Impact of Corporate Reputation on Firm Risk: An Analysis of Pakistan Stock Exchange Listed and PACRA Rated Firms

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ARTICLE DETAILS

This study has examined the impact of corporate reputation on risk exposure of the firms listed at Pakistan Stock Exchange (PSX) and rated by Pakistan Credit Rating Agency (PACRA). It has employed firm’s credit ratings as a proxy for corporate reputation. It has covered the time period from 2007-2016 and unbalanced and undated panel regression analysis has been carried out to observe the significance of the relationship among corporate reputation and the firm risk i.e. total risk and its parts (systematic and unsystematic risk). It has been found that corporate reputation has a significant negative relationship with total risk and systematic risk of the firm. It is however found that corporate reputation is insignificant in explaining the unsystematic risk of the firms. Leverage and profitability (the control variables) are also found significant in explaining the risk exposures of the firms.

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PSX, PACRA, Firm Risk, Credit Rating

JEL Classification:
F51, G30, M13

1. Introduction
Corporate reputation is considered as a value enhancing intangible asset for of the firms (Roberts & Dowling, 2002). Reputation of a firm is considered by the inequality concerning the extent of time which it takes to figure it up and its instability, i.e. the short time it takes to end (Hall, 1992). Firm managers considered corporate reputation as most important asset of the organizations. This managerial perception has theoretically and empirically been tested by a lot of researchers and most of them tried to explore the causal relationship between corporate reputation and firm performance i.e. Deephouse (1997); Roberts & Dowling (1997); Vergin & Qoronfleh (1998); Dunbar & Schwalbach (2000); Black, et al.(2000); Chung, et al.(2003); Rose and Thomsen (2004); Inglis, et al.(2006); (Sanchez & Luna, 2007); Lee & Roh (2012) and Sánchez & Vega (2018). On the other side, least attention is given to firm risk, while exploring the effects of corporate reputation, although; firm risk is considered as a most fundamental component for managing firms and controlling financial strategy (Juan et al., 2013). It is believed that the performance of the firm, in economic terms; not only depends on higher returns, but, it also depends on low risk.
Firm risk is defined in various contexts by the researchers, while having corporate reputation in consideration as well. Conventionally, good corporate reputation is viewed as a risk reducing agent. But when it was analysed empirically with different type of risks, it gave contradictory results (Delgado-Garcia, Quevedo-Puente, & Díez-Esteban, 2013), due to the fact that various strategic choices have different effects on risk factors (Lubatkin & O'Neill, 1987).

According to Orlitzky & Benjamin (2001), total risk of the firm comprised of variance in returns over a period. According to the market model developed by Sharpe (1964), firm risk comprised of two components i.e. unsystematic and systematic risk. Systematic risk is idiosyncratic in nature due to its particularity to a firm that captures the degree of variation in the performance of the firm and which cannot be explained by general market trends. Whereas, systematic risk is caused by the different macroeconomic variables and it covers the variation in firm performance due to overall changes in the market.

With this premise, the current study is aimed to explore the impact of corporate reputation on various types of firm risks i.e. total risk and its components (systematic and unsystematic risk). It also aimed to explore that how corporate reputation affects the risk exposure of the firms. The study has implications for both practitioners and academics, due to its unique nature in Pakistani context; where no significantly relevant research is found on the highlighted issue. It is also significant as Pakistani markets are developing, where weak form of market efficiency is observed by various researchers, and where different cultural, economic and political perspective prevails (Khan & Khan, 2016).

2. Literature Review
According to Wartick (1992), corporate reputation is “the aggregation of a single stakeholder’s perceptions of how well organizational responses are meeting the demands and expectations of many organizational stakeholders”. Similarly, Fombrun & Riel (2004) defined corporate reputation as “the collective representation of a company’s past actions and future prospects that describes how key resource providers interpret a company’s initiatives and assess its ability to deliver valued outcomes”.

From the review of previous research on corporate reputation, it is found that higher corporate reputation results in better response to market drops (Gregory, 1998). On the other side, in an event study, Jones, et al. (2000), found no difference among companies having low and high reputation, when a 20% drop in market size was occurred in 1987. The role of risk in explaining the business profitability is examined by Tan (2016), who did not find any significant impact of firm risk on profitability of Chinese banks. Whereas, Srivastava, et al. (1997) found that corporate reputation is positively associated with systematic risk measured as beta. Based on portfolios of firm made on the basis of different reputation level, they observed that investors were more comfortable to take risk of investing in firms having higher level of reputation.

Jones, et al. (2000) claimed that good reputation gives a protection to the organizations in odd times and act as an intangible asset. It is considered as a “reservoir of goodwill” in terms of public relations. While analysing the stock market crashes of 1987 and 1989, Jones, et al. (2000) found no difference between the companies having low or high reputation in case when the market was dropped upto 20% in a day. They supported the hypothesis that “reputation serves as a goodwill reservoir”, which facilitate the companies in time of economic downturn. Taking into consideration another view, Iwu-Egwuonwu (2011) have linked corporate reputation with the corporate governance quality. According to the researcher, corporate reputation needs to be considered as an outcome of corporate governance initiatives taken in an organization. The emphasized that the corporate governance is main pillar which helps organizations in developing their reputation and on the basis of this pillar, the future of the organizations can be predicted. Maintaining a good level of corporate reputation pay back in shape of an increase in corporate goodwill i.e. a source of intangible assets. Having a strong reputation is far most important for the survival of today’s companies, to sustain in today’s competitive market and to cultivate best financial performance.

Rindova, et al. (2005) examined that how the reputation of organizations covers the perceptions of various stakeholders, which subsequently effect the economic outcomes of the outcomes. Two varying dimensions of corporate reputation are proposed by Rindova, et al. (2005), which are the perception of stakeholders about the ability of organizations to offer quality goods or services and the prominence of organizations in the mind of stakeholders. A favourable effect of reputation on pricing ability of organizations is found by the researchers.
Moreover, corporate reputation is found to reduce the uncertainly exist in the relations of organizations with their stakeholders. Good corporate reputation is also found to have a positive relationship with market value. Dowling (2006) examined that how the reputed organizations become successful in creating better market value. They found that good corporate reputation gives good corporate value to the shareholders. Brammer, et al. (2006) also examined the relationship of corporate reputation with shareholders return. They found investors can earn abnormal returns by investing in stocks having rising reputation scores. Moreover, the stocks having substantial fall in reputation score also exhibited abnormal positive returns in long and short term.

Clara Pérez-Cornejo, et al. (2019) recently analysed how the quality of enterprise risk management effect the reputation of companies. From the analysis of the data of Spanish firms they found that enterprise risk management is a tool which become useful to manage the reputation of the companies. Moreover, enterprise risk management systems provide a platform to control the reputational risks of the companies. Whereas, in a comparative study of UK and USA firms, Chung, et al. (2003) explored the association of a firm’s equity market performance including past and future performance with its corporate reputation ranking published. They found that firms with high reputation outperform the equity market performance than those who are ranked low. They also found a positive association between firm performance and firm size.

To further explore that how the corporate reputation results in high market value, Wang & Smith (2015) carried out an analysis of “America’s Most Admired Companies”. According to their findings, firms with high reputation reflect US $ 1.3 billion market value premium, which show that firms with better reputation achieve best performance in terms of finances, which also result in low capital costs. Their findings supported the theory of impression management. In a study on the relationship of firm risk and corporate reputation, Delgado-García, et al. (2013) found that if the firms are reputed, their unsystematic as well as total risk become reduced. However, they found that due to good reputation, the systematic risk of firms increased. They also found that the firms with the highest reputation in the sample, the impact of reputation has lesser effect on firm risk. They concluded that degree of corporate reputation does not matter for the firm risk and what matters for the risk is that whether firms are reputed or not reputed.

Based on the above theoretical underpinnings, following theoretical framework of the study is developed:

**Figure 1: Theoretical Framework of the Study**

3. Data

Two resources identified for measurement of corporate reputation are the rating agencies, the one is PACRA (Pakistan Credit Rating Agency) and the other one is JCR-VIS (a Japanese rating agency). PACRA ratings are employed for this study. PACRA considered following qualitative and quantitative factors while rating a firm for credit worthiness. Qualitative Factors included firm’s qualitative information i.e. industry risk, operating environment, market position, management, corporate governance and accounting practices. Qualitative factors covered firm’s Cash flows focus, earnings and cash flows, capital structure, financial flexibility, project risk evaluation, earnings measures, coverage ratios, leverage measures and profitability ratios.

The rating agency rates the firms on long term and short-term basis, the long-term ratings are employed for this study. AAA is for “Highest credit quality”, AA for “very high credit quality”, A for “High credit quality, BBB for “Good credit quality”, BBfor “Speculative”, B for “Highly speculative” and CCC, CC, C showed “High default risk” firms. PACRA ratings are used as a proxy for measuring corporate reputation by employing a dummy variable for reputation. Firms are divided into two portfolios. Firms having rating of “AAA”, “AA”, “A” and “BBB” are
categorized as “Good Repute Firms” and the firms having rating of “BB”, “B”, “CCC”, “CC” and “C” are categorized as “Bad Repute Firms”.

Corporate entities are considered for study. Data of only 47 companies is available on the website of PACRA as per policy of PACRA which stated that the data of only those firms has been disseminated which gave permission for it. Most of the firms asked PACRA to make their rating information confidential. Therefore, study is conducted only on the available firm’s data. Out of 47 firms, 17 are further deleted as these firms are not listed at Pakistan Stock exchange. Final sample consisted of firm’s ratings during the period from 2007 to 2016.

4. Variables and Methodology

From the review of previous literature, it has been found that corporate reputation impacts the risk exposure of the firms, however, literature also suggested to explore the phenomenon in more detail. Two components of firm risk are found in previous studies on the relationship of corporate reputation on risk i.e. downside risk and systematic risk, whereas, the unsystematic risk is not focused in previous studies. Therefore, to have a more comprehensive view of risk, this study has considered firm’s total risk as dependent variable, which considered both systematic and unsystematic components of risk.

4.1 Firm Risk as Dependent Variable

Firms risk is hypothesized as dependent on corporate reputation. It is worked out through daily stock price data, where firm total risk is segregated as under:

\[
\text{Firm Total Risk} = \text{Systematic risk} + \text{unsystematic risk}
\]

\[
\sigma^2 (R_i) = \beta_i^2 \times \sigma_m^2 + \sigma_i^2 \quad \text{Eq. I}
\]

Where \( \sigma^2 (R_i) \) is a measure of total risk for a firm \( i \).
\( \sigma_i^2 \) is the standard deviation of the error term and is firm’s unsystematic risk.
Whereas, systematic risk which is also referred as beta is estimated by Sharpe (1964) market model as under:

\[
R_i = \alpha_i + \beta_i \times R_m + \varepsilon_i \quad \text{Eq. II}
\]

For a firm \( i \), lagged risk (for the year \( t-1 \)) is employed for estimating the relationship between risk and reputation of that firm. Beta is calculated by drawing the scattered diagram of stock returns and PSX returns for each of the firm year for which PACRA rating is available.

4.2 Corporate Reputation as Independent Variable

Corporate reputation is hypothesized as an independent variable. A dummy variable is introduced for corporate reputation. Long term ratings of PACRA are employed for this study(PACRA, 2019). These are categorized as: AAA is for “Highest credit quality”, AA for “very high credit quality”, A for “High credit quality, BBB for “Good credit quality”, BB for “Speculative”, B for “Highly speculative” and CCC, CC, C showed “High default risk” firms. PACRA ratings are used as a proxy for measuring corporate reputation by employing a dummy variable for reputation. Firms are divided into two portfolios. Firms having rating of “AAA”, “AA”, “A” and “BBB” are categorized as “Good Repute Firms” and the firms having rating of “BB”, “B”, “CCC”, “CC” and “C” are categorized as “Bad Repute Firms”. It distinguished those firms having “good repute” from those having “bad repute”. Out of 30 selected firms as per criteria, 7 seven are found “bad repute firms” and 23 are found as “good repute firms”. Corporate reputation dummy is 1 for “good repute firms” and 0 for “bad repute firms”.

4.3 Control Variables

We employed two variables as controls. These are Leverage measured through Debt to equity ratio on the rationale suggested by theory that high levered firms are more exposed to risk (Bowman, 1979). The other control variable is Profitability of the firm, following the theory which established a relationship between profitability and firm risk (Bowman, 1980). Net profit margin is employed as a proxy for profitability, worked out by dividing net income with net sales.

4.4 Methodology
Data consist of both cross sectional and time series; therefore, yearly panels of the data have been developed. Following the objective of the study whether firm risk (total and in parts i.e. systematic and unsystematic risk) depends on corporate reputation or not, below given regression equations are estimated:

Firm Risk \( t+1 = \alpha_0 + \beta_1 \text{CR } t + \beta_2 \text{L } t + \beta_3 \text{Prof } t + \varepsilon t+1 \) …………Eq. III

Systematic Risk \( t+1 = \alpha_0 + \beta_1 \text{CR } t + \beta_2 \text{L } t + \beta_3 \text{Prof } t + \varepsilon t+1 \) …………Eq. IV

Unsystematic Risk \( t+1 = \alpha_0 + \beta_1 \text{CR } t + \beta_2 \text{L } t + \beta_3 \text{Prof } t + \varepsilon t+1 \) …………Eq. V

In these equations:

\( \text{CR} \) = Corporate Reputation

\( \text{L} \) = Leverage

\( \text{Prof} \) = Profitability

Regression results of Eq. III, IV and V are presented in Table-3, 4 and 5 and are discussed in next section. Descriptive Statistics of the data and Pearson Correlation among the variables are reported in table 1&2. Total numbers of observations are 103 after adjustments through unbalanced and undated panel data analysis through EViews.

### Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Total Risk</th>
<th>Unsystematic Risk</th>
<th>Systematic Risk</th>
<th>Corporate Reputation</th>
<th>Leverage</th>
<th>Profitability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>0.999</td>
<td>0.995</td>
<td>0.003</td>
<td>0.834</td>
<td>2.320</td>
<td>0.047</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>1.383</td>
<td>1.000</td>
<td>0.384</td>
<td>1.000</td>
<td>9.752</td>
<td>0.438</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>-0.676</td>
<td>0.957</td>
<td>-1.658</td>
<td>0.000</td>
<td>-16.320</td>
<td>-0.267</td>
</tr>
<tr>
<td><strong>Std. Dev.</strong></td>
<td>0.176</td>
<td>0.007</td>
<td>0.175</td>
<td>0.373</td>
<td>2.854</td>
<td>0.134</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>103</td>
<td>103</td>
<td>103</td>
<td>103</td>
<td>103</td>
<td>103</td>
</tr>
</tbody>
</table>

### Table 2: Pearson Correlation

<table>
<thead>
<tr>
<th></th>
<th>Total Risk</th>
<th>Unsystematic Risk</th>
<th>Systematic Risk</th>
<th>Corporate Reputation</th>
<th>Leverage</th>
<th>Profitability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Risk</strong></td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unsystematic Risk</strong></td>
<td>0.136508</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Systematic Risk</strong></td>
<td>0.998978</td>
<td>0.091602</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Corporate Reputation</strong></td>
<td>-0.009316</td>
<td>-0.067349</td>
<td>-0.006292</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leverage</strong></td>
<td>0.051128</td>
<td>0.036605</td>
<td>0.049724</td>
<td>-0.188628</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td><strong>Profitability</strong></td>
<td>-0.065106</td>
<td>-0.014800</td>
<td>-0.064770</td>
<td>0.346384</td>
<td>-0.247038</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

### 5. Results and Discussion

Results of regression analysis of unbalanced / undated panel, on the equations as estimated in equation III, IV and V are tabulated in table 3, 4 and 5. Results of the equation estimated for total risk and corporate reputation as shown in table 3, showed that the probability (F-Statistic) of the model is 0.00 that means the model is significant. P-value for corporate reputation is 0.000 having a negative sign with the coefficient. This means that the corporate reputation of year t has a significant but negative relationship with total risk of the firm in year t+1. The value of R-square is 0.07, which is low, showing that only 7 % variability in total risk is due to variability in corporate reputation. This result is in line with the previous study that of Roberts and Dowling (2002). Leverage a (a control variable) also found to have a negative and significant relationship with total risk, P-value = 0.0278, whereas profitability has a significant and positive relationship with total risk of the firm.

### Table 3: Regression Results - Equation III

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>-0.013021</td>
<td>0.051165</td>
<td>5.254483</td>
<td>0.0000</td>
</tr>
<tr>
<td>L</td>
<td>-0.005151</td>
<td>0.006469</td>
<td>-0.796316</td>
<td>0.278</td>
</tr>
</tbody>
</table>
Equation IV estimated the relationship between systematic risk and corporate reputation. Beta of the firms is used as a systematic risk. Corporate reputation is found to have a significantly negative relationship with systematic risk, $p$-value $= 0.0069$ with coefficient value $= -0.010$. Here the control variables showed the same behavior as in case of total risk. Leverage has a significant negative relationship, $p$-value $= 0.0313$ and coefficient value $= -0.0053$. Profitability has a significant positive relationship, $p$-value $= 0.0296$ and coefficient value $= 0.0018$. Probability (F-Statistic) in case of this model is also significant having a value equal to $0.00204$.

**Table 4: Regression Results - Equation IV**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>-0.010503</td>
<td>0.050896</td>
<td>-0.206370</td>
<td>0.0069</td>
</tr>
<tr>
<td>L</td>
<td>-0.005309</td>
<td>0.006435</td>
<td>-0.825076</td>
<td>0.0313</td>
</tr>
<tr>
<td>PROF</td>
<td>0.001888</td>
<td>0.144544</td>
<td>0.013060</td>
<td>0.0296</td>
</tr>
<tr>
<td>C</td>
<td>0.024797</td>
<td>0.048708</td>
<td>0.509092</td>
<td>0.0006</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.007131</td>
<td>Mean dependent var</td>
<td>0.004000</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.023263</td>
<td>S.D. dependent var</td>
<td>0.176130</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>8.234628</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.002044</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Equation V estimated the relationship between unsystematic risk and corporate reputation. Results are given in table 5. Contrary to the above, corporate reputation has shown insignificant relationship with unsystematic risk. $p$-value in this case is $0.2758$. However, leverage is found significantly positive relationship with unsystematic risk. $p$-value in case of leverage is $0.0075$. Profitability is found to have an insignificant relationship with unsystematic risk. $p$-value is $0.1486$. The model is fit as the Probability (F-Statistic) here is $0.00177$, which is significant.

**Table 5: Regression Results - Equation V**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>-0.002517</td>
<td>0.002297</td>
<td>-1.095995</td>
<td>0.2758</td>
</tr>
<tr>
<td>L</td>
<td>0.000158</td>
<td>0.000290</td>
<td>3.044201</td>
<td>0.0075</td>
</tr>
<tr>
<td>PROF</td>
<td>0.009496</td>
<td>0.006522</td>
<td>1.455816</td>
<td>0.1486</td>
</tr>
<tr>
<td>C</td>
<td>0.997064</td>
<td>0.002198</td>
<td>453.6403</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.026950</td>
<td>Mean dependent var</td>
<td>0.995804</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.002837</td>
<td>S.D. dependent var</td>
<td>0.008028</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>8.904742</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.001777</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Conclusion
This research is carried out with an aim to explore the impact of corporate reputation on various types of risks i.e. total risk and its components (systematic and unsystematic risk), that how corporate reputation is affecting the risk exposure of the firms. PACRA ratings are employed as a proxy for corporate reputation. Firm risks are estimated by using Sharpe (1964) market model. Betas are calculated for each firm at each dissemination date of PACRA ratings. Data of 30 firms (as available with PACRA) is employed for the period from 2007 to 2016. Firms chosen for the study are only those which were listed at Pakistan Stock exchange during the time period and have PACRA
ratings for more than two years. We observed that the corporate reputation has a significantly negative relationship with total risk and systematic risk of the firm. It however found that corporate reputation is insignificant in explaining the unsystematic risk of the firms. Leverage and profitability (the control variables) are also found significant in explaining the risk exposures of the firms. The results are in line with a recently conducted study in Spanish context by Clara Pérez-Cornejo, et al. (2019), where the same type of relationships have been observed. These results are significant in Pakistani context and give a direction to the corporate sector and academic researchers as well. Future study is proposed to be conducted by incorporating the signaling theory, that how the corporate reputation affect the market value of the shares of the firms.

References


