Jurnal Ekonomi Malaysia 56(1) 2022 33 - 46
http://dx.doi.org/10.17576/JEM-2022-5601-03

Corporate Social Responsibility and Zero Leverage

(Tanggungjawab Sosial Korporat dan Leveraj Sifar)

Qamar Uz Zaman
COMSATS University Islamabad, Sahiwal Campus, Pakistan

Sadaf Ehsan
COMSATS University Islamabad, Lahore Campus, Pakistan

Mohammad Kabir Hassan
University of New Orleans

Muzhar Javed
COMSATS University Islamabad, Sahiwal Campus, Pakistan

Syed Iftikhar Ul Hassan
COMSATS University Islamabad, Sahiwal Campus, Pakistan

ABSTRACT

This paper aims to investigate the link between Corporate Social Responsibility (CSR) and Zero Leverage (ZL) policy of firms. We use panel logistic multivariate regression to determine the socially responsible behavior of ZL firms and their levered counterparts. Our proxies for CSR are corporate social responsibility disclosure and corporate tax contribution against the proxies of ZL and almost zero-leverage (AZL). The sample firm-year observations of Pakistani listed firms from 2009-2018 are further divided in subsamples for short term ZL and long term ZL firms. We also test the constraints hypothesis for our sample firms. We found that CSR and ZL policy complement each other, adding to the firm's financial and social sustainability. The positive relationship between CSR and ZL is more significant in dividend-paying firms. Further, results support that financially unconstrained socially responsible firms have more probability to choose ZL or AZL policy. This study provides initial evidence regarding the relationship between CSR behavior and ZL policy of firms. Further, this study is the pioneer to introduce tax contribution as a proxy of CSR.

Keywords: Corporate social responsibility; zero-leverage; sustainability; disclosure; tax contribution
JEL: G32, M14, L53, A13

ABSTRAK

Kertas kerja ini bertujuan untuk menyiasat hubungan antara dasar Tanggungjawab Sosial Korporat (TSK) dan dasar Leveraj Sifar (LS) firma. Kami menggunakan regresi panel multivariate logistik untuk menentukan tingkah laku tanggungjawab sosial firma LS dan rakan sejawat mereka. Proksi untuk CSR ialah pendedahan tanggungjawab sosial korporat dan sumbangan cukai korporat terhadap proksi LS dan hampir leveraj sifar (HLS). Sampel pemerhatian firma-tahun bagi firma tersenarai di Pakistan dari 2009-2018 selanjutnya dibahagikan dalam subsampel untuk LS jangka pendek dan LS jangka panjang firma. Kami juga menguji hipotesis kekangan untuk sampel firma kami. Kami mendapati bahawa dasar TSK dan LS saling melengkapi, menambah kepada kemampanan kewangan dan sosial firma. Hubungan positif antara TSK dan LS adalah lebih ketara dalam firma yang membayar dividen. Selanjutnya, keputusan menyokong bahawa firma yang bertanggungjawab secara sosial yang tidak terkekang dari segi kewangan mempunyai lebih banyak kebarangkalian untuk memilih dasar LS atau HLS. Kajian ini menyediakan bukti awal berhubung hubungan antara tingkah laku TSK dan polisi LS firma. Seterusnya, kajian ini menjadi perintis untuk memperkenalkan sumbangan cukai sebagai proksi TSK.

Kata kunci: Tanggungjawab Sosial Korporat; leveraj sifar; kemapanan; pendedahan; sumbangan cukai

This article is published under the Creative Commons Attribution 4.0 International (CC BY 4.0) license.

INTRODUCTION

In the post-COVID-19 global business landscape, the significance of Corporate Social Responsibility (CSR) has disproportionately increased as the pandemic is likely to have severe and far-reaching repercussions for society. The governments lack sufficient funds to cater to the recession and emerging needs of the community. Thus, business organizations are expected to assume (CSR) as a mainstream activity in these testing times (Islam, 2020). Meanwhile, the corporations face an unprecedented challenge of sustainability and survival, contemplating strategies for CSR. Therefore, businesses are believed to design socially responsible menu offering a win-win scenario for both business and society (Kontesa et al., 2020). This menu tends to synthesize both corporate policy and practice from resource planning to utilization. In this regard, traditional financial policy is questionable for focusing on optimization between cost of capital and firm value and disregarding sustainability and equity perspectives (Zaman et al., 2019). Presently, a paradigm shift in the corporate financing behaviour, i.e., zero-leverage, calls for sustainable and equitable financial policy (Martínez-Ferrero & García-Sánchez, 2017; Soppe, 2004; Villarón-Peramato et al., 2018). Therefore, a pragmatic corporate financing policy is likely to deliver sustainable financial and social outcomes to organizational stakeholders.

After the global financial crisis of 2007-2008, regulatory and managerial governance picked momentum aiming at sustainable growth. The post-crisis fallout prompted corporate sector to choose a resilient and robust financing policy, initiating a perplexing debate on financial protectionism, financial conservatism, debt avoidance, and zero-leverage policy (Cui, 2020; Dang, 2013; Gendron & Smith-Lacroix, 2015). The zero-leverage phenomenon pertains to the firms' capital structure decisions and has gained significant traction among researchers and practitioners (Strebulaev & Yang, 2013; Zaman et al., 2019). There is an increasing tendency among firms towards ZL globally (Bessler et al., 2013). A good number of zero-leverage firms are found in the UK, USA (Strebulaev & Yang, 2013; Zhang & Gregoriou, 2019), India (Ghose & Kabra, 2016), China (Huang et al., 2017), and Japan (Takami, 2016) and others (El Ghoul et al., 2018). El Ghoul et al. (2018) added that zero-leverage is increasing both in developed and developing countries persistently. It is documented that zero-leverage policy is performance-oriented and solvent, leaving a substantial amount of funds in hand (Strebulaev & Yang, 2013). The continuous and unabated rise in zero-leverage research has *nem. con.* observation of higher market-to-book ratios, higher cash balances, more profitability, more taxes, and greater dividends for the firms (Nguyen et al., 2021). These factors indicate that such firms assume greater immunity and responsibility against the contagious effects of financial calamities and are more sustainable. Together, these ZL firms assume more social responsibility by contributing more taxes to national kitty *vis-à-vis* non-levered firms. Implicitly speaking, a firm's tendency to pay tax reflects its socially responsible behaviour. As per Carroll (1979), tax contribution is one of the indicators of corporate social contribution. The firms tend to contribute for social and infrastructural development through the direct contribution of corporate taxation. Further, it is somehow needless to argue that paying taxes contributes to societal development.

Researchers have also observed that a firm's debt size negatively influences its socially responsible behaviour (Swandari & Sadikin, 2016). This relationship indicates that a higher level of debt entrenches a firm to focus more on managing the business risks rather than practicing socially responsible initiatives. The firms relying on debt as a financing source have a greater risk exposure, prioritizing the fixed interest charges over CSR fund allocation (Ogolmagai, 2013). It means that debt financing pushes firms to serve creditors' interests, disregarding the other disparate stakeholders. In contrast, a zero-leverage policy releases the financial burden of the firms and accords freedom to behave more responsibly towards a range of stakeholders (Cui, 2020). Stakeholder theory also substantiates zero-leverage policy by arguing that a firm is mandated to behave responsibly towards multiple stakeholders by balancing out their competing interests (Yang et al., 2018). Firms need to create shared and legitimate value for various parties instead of having a singular focus on shareholders or creditors. Therefore, socially responsible firms may be more inclined towards the zero-leverage policy.

The above discussion draws attention towards a compelling and intriguing empirical investigation of the relationship between CSR and *zero-leverage policy of firms.* There is empirical research on the determinants of zero-leverage (e.g Ghose & Kabra, 2016; Huang et al., 2017), but it lacks evidence regarding the outcomes of zero-leverage policy on business and society (Yang et al., 2018). The extant research has not tested a zero-leverage relationship with non-financial outcomes like CSR. Therefore, this study examines the socially responsible behaviour of the firms and their zero-leverage policy. This study uses disclosure and tax contribution as proxies for CSR. We use that data of the non-financial firms listed in Pakistan from 2009-2018. Our findings indicate that ZL firms are socially more responsible have more probability to follow the ZL policy.

This study contributes in multiple ways. This study provides initial evidence regarding the positive relationship between zero-leverage and socially responsible behaviour. The use of multiple proxies for both predictor and outcome variables (mainly, tax contribution for CSR) adds to the methodological rigor

examining the zero-leverage and CSR relationship. Drawing on unique political and socio-economic eastern settings, this research contextually contributes to testing the relationship mentioned above.

LITERATURE REVIEW

LEVERAGE AND SUSTAINABILITY

Corporate financing policy has central importance to shape a firm's overall strategy and value structure. Many studies have explored corporate leverage and firm value in various dimensions (Chung et al., 2013; Cui, 2020; Hoepner et al., 2016; Soppe, 2004). After examining most of the endogenous and exogenous variables, the research on corporate financing policy has entered into a sustainability debate (Villarón-Peramato et al., 2018). Traditionally, firms tend to opt for an optimal leverage policy to materialize the benefit of interest tax shield and related value enhancement (Kraus & Litzenberger, 1973). Theories of corporate capital structure approve debt financing to restrain managerial discretion, reduce information asymmetries with optimum firm value and cost of capital (Berger et al., 1997; Bessler et al., 2011; Raharja & Mranani, 2019). However, the fixed debt charges threaten the firm's solvency, hinder their ability to pay dividends, and grab profitable investment opportunities adding to the likelihood of instability. The sustainability agenda requires a substantial change in corporate financing policy to make it right by incorporating socially responsible policies and practices (Hoepner et al., 2016). In levered firms, it seems complicated to pursue the sustainability mandate and spare finances to meet social expectations while coping with a constant financial burden of fixed financial charges and increasing financial distress. Corporate financing policy and CSR remains a scholarly and theoretical debate in varied dimensions.

LEVERAGE AND CSR

Agency theory considers CSR a financial burden (Barnea & Rubin, 2010), disapproving the sustainability argument. Managers employ debt financing to reap tax-shield maximizing firm value, as does CSR. Hence, debt and CSR appear as prominent corporate tax shield rivalries (Harjoto, 2017). Alternating interest tax-shield with CSR tax shield motivates managers to enjoy a lower cost of capital and financial distress with controlled risk and limited external influence in investment decisions. So, reducing leverage provides an ideal direction to meet both ends of financial and social stability.

Further, Zaman et al. (2019) states that the conventional trade-off theory of corporate capital structure offers a zero-sum trade-off between the present value of interest tax shield and the cost of financial distress to predict optimal capital structure, neglecting sustainability perspective. It is argued that a debt avoidance policy may reduce fixed charges and relax firms for funding social activities without induced cost of financial distress. The literature suggests that socially responsible firms utilize CSR-based tax shields to reduce the financial stress, risk, information asymmetries (Cheng et al., 2014; Gupta & Krishnamurti, 2018; Hsu et al., 2018). Sustainable practices are also helpful to improve reputational capital, customer confidence, lower financial constraints, and creditors premium for the firms (El Ghoul et al., 2011; Hmaittane et al., 2019; La Rosa et al., 2018; Martínez-Ferrero et al., 2016; Martínez-Ferrero & García-Sánchez, 2017).

These arguments earn indirect support of literature, finding a negative relationship between CSR, leverage, and cost of capital (El Ghoul et al., 2011; Hmaittane et al., 2019; La Rosa et al., 2018; Magnanelli & Izzo, 2017; Yeh et al., 2020). These studies suggest that socially responsible firms have lower risk, higher investor valuation, and positively affect the cost of capital. Feng et al. (2015) confirmed these findings and emphasized the need for better CSR disclosure and a better understanding of CSR. It is also learned that lower leverage and CSR helps to avoid bankruptcy, ensure transparency to financially sustain throughout the firm life cycle (Galbreath, 2010; Gupta & Krishnamurti, 2018), even in a competitive environment (Kemper et al., 2013; Sheikh, 2019). It seems that leverage and social responsibility are contrary to realize the sustainability objective as firms may avoid leverage and count on CSR expenditure as an alternative tax shield.

Drawing on the antagonistic relationship between leverage and CSR, the low leverage policy needs an explicit explanation as per the emerging phenomenon of zero-leverage. In this regard, the empirical investigation on zero-leverage and CSR may be a precious contribution, where literature seems silent at large. The negative association between leverage and CSR may have critical implications for cash-rich ZLfirms to validate whether ZLfirms are socially more responsible or not? To construe a logical position on this question, the empirical shreds of evidence regarding zero-leverage policy become relevant.

ZERO LEVERAGE

The story of the zero-leverage puzzle is not new now. After the unintended discovery of persistent corporate financial conservatism in US by Graham (2000), research scholars and practitioners took it more seriously after observing the economic shock of 2007-2008 (Byoun & Xu, 2013; Deb & Banerjee, 2018). The increasing trend of corporate debt avoidance to a maximum extent has primarily diluted the fancy arguments of conventional theories of corporate capital structure, namely, trade-off, optimal capital structure, agency and information

asymmetries theories (Villarón-Peramato et al., 2018). Because these debt advocacy theories are based on the objective of maximization of wealth and short-termism, ignoring sustainability and equity perspectives at large (Villarón-Peramato et al., 2018; Yang et al., 2018). Further to the corporate significance of zero-leverage, it is compelling to understand and unleash the social significance of zero-leverage policy. The phenomenon of ZL firms is studied in various aspects (Deb & Banerjee, 2018; Morais et al., 2020). Initially, Zaher (2010) took the position that the portfolio of debt-free firms has greater investor confidence because such firms have greater growth expectations even in economic downturns. Deb and Banerjee (2018) findings confirm that ZL firms outperform their levered counterparts even in a financial crisis. Lee and Moon (2011) also found that ZL firms outperform their levered counterparts in long-term equity performance. It is noted that the firm value indicator, i.e., EPS used by conventional theories, intriguing short-termism approach undermining the financial sustainability of a firm, requiring substantial change (Almeida, 2019; Rodriguez Bolivar et al., 2016; Soppe, 2004).

The evidence from the US firm data clarifies that over-levered firms face the cost of financial distress from 15% to 30% compared to 5.5% of the net benefit of leverage. However, un-levered firms remain more comfortable in refinancing and creditors' confidence (Korteweg, 2010). The evidence reals that zero-leverage is a persistent global phenomenon materializing the benefits of better performance, high cash holding, less equity issuance, more dividend payments, better market to book ratio, higher investor confidence, and tax contribution to the economy (Byoun & Xu, 2013; El Ghoul et al., 2018; Strebulaev & Yang, 2013). Miglo (2020) states that ZL dividend-paying firms reduce information asymmetries and signal their high quality. It is also learned that dividend paying ZL firms are less constrained, have minor managerial entrenchment, preserve their investment flexibility, growth potential and survive longer (Byoun & Xu, 2013; Chung et al., 2013; Dang, 2013; Devos et al., 2012; Ferrão et al., 2016). The hypothesis of financial constraints for large zero-leverage firms is rejected, arguing that such firms try to preserve their long-term performance, better market outlook and avoid financial distress (Cui, 2020; Deb & Banerjee, 2018; Ghose & Kabra, 2016; Huang et al., 2017; Lotfaliei, 2018). These firms forgo the benefit of interest tax shield and pay more taxes (Strebulaev & Yang, 2013). There is a lack of evidence explaining the effect of ZL policy on socially responsible firms, in this case, establishing the need to understand how zero-leverage policy could affect the social responsiveness of a firm.

ZERO LEVERAGE AND CSR

As per the earlier section, we know a negative relationship between CSR and firm leverage. However, there is no pertinent study addressing CSR and zero leverage. The combination of CSR and ZL phenomenon may provide interesting insights related to zero levered and high score CSR firms. There may be sound theoretical and practical implications of observing the ZL and socially responsible firms. In this context, it is noteworthy that many factors of ZL firms and socially responsible firms may have a complementary effect on their performance and social responsibility scores. For instance, the literature reveals that socially responsible firms have better performance, have lower cost of debt, lower capital constraints, a low-risk profile, better investor confidence, a long-term survival agenda, and materialize the alternative tax shield by avoiding debt. Similarly, the zero-leverage firms are also more profitable, are not financially constrained, have lower financial distress, are financially stable, and are well rewarded by investors. These expected outcomes of ZL and assuming socially responsible behavior may have a multiplier effect on corporate financial performance and sustainability.

This paper draws on stakeholders theory, positing that a firm is responsible for protecting multiple stakeholders' interests instead of shareholders only (Freeman, 1984). In line with this theory, socially responsible firms are more inclined towards ZL policy because they are not intended to pay the cost of debt, which is usually handy. Avoiding fixed debt charges allows them to reserve enough funds to fulfil the needs of various stakeholders. Conservation of resources (CoR) theory also substantiates the above relationship (Hobfoll, 2011). CoR states that firms avoid loss of resources to prevent stress. Levered firms experience a continuous and uninterrupted loss of resources in the form of interest payments, resulting in financial distress and causes stress creating unfavourable financial hazards to perform socially responsible. Contrarily, ZL policy helps the firms to conserve their resources by avoiding the cost of debt, enabling them to practice more socially responsible behaviour. In current settings, the community sees interest as a stigma and hesitates to accord legitimacy to levered firms. As the controversial debt-equity distinction remains a war footing measure of World War I and is still under appeal in various courts of law (Zaman et al., 2019). ZL firms are considered more in concordant with societal norms, and they easily win legitimacy (Deegan, 2019).

Moreover, ZL strategy also enable the firms to contribute more to form taxes that creates a dual layer of CSR. These layers of CSR involve the responsible

behaviour of the firm directly and indirectly. Such behaviour denotes CSR activities at the corporate level directly and contributes to social welfare indirectly through more tax contributions to the government. Implicitly, containing a financially sustainable and socially responsible corporate body by adopting a zero-leverage financing policy and CSR activities creates a greater good. Thereby, to empirically substantiate the responsible state of CSR and ZL firms, we postulate that socially more responsible firms have the more probability for ZL policy.

METHODOLOGY

DATA DESCRIPTION

We started with a sample of 278 non-financial firms listed on the Pakistan Stock Exchange (PSX) from 2009 to 2018, across 15 industrial sectors. As per Yang et al. (2018) and Morais et al. (2020), we screened that data for non-financial firms by excluding financial and utility firms subject to various regulations and nature. We eliminate the firm-year observations with incomplete or missing information regarding industry codes, negative values of total assets, equity, and sales Ghose and Kabra (2016). The availability of annual reports is another important and critical issue of this research because we measure our CSR disclosure index through content analysis of annual reports. Our final data panel of 143 firms retains 1,430 firm-year observations. Table 1 provides a sector-wise sample description.

DESCRIPTION OF VARIABLES

MEASURES OF ZERO LEVERAGE

We use three proxies of leverage distinguished based on total debt (long term plus short term), long-term debt, and short-term debt only. A firm is defined as "zero levered (ZL)" if it has zero debt in a given year as per any of the definitions mentioned above (Bessler et al., 2013; Byoun & Xu, 2013) and as "almost ZL(AZL)" if it has a positive leverage ratio equal to or less than 5 percent in a given year (Strebulaev & Yang, 2013). We have also used extended definitions of zero-leverage, creating six binary variables, as stated in Table 2. For example, Zero-Leverage Total Debt (ZLTD) is a proxy for the firms having long-term and short-term debt equal to zero. The proxy of Almost Zero-Leverage Total Debt (AZLTD) indicates total debt value less than 5% each year.

MEASURES OF CSR

We measure CSR as a predictor in two ways. First proxy, corporate social responsibility disclosure (CSRD) index, established through content analysis of annual reports of firms. Following the previous studies on CSR disclosures like Khan et al. (2013), Malik and Kanwal (2018) and Ehsan et al. (2018) a checklist of 40 items is developed related to five broad dimensions, namely, Community Welfare (CW), Health and Education (H&E), Environment and Energy (E&E), Product, Customer and Stakeholder (PC&S) and Workforce

TABLE 1. Sector wise sample description

No.	Sectors	Total no. of Firms	Selected Firms
1	Automobile	22	17
2	Cable and Electrical Goods	7	4
3	Cement	22	12
4	Engineering	20	6
5	Power and Energy	12	12
6	Telecom	13	4
7	Food and personal care products	24	13
8	Sugar and allied industries	28	19
9	Pharmaceuticals	12	6
10	Synthetic and Rayon	10	5
11	Textile Composite	56	16
12	Chemical	27	17
13	Fertilizer	6	3
14	Glass & Ceramics	9	5
15	Paper & Board	10	4
	Total	278	143

(WF). The checklist of these items is attached in the appendix. The unit of analysis for each dimension is "Frequency of disclosure". The value of 1 is devoted to each frequency of disclosure item otherwise 0. These scores are added to attain an aggregate score of CSRD for each firm-year item divided by the expected maximum score, i.e., 40. To ensure the content code reliability, we confirmed each content analysis item by preparing a score sheet and rated checklist of each item. These ratings are reconfirmed from annual reports in case of any incongruity between firm-year observations and sorted ratings. We use Cronbach (1951) alpha coefficient as a robust measure to ensure internal consistency or reliability of our CSRD index. It predicts the degree of difference between items or set of items used in a particular construct and its ability to measure the underlying construct (Hair et al., 2007). The cumulative score of Cronbach's alpha coefficient of our CSRD index is 0.90 indicating less chances of random error in our CSRD index measure.

Our second proxy of CSR is Tax contribution (TaxCon). Tax is a source of social development and accords legitimacy to corporate deeds satisfying diverse stakeholders. Therefore, we introduce corporate TaxCon as a CSR proxy (Carroll, 1979).

MODEL AND TECHNIQUE

We use a binary dependent variable approach to explore the CSR-ZL link. Logit regression is the most suitable econometric technique when the dependent variable is binary i.e. zero-leverage (Yasmin & Rashid, 2019). Logit regression is the statistical fitting of an s-curve logit function to a dataset to calculate the probability of the occurrence of a specific categorical event based on the values of a set of independent variables. Logit regression is a predictive algorithm using independent variables to predict the dependent variable, specifically used in case of categorical dependent variable (Ebrahimi, 2020).

$$\mathrm{P_i}(Y_i = 1\, X_i) = \frac{1}{1} + \mathrm{e}\left(\alpha_{it} + X_{it}\beta\right)$$

As per the above equation, the dependent variable is binary, where 1 equal if there is no outstanding debt or ZL and 0 otherwise. The value of X indicates firm-level characteristics, likely to impact ZL policy; β is the vector of coefficients; and α is an individual intercept.

The equations below indicate the applied regression model.

$$ZL_{it} = \beta_0 + \beta_1(CSRD)_{it} + \sum\beta_i(Controls))_{it} + e_{it} \quad \text{Model(1)}$$

$$AZL_{it} = \beta_0 + \beta_1(CSRD)_{it} + \sum\beta_i(Controls))_{it} + e_{it} \quad \text{Model(2)}$$

$$ZL_{it} = \beta_0 + \beta_1(TaxCon)_{it} + \sum\beta_i(Controls))_{it} + e_{it} \quad \text{Model(3)}$$

$$AZL_{it} = \beta_0 + \beta_1(TaxCon)_{it} + \sum\beta_i(Controls))_{it} + e_{it} \quad \text{Model(4)}$$

Whereas,
ZL refers to ZLand AZL refers to almost zero-leverage. CSRD is the CSR disclosure index which is the first proxy of CSR. TaxCon refers to tax contribution as a second proxy of CSR. $\sum\beta_i$ Controls refers to the control variables, i.e., EBIT, MBV, Tang, NDTS, Size, GRO, Risk, Divi, GA, BS, ExQ and Age defined in Table 2. We use dummy 1 for dividend paying firms and otherwise 0 for non-dividend paying firms. Additionally, we use size and age index to test the financial constraint hypothesis (Hadlock & Pierce, 2010) in case of ZL and socially responsible firms. We test underlying assumptions of regression model for multicollinearity using correlation matrix and the variance inflation factor (VIF). None of the variables has a VIF value above 10 (Neter et al., 1983), rejecting multicollinearity problem. We also use industrial and year dummies to control for their respective effects.

RESULTS AND DISCUSSION

DESCRIPTIVE STATISTICS

Table 3 presents the descriptive statistics of variables. Our data includes 143 firms having 1430 firm-year observations. The minimum values of leverage proxies 0.00 indicate the presence of ZL as per the definitions of leverage, i.e., TD, LTD and STD. The mean values of these leverage indicators are 0.24, 0.09 and 0.15, respectively. Simultaneously, the maximum values of leverage definitions, i.e., 1.99, 0.79 and 1.79 indicate that there is the presence of high leverage in our sample firms as well. These statistics signify the appropriateness of data to cover the perspective of both levered and ZL firms. The descriptive statistics reveal that all sample firms with high and low leverage policies have an average CSRD score of 0.51, ranging from 0.15 to 0.98. Further, our sample firms' tax contribution ranges from -0.82 to 0.90 with a standard deviation of 0.08, validating the effect of interest tax shield, corresponding to the high levered firms. Besides, these statistics provide initial evidence that firms avoiding debt are paying more to tax contribution to the economy.

The statistics of the DP and FCon range from 0.00 to 0.10 reveals the presence of both dividend-paying and non-dividend paying firms and financially constrained and unconstrained firms. Similarly, our sample firms' age statistics range from 7.00 to 156.00, confirming the sample firm diversity covering the young and mature firms. Further, the mean values of sample firm EBIT, GRO and Risk are 0.12, 0.18 and 0.45, respectively. These statistics show the appropriateness of sample firm data to answer the question under consideration. For results from ensuing logistic regression are presented and discussed further.

TABLE 2. Description of variables

	Variables	Definition/Measurement
TD	Total Debt	Long-term debt + Short-term debt/Total Assets
LTD	Long Term Debt	Long Term Debt (not due within one year)/Total Assets
STD	Short Term Debt	Short Term Debt (due within one year)/Total Assets
ZL	Zero-Leverage	Takes value 1 if the TD is zero and 0 otherwise
AZL	Almost Zero-Leverage	Takes value 1 if the TD is <5% and 0 otherwise
ZLLTD	Zero-Leverage Long Term Debt	Takes value 1 if the LTD is zero and 0 otherwise
AZLLTD	Almost Zero-Leverage Long Term Debt	Takes value 1 if the LTD is <5% and 0 otherwise
ZLSTD	Zero-Leverage Short Term Debt	Takes value 1 if the STD is zero and 0 otherwise
AZLSTD	Almost Zero-Leverage Short Term Debt	Takes value 1 if the STD is <5% and 0 otherwise
CSRD	CSR Disclosure Index	CSR score of a firm/Total CSR score
TaxCon	Taxes	Tax provision (income tax paid)/earnings before tax
EBIT	Profitability	Earnings before interest and tax to total assets
MBV	Market to Book ratio	Market value to book value of assets
TANG	Tangibility	Property Plant and Equipment to total assets
NDTS	Non-debt tax shield	The ratio of depreciation to book assets
Size	Size of the Firm	Natural logarithm of total assets
GRO	Growth rate	Percentage change in net sales from previous to the current year
Risk	Beta	
DIV	Dividend	Dividend paid during the year to book assets
GA	Group Affiliation	Takes value 1 if the firm is affiliated with a business group; otherwise, 0
BS	Board Size	Natural logarithm of total number of directors on the board of a firm
ExQ	External Audit Quality	If the firm is audited by Big Five, it takes the value 1; otherwise, 0.
Age	Age of the Firm	Natural logarithm of difference between the current year and date of Incorporation
DP	Dividend payers	Takes value 1 if the firm pays dividend and 0 otherwise
FCon	Financial Constraint Firms	Size and Age Index developed by Hadlock & Pierce (2010) is used to differentiate between financially constrained and unconstrained firms.

TABLE 3. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Total Debt	1430	0.24	0.21	0.00	1.99
Long Term Debt	1430	0.09	0.13	0.00	0.79
Short Term Debt	1430	0.15	0.16	0.00	1.79
CSRD	1430	0.51	0.20	0.15	0.98
Tax	1430	0.02	0.08	-0.82	0.90
EBIT	1430	0.12	0.39	-1.87	8.03
MTV	1430	2.29	10.05	-67.90	211.34
Tang	1430	0.42	0.23	0.00	0.97
NDTS	1430	-0.01	0.26	-0.99	0.97
Size	1430	15.54	1.45	11.27	18.59
GRO	1430	0.18	0.71	-0.94	9.56
Risk	1430	0.45	1.11	-8.70	6.54
Div	1430	0.07	0.23	-0.47	3.14
GA	1430	0.85	0.36	0.00	1.00
BS	1430	2.08	0.19	1.10	3.00
ExQ	1430	0.67	0.47	0.00	1.00
DP	1430	0.74	0.44	0.00	1.00
FCon	1430	0.59	0.49	0.00	1.00
Age	1430	38.22	19.36	7.00	156.00

REGRESSION ANALYSIS

Table 4 presents the multivariate logistic regression estimates for both proxies of CSR, i.e., CSRD and Tax. The results for these proxies are further divided into the subsamples of ZL and AZL firms. The results of logit regression in column 1 and 2, indicate significantly positive beta values of (1.87) at 1% level of confidence for ZL and (1.08) at 5% level of significance for AZL, respectively. For TaxCon, the results indicate significant positive beta values, i.e., (5.33) and (4.70) at a 1% level of confidence for both ZL and AZL firms shown in column 3 and 4. To this extent, these results imply that ZL policy is more common in firms that disclose more CSR information in their annual reports. At the same time, the relationship between tax contribution that is the second proxy for CSR and ZL is also positive asserting that firms avoiding debt to the maximum extent are contributing more to the form of taxes, essential for the social and economic development of a country.

TABLE 4. Corporate Social Responsibility and ZL

	ZL	AZL	ZL	AZL
	1	2	3	4
CSRD	1.87	1.08		
	(2.92)***	(2.54)**		
Tax			5.33	4.70
			(3.72)***	(4.29)***
EBIT	0.61	0.51	0.44	0.33
	(2.51)**	(2.64)***	(1.47)	(1.68)*
MBV	0.02	0.02	0.01	0.02
	(2.15)**	(2.64)***	(1.79)*	(2.55)**
Tang	-5.35	-3.51	-5.19	-3.50
	(-8.87)***	(-9.95)***	(-8.61)***	(-9.85)***
NDTS	0.48	0.17	0.55	0.18
	(1.05)	(0.65)	(1.2)	(0.69)
Size	-0.29	-0.11	-0.12	-0.02
	(-3.32)***	(-1.88)*	(-1.65)*	(-0.38)
GRO	-0.01	-0.13	-0.03	-0.14
	(-0.05)	(-1.11)	(-0.19)	(-1.23)
Risk	0.33	0.12	0.33	0.12
	(3.41)***	(1.78)*	(3.4)***	(1.86)*
Divi	-0.28	0.53	-0.28	0.60
	(-0.63)	(2.02)**	(-0.58)	(2.28)**
GA	1.45	-0.10	1.45	-0.06
	(2.60)**	(-0.42)	(2.6)***	(-0.24)
BS	-2.56	-0.67	-2.39	-0.63
	(-4.30)***	(-1.81)*	(-4.03)***	(-1.69)*
ExQ	1.62	1.08	1.45	0.99
	(4.60)***	(5.90)***	(4.17)***	(5.39)***
Age	-0.12	0.10	-0.10	0.08
	(-0.54)	(0.68)	(-0.45)	(0.51)
Constant	5.19	1.92	3.21	1.04
	(2.92)***	(1.68)*	(1.88)*	(0.93)
Industry-Effect	Yes	Yes	Yes	Yes
Year-Effect	Yes	Yes	Yes	Yes
Pseudo R^2	25	12	26	19
Wald-Chi^2	(233)***	(301)***	(237)***	(315)***

Table 4 reports the results of Multivariate Logistic Regression Estimations. The level of statistical significance is represented by *, **, *** at 10%, 5% and 1%, respectively. Z-statistics are reported in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

Therefore, both CSR proxies validate that socially responsible behaviour of firms and their inclination towards ZL complement each other.

Further, the results indicate that in profitable firms with more CSR disclosure (2.64) and tax contribution (1.68) have more probability to follow ZL phenomenon than their counterparts i.e., unprofitable firms. The significantly positive results of MBV (0.02) for ZL and AZL firms in CSRD and Tax indicate a more encouraging market response for socially responsible and ZL firms. The results also validate the earlier findings that CSR-ZL relationship is stronger in dividend paying firms than their non dividend paying counterparts. Moreover, significant negative coefficients of firms Tang and Size are ranging from (-5.35) to (-0.11), validate the financial constraint hypothesis (Dang, 2013; Hadlock & Pierce, 2010).

TABLE 5. Dividend (Non) paying firms and corporate social responsibility and ZL

	Dividend Paying				Non-Dividend Paying			
	ZL	AZL	ZL	AZL	ZL	AZL	ZL	AZL
	1	2	3	4	5	6	7	8
CSRD	1.97	1.08			1.96	0.25		
	(2.9)***	(2.28)**			(0.82)	(0.22)		
Tax			4.51	5.99			3.59	-1.20
			(2.71)***	(4.07)***			(0.91)	(-0.48)
EBIT	0.52	0.41	0.37	0.21	7.00	3.22	5.65	3.78
	(1.85)*	(2.12)**	(1.13)	(1.03)	(2.43)**	(2.06)**	(1.68)*	(1.93)*
MBV	0.02	0.03	0.02	0.02	-0.03	0.00	-0.03	0.00
	(2.35)**	(2.71)**	(2.05)**	(2.59)**	(-1.01)	(-0.05)	(-0.91)	(-0.01)
Tang	-5.33	-3.67	-5.12	-3.57	-3.89	-2.72	-4.21	-2.73
	(-8.14)***	(-9.27)***	(-7.82)***	(-8.9)***	(-2.13)**	(-2.63)***	(-2.26)**	(-2.69)***
NDTS	0.25	-0.37	0.32	-0.37	1.14	1.85	1.46	1.86
	(0.51)	(-1.23)	(0.63)	(-1.2)	(0.93)	(2.96)***	(1.16)	(3.01)***
Size	-0.40	-0.22	-0.21	-0.11	0.45	0.35	0.58	0.37
	(-4.25)***	(-3.27)***	(-2.75)***	(-1.83)*	(1.18)	(1.89)*	(1.73)*	(2.34)**
GRO	-0.02	-0.14	-0.04	-0.17	0.10	-0.03	0.13	-0.06
	(-0.1)	(-1.17)	(-0.27)	(-1.38)	(0.17)	(-0.07)	(0.22)	(-0.15)
Risk	0.33	0.14	0.32	0.15	0.18	-0.04	0.21	-0.04
	(3.13)***	(1.89)*	(3.05)***	(1.92)*	(0.64)	(-0.24)	(0.74)	(-0.25)
Divi	-0.59	0.30	-0.60	0.38	0.00	0.00	0.00	0.00
	(-1.2)	(1.1)	(-1.13)	(1.41)	0.00	0.00	0.00	0.00
GA	1.47	0.42	1.40	0.38	1.26	-0.92	1.53	-0.95
	(2.3)**	(1.36)	(2.19)**	(1.23)	(0.94)	(-2.16)**	(1.02)	(-2.23)**
BS	-2.82	-0.82	-2.59	-0.84	-0.14	0.54	-0.18	0.54
	(-4.22)***	(-1.98)*	(-3.95)***	(-2.01)**	(-0.08)	(0.55)	(-0.09)	(0.55)
ExQ	1.64	0.96	1.46	0.88	1.01	0.80	1.11	0.80
	(4.01)***	(4.5)***	(3.68)***	(4.12)***	(1.19)	(2.00)*	(1.3)	(2.01)**
Age	-0.16	0.21	-0.16	0.18	0.58	0.22	0.54	0.24
	(-0.64)	(1.24)	(-0.65)	(1.04)	(0.95)	(0.61)	(0.93)	(0.64)
Constant	7.64	3.44	5.57	2.43	-15.19	-9.05	-15.96	-9.29
	(3.89)***	(2.69)**	(2.96)**	(1.95)*	(-2.32)**	(-2.62)***	(-2.43)**	(-2.72)***
Industry-Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	25	20	25	21	32	19	32	19
Wald-Chi^2	(197)***	(256)***	(196)***	(270)***	(39)***	(55)***	(38)***	(55)***

Table 5 reports the results of Multivariate Logistic Regression Estimations. The level of statistical significance is represented by *, **, *** at 10%, 5% and 1%, respectively. Z-statistics are reported in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

Table 5 provides further analysis addressing the socially responsible behaviour of dividend-paying and non-dividend paying ZL firms. The relationship for both proxies of CSR, i.e., CSRD and Tax have been examined in this case too. The coefficient values of CSRD in columns 1 and 2 show (1.97) and (1.08) significantly positive relation with dividend-paying zero levered firms at 1% and 5% level of confidence, respectively, vice versa to the results indicated in column 5 and 6 for non-dividend paying firms. The narrative for higher tax contribution indicating higher CSR of ZL and AZL firms is proved, as significant positive coefficient values of TaxCon are (4.51) and (5.99) at 1% level of confidence, given in columns 3 and 4, respectively.

Interestingly, CSRD and TaxCon turn insignificant when the scenario changes to non-dividend-paying

TABLE 6. Financially unconstrained (constrained) firms and corporate social responsibility and ZL

	Financially Unconstrained				Financially Constrained			
	ZL	AZL	ZL	AZL	ZL	AZL	ZL	AZL
	1	2	3	4	5	6	7	8
CSRD	2.91	2.02			-0.43	-0.36		
	(3.03)***	(3.37)***			(-0.43)	(-0.52)		
Tax			2.55	-0.09			5.32	9.71
			(0.87)	(-0.06)			(2.3)**	(3.53)***
EBIT	3.06	3.18	2.95	3.69	0.43	0.47	0.28	0.24
	(2.76)***	(3.97)***	(1.98)**	(3.61)***	(1.16)	(2.04)**	(0.79)	(0.91)
MBV	0.01	0.01	0.01	0.02	0.03	0.05	0.02	0.01
	(0.91)	(1.66)*	(0.99)	(1.88)*	(0.51)	-1.20	(0.31)	(0.4)
Tang	-4.63	-2.67	-4.64	-2.72	-6.45	-4.91	-6.14	-4.51
	(-5.86)***	(-6.08)***	(-5.9)***	(-6.23)***	(-5.61)***	(-6.64)***	(-5.29)***	(-6.03)***
NDTS	0.84	0.32	0.93	0.40	0.10	-0.30	-0.04	-0.45
	(1.44)	(0.92)	(1.6)	(1.15)	(0.13)	(-0.68)	(-0.05)	(-0.98)
Size	-0.38	0.05	-0.18	0.17	0.02	-0.05	-0.04	-0.10
	(-2.65)***	(0.49)	(-1.4)	(1.89)*	(0.09)	(-0.36)	(-0.19)	(-0.74)
GRO	-0.02	-0.14	-0.04	-0.16	-0.17	-0.23	-0.23	-0.31
	(-0.13)	(-1.13)	(-0.26)	(-1.24)	(-0.46)	(-0.95)	(-0.58)	(-1.23)
Risk	0.44	0.16	0.43	0.17	0.24	0.11	0.25	0.13
	(2.98)***	(1.57)	(2.95)***	(1.69)*	(1.73)*	(1.23)	(1.78)*	(1.42)
Divi	-1.02	0.75	-0.77	0.75	0.15	-0.05	0.13	-0.02
	(-1.05)	(2.28)**	(-0.85)	(2.33)**	(0.23)	(-0.10)	(0.2)	(-0.04)
GA	0.00	-0.98	0.00	-0.88	0.84	0.51	0.81	0.51
	(0.00)	(-2.92)***	(0.00)	(-2.63)***	(1.41)		(1.35)	(1.42)
BS	-2.46	-0.94	-2.12	-0.67	-3.57	-0.40	-3.44	-0.26
	(-3.52)***	(-2.13)**	(-3.08)***	(-1.56)	(-2.61)***	(-0.49)	(-2.6)***	(-0.33)
ExQ	3.16	1.08	3.23	1.12	0.67	0.96	0.60	0.84
	(3.08)***	(4.04)***	(3.15)***	(4.23)***	(1.51)	(3.44)***	(1.34)	(3.00)***
Age	0.16	0.48	0.18	0.48	-0.80	-0.08	-0.97	-0.15
	(0.48)	(2.27)**	(0.58)	(2.3)**	(-1.5)	(-0.22)	(-1.8)*	(-0.41)
Constant	4.12	-2.10	1.85	-3.57	8.06	2.13	8.83	2.49
	(1.25)	(-1.00)	(0.58)	(-1.74)*	(1.65)*	(0.67)	(1.83)*	(0.77)
Industry-Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	26	19	24	18	30	25	31	28
Wald-Chi^2	(140)***	(187)***	(131)***	(175)***	(109)***	(161)***	(115)***	(180)***

Table 6 reports the results of Multivariate Logistic Regression Estimations. The level of statistical significance is represented by *, **, *** at 10%, 5% and 1%, respectively. Z-statistics are reported in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

firms. It showed that dividend-paying zero levered firms pay more taxes than non-dividend-paying counterparts. These results imply that socially more responsible firms are more inclined towards ZL policy and pay more dividends to eschew debt financing and inclined towards equity financing. In other words, these results indicate that social conscious firms pay more taxes and dividends with other CSR activities render more value to their customers, shareholders, and society than their levered counterparts. Further, the positive significant

TABLE 7. Corporate social responsibility and ZL (additional analysis)

	ZLLTD	AZLLTD	ZLSTD	AZLSTD	ZLLTD	AZLLTD	ZLSTD	AZLSTD
	1	2	3	4	5	6	7	8
Panel A: ZLand corporate social responsibility								
CSRD	0.74	2.01	2.00	0.47				
	(1.85)*	(5.04)***	(3.78)***	(1.27)				
Tax					3.08	4.69	5.36	2.99
					(3.19)***	(4.45)***	(4.53)***	(3.23)***
Pseudo R^2	12	22	21	10	13	21	22	11
Wald-Chi^2	(206)***	(421)***	(260)***	(190)***	(213)***	(420)***	(266)***	(200)***
Panel B: Dividend paying ZLfirms and corporate social responsibility								
CSRD	0.71	2.12	2.34	0.27				
	(1.52)	(4.45)***	(3.94)***	(0.65)				
Tax					2.82	4.12	7.55	3.27
					(2.16)**	(2.97)***	(4.62)***	(2.64)***
Pseudo R^2	14	22	25	12	15	21	26	12
Wald-Chi^2	(182)***	(306)***	(254)***	(170)***	(184)***	(296)***	(263)***	(177)***
Panel C: Non-Dividend paying ZLfirms and corporate social responsibility								
CSRD	1.15	1.42	1.14	0.59				
	(1.29)	(1.7)*	(0.78)	(0.69)				
Tax					4.48	5.19	-4.38	-0.12
					(2.33)**	(2.66)***	(-1.5)	(-0.07)
Pseudo R^2	12	26	15	0.06	14	27	16	0.06
Wald-Chi^2	(47)***	(135)***	(28)***	(25)**	(52)***	(141)***	(30)***	(25)**
Panel D: Financially Unconstrained ZLfirms and corporate social responsibility								
CSRD	1.48	3.38	2.55	0.49				
	(2.51)**	(6.11)***	(3.44)***	(0.96)				
Tax					0.60	2.51	-0.09	-1.66
					(0.37)	(1.68)*	(-0.04)	(-1.17)
Pseudo R^2	14	20	22	12	14	17	20	12
Wald-Chi^2	(136)***	(230)***	(171)***	(134)***	(130)***	(194)***	(158)***	(134)***
Panel E: Financially constrained ZLfirms and corporate social responsibility								
CSRD	0.01	0.72	0.60	-0.17				
	(0.01)	(1.09)	-0.65	(-0.29)				
Tax					6.37	8.29	9.47	11.98
					(3.18)***	(4.3)***	(3.42)***	(4.66)***
Pseudo R^2	15	32	30	14	17	35	33	19
Wald-Chi^2	(102)***	(260)***	(130)***	(102)***	(116)***	(282)***	(146)***	(134)***
Industry-Effect			Yes	Yes	Yes	Yes	Yes	Yes
Year-Effect			Yes	Yes	Yes	Yes	Yes	Yes

Table 7 reports the results of Multivariate Logistic Regression Estimations. All models in this table include control variables but do not report. For detailed description of variables please see Table 2. The level of statistical significance is represented by *, **, *** at 10%, 5% and 1%, respectively. Z-statistics are reported in parentheses. Standard errors are adjusted for heteroskedasticity and clustered at the firm level.

coefficients of CSRD signifies more value by debt providers indicating a higher propensity of firms toward access to capital markets.

Our results indicate that dividend-paying firms have a better market response as per the significant positive coefficient values (0.02 and 0.03 at 5% level of confidence) of MBV than non-dividend-paying firms. Overall, the results related to *Tang* indicate significantly negative behavior in the case of both dividend-paying and non-dividend-paying firms.

These results imply that dividend-paying firms employ internal funds to manage agency costs as well as the future-oriented project. Whereas the results indicate that firms manage information asymmetry at the expense of fixed assets and are smaller in size compared to their counterpart. It seems that these young firms settle agency conflict of equity holders through earning on the disposal of fixed assets. Thereby, our results also support the financial constraint hypothesis advocating the market fluctuations, younger age, and smaller size of firms restrain them from borrowing for festive NPV projects (Hadlock & Pierce, 2010). On the other hand, these results also imply that debt avoidance policy of dividend paying firms provides them with an opportunity to avoid fixed debt charges and enough liquidity to liquidate the investor pockets. Nevertheless, dividend-paying firms may face credit rationing as lenders are inept at recognizing the quality of their assets in place and new growth opportunities (e.g Stiglitz & Weiss, 1981).

Table 6 provides empirical evidence of the relationship between CSR and ZL in financially constrained and un-constrained firms. As per our results in columns, 1 and 2, the significant positive coefficient values of CSRD (i.e., 2.91 and 2.02 at 1% level of confidence) indicate that financially unconstrained firms disclose more socially responsible behaviour and have ZL policy, respectively. Whereas, as per columns 7 and 8 with significant positive values of TaxCon (i.e., 5.32 and 9.71 at 5% and 1% level of confidence) show that financially constrained firms paying more taxes to validate the financial constraint hypothesis. These results indicate that CSR and ZL relationship is not only significant in financially unconstrained firms. However, financially constrained firms may opt for the opportunity to utilize CSR expenses as an alternative tax shield. The insignificant CSRD and significant TaxCon results for constrained firms may imply that these firms pay more taxes diluting funding opportunities for other CSR activities.

Table 7 presents additional evidence regarding our research question based on the further definitions, i.e., ZLLTD, AZLLTD, ZLSTD and AZLSTD for both of our CSR proxies. Panel A shows that CSRD and TaxCon are positively and significantly associated with zero-leverage firm policy. The findings reported in Panel B and C based on long term and short-term debt based ZL firm-year observations also confirm our earlier findings for dividend-paying and financially constrained firms.

The results reveal that socially responsible ZL firms have better performance, investor response, pay more dividends, low risk profile and lower capital constraints important to pursue a long-term survival agenda. It is learned that combination of CSR and ZL policy supplement the positive outcomes with each other helpful to improve the long term social and financial sustainability of the organizations. These insights stress the managers to consider the financing policy helpful to reduce the financial distress of the firms and spare for socially responsible activities. This study provides a unique perspective to ensure corporate survival during the ongoing COVID-19 pandemic.

CONCLUSION

This study aims to answer how zero-leverage policy influences socially responsible behaviour of the firms. We employ logistic regression model using data of the non-financial firms listed in Pakistan from 2009-2018. We use disclosure and tax contribution as proxies for CSR. The ZL firm-year observations are divided into subsamples of AZL firms, dividend and non-dividend paying, constrained and un-constrained ZL firms. The results show that socially more conscious firms have more probability for ZL policy. These firms also perform better, pay more dividends, and are more valuable to shareholders. The results also indicate that financially constrained firms, pay more taxes and financially un-constrained firms disclose more socially responsible behaviour. Conclusively, our robust findings also endorsed that socially more responsible and sustainable firms have more propensity for ZL policy. This study provides a unique insight into the blend of CSR and corporate financing policy.

These findings imply that socially responsible firms may increase their social effectiveness by switching to a zero-leverage financing policy providing a roadmap to social sustainability and equitable wealth creation. Further, it is learned that ZL policy is a socially responsible financing policy elevating the effect of corporate social activities helpful for managers to materialize the sustainability agenda serving most of the stakeholders. This study is helpful to devise policy mechanism to handle financial calamity caused by COVID-19 pandemic. Besides, a global data set can cover the data limitation of this paper and may provide generalizable results.

REFERENCES

Almeida, H. 2019. Is it time to get rid of earnings-per-share (EPS)? *Review of Corporate Finance Studies* 8(1): 174-206.

Barnea, A., & Rubin, A. 2010. Corporate social responsibility as a conflict between shareholders. *Journal of Business Ethics* 97(1): 71-86.

Berger, P. G., Ofek, E., & Yermack, D. L. 1997. Managerial entrenchment and capital structure decisions. *The Journal of Finance* 52(4): 1411-1438.

Bessler, W., Drobetz, W., & Grüninger, M. C. 2011. Information asymmetry and financing decisions. *International Review of Finance* 11(1): 123-154.

Bessler, W., Drobetz, W., Haller, R., & Meier, I. 2013. The international zero-leverage phenomenon. *Journal of Corporate Finance* 23: 196-221.

Byoun, S., & Xu, Z. 2013. Why do some firms go debt free? *Asia-Pacific Journal of Financial Studies 42*(1): 1-38.

Carroll, A. B. 1979. A three-dimensional conceptual model of corporate performance. *Academy of Management Review* 4(4): 497-505.

Cheng, B., Ioannou, I., & Serafeim, G. 2014. Corporate social responsibility and access to finance. *Strategic Management Journal* 35(1): 1-23.

Chung, Y. P., Na, H. S., & Smith, R. 2013. How important is capital structure policy to firm survival? *Journal of Corporate Finance* 22: 83-103.

Cronbach, L. J. 1951. Coefficient alpha and the internal structure of tests. *Psychometrika* 16(3): 297-334.

Cui, W. 2020. Is debt conservatism the solution to financial constraints? An empirical analysis of Japanese firms. *Applied Economics* 52(23): 2526-2543.

Dang, V. A. 2013. An empirical analysis of zero-leverage firms: New evidence from the UK. *International Review of Financial Analysis* 30:189-202.

Deb, S. G., & Banerjee, P. 2018. Low leverage policy: a boon or bane for Indian shareholders. *Journal of Asia Business Studies* 12(4): 489-507.

Deegan, C. M. 2019. Legitimacy theory: Despite its enduring popularity and contribution, time is right for a necessary makeover. *Accounting, Auditing & Accountability Journal* 32(8): 2307–2329.

Devos, E., Dhillon, U., Jagannathan, M., & Krishnamurthy, S. 2012. Why are firms unlevered? *Journal of Corporate Finance* 18(3): 664-682.

Ebrahimi, T. 2020. Supply-side factors, CEO overconfidence, and zero-leverage policy. *International Journal of Finance & Economics* 25(4): 547-564.

Ehsan, S., Nazir, M., Nurunnabi, M., Raza Khan, Q., Tahir, S., & Ahmed, I. 2018. A multimethod approach to assess and measure corporate social responsibility disclosure and practices in a developing economy. *Sustainability* 10(8): 2955.

El Ghoul, S., Guedhami, O., Kwok, C., & Zheng, X. 2018. Zero-leverage puzzle: An international comparison. *Review of Finance* 22(3): 1063-1120.

El Ghoul, S., Guedhami, O., Kwok, C. C., & Mishra, D. R. 2011. Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance* 35(9): 2388-2406.

Ferrão, J., Curto, J. D., & Gama, A. P. 2016. Low-leverage policy dynamics: an empirical analysis. *Review of Accounting and Finance* 15(4): 463-483.

Freeman, R. 1984. *Strategic Management: A Stakeholder Approach.* Boston: Pitman Publishing.

Galbreath, J. 2010. How does corporate social responsibility benefit firms? Evidence from Australia. *European Business Review* 22(4): 411-431.

Gendron, Y., & Smith-Lacroix, J.-H. 2015. The global financial crisis: Essay on the possibility of substantive change in the discipline of finance. *Critical Perspectives on Accounting* 30: 83-101.

Ghose, B., & Kabra, K. C. 2016. What determines firms' zero-leverage policy in India? *Managerial Finance* 42(12): 1138-1158.

Graham, J. R. 2000. How big are the tax benefits of debt? *The Journal of Finance* 55(5): 1901-1941.

Gupta, K., & Krishnamurti, C. 2018. Does corporate social responsibility engagement benefit distressed firms? The role of moral and exchange capital. *Pacific-Basin Finance Journal* 50: 249-262.

Hadlock, C. J., & Pierce, J. R. 2010. New evidence on measuring financial constraints: Moving beyond the KZ index. *The Review of Financial Studies* 23(5): 1909-1940.

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. 2007. *Multivariate Data Analysis*. 6th ed. New Jersey: Pearson Education, Inc.

Hmaittane, A., Bouslah, K., & M'Zali, B. 2019. Does corporate social responsibility affect the cost of equity in controversial industry sectors? *Review of Accounting and Finance* 18(4): 635-662.

Hobfoll, S. E. 2011. Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology* 84(1): 116-122.

Hoepner, A., Oikonomou, I., Scholtens, B., & Schröder, M. 2016. The effects of corporate and country sustainability characteristics on the cost of debt: An international investigation. *Journal of Business Finance and Accounting* 43(1-2): 158-190.

Hsu, P. H., Moore, J. A., & Neubaum, D. O. 2018. Tax avoidance, financial experts on the audit committee, and business strategy. *Journal of Business Finance & Accounting* 45(9-10): 1293-1321.

Huang, Z., Li, W., & Gao, W. 2017. Why do firms choose zero-leverage policy? Evidence from China. *Applied Economics* 49(28): 2736-2748.

Islam, M. M. B. 2020. The moderating role of corporate social responsibility in determining Islamic Bank Margin. *Jurnal Ekonomi Malaysia* 54(1): 97-110.

Kemper, J., Schilke, O., Reimann, M., Wang, X., & Brettel, M. 2013. Competition-motivated corporate social responsibility. *Journal of Business Research* 66(10): 1954-1963.

Khan, A., Muttakin, M. B., & Siddiqui, J. 2013. Corporate governance and corporate social responsibility disclosures: Evidence from an emerging economy. *Journal of Business Ethics* 114(2): 207-223.

Kontesa, M., Brahmana, R. K., & Memarista, G. 2020. Does market competition motivate corporate social responsibility? insight from Malaysia. *Jurnal Ekonomi Malaysia* 54(1): 167-179.

Kraus, A., & Litzenberger, R. H. 1973. A state-preference model of optimal financial leverage. *The Journal of Finance* 28(4): 911-922.

La Rosa, F., Liberatore, G., Mazzi, F., & Terzani, S. 2018. The impact of corporate social performance on the cost of debt and access to debt financing for listed European non-financial firms. *European Management Journal* 36(4): 519-529.

Lee, H., & Moon, G. 2011. The long-run equity performance of zero-leverage firms. *Managerial Finance* 37(10): 872-889.

Lotfaliei, B. 2018. Zero leverage and the value in waiting to have debt. *Journal of Banking & Finance* 97: 335-349.

Magnanelli, B. S., & Izzo, M. F. 2017. Corporate social performance and cost of debt: the relationship. *Social Responsibility Journal* 13(2): 250-265.

Malik, M. S., & Kanwal, L. 2018. Impact of corporate social responsibility disclosure on financial performance: case study of listed pharmaceutical firms of Pakistan. *Journal of Business Ethics* 150(1): 69-78.

Martínez-Ferrero, J., Banerjee, S., & García-Sánchez, I. M. 2016. Corporate social responsibility as a strategic shield against costs of earnings management practices. *Journal of Business Ethics* 133(2): 305-324.

Martínez-Ferrero, J., & García-Sánchez, I. M. 2017. Sustainability assurance and cost of capital: Does assurance impact on credibility of corporate social responsibility information? *Business Ethics: A European Review* 26(3): 223-239.

Miglo, A. 2020. Zero-debt policy under asymmetric information, flexibility and free cash flow considerations. *Journal of Risk and Financial Management* 13(12): 296.

Morais, F., Serrasqueiro, Z., & Ramalho, J. J. 2020. The zero-leverage phenomenon: A bivariate probit with partial observability approach. *Research in International Business and Finance* 53: 101201.

Neter, J., Wasserman, W., & Kutner, M. H. 1983. *Applied Linear Regression Models*. Homewood, Illinois; Richard D. Irwin. *Inc*.

Nguyen, T., Bai, M., Hou, G., & Truong, C. 2021. Speed of adjustment towards target leverage: evidence from a quantile regression analysis. *Accounting & Finance* 61(4): 5073-5109.

Ogolmagai, N. 2013. Leverage pengaruhnya terhadap Nilai Perusahaan pada industri manufaktur yang go public di Indonesia. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi* 1(3).

Raharja, B. S., & Mranani, M. 2019. The nonlinear effect of debt on firm performance. *Jurnal Ekonomi Malaysia* 53(3): 3-9.

Rodriguez Bolivar, M. P., Navarro Galera, A., Alcaide Munoz, L., & Lopez Subires, M. D. 2016. Risk factors and drivers of financial sustainability in local government: An empirical study. *Local Government Studies* 42(1): 29-51.

Sheikh, S. 2019. Corporate social responsibility and firm leverage: The impact of market competition. *Research in International Business and Finance* 48: 496-510.

Soppe, A. 2004. Sustainable corporate finance. *Journal of Business Ethics* 53(1): 213-224.

Stiglitz, J. E., & Weiss, A. 1981. Credit rationing in markets with imperfect information. *The American Economic Review* 71(3): 393-410.

Strebulaev, I. A., & Yang, B. 2013. The mystery of zero-leverage firms. *Journal of Financial Economics* 109(1): 1-23.

Swandari, F., & Sadikin, A. 2016. The effect of ownership structure, profitability, leverage, and firm size on corporate social responsibility (CSR). *Binus Business Review* 7(3): 315-320.

Takami, S. 2016. Factors inhibiting Japanese firms from zero leverage: financial constraints and bank relationships. *Asia-Pacific Journal of Accounting & Economics* 23(2): 161-176.

Villarón-Peramato, Ó., Martínez-Ferrero, J., & García-Sánchez, I.-M. 2018. CSR as entrenchment strategy and capital structure: corporate governance and investor protection as complementary and substitutive factors. *Review of Managerial Science* 12(1): 27-64.

Yang, S., He, F., Zhu, Q., & Li, S. 2018. How does corporate social responsibility change capital structure? *Asia-Pacific Journal of Accounting & Economics* 25(3-4): 352-387.

Yasmin, A., & Rashid, A. 2019. On the mystery of financial conservatism: Insights from Pakistan. *Emerging Markets Finance and Trade* 55(12): 2904-2927.

Yeh, C.-C., Lin, F., Wang, T.-S., & Wu, C.-M. 2020. Does corporate social responsibility affect cost of capital in China? *Asia Pacific Management Review* 25(1): 1-12.

Zaher, T. S. 2010. Performance of debt free firms. *Managerial Finance* 36(6): 491-501.

Zaman, Q. U., Hassan, M. K., Akhter, W., & Brodmann, J. 2019. Does the interest tax shield align with maqasid al Shariah in finance? *Borsa Istanbul Review* 19(1): 39-48.

Zhang, S., & Gregoriou, A. 2019. The price behavior around initial loan announcements: Evidence from zero-leverage firms in the UK. *Research in International Business and Finance* 50: 191-200.

Qamar Uz Zaman
Department of Management Sciences
COMSATS University Islamabad
Sahiwal Campus, 57000
PAKISTAN.
E-mail: qamar@cuisahiwal.edu.pk

Sadaf Ehsan*
Department of Management Sciences
COMSATS University Islamabad
Lahore Campus, 54000
PAKISTAN.
E-mail: sadafehsan@cuilahore.edu.pk

Mohammad Kabir Hassan
Department of Economics and Finance
University of New Orleans
New Orleans, 70148
UNITED STATES.
E-mail: mhassan@uno.edu

Muzhar Javed
Department of Management Sciences
COMSATS University Islamabad
Sahiwal Campus, 57000
PAKISTAN.
E-mail: mazhar@cuisahiwal.edu.pk

Syed Iftikhar Ul Hassan
Department of Management Sciences
COMSATS University Islamabad
Sahiwal Campus, 57000
PAKISTAN.
E-mail: syediftikhar.hassan@yahoo.com

*Corresponding author