inancial markets play an important role in the allocation of capital by attracting funds from investors and channelling them to corporations. In particular, the magnitude and direction of credit is strongly influenced by credit rating agencies (CRAs), which is dominated by three market players: S&P (previously Standard & Poor's), Moody's and Fitch. However, the global financial crisis (GFC) of 2008 provides recent evidence that ratings may be affected by systematic errors or biases.

In 2011, the US Financial Crisis Inquiry
Commission, in its 2011 report, wrote that
"the three credit rating agencies were key
enablers of the financial meltdown". In 2013,
the US Department of Justice (DoJ) sued S&P
for fraudulently inflating ratings on mortgagebacked instruments prior to the financial crisis.
The lawsuits were resolved in 2015 with S&P
agreeing to pay a US\$1.5 billion (RM6.5 billion)
settlement fee, which exceeds the profits earned
by the company for rating mortgage-backed
securities from 2002 to 2007.

More recently, regulatory pressures on CRAs have been building up in Europe, particularly in relation to sustainable finance. In 2018, the EU acknowledged that CRAs are systemically important institutions and their risk assessment methods influence the sustainability and stability of the financial system. While the consideration of non-financial or qualitative information, such as environmental, social and governance (ESG) criteria, is not new to credit risk analysis, the systematic analysis of ESG within the framework is. In May 2016, the UN-supported Principles for Responsible Investment (PRI) launched the Statement on ESG in Credit Risk and Ratings for investors and CRAs to publicly state their recognition of the value of considering ESG factors transparently and systematically in credit risk analysis.

Dialogue between investors and CRAs have noted several issues pertinent to future academic research.

Firstly, PRI notes that while academic and market research establishes a "clear link" between ESG factors and the credit risk of a borrower, most studies are based on inadequate measures of credit risk such as credit ratings.

Secondly, PRI highlights the importance of differentiating between "ESG factors that may affect the performance of an issuer, its risk of default and the trading performance of its securities". This means that ESG factors that are material from a business or investment

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John Maynard Keynes

perspective may not necessarily be the same as those that are material from a credit risk perspective.

Thirdly, regional roundtables indicate that the appetite for ESG integration in credit analysis differ across jurisdictions and regions. In particular, the global forums organised by PRI revealed regional differences on three levels:

- (i) awareness and advancement of ESG considerations;
- (ii) relative sensitivity to ESG factors by country; and
- (iii) regulatory environment and attitudes toward it.

Increased scrutiny by regulators is likely to lead to further adoption of ESG considerations by the business and financial community, including support for PRI's Statement on ESG in Credit Risk and Ratings. While CRAs have always considered non-financial or qualitative factors, incorporating ESG issues into credit risk analysis has not been done in a transparent or systematic way. It has long been acknowledged that credit can be a powerful tool in the process of allocating resources towards sustainable development. As John Maynard Keynes in 1930 remarked: "...credit is the pavement along which production travels, and the bankers if they knew their duty, would provide the transport facilities to just the extent that is required in order that the productive powers of the community can be employed at their full capacity."

Many corporations increasingly engage in ethical behaviour, more broadly described as corporate social performance (CSP). Donna J Wood defines CSP as "a business organisation's configuration of principles of social responsibility, processes of social responsiveness, and policies, programmes, and observable outcomes as they relate to the firm's societal relationships". This is the most widely accepted definition of the term. Wood clarifies that CSP "views the business organisation (corporate) as the locus of actions that has consequences for stakeholders and society, as well as for itself (social performance)". CSP has been interpreted by experts as strategic investments into activities that could eventually translate into higher profits

and, in turn, higher shareholder value. These strategic investments, in turn, can generate social and moral capital in many ways, such as promoting brand loyalty among customers, managing human resources, improving reputations with governments and other stakeholders such as NGOs.

The empirical literature on CSP has grown substantially with increased availability and quality of sustainability information. The majority of these studies seek to establish whether a business case for CSP exists, hence focusing its impact on corporate financial performance (CFP). The overall empirical evidence is mixed but largely encouraging. In a recent metaanalysis of over 2,000 individual studies, Friede, Busch & Bassen observed that roughly 90% of studies find a non-negative relationship between ESG and CFP. However, prior to the work of Mozaffar Khan et al, most of the earlier studies relied on measures of CSP that did not sufficiently account for the differential materiality of ESG issues across different industries. This partially explains the discrepancies in some of the findings. Companies in different industries are exposed to ESG risks and opportunities in varied ways and can devise various techniques to mitigate against risks and capitalise on potential profits. Khan et al argue that the relation between sustainability ratings and financial performance would be significantly more robust if the differential materiality of sustainability issues were considered.

Within the CSP-CFP literature, there is an emerging, albeit limited, strand that explores the relationship between CSP and credit risk. The majority of these studies employ at least one of the following measures as a proxy for credit risk: credit ratings, corporate bond spreads, and spreads on bank loans. However, the use of these measures may be problematic.

Firstly, while borrowers with better credit ratings are judged to have lower credit risk, an agency problem might result from issuer-paid credit ratings, according to researchers Jin-Chuan Duan and Elisabeth Van Laere, CRAs would prefer to offer a more attractive credit rating to a firm to prevent them from moving to a rival CRA.

Secondly, empirical studies have found that corporate bond spreads consist not just of credit risk but also liquidity risk and systematic Overall, the findings in our research support the view that the financial sector can play a role in aligning private sector incentives with regard to **SUSTAINABLE**

to **SUSTAINABLE DEVELOPMENT**

without incurring additional financial risk or sacrificing returns. Importantly, however, we find that the CSP-credit risk relationship is dependent on country sustainability.

risk. Furthermore, corporate bond spreads may also be affected by bonds with embedded options.

Thirdly, bank loan spreads are accounting-based, rather than market-based, measures of credit risk. To avoid misspecification issues, studies which use bank loan spreads also require detailed firm-level information about lender and borrower characteristics, which may not be easily obtainable.

Recent studies exploring the CSP-credit risk nexus have also used credit default swap (CDS) spreads as a measure of credit risk. Theoretically, CDS spreads should provide a reliable measure of credit risk as they reflect the compensation that market participants are willing to pay for bearing that risk. While the CDS market has shouldered some of the blame for the GFC, regulations have since been tightened to prevent potential manipulation and speculation. After the crisis, the CDS market underwent several changes, including the standardisation of contracts, expanded reporting requirements, mandatory central clearing and margin requirements for a wide range of derivatives.

Several studies within the CSP-credit risk literature also explore the importance of the external context in which the corporation is embedded, particularly that country sustainability has an economically meaningful impact on corporate credit risk. Chengyong Xiao et al explain that country sustainability is "the extent to which the tenets, principles, and practices of environmental integrity and social equity are institutionalised and embedded in a specific country domain".

This article is an encapsulation of a technical research that seeks to explore whether CSP affects credit risk, using CDS spreads as a market-based measure. We proxy CSP using data from MSCI ESG Ratings, which measures firm performance across various value-relevant ESG issues. This contrasts with much of the literature, which have relied on CSP measures that do not sufficiently consider the differential materiality of ESG issues across different industries. Furthermore, we also assess the influence of country sustainability on the CSP-credit risk relationship using



the Bloomberg Country Risk Tool. To address these research questions, we use a dynamic panel data model, System GMM, which accounts for the potential endogeneity of explanatory variables. In line with the empirical literature on the determinants of credit spreads, particularly CDS spreads, we control for a wide set of firm-specific and macroeconomic variables.

Based on 2,094 firm-year observations for 592 non-financial firms between 2013 and 2016, we provide empirical evidence on how CSP affects corporate creditworthiness. Firstly, we find that an aggregate measure of CSP is negatively associated with CDS spreads. This is consistent with the view espoused by Khan et al that the relationship between CSP and corporate financial performance would be more robust if the differential materiality of sustainability issues were accounted for. Furthermore, we find that the magnitude of the CSP-credit risk relationship is stronger at lower levels of country sustainability, but diminishes as the level of country sustainability increases. Secondly, the empirical evidence suggest that governance factors are a more important determinant of credit risk than environmental or social factors. This implies that the benefits of CSP improvements in terms of corporate credit risk is primarily achieved by meeting governance best practices, which helps build up internal resources and intangible

benefits. This reduces cash flow volatility and improves the firm's credit risk profile. Therefore, non-financial corporations should strengthen governance frameworks and procedures prior to embarking on environmental and social objectives.

The finding that both CSP and country sustainability are statistically significant determinants of CDS spreads is in contrast to research by Andreas GF Hoepner et al, which showed that only country sustainability, not corporate sustainability, has a meaningful impact on the cost of debt. Consistent with Christophe Stellner et al, we've found that there is sufficient evidence to suggest that country sustainability moderates the CSP-credit risk relationship. The results suggest that CSP effectively acts as a substitute for country sustainability. In the absence of country-level institutions that support sustainable development, firms which develop effective corporate social responsibility (CSR) strategies can also have lower credit risk.

Overall, the findings in our research support the view that the financial sector can play a role in aligning private sector incentives with regard to sustainable development, without incurring additional financial risk or sacrificing returns. Importantly, however, we find that the CSP-credit risk relationship is dependent on country sustainability.

Corporations are embedded within

broader social structures and the results are consistent with wider empirical literature which finds that the financial benefits of CSR activities is greater in the presence of institutional voids. Hence, initiatives that improve country sustainability, such as laws and regulations that limit carbon emissions, prevent deforestation, and protect labour rights, and so on, would not just help to preserve natural capital and promote social capital but would also be beneficial to businesses and financial stability.

For example, several central banks and supervisors have recognised the importance of climate change to financial stability and formed a coalition called the Network for Greening the Financial System, which seeks to integrate the monitoring of climate-related financial risks into day-to-day supervisory work. While the results suggest that financial markets can play an important role in promoting sustainable development through ESG integration, their actions may not necessarily be sufficient to achieve the United Nations' Sustainable Development Goals if left completely to market forces. This concurs with research by economists Prof. Dirk Bezemer, Josh Ryan-Collins, and Lu Zhang that further government intervention may be required in the form of credit guidance policies to ensure that credit is directed towards activities that promote sustainable development. *

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