Risk-Antecedents of Firms and Strategic Mediators – New Evidence from a Cross-Country Analysis

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ABSTRACT

We examine the strength and nature of firm aspiration and expectation as strategic mediators in the association of risk antecedents and firm risk, after exploring the possible impact of such antecedents on firm aspiration, and firm aspiration's preliminary influence on firm risk. Empirical literature is mostly silent about risk antecedents of firms in an emerging market or cross-country context, and to the best of our knowledge, the mediators proposed in this study are yet to be explored. We report strong significant positive mediating effects of firm aspiration and expectation in association of risk antecedents and firm risk. Our results also validate that all studied risk antecedents, except corporate governance- composition, significantly influence aspiration and expectation mediators and firm risk in line with our hypotheses. Our results also hold true after controlling for firm-level and country-level heterogeneities and conducting two additional robustness tests.

KEYWORDS

Strategic Mediators, Firm Aspiration, Firm Risk, Risk Antecedents, Corporate Governance

INTRODUCTION

Firm risk is one of the key issues taken into consideration in managerial decision-making, and therefore features prominently in strategic management research (Ruefli et al., 1999; Klingebiel, 2018). Empirical researchers have studied the determinants and consequences of firm risk (see e.g., John et al., 2008; Li et al., 2013; etc.) and the industrial and organizational contexts that affect managerial risk-taking behaviour (see e.g., Bromiley, 1991; Palmer and Wiseman, 1999; Das and Teng, 2001; etc.). However, most of these studies focus on the US and other developed markets worldwide, and little attention is paid to these issues in the emerging market or cross-country context. Also, empirical research is mostly silent about why a firm undertakes or bears more or less risk, with the exception of studies where variable risk preferences influenced by performance relative to a firm's aspiration are assumed (see Bowman, 1980; Bromiley, 1991; Greve, 2003). If firm performance is adjudged as below the level of aspirations, firms are expected to implement new strategies to improve performance (Cyert and

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March, 1963).[1] Deciding what specific action is to be taken involves a choice of *strategic thrust*[2] (Ansoff, 1979: 65). However, Chen and Miller (2007) contradict this notion, stating that high levels of performance could lead to higher risk-taking and change. Thus, researchers use firm aspirations to explain the risky choices of firms (Bromiley, 1991; Greve, 2003; Ref and Shapira, 2017; Gao et al., 2019).

The antecedents and consequences of firms' aspirations have also been studied in detail. The empirical evidence concerning antecedents of firm aspiration has been expanded (see Short and Palmer, 2003; Panagiotou, 2007; Iyer and Miller, 2008) beyond the three factors[3] identified by *behavioural theory*. Further studies document the critical influence of internal factors (e.g., size and age of the firm (Short and Palmer, 2003); slack (Audia and Greve, 2006); leadership (Baum and Locke, 2004; Guney et al., 2018; Guo et al., 2019); and external factors (see Gooding et al., 1996) on firm aspiration. Past studies also document individual organisational and industrial drivers of firm risk in relation to firm fundamentals (see Jensen et al., 1992; La Porta et al., 2000; Autio, 2005; Delmar and Wiklund, 2008; Lu et al., 2019); firm performance (see Fisher and Hall; 1969; Bowman, 1980; Greve, 1998; Massini et al., 2005; DasGupta and Deb, 2020); and corporate governance (see Fama and Jensen, 1983; Brick and Chidambaran, 2008; Cheng, 2008; Kumar and Sivaramakrishnan, 2008; Adams and Ferreira, 2009; Pathan, 2009; Bhagat et al., 2015; Hutchinson et al., 2015). However, all these divergent results from past empirical studies appear to be conditional on industry, economic condition, time period, or selection of the social comparison group. Amidst these, it is imperative to identify the actual driver of firms' aspiration in our cross-country contexts before examining its role as a strategic mediator.

In addition, while it is widely accepted that a firm's aspiration influences strategic behaviour, the moderators of the aspiration-consequence relationship and firm aspiration as a mediator in strategic decisions related to firm risk are understudied (Short and Palmer, 2003; Vissa et al., 2010; Kuusela et al., 2017). Empirical research is also silent about the possible critical effect of firms' corporate governance structure and mechanisms on firm aspiration level. Therefore, here, we attempt to identify the drivers of firm risk in a cross-country context with firm data for four emerging (BRICS (except Russia)) and four developed economies after controlling for country- and firm-level heterogeneities. Our main objective is to examine the strength and nature of the mediating effect of firm aspiration on the association between risk antecedents and firm risk after examining the possible impact of such antecedents on firm aspiration, and firm aspiration's preliminary influence on firm risk. To make our study more in-depth, we also cross-validate our proposed model and empirical results with firm expectation as the mediator and perform further robustness tests.

The strategic management literature (see Cyert and March, 1963; Ansoff, 1979; Fiegenbaum et al., 1996) documents that the strategic behaviour of firms is guided by the discrepancy between firm aspiration and performance. There are three distinct analytical frameworks i.e., the *behavioural theory* (Cyert and March, 1963); Ansoff's *strategic management view* (Ansoff, 1979; 1987); and the *strategic reference point theory* (Fiegenbaum et al., 1996) to explain firm aspirations. Behavioural theorists

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[1] Firms are risk-averse when their performance is above (better than) the strategic reference point and risk-taking when performance is below (worse than) the strategic reference point (Fiegenbaum et al., 1996). Managers determine reference points through considerations of internal capability, external conditions, and time. Internal capabilities include both strategic inputs (organizational capabilities, functions, value-added activities) and strategic outputs (results of the firm's operations). External conditions include competitors', customers', and stakeholders' influences. The time dimension includes both the past (organizational learning and identity) and the future (strategic intent).

[2] Ansoff describes five levels of strategic thrust: stable, reactive, anticipating, exploring, and creative. In practice, the choice between the five levels is based on the aspiration-performance gap, external environment, internal capabilities, culture, and leadership, among other criteria (Ansoff, 1979: 113).

[3] They are "the organization's past goal, the organization's past performance, and the past performance of other 'comparable' organizations" (Cyert and March, 1963: 115).

argue that firms adjust their aspirations based on past experience (Cyert and March, 1963). Accordingly, we measure firm's current aspiration level in relative terms to its preceding year's own historical performance on a rolling basis. In contrast, both Ansoff's (1979) *strategic management view* and the *strategic reference point theory* of Fiegenbaum et al. (1996) assume that firms are forward-looking and prioritise expected performance.[4] Accordingly, we measure firm's expectation level by future Price-to-Earnings (PE) ratios (which represent both internal firm fundamentals and external market sentiment) in relative terms to its own PE from the preceding year on a rolling basis. Therefore, we examine the direct (on firm risk) and mediating (between risk antecedents and firm risk) impact of both firm aspiration (based on firm's historical performance) and firm expectation (based on firm's P/E multiples).

On an overall basis, we contribute to the existing strategy and finance literature in three ways. *First*, we empirically validate our main research issue that firm aspiration as well as expectation strongly act as strategic mediators between firm risk and its constructed antecedents. We report that the impact of risk antecedents on firm risk is positively strengthened in the presence of both firm aspiration and expectation mediators. To the best of our knowledge, this has not been reported earlier. These results also hold true after controlling for both firm- and country-level heterogeneities. *Second*, we formulate four independent constructs of firm fundamentals, firm performance, corporate governance-board composition, and board effectiveness, and find that all of them influence both firm aspiration and expectation significantly. However, although firm fundamentals, corporate governance-board composition, and board effectiveness also have a significant impact on firm risk, firm performance has no role to play in driving such behaviour. We also believe that our constructs—as developed—and supporting evidence of antecedents of firm risk in a cross-country and cross-cultural set-up contribute to the otherwise scant literature in this area. *Third*, to the best of our knowledge, this study is the first in the strategic management literature in this context to use the structural equation modelling (SEM) approach. SEM is a second-generation multivariate method that is used to assess the reliability and validity of the model measures by confirmatory factor analysis (CFA), and is therefore far superior to other regression methods.

The remaining part of this paper is organized as follows: section 2 talks about the relevant literature and developed hypotheses, section 3 presents data and methodology, section 4 presents the results, and section 5 concludes our paper with the relevant discussion, followed by references, tables, and figures.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

FIRM FUNDAMENTALS AND FIRM RISK

The theoretical arguments on whether strong fundamentals (we incorporate market size (net sales), growth opportunities (% change in total assets), dividend pay-out ratio (dividend pay-out as a % of PAT) and Price/Book value [P/BV]) have a positive or negative impact on the aspiration level (used as a mediator here) and, therefore, firm risk are conflicting. On the one hand, according to the '*bird in the hand*' dividend theory (Bhattacharya, 1979), investors prefer dividends to retained earnings; therefore, firms would set a large dividend pay-out to maximise their share price, which would impact P/BV positively. However, the '*tax preference theory*' (Brennan, 1970; and Elton and Gruber, 1970) proposes

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[4] Despite the fundamental differences between the three views, they have important similarities. All agree that performance is influenced by strategic behaviour, and that firm aspiration is a critical factor in determining such strategic behaviour. In general, organizations are expected to "act in order to enhance their degree of success in achieving their aspirations" (Lant, 1992:624).

that investors prefer the retention of a firm's profit over the distribution of cash dividends, which would therefore provide the wrong signal (Aharony and Swary, 1980 ('*signalling theory*' of dividend)) about firm performance to the market participants, and would have a negative impact on the P/BV ratio through declining stock prices. Venkatesh (1989) also argues that higher level of firm risk might cause a reduction in a firm's willingness to discharge cash through dividend payments. Therefore, in choosing dividend pay-out levels, managers strategize in order to sustain future earnings with a high degree of certainty. This suggests that dividend payments would be inversely related to firm risk.

Further, Jensen (1986) demonstrates that as the free cash flow increases, it raises the agency conflict between the interests of managerial and outside shareholders, leading to a decrease in the performance of the company. Increase in free cash flow could only take place when the past performance was higher and dividend pay-outs were lower. In such a case, we can presume that the firm has a large market size with increased sales, and that its P/BV would also be high given that market participants prefer stocks with strong performance (see e.g., Jensen et al., 1992; Lu et al., 2019). However, such an increase in free cash flow would cause a performance-aspiration gap (i.e., *attainment discrepancy*) and, when performance declines to below the aspiration level for such firms in the future, it would induce risk-taking. Furthermore, in such situations, firm managers may indulge in wasteful practices or value-destroying activities (La Porta et al., 2000; Chari et al., 2019).

A high or low dividend pay-out ratio would also be considered in conjunction with the growth opportunities available to the firm. A review of the literature (see Jensen et al., 1992; La Porta et al., 2000; Autio, 2005; Delmar and Wiklund, 2008; etc.) reveals several explanations for the relationship between growth opportunities and dividend policy. One of these explanations is that a firm tends to use internal funding sources to finance investment projects if it has large growth opportunities and large investment projects. Such a firm chooses to cut the rate or pay fewer dividends to reduce its dependence on costly external financing. In contrast, firms with slow growth and fewer investment opportunities pay higher dividends to prevent managers from over-investing the firm's cash and indulging in value-destroying activities (La Porta et al., 2000; Chari et al., 2019). Several studies have also used sales/revenue growth as a proxy for a firm's growth and opportunities (see Jensen et al., 1992; Travlos et al., 2002; etc.). Thus, high growth opportunities prompt firms to pay smaller dividends and encourage such firms to aspire to higher performance when their performance is below the aspiration level. Accordingly, high growth opportunities would have a positive impact on firm risk for firms below aspiration levels, and the reverse is true for firms with a positive performance-aspiration gap.

Overall, it is evident that strong fundamentals imply a low aspiration level and thereby lower risk-taking by firm managers. However, when firm aspiration level is high, especially in case of *attainment discrepancy* (March and Shapira, 1987), firms might be induced to engage in higher risk-taking. Therefore, we hypothesize that:

H1a: Strong firm fundamentals have a negative impact on aspiration level of the firm.
H3a & H3b: Strong firm fundamentals have a negative impact on firm risk.

FIRM PERFORMANCE AND FIRM RISK

The impact of firm performance on its aspiration level and subsequent or independent risk-taking has been studied in detail, especially in the strategic management literature. Firm performance relative to firm aspiration influences the level of search and, therefore, organisational change (see *behavioural*

theory, Cyert and March, 1963); level of firm risk-taking (see *strategic reference point theory,* Fiegenbaum et al., 1996); and the decision to choose a *strategic thrust* (Ansoff, 1979).

The *behavioural theory* (Cyert and March, 1963: 115) argues that firms are expected to establish an aspiration based on 'a weighted function of' the past goal, own past performance, and past performance of others (peers) (see also Greve, 1998; and Massini et al., 2005; Guney et al., 2018; Guo et al., 2019). It is theorized that failing to achieve such an aspiration level would prompt firms to initiate problematic search, resulting in organizational changes. In addition, firms with higher present performance strive for a higher aspiration level in the future because this level is dependent on the performance of self (historical) or peers (social): this makes them high risk-taking in regard to innovative search behaviours (Bromiley et al., 2001; Gao et al., 2019). *Strategic reference point theory* (Fiegenbaum et al., 1996) argues that firm managers frame issues (such as risk-taking) as threats when above their reference point and as opportunities when below their reference point. Managers determine reference points through considerations of internal capability, external conditions, and time: accordingly, reference points are variable. Firms that continuously adapt their aspirations to changes in internal and external conditions and exhibit higher consensus on those reference points are predicted to achieve high performance through such risk-taking. Ansoff (1979) also observes that managers adapt aspirations in response to changes in internal or external factors such as environmental conditions and future performance expectations. Ansoff (1984) later extends his earlier framework to include the responsiveness of the firm's capability (i.e., ability to adapt). According to Ansoff, a firm's *strategic thrust* (such as risk-taking) matches environmental turbulence, internal capabilities (slack generated through superior performance), and capability components design to support both (Moussetis, 2011; Lu et al., 2019). Overall, these views imply that higher aspiration *attainment discrepancy* motivates expending efforts to reduce such discrepancy through strategic actions, resulting in change or risk-taking.

The empirical literature has also viewed firm performance and firm risk from a practical viewpoint. Fisher and Hall (1969: 82) were the first to present an economic argument of firm performance's impact on its risk — "this implies that earnings should be larger, on the average, for firms with greater variation in their earnings than for firms with little earnings variability". The direct impact of firm performance on firm risk is central to the works of Bowman (1980; 1984), Singh (1986), and DasGupta and Deb's (2020) research. However, most of these empirical studies view the impact of such performance on firm risk from a troubled-firm context and not on an overall top-down basis. In addition, income stream uncertainty has mostly been studied by either considering the return on assets (ROA) or return on equity (ROE) measures. Therefore, to fill these research gaps in the existing literature, we consider actual firm performance, actual market-return performance of a firm, and also its cash performance when examining the impact of firm performance as a whole on firm risk. Therefore, we hypothesize that:

H1b: Strong firm performance has a positive impact on aspiration level of the firm.
H4a & H4b: Strong firm performance has a positive impact on firm risk.

CORPORATE GOVERNANCE AND FIRM RISK

Standard theory on corporate governance predicts that firms with better governance increase firm value by adopting projects with positive net present value (NPV). However, this theory does not preclude the possibility of the firm investing in projects with risky cash flows (Chari et al., 2019). Therefore, it might be in the interest of shareholders to take on risky projects as long as they are value-

enhancing. In addition, option theory (Black and Scholes, 1973; and Merton, 1974) suggests that, all else being equal, the value of an option increases with the volatility of the underlying asset. Based on these arguments, we might expect a positive association between effective corporate governance and firm risk.

Pathan (2009) observes that a firm's board effectiveness in terms of monitoring its managers and limiting their opportunistic behaviour depends upon its characteristics (such as board size and composition). Because there is limited theoretical evidence as to the most important board characteristics, we make an ad-hoc selection of variables here based on those emphasized most in the empirical literature as a proxy for a '*strong board*' and an '*effective board*', namely, independent directors and women directors for strong board, and board size and number of meetings for effective functioning. Our proxies of such *strong and effective boards* are more independent directors and higher presence of women directors, and small board size and higher frequency of board meetings, respectively.

BOARD COMPOSITION AND FIRM RISK

Board composition or *diversity* (proxied by percentage of independent and women directors) is important for effectiveness of the firm's board. Such diversity also results in better firm performance as well as quality of earnings and/or lower risk-taking propensity by managers (see Fama and Jensen, 1983; and Kumar and Sivaramakrishnan, 2008). Independent directors' presence in large relative numbers on a firm board is expected to contribute to better monitoring given that such directors are independent of management and place importance on protecting their own reputation in the labour market (Fama, 1980; Chari et al., 2019). Therefore, under the *reputation hypothesis*, independent directors would support investment in less risky projects, which would help firms avoid losses and therefore protect their image (Pathan, 2009). This also speaks about the lower level of aspiration in comparison with that of their social peers. Furthermore, because of the strict monitoring of managerial activities, such firms would maintain at least the status quo in terms of performance, and would never fall below their aspiration level. In addition, in accordance with the *monitoring hypothesis*, we assume that the presence of independent directors on firm boards reduces firm risk. This hypothesis assumes that as a result of limited information available to a firm's executives, information asymmetry increases, and, consequently, the cost of information becomes higher for non-executive directors (Boone et al., 2007; Raheja, 2005). There is also empirical evidence that supports the above arguments, suggesting a negative relationship between the presence of independent directors on firm boards and their risk-taking attitude (see Brick and Chidambaran, 2008; and Pathan, 2009).

In contrast, Adams and Ferreira (2009) observe that women's presence on firm boards might have a significant influence on board effectiveness, specifically on monitoring policy. This is because when a board is more gender-diverse, the attendance problems of male directors in meetings become much less severe. Empirical literature (see Jianakoplos and Bernasek, 1998) also shows that, in terms of risk preferences, men are more likely to take larger risks than their women counterparts. Accordingly, most studies (Adams and Ferreira, 2009; etc.) argue that in profitable firms, women on boards are tempted to exercise excessive monitoring following riskier decisions, which, in turn, might decrease shareholder value. There is a large body of empirical evidence on whether the presence of women on firm boards increases the propensity to take risks (see Faccio et al., 2016; etc.). Most of these studies report a decline in firm risk in women-dominated firms across countries, which also implies lower aspiration levels for these firms. In contrast, however, many empirical studies (see Hutchinson et al., 2015; etc.) document the positive influence of women directors on firm performance across both

countries and industries. Higher present performance would automatically drive higher firm aspiration levels for the future. However, once the aspiration level is reached, in women-led firms also, firm risk would be decreased. Therefore, we hypothesize:

> **H1c:** Strong boards (those with higher % of independent and women directors) have a negative impact on aspiration level of the firm.
> **H5a & H5b:** Strong boards (those with higher % of independent and women directors) have a negative impact on firm risk.

BOARD EFFECTIVENESS AND FIRM RISK

Following De Andres and Vallelado (2008) and Erkens et al. (2012), among others, the effectiveness of the board of directors in monitoring and advising managers determines its strength, and we use the term '*effective board*' to indicate a board that represents a firm's shareholders' interests more strongly. In line with the assumptions of the *agency theory* (Jensen and Meckling, 1976), we assume here that the number of directors serving a firm board is relevant to the outcome of the board's decisions in relation to risk-taking. A negative relation between *board size* and firm performance is commonly found in literature (Yermack, 1996; and Hermalin and Weisbach, 2001) owing to the nimbleness, cohesiveness, lower communication and coordination costs, as well as fewer 'free-riding' director problems associated with smaller boards (Jensen, 1993; Chari et al., 2019). Yermack (1996) observes that small boards would be more likely to ratify riskier R&D-intensive investment projects that ultimately increase the overall firm risk and potentially lead to volatile performance. Therefore, a negative aspiration-performance gap due to lower performance cannot be ruled out for firms with small boards. Accordingly, this would create a forced higher aspiration level and intent to problemistic search, which implies that small board size does have a positive influence on firm risk. However, several studies observe that larger boards are necessary in large organisations to reflect the complexities of their business models (see Coles et al., 2008); to better monitor CEO functioning (Forbes and Milliken, 1999); and to increase the pool of expertise and resources available (Van den Berghe and Levrau, 2004; see also impact of resource dependency theory (Pfeffer, 1972) on corporate governance (Nicholson and Kiel, 2007)). Coles et al. (2006) find that firm performance increases with board size for complex firms. Cheng (2008) also shows that US firms with larger boards exhibit higher performance and lower performance volatility. Jackling and Johl (2009) find that board size has a positive impact on performance among firms in India. Large board size negatively impacts firm risk-taking due to the *diversification of opinions effect* (Sah and Stiglitz, 1986; 1991). Similarly, it would impact the aspiration level of the firm through improved performance.

Frequency of board meetings is considered another important way to improve the effectiveness of the board (Adams and Ferriera, 2009) through effective monitoring and intensity of board activities (see resource dependency theory, Pfeffer, 1972). This takes into account the internal functioning of the board (De Andres and Vallelado, 2008) and how boards operate. Because meetings provide board members with the opportunity to come together and to discuss and exchange ideas on how they wish to monitor managers and firm strategy, we can argue that the more frequent the meetings are, the more likely it is that optimum control is exercised over managers.

Ntim and Osei (2011) suggest that more frequent board meetings tend to lead to higher financial performance. Some evidence suggests that the association between the number of meetings and performance is more complex than previously reported. Vafeas (1999:140) shows that boards that meet more frequently are valued less by the market. However, this association disappears when prior

stock performance is included in the model, suggesting that operating performance rises following years of abnormally high meeting frequency. Francis et al. (2012) find that firm stock performance is positively related to the number of board meetings. Thus, we can argue that high frequency of board meetings influences the aspiration level of the firm positively by improving the base operating performance. However, Johl (2006) finds a negative relationship between frequency of board meetings and entrepreneurial activities in firms. Jensen (1993) suggests that in such cases, boards would be relatively inactive, and evidence of higher board activity is likely to symbolize a response to poor performance i.e., problemistic search behaviours. Bhagat et al. (2015) emphasize the number of risk committee meetings as the driver of market performance, which implies strong risk governance or balanced risk-taking by firms. Therefore, we hypothesize:

H1d: Effective boards (those with small board size and more board meetings) have a positive impact on aspiration level of the firm.
H6a & H6b: Effective boards (those with small board size and more board meetings) have a positive impact on firm risk.

FIRM ASPIRATION LEVEL AS A MEDIATOR

One of the major reasons for incorporating aspiration level of the firm as a mediator in our model is to find how much of the impact of independent risk-antecedent constructs on firm risk is controlled by this behavioural driver. We measure a firm's current aspiration level in relative terms to its preceding year's own historical performance on a rolling basis. This is because risk-taking is a strategic behaviour, and the performance-aspiration gap guides this type of firm behaviour (see Cyert and March, 1963; Ansoff, 1979; and Fiegenbaum et al., 1996), which is why most early researchers use aspiration to explain risky choices of firms (Bromiley, 1991; Guney et al., 2018; Gao et al., 2019). However, the influence of firm fundamentals (see Venkatesh, 1989; Autio, 2005; Delmar and Wiklund, 2008; and Lu et al., 2019); firm performance (see Cyert and March, 1963; Ansoff, 1979; Bowman, 1980; 1984; Fiegenbaum et al., 1996; Greve, 1998; Massini et al., 2005; DasGupta and Deb, 2020; etc.); and corporate governance (through *strong* (see Fama and Jensen, 1983; Brick and Chidambaran, 2008; Kumar and Sivaramakrishnan, 2008; Adams and Ferreira, 2009; Pathan, 2009) and *effective* boards (see Yermack, 1996; De Andres and Vallelado, 2008; Cheng, 2008; Coles et al., 2008; Pathan, 2009; Erkens et al., 2012; and Bhagat et al., 2015)) on firm risk is well-documented. Therefore, although the importance of the role of aspiration level for firm's strategic behaviour is conclusive, its significance as a mediator between risk-antecedent constructs and firm risk is not reported in the empirical literature, to the best of our knowledge. Therefore, we hypothesize that:

H2a & H2b: Firm aspiration level has a positive impact on firm risk.
H7a & H7b: Strong firm fundamentals have a negative impact on firm risk through a negative mediating effect of the aspiration level of the firm.
H8a & H8b: Strong firm performance has a positive impact on firm risk through a positive mediating effect of the aspiration level of the firm.
H9a & H9b: Strong boards (those with higher % of independent and women directors) have a negative impact on firm risk through a negative mediating effect of the aspiration level of the firm.
H10a & H10b: Effective boards (those with small board size and more board meetings) have a positive impact on firm risk through a positive mediating effect of the aspiration level of the firm.

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FIRM EXPECTATION LEVEL AS A MEDIATOR

Along with the aspiration level of the firm, the expected performance achievement (i.e., the expectation level, see Cyert and March, 1963; March and Shapira, 1987) is also of significance to managers in setting their performance targets and, therefore, firm risk. Beal and Crockett (2010) demonstrate that occupational expectations are influenced over time by participation in related additional activities (for example, for a manager in CSR), and that main activity participation (e.g., in regular business decisions such as those related to risk-taking) is in turn also influenced by expectations. For aspirational managers, possible selves (Markus and Nurius, 1986) serve as incentives for increasing goal-directed positive behaviour or for decreasing negative loss-making behaviour. Because possible selves are not necessarily derived from empirical realities, there is always the potential for some real disconnect between firm managers aspired-to selves (the possible selves they want to become) and their expected selves or the possible selves they believe they will become (expected-to selves). The possible reasons for such disconnect may be the *fundamentals* of the firms in which they operate; the internal *operating performance*; regulatory mechanisms such as *corporate governance*; and external environmental constraints such as *national culture, investor protection rights,* and the legal system (Markus and Nurius, 1986).

Although all earlier studies use only actual performance to predict risk, we follow the behavioural theory (Cyert and March, 1963; and March and Shapira, 1987) of the firm and use expected performance in addition to actual performance. Cyert and March (1963: 97) and March and Shapira (1987) discuss expectations in the context of how managers interpret information and events. Typically, managers have expectations about events that occur outside the organization— in its environment—or about the consequences of a course of action. Therefore, although the important role of expectation level in determining firm's strategic behaviour is conclusive, its significance as a mediator between risk-antecedent constructs and firm risk is not described in the empirical literature. Accordingly, we measure firm's expectation level by future PE ratios, which represent both internal firm fundamentals and external market sentiment, in relative terms to its own PE from the preceding year on a rolling basis. Therefore, we present our hypotheses for firm's expectation level as follows:

H1a: Strong firm fundamentals have a negative impact on expectation level of the firm.
H1b: Strong firm performance has a positive impact on expectation level of the firm.
H1c: Strong boards (those with higher % of independent and women directors) have a negative impact on expectation level of the firm.
H1d: Effective boards (those with small board size and more board meetings) have a positive impact on aspiration level of the firm.
H2a & H2b: Firm expectation level has a positive impact on firm risk.
H7a & H7b: Strong firm fundamentals have a negative impact on firm risk through a negative mediating effect of the expectation level of the firm.
H8a & H8b: Strong firm performance has a positive impact on firm risk through a positive mediating effect of the expectation level of the firm.
H9a & H9b: Strong boards (those with higher % of independent and women directors) have a negative impact on firm risk through a negative mediating effect of the expectation level of the firm.
H10a & H10b: Effective boards (those with small board size and more board meetings) have a positive impact on firm risk through a positive mediating effect of the expectation level of the firm.

FIRM HETEROGENEITIES AND FIRM RISK

Empirical studies (see Fisher and Hall, 1969; Coles et al., 2008; John et al., 2008; Li et al., 2013; etc.) show that firm's heterogeneities and characteristics act as catalysts for the main conclusions drawn. Accordingly, we incorporate firm size, leverage, and liquidity to control for the impact of individual firms' heterogeneities on its risk. We measure firm size by average total assets each study year (see Table 1 for details) which is indicative of '*market power*', and, therefore, we assume that large-size firms are risk-averse (see Venkatesh, 1989). Pecking order theory (Myers, 1984) and Ferreira and Vilela's (2004) free cash flow hypothesis prove this theoretically. However, this notion conflicts with the liquidity perspective, i.e., large firms hold less cash because of their greater access to capital markets due to their strong information symmetry and are, therefore, vulnerable to risk (see Opler et al., 1999; and Subramaniam et al., 2011). Therefore, overall, we argue that small firms are more risk-seeking than their larger counterparts.

Firms can also use borrowing as a substitute for holding cash (i.e., liquidity (proxied by cash and cash equivalents)) because leverage (proxied by total debt-to-total assets (see Table 1 for details)) could act as a proxy for the ability of firms to issue debt (John, 1993). This implies higher risk-taking by these firms. Baskin (1987) argues that the cost of funds used to invest in liquidity increases as the ratio of debt financing increases, which would imply a reduction in cash holdings with increased debt in capital structure. Thus, in both ways, we comprehend a risk-seeking attitude of these firms. Opler et al. (1999) predict that there is a negative relation between a firm's cash holdings and its leverage in line with the pecking order theory (Myers, 1984) and the free cash flow hypothesis (Ferreira and Vilela, 2004). Firms with more resources (i.e., slack) tend to have more leeway to indulge in exploratory activities (Cyert and March, 1963) allowing their CEOs more discretion (Hambrick and Finkelstein, 1987). Therefore, we argue that both excess liquidity and leverage increase firm risk.

COUNTRY-LEVEL HETEROGENEITIES AND FIRM RISK

The institutional, cultural, and economic environment of a country has been shown (see La Porta et al., 1998; 2008; Li et al., 2013; etc.) to affect a firm's risk-taking decisions. Therefore, here, we classify our sample countries based on their economic status (developed vs. emerging) and also control for *investor protection rights* and *national culture* (see Table 1 for details) prevailing in individual countries.

The impact of investor protection rights in a country on risk-taking by firms may be mixed in nature. It is proposed that when investor protection improves, there is less fear of expropriation by managers and, consequently, less need for concentrated ownership by dominant shareholders (Burkart et al., 2003). This in turn might result in greater managerial discretion to implement safe and low-risk investment policies. However, it is also theorized that low investor protection rights might lead to low risk-taking. For example, non-equity stakeholders such as banks, governments, and organized labour, who often prefer conservative corporate investment, might influence investment policy for their own benefit. Their influence is reported to be higher in countries with low investor protection (Tirole, 2001). We rate the extent of investor's protection in our sample countries in accordance with La Porta et al.'s arguments on company law in relation to minority shareholders' rights across countries (1998; 2008). We assess such rights based on six important parameters[5] related to voting rights (also referred to as

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[5] The six parameters are as follows: allowance of proxy vote by e-mail, restrictions to block shares before general meetings, proportional representation by minority shareholders, rights to minority shareholders to challenge the directors' decision in court, and the right to force the company to repurchase the shares. Shareholders have pre-emptive rights to buy the new issue and the percentage of shareholders' capital needed to call extraordinary shareholder's meetings.

anti-directors' rights), wherein the existence of such parameters in the company laws of countries would earn a score of 1. Therefore, a total score of 6 would be assigned to countries offering best investors' protection and vice-versa for score of 1 or 0. We define strong rights if the overall score is above 3 for our sample countries.

The role of national culture in the firm risk context has also been documented recently in finance research (Li et al. 2013; Mihet, 2013). These studies report that culture can explain the institutional, legal, and economic environment of a country at the macro level, which may subsequently influence a firm's risk-taking decisions (Graham et al., 2013; and Mihet, 2013). In line with the empirical literature (see Hofstede, 2001; Growiec and Growiec, 2011; Kanagaretnam et al., 2011; and Li et al., 2013), we use an *uncertainty avoidance index (UAI)* score and *power distance index (PDI)* score as part of the cultural country controls. We posit that firms in low-UAI countries would tend to take more risk in search of additional returns, without being overly concerned about downside risk, while firms in high-UAI countries would take fewer risks based on the opposite considerations (Kanagaretnam et al., 2011; and Li et al., 2013). We also suggest that firms in low-PDI countries would take on more risk because of the presence of a strong element of trust in the system (Growiec and Growiec, 2011).

DATA AND METHODOLOGY

DATA AND DESCRIPTIONS OF VARIABLES

We collect data for the period of 2005–2017 from the Bloomberg database. Our final sample comprised 1918 firms after excluding 214 financial companies from the initially collected 2142 firms. These 1918 firms include 1103 companies from four developed countries; the remaining 815 firms are from four BRICS countries representing emerging countries. We exclude the fifth BRICS country, i.e., Russia, owing to data unavailability. Therefore, finally, we investigate 1918 firms comprising of 24,934 firm-years for all 20 variables. This is in line with the requirements of the SEM for sample size, and comprises approximately 96 times as many cases as variables (see Byrne, 2010; and Gefen et al., 2011).

Table 1 explains the variables (under different constructs) considered in this study. The unpredictability in a firm's income stream is the result of its inherent risk (Bromiley, 1991; and Palmer and Wiseman, 1999). Therefore, here, we proxy firm risk by *ROASD* (see Gupta, 2017). *CAPEX ratio* also increases firm risk in two ways (see Shapiro and Titman, 1986): first, if a firm opts to be capital-intensive and demand fluctuates, there would be wider variations in income streams. Second, firm managers who use a large amount of capital for innovative searches run a high risk of capital obsolescence. Here, we calculate *CAPEX ratio* in line with Coles et al. (2006) (see Table 1 for details).

We discuss the independent constructs (see Table 1) in detail while formulating hypotheses in the previous section.

Table 1. Description of Variables

This table explains the dependent and independent variables (under different constructs) used in this study. The firm-risk is proxied by *return on assets standard deviation* (ROASD) and *capital expenditure* (CAPEX) ratio. These two are the dependent variables here. The 15 independent variables (drivers/antecedents) as constructed here are classified into four broad heads (constructs) in accordance with their nature. The heads are shown in parentheses after each variable.

Variables	Description
ROASD	*Ex-post standard deviation (σ) of individual firm's actual return on assets (ROA) for preceding 5 years in year t*
CAPEX ratio	*[(Capital expenditure/Sales)*100] in year t*
Market size (FFD)	*Logn net sales amount in year t*
Growth opportunities (FFD)	*% change in investment in total assets in year t from year t-1 (i.e., $\Delta TA_t = [\{(TA_t - TA_{t-1})/TA_{t-1}\}*100])$*
Dividend payout (FFD)	*[(Equity dividend/PAT)*100] in year t*
P/BV (FFD)	*Market capitalisation in year t/Book value of assets in year t (scaled in average)*
Operating performance (FPD)	*Actual ROA [(PAT/Average total assets)*100] in year t*
Market performance (FPD)	*Annualised monthly market return $\{[((1 + R)^{12}) - 1] \times 100\}$ of a firm in year t*
Cash performance (FPD)	*[(OCF/Average total assets)*100] in year t [average total assets = (total assets in year t-1 + total assets in year t)/2]*
Board independence (CG-BCD)	*% of independent directors to total number of directors in the board in year t*
Women presence in board (CG-BCD)	*% of women directors in the firm board in year t*
Board size (CG-BED)	*Logn number of directors in the board in year t*
Board busyness (CG-BED)	*Logn number of board meetings in year t*
Aspiration (SMED)	*$ASP_t = ([ROA_{t-1} – ASP_{t-1} (i.e. ROA_{t-2})] + ROA_{t-1})$*
Expectation (SMED)	*$EXP_t = ([PE_{t-1} – EXP_{t-1} (i.e., PE_{t-2})] + PE_{t-1})$*
Leverage (Firm control)	*Debt/Average total assets in year t [average total assets = (total assets in year t-1 + total assets in year t)/2]*
Liquidity (Firm control)	*Logn average [{opening balance + closing balance}/2] of cash balance and short-term investments (i.e., cash and cash equivalents) in year t*
Size (Firm control)	*Logn average total assets in year t [average total assets = (total assets in year t-1 + total assets in year t)/2]*
Multi-group (Country control)	*Emerging vs. developed countries based on classification provided in* https://www.msci.com/market-classification
IPR (Country control)	*Investor protection rights (calculated based on six parameters' scores) information are collected from La Porta et al. (2008).*
National Culture (Country control)	*National culture score is the sum total of power distance and uncertainty avoidance scores as taken from Hofstede (2001) and La Porta et al. (2008).*

Note 1: All market return calculations are undertaken on adjusted closing price basis.
Note 2: FFD – Firm fundamental drivers; FPD – Firm performance drivers; CG-BCD – Corporate governance-board composition drivers; and CG-BED – Corporate governance-board effectiveness drivers.
Note 3: SMED – Strategic mediators.
Note 4: PAT – Profit after tax; OCF – Operating cash flow; ASP_t - Aspiration in year t; EXPt - Expectation in year t; PE - Price-earnings ratio; TA – Total assets; and P/BV – Price-to-book value.

METHODS – EXPLORATORY AND CONFIRMATORY FACTOR ANALYSIS

We employ the SEM here (see e.g., Byrne, 2010; and Gefen et al., 2011 for information on its benefits) to test the unidimensionality of the constructs and to analyze the risk antecedents of firm risk by validating our proposed models (see Fig. 1 & 2) (see Anderson and Gerbing, 1988). Factor analysis simultaneously tests the entire system of constructs that we have conceptualized in this study (see Fig. 1 & 2). We perform data analysis using SPSS version 20 and AMOS version 21. SEM comprising the CFA is utilized for validating the basic structure of the constructs in the proposed model, and path analysis is used for examining the proposed models. Therefore, we employ factor analyses (both exploratory and confirmatory), which are the most appropriate for testing a newfound theory and complex models with simultaneous linkages between investigated variables (as in this paper) (see Schreiber et al., 2006; and Gefen et al., 2011).

It is also essential to purify the measuring instruments of variables that do not correlate to the constructs (Churchill, 1979) before we undertake any type of factor analysis. Therefore, we check the convergent validity of each construct by examining the average variance extracted (AVE) values. Constructs that have AVE values greater than 0.5 and composite reliability greater than 0.70 have a good convergent validity or unidimensionality (see Chin, 1998; and Chin et al., 2003). We ascertain the discriminant validity of constructs by comparing the AVE scores of the two constructs with the square of the correlation between the two constructs. If both the AVE values are larger than the square of the correlation, we consider the constructs to show discriminant validity (see Fornell and Larcker, 1981).
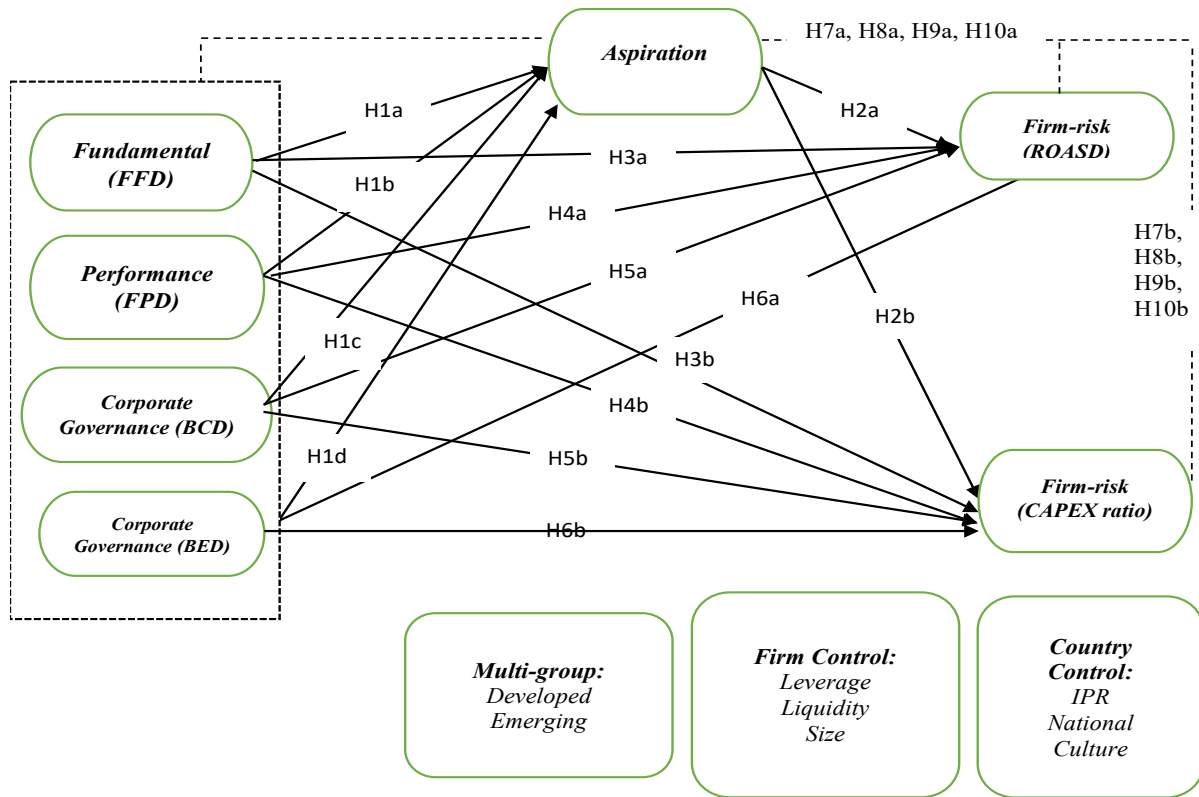
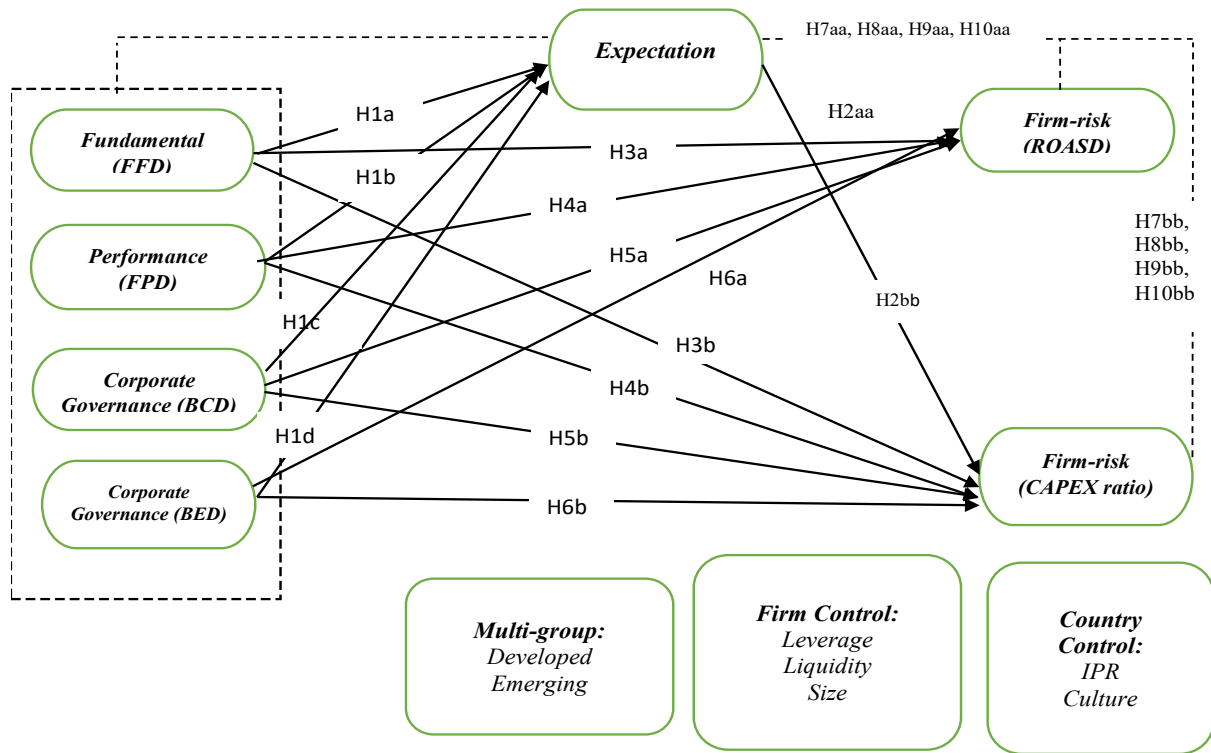**Figure 1.** Model 1 (Aspiration as a Mediator)

Figure 2. Model 2 (Expectation as a Mediator)

We also check the multivariate normality of all the variables used here by Shapiro-Wilks (S-W) test and Kolmogorov-Smirnov (K-S) test, as well as by skewness and kurtosis. In accordance with the significance level of both tests, the data are found to be normally distributed. We use Mahalanobis D-square and find that our dataset is free from outliers. Therefore, after testing the normality of the data and outlier existence, our dataset is found to fit for the SEM.[6]

EMPIRICAL RESULTS

We present here the evaluation, model fit, and analysis of the measurement model and the structural model (see Schreiber et al., 2006).

MEASUREMENT MODEL EVALUATION

DESCRIPTIVE STATISTICS

Table 2 reports the mean, standard deviation, and correlation coefficients among the constructs that measure the conceptual and empirical distinctiveness between the studied variables. Mean and standard deviation of the constructs ranged from 5.99 to 11.94 and 2.44 to 4.75, respectively. The results of the correlation coefficients show that all the constructs used in this study are distinct, and, further, that high correlation is non-evident between these constructs.

Table 2. Descriptive Statistics Results
This table presents the descriptive statistics results i.e., mean, standard deviation (SD) and correlation coefficients in between our independent constructs and mediators. Here, FFD implies firm fundamental drivers; FPD stands for firm performance drivers; CG-BCD denotes corporate governance-board composition drivers; and CG-BED implies corporate governance-board effectiveness drivers.

Constructs	Mean	SD	FFD	Aspiration	Expectation	CG-BCD	CG-BED	FPD
FFD	11.94	4.75	1					
Aspiration	8.99	3.92	-.202**	1				
Expectation	8.99	2.82	.431**	.423**	1			
CG-BCD	5.99	2.75	-.220**	.173**	.134**	1		
CG-BED	5.99	2.44	-.179**	-.244**	-.275**	.158**	1	
FPD	6.46	2.53	.031	.410**	.455**	.291**	.073**	1

**Correlation is significant at the 0.01 level (2-tailed).

CONFIRMATORY FACTOR ANALYSIS (CFA)

Before testing the study hypotheses, we perform CFA by using AMOS 20 to examine the model fitness and assess the reliability and evaluate the convergent validity and discriminant validity of the scales and their composition.

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[6] We do not include all the results in detail here for the sake of brevity.

ASSESSMENT OF MEASUREMENT MODEL FIT

We test each construct's measurement model with the maximum-likelihood estimation method, and find that the standardized factor loadings of all the items constituting various constructs are significant and greater than 0.70. We also determine several fit indices such as Goodness-of-fit index (GFI); adjusted GFI (AGFI); root mean square error of approximation (RMSEA); normal fit index (NFI); comparative fit index (CFI); parsimony goodness-of-fit index (PGFI); and parsimonious normed fit index (PNFI) to ensure the model fitness, as recommended by Hu et al. (1995) and Bagozzi et al. (1998). In our measurement model, results show that study constructs fulfil the recommended threshold and confirm the fitness of measurement model (Model 1: GFI=.891, AGFI=.820, RMSEA=.077, NFI=.996, CFI=.996; and Model 2: GFI=.889, AGFI=.830, RMSEA=.079, NFI=.996, CFI=.996).

ASSESSMENT OF RELIABILITY

Statistical scale reliability check of all constructs is essential to determine the internal structure of the hypothesized model. To ensure #meaningful statistical outcomes from the proposed model, we examine the statistical reliability of the scale based on the requisite criteria. Results shown in Table 3 indicate that the measures satisfy the following requisite criteria: (a) factor loadings range from .748 to .934 in all constructs (therefore, ≥0.7); (b) composite reliability of each construct is above the threshold i.e., CR≥0.6; and (c) Cronbach's alpha coefficient of all the measures is above .801 (therefore, α ≥ 0.6) (see Fornell and Larcker, 1981; and Hair et al., 2017).

Table 3. Reliability and Validity (Convergent Validity and Discriminant Validity) Analysis Results
This table presents the reliability and validity (convergent validity and discriminant validity) results. Here, α implies Cronbach's alpha, CR stands for composite reliability, AVE indicates average variance extracted, MSV denotes maximum shared variance and ASV stands for average shared variance. Also, FFD implies firm fundamental drivers; FPD stands for firm performance drivers; CG-BCD denotes corporate governance-board composition drivers; and CG-BED implies corporate governance-board effectiveness drivers.

Constructs	Factor Loading (Range)	α	CR	AVE	MSV	ASV	Square Root of AVE
FFD	.748-.875	.891	0.899	0.690	0.25	0.17	.830
CG-BCD	.915-.934	.919	0.922	0.670	0.085	0.075	.818
CG-BED	.828-.841	.821	0.821	0.560	0.171	0.165	.748
FPD	.779-.854	.801	0.801	0.586	0.221	0.183	.765

ASSESSMENT OF CONVERGENT AND DISCRIMINANT VALIDITY

Table 3 also shows the results for the convergent and discriminant validity of constructs. We use the convergent and discriminant validity to test the capability of constructs to measure the impact of risk antecedents on firm risk and mediating role of aspiration and expectation in such association (Zikmund et al., 2013). We establish the convergent validity of the constructs based on their AVE values, which range from 0.567 to 0.796— thereby exceeding the threshold value of 0.50 (Hair et al., 2017)—which implies sound convergent validity (Fornell and Larker, 1981; and Anderson and Gerbing, 1988). Further, the squared correlation of the constructs is greater than each construct's AVE (Fornell and Larcker, 1981); furthermore, the average shared variance (ASV) and maximum shared variance (MSV) values of each construct are lower than its AVE value, thereby implying each individual construct's discriminant validity.

STRUCTURAL MODEL EVALUATION

After establishing the validation of the measurement model, we estimate the structural model by using path analysis, wherein SEM evaluates the research model and tests the hypothesized relationship between the constructs in the proposed model.

ASSESSMENT OF STRUCTURAL MODEL FIT

MODEL 1 (FIRM ASPIRATION AS MEDIATOR)

The structural path model 1 (see Fig.3) presents the hypothesized paths between the constructs (see Hu and Bentler, 1995). The fit indices generated in the hypothesized model (GFI=.993, AGFI=.940, NFI=.996, CFI=.996, and RMSEA=.071) met the threshold stated in the preceding sub-section, and allow us to test the hypothesized relationships between the constructs.
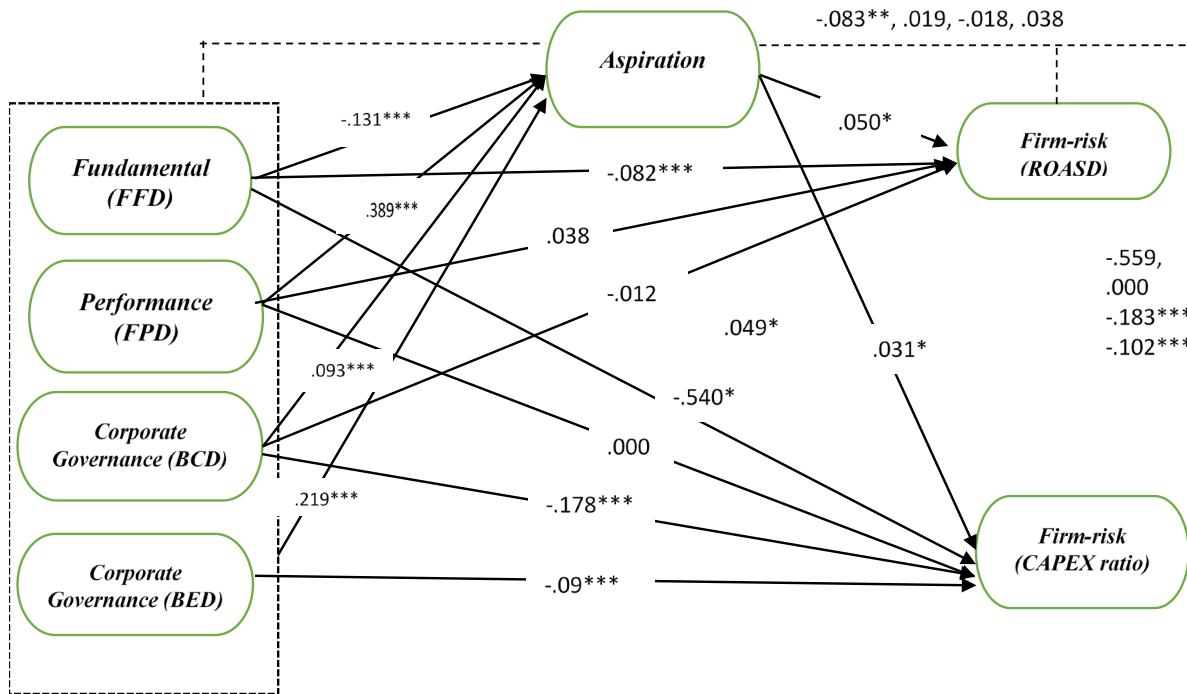
Figure 3. Structural Model with Path Estimates (Aspiration as a Mediator)
Note: *p<0.10, **p<.05, ***p<.001

HYPOTHESIZED PATH ASSESSMENT

Tables 4 and 5 presents the results of the SEM analysis performed on Model 1 (see Fig. 1) to examine the mediating impact of firm aspiration on firm risk. The results are elaborated further below.

Table 4. Hypotheses Testing (Model 1 (see Fig. 1)) Results
This table depicts the results of Model 1 (Aspiration as mediator). The measurement model results indicate how the latent variables are related to the observed variables. The estimates show the standardized coefficients in structural equation modelling, and also reveal the findings of proposed hypotheses. Here, FFD implies firm fundamental drivers; FPD stands for firm performance drivers; CG-BCD denotes corporate governance-board composition drivers; and CG-BED implies corporate governance-board effectiveness drivers.

Hypothesis	Relationship	Estimates	p	Remarks
H1a	FFD-Aspiration	-.131	<.001	Supported
H1b	FPD-Aspiration	.389	<.001	Supported
H1c	CG-BCD-Aspiration	.093	<.001	Contradict
H1d	CG-BED-Aspiration	.219	<.001	Supported
H2a	Aspiration-Firm-risk (ROASD)	.050	<.06	Supported
H2b	Aspiration- Firm-risk (CAPEX ratio)	.031	<.219	Not Supported
H3a	FFD- Firm-risk (ROASD)	-.082	<.001	Supported
H3b	FFD- Firm-risk (CAPEX ratio)	-.540	<.082	Supported
H4a	FPD- Firm-risk (ROASD)	.038	<.121	Not supported
H4b	FPD- Firm-risk (CAPEX ratio)	.000	<.001	No effect
H5a	CG-BCD- Firm-risk (ROASD)	-.012	<.637	Not supported
H5b	CG-BCD- Firm-risk (CAPEX ratio)	-.178	<.001	Supported
H6a	CG-BED- Firm-risk (ROASD)	.049	<.064	Supported
H6b	CG-BED- Firm-risk (CAPEX ratio)	-.090	<.001	Contradict

Table 5. Results After Introduction of Mediating Variable (i.e., Firm Aspiration)
These findings explain the relationship between the dependent variables and independent variables after introducing the Aspiration as a mediator variable. In mediation model, both direct and indirect effects are shown on dependent variables. The indirect effect also reveals the magnitude of indirect effect in the model. Here, FFD implies firm fundamental drivers; FPD stands for firm performance drivers; CG-BCD denotes corporate governance-board composition drivers; and CG-BED implies corporate governance-board effectiveness drivers.

Hypothesis	Relationship	Direct Effect	Direct Effect with Mediator	Indirect Effect
H7a	FFD-Aspiration-ROASD	-.082(.001)	-.083 (.001)	Significant, Partial mediation
H7b	FFD-Aspiration-CAPEX ratio	-.540 (.08)	-.559 (.078)	Not Significant, No mediation
H8a	FPD- Aspiration -ROASD	.038 (.121)	.019 (.491)	Not Significant, No mediation
H8b	FPD-Aspiration-CAPEX ratio	-	-	No effect
H9a	CG(BCD)-Aspiration-ROASD	-.012 (.637)	-.018 (.491)	Significant, Full mediation
H9b	CG(BCD)-Aspiration-CAPEX ratio	-.178 (.000)	-.183 (.000)	Not significant, no mediation
H10a	CG(BED)-Aspiration- ROASD	.049 (.064)	.038 (.153)	Significant, Full mediation
H10b	CG(BED)-Aspiration- CAPEX ratio	-.090 (.000)	-.102 (.000)	Not significant, no mediation

In the first cluster of hypotheses (H1a, H1b, H1c, and H1d), our results establish a significant relationship between firm fundamentals and aspiration (β=-.131, p<.001), firm performance with aspiration (β= .389, p<.001), firm corporate governance- board composition drivers (CG-BCD) with aspiration (β= .093, p<.001), and firm corporate governance- board effectiveness drivers (CG-BED) with aspiration (β= .219, p<.001), as we report in Table 4. Hence, our findings support hypotheses H1a, H1b, and H1d but reject H1c. The next cluster of hypotheses (H2a, H2b, H3a, H3b, H4a, H4b, H5a, H5b, H6a, and H6b) is concerned with the association of various risk antecedents (FFD, FPD, CG-BCD, and CG-BED [see table 1 for descriptions]) with firm risk (i.e., ROASD and CAPEX ratio). H2a and H2b are concerned with the association of aspiration with ROASD (β= .050, p<.064) and CAPEX ratio (β=.031, p<.219). Although H2a is supported at the 10% significance level, results for H2b are not found to be statistically significant to support our hypotheses. Hypotheses H3a and H3b focus on the relationship between firm fundamentals and ROASD (β=-.082, p<.001) and CAPEX ratio (β=-.540, p<.082), respectively; analytical results demonstrate a negative and significant effect on both ROASD and CAPEX, therefore supporting the hypotheses. Hypotheses H4a and H4b consider the association of performance with ROASD (β=.038, p<.121) and CAPEX ratio (β=.000); results show that H4a is not significantly supported and H4b does not show any effect of firm performance on CAPEX. Therefore, H4a and H4b are both rejected. In hypotheses H5a and H5b, we postulate that CG-BCD relates to the ROASD and CAPEX. We find no statistical significance for H5a (β=-.012, p<.637), therefore, it is not supported. However, we find that the results in support of H5b to be statistically significant (β=-.178, p<.001); therefore, this hypothesis is fully supported. In hypotheses H6a and H6b, we propose that CG-BED relates to the ROASD and CAPEX. As shown in Table 4, CG-BED has a strong and significant association with ROASD (β=.049, p<.06) and CAPEX ratio (β=-.090, p<.001), thereby supporting H6a and H6b.

Table 5 shows the results when a firm's aspiration level is considered as the mediator. As suggested by Baron and Kenny (1986), it involves the mediation analysis approach that explains the process that underlies an observed relationship between independent and dependent variables while including the mediator variable. The inclusion of the mediator variable would either lower (partial mediation) or lend insignificance (full mediation) to the prior direct association of independent and dependent variables.

Hypotheses H7a, H7b, H8a, H8b, H9a, H9b, H10a, and H10b relate to the impact of firm fundamentals, firm performance, CG-BCD, and CG-BED on firm risk (i.e., ROASD and CAPEX ratio), when aspiration is considered as mediator. In line with the Baron and Kenny's (1986) recommendation, we find significant results for H7a, H9a, and H10a, therefore supporting the mediation effects of aspiration in the proposed Model 1. After introducing aspiration as a mediator, we observe an increase in the value of the path estimate corresponding to the impact of firm fundamentals, CG-BCD, and CG-BED on ROASD, and partial and full mediation is found, which supports the mediation effect of aspiration. In this analysis, we also perform a bootstrapping to test the indirect effect between variables.

When introducing aspiration as the mediator variable, we also examine the effect of firm-level heterogeneities and country-level heterogeneities as control variables on the model. Our results report that country control-variables (IPR and national culture) do not have a significant effect on the model, while firm control- variables (leverage, liquidity, and firm size) significantly affect firm risk. Our findings specifically show that liquidity positively and significantly affects the aspiration level (β = .127, p <.010), while leverage has a significant negative impact on the aspiration (β = -.184, p <.000). Probing the impact of these firm-control variables on firm risk (ROASD and CAPEX), we find that liquidity (β = .291, p <.002) and firm size (β = .506, p <.04) positively affect the ROASD. Findings also suggest that leverage (β = .20, p <.000) and size (β = .506, p <.02) positively affect the CAPEX ratio, whereas liquidity has a negative and significant effect on it (β = -.214, p <.024).

MODEL 2 (FIRM EXPECTATION AS MEDIATOR) AND HYPOTHESIZED PATH ASSESSMENT

We perform the same analysis by introducing firm expectation as a mediator to define the relationship between firm risk and its antecedents. Figure 4 shows the path estimates of the hypothesized model. Further, Table 6 shows the results of hypotheses cluster (from H1a to H1d, H2a-H2b, and H3a-H6b), where we examine the relationship between endogenous and exogenous variables without incorporating the mediation effect of expectation on firm risk. These results show that all the hypotheses are supported in accordance with the proposed model, except for H2a, H3b, H4a and H5a, and, specifically, the results contradict H6b. Our results show that expectation (β = -.011, p <.68) and firm performance (β = .043, p <.11), and CG-BCD (β = -.010, p <.68) do not have a direct effect on the ROASD of the firm. Similarly, firm fundamentals (β = -.553, p <.081) do not have any effect on the CAPEX ratio.
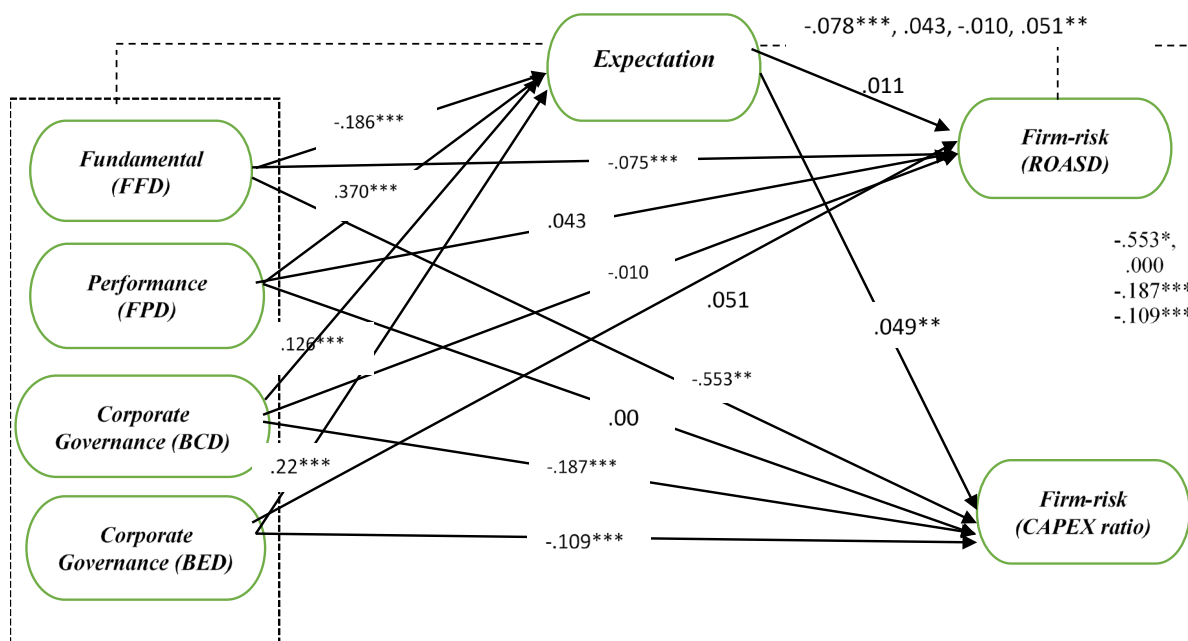

Figure 4. Structural Model with Path Estimates (expectation as a mediator)
Note: *p<0.10, **p<.05, ***p<.001

Table 6. Hypotheses Testing (Model 2 (see Fig. 2)) Results

This table depicts the results of Model 2 (Expectation as a mediator), the measurement model results indicate how the latent variables are related to the observed variables. The estimates show the standardized coefficients in structural equation modelling, and also reveal the findings of proposed hypotheses. Here, FFD implies firm fundamental drivers; FPD stands for firm performance drivers; CG-BCD denotes corporate governance-board composition drivers; and CG-BED implies corporate governance-board effectiveness drivers.

Hypothesis	Relationship	Estimates	p	Remarks
H1a	*FFD-Expectation*	*-.186*	*<.001*	*Supported*
H1b	*FPD-Expectation*	*.370*	*<.001*	*Supported*
H1c	*CG-BCD-Expectation*	*.126*	*<.001*	*Contradict*
H1d	*CG-BED-Expectation*	*.220*	*<.001*	*Supported*
H2a	*Expectation-Firm-risk (ROASD)*	*-.011*	*<.68*	*Not Supported*
H2b	*Expectation-Firm-risk (CAPEX ratio)*	*.049*	*<.05*	*Supported*
H3	*FFD- Firm-risk (ROASD)*	*-.075*	*<.001*	*Supported*
H3b	*FFD- Firm-risk (CAPEX ratio)*	*-.553*	*<.081*	*Supported*
H4a	*FPD- Firm-risk (ROASD)*	*.043*	*<.113*	*Not supported*
H4b	*FPD- Firm-risk (CAPEX ratio)*	*.000*	*<.001*	*No effect*
H5a	*CG-BCD- Firm-risk (ROASD)*	*-.010*	*<.685*	*Not supported*
H5b	*CG-BCD- Firm-risk (CAPEX ratio)*	*-.187*	*<.001*	*Supported*
H6a	*CG-BED- Firm-risk (ROASD)*	*.051*	*<.05*	*Supported*
H6b	*CG-BED- Firm-risk (CAPEX ratio)*	*-.109*	*<.001*	*Contradict*

Table 7 presents the results after introducing firm expectation as the mediator. Hypotheses H7a, H7b, H8a, H8b, H9a, H9b, H10a, and H10b concern the impact of firm fundamentals, firm performance, CG-BCD, and CG-BED on firm risk (i.e., ROASD and CAPEX ratio) when expectation is considered as mediator. Based on our results, we find results for H7b and H9b to be significant, supporting the mediating effects of expectation in the proposed Model 2. After introducing expectation as the mediator, we observe an increase in the value of the path estimate corresponding to the impact of firm fundamentals and board composition on CAPEX ratio, and also find partial and full mediation that support the mediation effect of firm expectation on firm risk.

Table 7. Results After Introduction of Mediating Variable (i.e., Firm Expectation)
These findings explain the relationship between the dependent variables and independent variables after introducing expectation as a mediator variable. In mediation model, both direct and indirect effects are shown on dependent variables. The indirect effect also reveals the magnitude of indirect effect in the model. Here, FFD implies firm fundamental drivers; FPD stands for firm performance drivers; CG-BCD denotes corporate governance-board composition drivers; and CG-BED implies corporate governance-board effectiveness drivers.

Hypothesis	Relationship	Direct Effect	Direct Effect with Mediator	Indirect Effect
H7a	FFD-Expectation-ROASD	-.079 (.001)	-.078 (.001)	*Not Significant, No mediation*
H7b	FFD-Expectation-CAPEX ratio	-.540 (.08)	-.553 (.08)	*Significant, Full mediation*
H8a	FPD-Expectation-ROASD	.038 (.121)	.043 (.116)	*Not Significant, No mediation*
H8b	FPD-Expectation-CAPEX ratio	-	-	*No effect*
H9a	CG-BCD-Expectation-ROASD	-.012 (.637)	-.010 (.665)	*Not Significant, Full mediation*
H9b	CG-BCD-Expectation-CAPEX ratio	-.178 (.000)	-.187 (.001)	*Significant, partial mediation*
H10a	CG-BED-Expectation-ROASD	.049 (.064)	.051 (.05)	*Not Significant, No mediation*
H10b	CG-BED-Expectation-CAPEX ratio	-.090 (.000)	-.109 (.001)	*Not significant, No mediation*

In this model, we also consider firm control-variables (leverage, liquidity, and firm size) and country control-variables (IPR and National culture) as proxies for firm- and country-level heterogeneities. Our results report that country control variables have no significant impact on the model constructs; however, firm control-variables significantly affect these constructs. For instance, leverage has a significant negative effect on firm expectation (β = -.018, p <.000). Further, liquidity has a significant positive effect on the firm risk (ROASD) (β = .293, p <.002) and significant negative effect on CAPEX ratio (β = -.214, p <.02). On the contrary, firm size has a positive effect on the firm risk (ROASD: β = .507, p <.04; CAPEX: β = .560, p <.023). Leverage also has a significant positive impact on the firm risk (CAPEX) (β = .201, p <.000) and does not impact ROASD.

ROBUSTNESS TESTS RESULTS

To check robustness, we undertake two additional tests. Under the first robustness test, we test the proposed model while considering ROE as an aspiration mediator. This is an out-of-the sample test. This analysis is performed to investigate the effect of ROE-aspiration as a mediator between risk antecedents and firm's risk-taking. The fit indices for this robustness model (GFI=.993, AGFI=.940, NFI=.996, CFI=.996, CMIN/DF = 12.862, and RMSEA=.079) met the threshold supporting the model fitness, thereby allowing testing of the hypothesized relationship between the constructs.

In Table 8 (see also Fig. 5 for the model), we check the relationship between ROE-based aspiration mediator and our main dependent and independent variables. Results show that this aspiration mediator establishes a statistically significant relationship with CG-BCD (β= .128, p<.001) and ROASD (β= .058, p<.01). However, it does not have a significant relationship with other variables. Table 9 shows the direct effects of studied variables on firm risk (ROASD and CAPEX ratio), and our direct

results after inclusion of ROE-based aspiration as a mediator. Our results show that fundamental variables negatively affect the ROASD (β= -.093, p<.001) and CAPEX ratio (β= -.543, p<.08) in the presence of the ROE-based aspiration mediator. Similarly, CG-BCD (β= -.175, p<.001) and CG-BED (β= -.090, p<.002) have a negative and statistically significant effect on CAPEX ratio. In contrast, *board effectiveness* has a positive and statistically significant effect on ROASD (β= .049, p<.05).

The robustness tests analyse the hypothesized model using out-of-the-sample data. In summary, the results show that firm variables (fundamental, performance, CG (board composition) and CG (board effectiveness)) influence the firm risk behaviour (ROASD and CAPEX ratio) in the presence of ROE-based aspiration-mediation also.

Table 8. Results After Introduction of Mediating Variable (i.e., ROE-based Firm Aspiration) (Robustness Test 1)
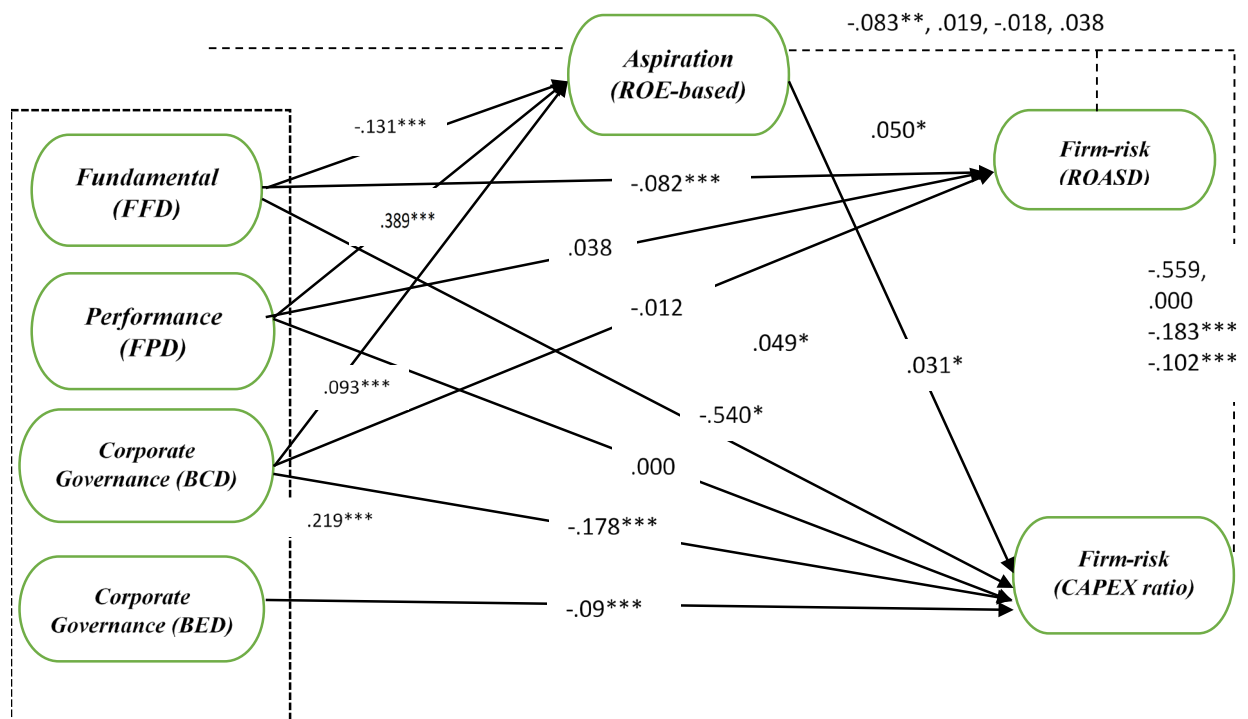
These findings explain the relationship between the dependent variables and independent variables after introducing the Aspiration (ROE-based) as a mediator variable. Here, ROE stands for return on equity which is an out-of-the sample variable. In mediation model, both direct and indirect effects are shown on dependent variables. The indirect effect also reveals the magnitude of indirect effect in the model. Here, FFD implies firm fundamental drivers; FPD stands for firm performance drivers; CG-BCD denotes corporate governance-board composition drivers; and CG-BED implies corporate governance-board effectiveness drivers.

Hypothesis	Relationship	Estimates	p	Remarks
H1a	*FFD-Aspiration*	*-.002*	*<.975*	*Not Supported*
H1b	*FPD-Aspiration*	*.035*	*<.175*	*Not Supported*
H1c	*CG-BCD-Aspiration*	*.128*	*<.000*	*Supported*
H1d	*CG-BED-Aspiration*	*-.018*	*<.513*	*Not Supported*
H2a	*Aspiration-Firm-risk (ROASD)*	*.058*	*<.017*	*Supported*
H2b	*Aspiration- Firm-risk (CAPEX ratio)*	*-.021*	*<.329*	*Not Supported*

Table 9. Results After Introduction of Mediating Variable (i.e., ROE-based Firm Aspiration) (Robustness Test 1)

These findings explain the relationship between the dependent variables and independent variables after introducing the Aspiration (ROE-based) as a mediator variable. Here, ROE stands for return on equity which is an out-of-the sample variable. In mediation model, both direct and indirect effects are shown on dependent variables. The indirect effect also reveals the magnitude of indirect effect in the model. Here, FFD implies firm fundamental drivers; FPD stands for firm performance drivers; CG-BCD denotes corporate governance-board composition drivers; and CG-BED implies corporate governance-board effectiveness drivers.

Hypothesis	Relationship	Direct Effect	Direct Effect with Mediator	Indirect Effect
H7a	*FFD-Aspiration-ROASD*	-.901 (.001)	-.903 (.001)	*Not Significant, No mediation*
H7b	*FFD-Aspiration-CAPEX ratio*	-.543 (.087)	-.543 (.083)	*Not Significant, No mediation*
H8a	*FPD- Aspiration -ROASD*	.036 (.142)	.036 (.155)	*Not Significant, No mediation*
H8b	*FPD-Aspiration-CAPEX ratio*	-	-	*No effect*
H9a	*CG(BCD)-Aspiration-ROASD*	-.019 (.458)	-.019 (.431)	*Not Significant, No mediation*
H9b	*CG(BCD)-Aspiration-CAPEX ratio*	-.175 (.000)	-.175 (.001)	*Not Significant, No mediation*
H10a	*CG(BED)-Aspiration- ROASD*	.049 (.064)	.050 (.051)	*Significant, partial mediation*
H10b	*CG(BED)-Aspiration- CAPEX ratio*	-.090 (.000)	-.090 (.002)	*Not Significant, No mediation*

Figure 5. Structural Model with Path Estimates (aspiration [ROE-based] as a mediator)
Note: *p<0.10, **p<.05, ***p<.001

Second, we also run the same models dividing the sample into developed and emerging economies. We assume that developed economic status might result in a more balanced and prudent approach by the firms and managers of these economies, which brings about transparency and stability in regard to firms' risk-taking behaviour. The results of the multi-group analysis reveal that some fitness indices are significant (CFI=.995, NFI=.994, and RMSEA=.062) for developed countries; however, such results do not provide substantial support for the differential impact of overall country-specific economic status on firm risk. Rather, for both emerging and developed countries, the results are in line with our overall results without much deviation.

These results clearly document the indispensability of firm aspiration and expectation as possible mediators between firm risk and its antecedents in a cross-country and cross-cultural set-up, irrespective of the country's economic development status.

DISCUSSIONS AND CONCLUSION

Our results show that firm fundamentals discourage high expectation and aspiration among firm managers, and therefore encourage them to act in a risk-averse fashion. This might be due to the fact that owing to high past performance, firms carry sufficient slack resources that are used for subsequent regular and expansionary business requirements. This finding is consistent with the strategic management literature (see Cyert and March, 1963; Ansoff, 1979; Fiegenbaum et al., 1996), but contradicts the empirical results of Chen and Miller (2007); Iyer and Miller (2008) and Labianca et al. (2009). We also document that although firm performance (historical) has a significant positive impact on firm aspiration and expectation, it does not drive firm risk. These results imply that the *behavioural theory* (Cyert and March, 1963) holds true. However, the findings of Bowman (1980; 1984) that firm performance plays a catalyst role, especially in case of troubled firms, were not replicated in our cross-country sample firms.

Our results for the first driver of corporate governance – *board composition* – contradict the fundamental hypothesis (as developed in line with Fama, 1980; Fama and Jensen, 1983; Kumar and Sivaramakrishnan, 2008; Pathan, 2009; Faccio et al., 2016; etc.) that strong boards would have a negative impact on firm aspiration and expectation. Rather, to the best of our knowledge, we show here—for the first time—that a board comprising of higher percentage of independent and women directors would positively impact firm aspiration and expectation. However, this striving aspiration is not converted into high firm risk given that our results report that both firm aspiration and expectation have a strong negative impact on it. These results are in line with earlier findings for single-country developed markets from scholars such as Brick and Chidambaran (2008); and Pathan (2009). We also report that effective boards positively impact firm aspiration and expectation as well as firm risk. However, our CAPEX ratio variable results contradict (in line with earlier results for discretionary risk-taking of Yermack,1996; Cheng, 2008; Ntim and Osei, 2011; Gao et al., 2019; etc. and document a significant negative impact of board size (small) and board meetings (more) on firm risk. Therefore, we might argue that effective boards are risk-averse in managerial risk-taking (discretionary); however; because of strong operational performance, income stream uncertainty/volatility is present in such cases.

We also report significant positive impact of both firm aspiration and expectation on firm risk, in line with our hypotheses.

Our results show that all studied risk antecedents, except CG-BCD, influence both aspiration and expectation levels of the firm in line with the hypotheses drawn. However, *board composition or diversity* positively impacts them. Therefore, these findings also contradict the standard corporate

governance arguments of '*monitoring*' (Fama, 1980) and '*reputation*' (Pathan, 2009). We strongly argue that because of the presence of a higher percentage of independent directors and women directors on the board, firms have higher aspiration through an increasing yet stable performance on a rolling basis. Both aspiration and expectation levels of the firm also have a positive influence on firm risk. However, when we use aspiration and expectation (separately) as a mediator variable, we find a strong negative influence of *board composition* on firm risk. This is also in line with our direct and insignificant results for the effect of CG-BCD on firm risk. Therefore, we may conclude that when we apply the mediating effect of firm aspiration and expectation on CG-BCD to firm risk, the negative channel is strongly evident.

We also find that both aspiration and expectation levels of the firm mediate the impact of firm fundamentals on firm risk.

Our results illustrate that corporate governance-*board effectiveness* significantly positively influences firm aspiration level. It also impacts firm risk positively only in case of income stream variability. However, it has a negative impact on firm's discretionary risk-taking in regard to CAPEX as evidenced by the negative coefficient, which contradicts our hypothesis. This might be because firms with high variability in income opt out from shouldering additional burden of risk in regard to capital spending for expansion or development. When we introduce firm aspiration level as the mediator, it further augments CG-BED's influence on firm risk. However, expectation level has no role to play in mediating this association.

Most of our findings are further substantiated by the results of our robustness tests, specifically the out-of-the-sample ROE-based aspiration mediator.

Our study results would be of immense value to firm managers, investors, policymakers, and other stakeholders by enabling them to assess the significance of firm aspiration and expectation in mediating the effects of risk antecedents on firm risk in the overall risk-return context. Furthermore, our findings are generalizable across emerging- and developed-country perspectives with different firm- and country-level heterogeneities. Firm managers may obtain useful insights from our study findings, which show how their aspiration acts as a catalyst in utilising firm's institutionalized facets to drive risk-taking activities. It is also beneficial for them to have a strict regulatory mechanism that would positively influence them to avoid value-reducing risk-taking (Chari et al., 2019), and, therefore, maintain their reputation in job markets (Pathan, 2009). Our results would also help firm stakeholders make strategic policy decisions and portfolio rebalancing decisions in an objective and timely fashion. However, our study is not free from limitations. In future work, researchers can examine the role of external factors such as economic, political, regulatory, and institutional, conditions in driving firm risk along with the antecedents studied here. Also, variations and trends in firm aspiration could be examined to clarify how they would modify the role of the studied risk antecedents to firm risk.

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