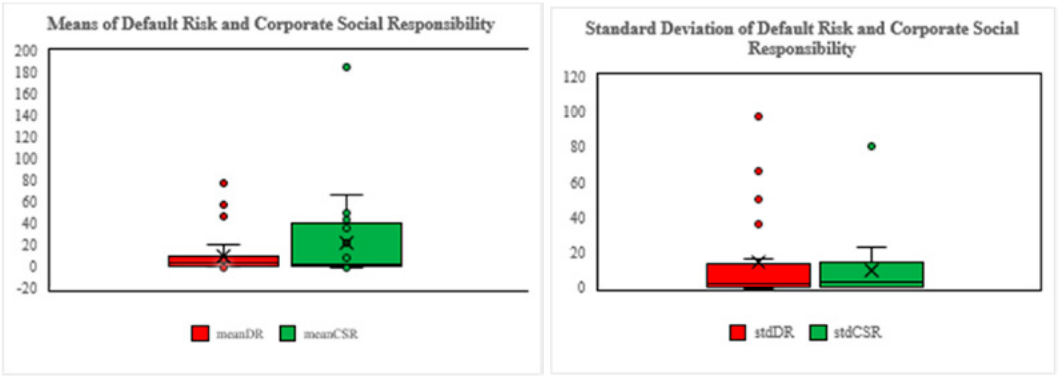


**Figure 9.** Percentiles of the mean and standard deviation of default risk and CSR



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Interpreting from Altman Z-Score and Distance-To-Default perspective, as the output value of either variable is lower, it is regarded as closest to default. From the sample of the studies, the minimum value is almost zero, which interprets as a high default risk. For CSR, the minimum value is also harmful. This implies that the firms in the sample had a negative impact on their contribution towards society and the environment. The median mean value of 3.210 shows a lesser level of default risk. However, the value of the mean is affected by the outliers. The median, mean value for the CSR is somewhat closer to the actual median; however, still distorted by the outlier. The minimum standard deviation value for default risk and CSR is at 0.024 and 0.094, which shows that the dispersion around the mean is relatively low. The median, standard deviation value is highly skewed for default risk due to the outliers. From the box plot of mean values and standard deviation, it can be concluded that the interquartile range for mean default risk has a much tighter spread than that of CSR. However, the spread remains almost identical for the standard deviation values.

## Network Analysis

### Bibliographic Coupling

Out of 24 articles, 23 are bibliographically coupled. As shown in Figure 10, based on the bibliographic coupling, it is observed that there are 4 clusters formed. Clusters 1 to 3 are heterogeneous, whereas the cluster 4 is homogeneous in terms of the theme of the articles. Cluster 1, with eight articles, is dominated by the work of Sun and Cui (2014) and Jacobs et al. (2016). Sun and Cui (2014) explored the linkage between corporate social responsibility and default risk, and Jacobs et al. (2016) focused on exploring the link through operational productivity. Cluster 2 has 7 articles and is anchored around the work of Boubaker et al. (2020). Their work explored how corporate social responsibility can lower financial distress. Cluster 3 is more diverse than the first two; the article with the most citation Hsu and Chen (2015) and their work is more generic, belonging more to clusters 1 and 2 as it focuses on the relationship between financial risk and corporate social responsibility. Nevertheless, the 3 out of 5 articles in the cluster are specific regarding their evidence regarding banks. Therefore this cluster has a theme of evidence from banks. Cluster 4 has the work Shahab et al. (2018) as the anchor point; all the articles focus on somewhat specific country evidence. Shahab et al. (2018; 2019) focused on the Chinese firms, where Al-Hadi et al. (2019) focused on Australian firms.



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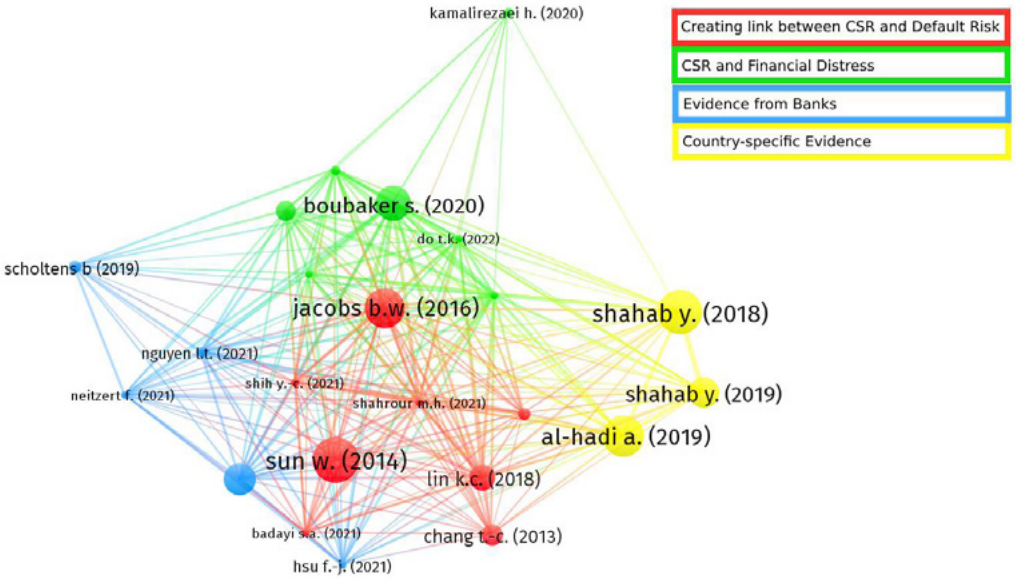


**Figure 10.** Clusters based on the bibliographic coupling

## Co-citation Analysis

Figure 11 presents the co-citation analysis with a threshold of a minimum of 2 citations of the article; a total of 55 cited references remained part of the analysis out of 1527. In cluster 1, the node with the most strength is McWilliams and Siegel (2001), explaining the "ideal" CSR in a firm, Jo and Na (2012), exploring the CSR's ability to lower risk in the controversial industries. However, a higher number of articles in cluster 1 show a theme of ethical business. Cluster 2 is mainly dominated by Godfrey et al. (2009), whose work has focused on risk management and shareholder value maximisation through CSR. Other most dominant research is the work Sun and Cui (2014), who have explored the relationship between CSR and default risk. The generalised theme in cluster 2 refers to the applicability of corporate social responsibility in a firm. Clusters 3 and 4 are not anchored around a single work; their heterogeneous nature provides difficulty in generalising a theme. However, articles in cluster 3 focus on corporate social responsibility's impact on credit ratings and financial distress. The theme in cluster 4 is relevant to general risk management through corporate social responsibility.



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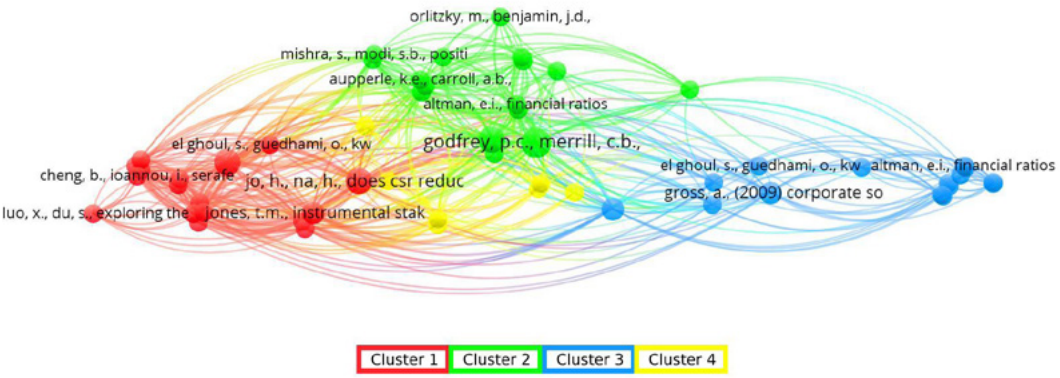


**Figure 11.** Clusters based on the co-citation

## Discussion

The idea that corporate social responsibility can cause impact on the default risk was found to be accurate by modelling (Al-Hadi et al., 2019; Badayi et al., 2021; Boubaker et al., 2020; Chang et al., 2013; Farooq & Noor, 2021; Gangi et al., 2020; Hsu & Chen, 2015; Jacobs et al., 2016; Kamalirezaei et al., 2020; Lin & Dong, 2018; Nguyen & Nguyen, 2021; Saidane & Abdallah, 2021; Scholtens & van't Klooster, 2019; Shahab et al., 2018; Shahrour et al., 2021; Shih et al., 2021; Sun & Cui, 2014).

The discussion is based majorly on the relationship of CSR and default risk. Table 1 depicts the classification based on theoretical reasoning of the stakeholder's perspective as the baseline, extensive modelling[2], and the studies explaining the relationship in terms of the economic life cycle. Table A1 depicts the summary of the complete literature review. Hsu and Chen (2021) discovered that enterprises with superior CSR performance had a reduced distance to default conditioning during quantitative easing (QE) adoption. Firms had decreased default risk during the US QE program. Still, QE might have negative consequences due to higher risk premiums and volatility for stocks and low-grade corporate bonds, raising the total default likelihood. CSR can also reduce the default risk in the short run (Chang et al., 2013).

Good CSR ratings have a risk-mitigation effect in general. However, empirical evidence shows that the influence diminishes when the rating agency is anchored in its home nation's institutional environment, and the rated business operates in a country with a distinct culture or regulatory structure.

[2] Extensive modelling means using the interaction terms (meditation/moderation) as part of the analysis.



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**Table 1.** Classification of articles based on the significance, theoretical view, and extensive modelling

| Author | Significance | Stakeholder Theory | Economic life cycle | Extensive Model |
|---|---|---|---|---|
| Al-Hadi et al. (2019) | x | x | x | |
| Badayi et al. (2021) | x | x | | |
| Boubaker et al. (2020) | x | x | | |
| Chang et al. (2013) | x | | | |
| Do (2022) | x | x | | |
| Dumitrescu et al. (2020) | | x | | |
| Farooq and Noor (2021) | x | x | | |
| Gangi et al. (2020) | x | x | | |
| Habermann and Fischer (2021) | | x | x | |
| Hsu and Chen (2015) | | x | | |
| Hsu and Chen (2021) | x | | | |
| Jacobs et al. (2016) | x | x | | x |
| Kamalirezaei et al. (2020) | x | x | | |
| Kölbel and Busch (2021) | | | | x |
| Lin and Dong (2018) | x | x | | |
| Neitzert and Petras (2022)* | x | | | |
| Nguyen and Nguyen (2021) | x | x | | |
| Saidane and Ben Abdallah (2021) | x | | | |
| Scholtens and Van't Klooster (2019) | x | | | |
| Shahab et al. (2018) | x | | | x |
| Shahab et al. (2019) | x | | | |
| Shahrour et al. (2021) | x | x | | |
| Shih et al. (2021) | x | | | |
| Sun and Cui (2014) | x | x | | x |

Note:*Paper was initially published as a early access therefore is considered as published in year 2021 in Figure 3 and Table A1.

Source: authors' work based on the literature.

This shows that the `place of origin of a rating agency, as well as its embeddedness in that country's setting, plays an important influence in the link between CSR ratings and default risk (Kölbel & Busch, 2021). Saidane and Ben Abdallah (2021) reported that the performance in terms of the environment has a negative and considerable influence on the firm's stability.



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Furthermore, findings indicate no direct relationship between the social dimension and business stability. Finally, we see a bidirectional link between the governance dimension and the stability of enterprises. According to their research, there is a virtuous loop between these two factors. In terms of sequencing, they argue that excellent governance practices should come first, followed by adopting social and environmental components. "Strong financial systems are founded on excellent governance," as the saying goes, (Honohan & Beck, 2007). These findings support the World Bank's governance strategy. Indeed, excellent governance appears to be an essential tool for ensuring stability.

The division the state-owned and non-state-owned has empirically demonstrated that CSR has a more remarkable ability to lower distress levels in non-state-owned Chinese enterprises than in state-owned Chinese firms (Shahab et al., 2019). The key driver of the decline in bank default risk and its input to systemic risk is the social component of sustainability rating (Scholtens & van't Klooster, 2019). This is consistent with the notion that banking is a service business that places a high value on human resources. However, it has little direct environmental imprint, and the corporate board is heavily regulated and supervised, limiting its ability to change governance.

## Stakeholder's Perspective

Stakeholder Theory emphasises the linked interactions between a company and its customers, suppliers, workers, communities, and other stakeholders. According to the principle, a company should provide value for all stakeholders, not just shareholders (Freeman, 1984; Parmar et al., 2010). From the perspective of the relationship between default risk and corporate social responsibility, the stakeholders' theory is relevant as the internal stakeholders (shareholders) try to minimise the default risk while attempting to maximise the value for the external stakeholders (customers and society) and one of the main paths to doing so is through being socially responsible.

Businesses with greater CSR levels have lower financial distress risk (FDR), implying that superior CSR performance makes enterprises more creditworthy and has better access to funding, which is rewarded with fewer economic failures. This conclusion is resilient to utilising various FDR proxies and correcting for any endogeneity and is primarily driven by the CSR aspects of community, diversity, employee relations, and the environment. Furthermore, this link is more common in organisations with robust governance procedures and intense product market competitiveness. It is also increased for less troubled businesses and during non-crisis situations (Boubaker et al., 2020). From the economic status of the country's perspective,



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Badayi et al. (2021) reported that developing countries tend to decrease default risk with the increase in CSR.

ESG's social and governance elements can explain cross-sectional and temporal differences in enterprises' future distance to default. The social dimension of CSR ratings has a causal impact on financial default. Financial restrictions and management focus on shareholders show that businesses with shareholder-oriented managers are more prone to incur the unfavourable consequences of social stakeholder involvement in financial difficulties. Because management competence is characterised in terms of efficiency targeted at profitability, earning quality is another indicator of the same (Dumitrescu et al., 2020).

CSR efforts lower agency expenses and financial risk by removing knowledge asymmetry among stakeholders (Kim & Kim, 2014). CSR can help listed companies increase information openness and empower public opinion to influence investment choices. Companies should pay greater attention to CSR as a form of social communication to minimise financing costs, broaden their investor base, and improve brand recognition. Positive CSR information is more likely to elicit a response from investors than negative CSR information. When a company embarks on a qualitative CSR strategy, its first aim must ensure future competitiveness, even if it means sacrificing current performance. Firms may then focus on the image of the brand or product to increase consumer loyalty and improve operational efficiency and financial performance once they have established CSR strength. Firms that are well-known for their dedication to CSR implementation are more likely to be rewarded with brand loyalty. This demands sound management methods and rigorous assessment of CSR concerns, particularly those connected to products, during the value-generation process. As a result, businesses should continue to invest in CSR initiatives in order to gain these benefits in the long run (Hsu & Chen, 2015).

Considering the stakeholder perspective on CSR and finding that CSR investment reduces the chance of financial difficulty, this link is more vital for enterprises with a greater engagement in international commerce (Farooq & Noor, 2021). These findings suggest that CSR is critical in rescuing firms from severe financial difficulties. Furthermore, the company's involvement in employee well-being and R&D saves the organisation from financial default, whereas a company's charitable contributions fail to demonstrate any connection with financial ruin.

The impact of CSR on business default risk is significant from a societal standpoint, given that CSR contributes to the development of a better community (for example, improved openness, reduced pollution, and better stakeholder interactions) and can assist in preventing the repercussions of bankruptcies (loss of assets and jobs, among others) (Shahrour et al., 2021).



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Benefits of CSR and the development of a framework for describing how socially responsible conduct minimises the risk of default by decreasing its determinants. When descriptive evidence and empirical data are presented, CSR is adversely associated with corporate default risk. Thus, CSR may aid in risk reduction by providing insurance-like coverage, and enterprises would gain from socially responsible behaviour during economic crises. During a financial meltdown, CSR has a more significant influence on default risk likelihood than at other times, and all CSR components are adversely associated with company default risk.

Because the business unit cannot exist without the public, and society cannot function without a commercial company, there is a two-way connection between the two. CSR, as one of the most significant community-oriented initiatives, aims to create long-term economic growth by enhancing the quality of life of workers, their households, the ecosystem, and the community as a whole. CSR focuses on issues like ethics, ecology, safety, schooling, and civil rights. Although CSR has a direct cost to businesses, it is predicted that strengthening their reputation would cut expenses and boost sales in the long run, enhance their financial efficiency and competitiveness, and minimise risk, including the risk of bankruptcy (Kamalirezaei et al., 2020).

The role of the banking sector in long-term sustainability has been a source of debate, particularly after the global financial crisis of 2008. Customers and employees have lost faith in the industry due to unethical and unsustainable practices. Aside from that, given the world's growing climate change, even if a bank is not directly responsible for environmental damage, it may be held partially accountable based on its green strategy (Nguyen & Nguyen, 2021).

From the stakeholder and resource-based approaches, the more CSR participation, the lower the risk of financial default for the company. Furthermore, they investigate this relationship further by examining if there are any variations in the advantages of CSR activity for SMEs and large corporations. Their findings show that SMEs more involved in CSR benefit from lowering the risk of financial hardship than large corporations. This finding backs up the premise that CSR may help SMEs overcome common challenges (such as high financing costs and budgetary constraints, as well as issues in innovating and attracting/retaining high-quality staff) and improve their competitiveness (Gangi et al., 2020).

CSR has a negative relationship with the likelihood of default. The long-term impact of CSR is more significant than the short-term impact. Overall, the outcomes of this study support the idea that CSR decreases transaction costs and improves access to capital markets, lowering the risk of default. Furthermore, organisations that participate in high levels of CSR can reduce



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their risk of default and enjoy higher credit quality due to increased trust and reputation (Do, 2022).

Before CSR engagement, social capital is decomposed into the exchange and moral capital. The relative importance of the two resources in understanding how prior CSR activity decreases the chance of bankruptcy is next assessed. The work of (Lin & Dong, 2018) highlights the intricate web of interactions between a company and its stakeholders in determining the efficacy of CSR involvement.

## CSR and default risk from the perspective of the economic cycle

From the perspective of economic life cycles, Al-Hadi et al. (2019) proved that businesses with greater CSR levels have lower default risk, implying that superior CSR performance makes enterprises more creditworthy and has better access to funding, which is compensated with reduced defaults. Positive CSR performance and life cycle development have been experimentally linked to financial distress. These findings significantly affect business management and other stakeholders since companies' access to resources and capacity to compete with their peers would differ throughout the life cycle stages. Similarly, companies' sensitivity to the financial crisis can vary consistently across different life cycle periods. Firms that participate in suitable CSR activities are more likely to be able to lower the risk of financial hardship during the most vulnerable periods of life cycle development.

However, Habermann and Fischer (2021) argued that corporate social responsibility does not impact the default risk in the specific case of the economic upswing. The evidence found that the positive impact of corporate social performance (CSP) on stakeholder relationships does not manifest in thriving company contexts. Thus, the costs of raising CSP outweigh the benefits and increase the chance of bankruptcy. CSP investments, on the other hand, might be viewed as a balanced measure because they lessen financial default risk in following crises.

## Extensive Models

Through extensive modelling, Sun and Cui (2014) established the CSR and company capability and environmental dynamism/complexity, offering a more detail-oriented model of CSR's role under various internal and external contexts. The findings demonstrate that CSR significantly impacts default risk reduction and that this effect is more significant on enterprises in high-dynamism settings than firms in low-dynamism environments.

The diverse dynamics of top management teams influence the connection between environmental performance and financial distress (Shahab et al., 2018). The presence of conventional top management team minorities



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(e.g., females) and politically connected females in top management teams significantly accentuates the negative impact of environmental performance on Chinese enterprises' financial hardship. However, they discovered a detrimental influence of senior management team members' international exposure on the link above.

Improving firm-level efficiency is crucial but insufficient to affect financial performance and risk. Instead, firm-level progress in comparison to peers in the sector is crucial. Managers can advance their careers by concentrating on various elements of operations and social responsibility (Jacobs et al., 2016). Concentrating on any particular dimension of operational productivity or corporate social performance does not appear to be intrinsically favourable; instead, managing trade-offs to obtain or maintain the efficient frontier appears to be the key. As a result, managers have options in handling corporate social performance and operational productivity to enhance financial success while minimising risk.

## Conclusion and Future Directions

From the extensive literature review, it is concluded that the firms do get rewarded for being socially responsible and have lower chances of bankruptcy since the default risk and corporate social responsibility have an inverse relationship. As the firm invests in corporate social responsibility, the default risk decreases; this relationship is unidirectional. From the theoretical perceptive, stakeholder theory (Freeman, 1984; Hart, 1995; Jones, 1995; Russo & Fouts, 1997) proposes an explanation for CSR's bankruptcy-deterrent impact. The review has found that Least Square Regression is one of the most used methods in evaluating the relationship. The selection of CSRScores and ASSET4 as a measure of CSR is popular.

Similarly, Z-Score and Probability of Default are reasonable measures for default risk. This review finds that most of the studies have utilised the stakeholder's perceptive as the basis for the study, and it is best suited as the stakeholders [both internal (board and management) and external (customers)] want to lower the financial distress and the internal stakeholders do that by giving back to the society. According to the stakeholder theory, firms that successfully serve the social demand from stakeholders would survive better.

The future work can be extended in terms of different theoretical frameworks. For instance, agency theory can explain the relationship from the perspective of managers with a competitive advantage over company information and significant discretionary power, allowing them to achieve their objectives, and are thus more likely to use CSR initiatives to their benefit



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(Park & Lee, 2020). Such agency issues can influence default risk. Moreover, the extension in this area of research can be done by providing a broader perspective of micro-economic and financial aspects. For instance, explaining the relationship between CSR and default risk from the perspective of Melitz (2003)'s firm heterogeneity, exploring the relationship in terms of how they perform in each sector and relation to their intra/international trade can provide an extensive explanation of the relationship between CSR and default risk. Additionally, proposing new research models with extended financial variables can be a good opportunity for future work. For instance, how can innovation influence the relationship, or does the total financial performance and efficiency influence the relationship between CSR and default risk?

## Appendix

**Table A1.** Summary of the articles included in literature review

| Author | Year | Type of Firm | Sample Period | N | Significance | Direction | Stakeholder Theory | Extensive Model |
|---|---|---|---|---|---|---|---|---|
| Al-Hadi et al. (2019) | 2019 | Non-Financial | 2010-2017 | 651 | x | CSR -> DR | x | |
| Badayi et al. (2021) | 2020 | Non-Financial | 2010-2017 | 3,968 | x | CSR -> DR | x | |
| Boubaker et al. (2020) | 2020 | Non-Financial | 1991-2012 | 9,262 | x | CSR -> DR | x | |
| Chang et al. (2013) | 2013 | Non-Financial | 2007-2010 | 4,080 | x | CSR -> DR | | |
| Do (2022) | 2021 | Non-Financial | 2002-2016 | 28,439 | x | CSR -> DR | x | |
| Dumitrescu et al. (2020) | 2020 | Non-Financial | 1991-2015 | 35,711 | | CSR -> DR | x | |
| Farooq and Noor (2021) | 2021 | Non-Financial | 2008-2019 | 1,878 | x | CSR -> DR | x | |
| Gangi et al. (2020) | 2020 | Non-Financial | 2010-2015 | 8,227 | x | CSR -> DR | x | |
| Habermann and Fischer (2021) | 2021 | Non-Financial | 2010-2019 | 6,696 | | CSR -> DR | x | |
| Hsu and Chen (2015) | 2015 | Non-Financial | 1991-2018 | 121,938 | | CSR -> DR | x | |
| Hsu and Chen (2021) | 2021 | Non-Financial | 2000-2014 | 31,182 | x | CSR -> DR | | |
| Jacobs et al. (2016) | 2016 | Non-Financial | 1999-2009 | 2,086 | x | CSR -> DR | x | x |
| Kamalirezaei et al. (2020) | 2019 | Non-Financial | 2009-2016 | 1,600 | x | CSR -> DR | x | |
| Kölbel and Busch (2021) | 2021 | Non-Financial | 2011-2016 | 11,289 | | CSR -> DR | | x |
| Lin and Dong (2018) | 2018 | Non-Financial | 2000-2014 | 4,163 | x | CSR -> DR | x | |
| Neitzert and Petras (2022) | 2021 | Financial | 2002-2018 | 3,949 | x | CSR -> DR | | |
| Nguyen and Nguyen (2021) | 2020 | Financial | 2008-2017 | 300 | x | CSR -> DR | x | |



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| Author | Year | Type of Firm | Sample Period | N | Significance | Direction | Stakeholder Theory | Extensive Model |
|---|---|---|---|---|---|---|---|---|
| Saidane and Abdallah (2021) | 2021 | Non-Financial | 2010-2019 | 1,270 | x | CSR -> DR | | |
| Scholtens and Van't Klooster (2019) | 2019 | Financial | 2002-2016 | 645 | x | CSR -> DR | | |
| Shahab et al. (2018) | 2018 | Non-Financial | 2009-2014 | 2,984 | x | CSR -> DR | | x |
| Shahab et al. (2019) | 2019 | Non-Financial | 2009-2014 | 3,171 | x | CSR -> DR | | |
| Shahrour et al. (2021) | 2021 | Non-Financial | 2003-2017 | 1,916 | x | CSR -> DR | x | |
| Shih et al. (2021) | 2021 | Non-Financial | 2012-2017 | 1,482 | x | CSR -> DR | | |
| Sun and Cui (2014) | 2014 | Non-Financial | 2008-2010 | 829 | x | CSR -> DR | x | |
| Summary | | | | | | | | |
| Description | Significant | Not Significant | Non-Financial | Financial | | | | |
| Articles | 20 | 4 | 21 | 3 | | | | |

Source: authors' work based on the literature.

**Table A2.** Percentiles of mean and standard deviation of default risk and CSR

| | Mean of DR | Mean of CSR | StDv of DR | StDv of CSR |
|---|---|---|---|---|
| Minimum | 0.0030 | -0.3110 | 0.0240 | 0.0940 |
| 25th Percentile | 0.7300 | 0.3395 | 0.6533 | 0.2695 |
| Median | 3.2100 | 1.9660 | 2.8100 | 3.1147 |
| 75th Percentile | 11.454 | 40.190 | 11.827 | 12.980 |
| Maximum | 77.220 | 185.870 | 97.464 | 80.307 |

## The contribution of the authors

Muhammad Mushafiq and Błażej Prusak conceptualized the article and finalized the methodology. Muhammad Mushafiq performed data acquisition, data curation, formal analysis and visualization as well as wrote the initial draft. Błażej Prusak supervised, edited the multiple drafts and made some corrections and improvement.



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