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Does corporate risk management lead to risk mitigation and firm performance? Evidence from Asian Emerging Markets

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Abstract

- ***Purpose:*** *This study aims to verify the significance of Andersen (2008) corporate risk management framework in Asian emerging markets to control firm risk and improve firm performance.*
- ***Design/methodology/approach:*** *The cross-sectional analyses are performed on a sample of 4609 firms across nine Asian emerging countries using 2SLS estimation technique.*
- ***Findings:*** *The empirical findings show that the adoption of corporate risk management not only enhances firm performance by increasing the firm ability to capitalize on the market opportunity but also plays a significant role in reducing firm risk. Our findings assert that by institutionalizing risk management practices into an integrated corporate risk management framework, the firm can reap multiple benefits by maintaining better contractual agreements and strategic partnerships with key stakeholders.*
- ***Originality:*** *The study shifts the focus of corporate risk management away from Western countries toward AEM, which has been afflicted by high risks and uncertainties. The effectiveness of corporate risk management against firm risk is established by dividing firm risk into firm-specific risk and systematic risk. Furthermore, we also establish that corporate risk management not only leads to high returns but also reduces firm operational and production costs. Overall, the study provides a compelling argument to implement CRM for improving organizational performance and managing risks in a strategic and integrated manner. The findings are also relevant to risk management practitioners, as well as to academicians interested in the broader fields of corporate finance and strategy.*

Keywords: Risk and Return, Firm-specific risk, Systematic risk, Stakeholder, Enterprise Risk Management, Firm cost.

JEL Classification: G32, D23, L25

1 Introduction

Prominent finance scholars such as Markowitz (1952), Modigliani and Miller (1958), Sharpe (1964), and Lintner (1965) implicitly termed firm risk as irrelevant at a corporate level. However, Bowman (1980) revisited this popular notion and coined the concept of the risk-return paradox. The empirical work of Bowman (1980) laid down the foundation for various streams of research to explore the implications of risk at the corporate level (Nickel & Rodriguez, 2002). One such stream of research that emerged in the late 1990s and early 2000 was Corporate Risk Management (CRM) to deal with corporate risks holistically. This stream of research was developed by strategy researchers (see Alessandri & Khan, 2006; Andersen, Denrell, & Bettis, 2007; Arrfelt, Mannor, Nahrgang, & Christensen, 2018; A. Chatterjee & Hambrick, 2011; S. Chatterjee, Lubatkin, Lyon, & Schulze, 1999; S. Chatterjee, Wiseman, Fiegenbaum, & Devers, 2003; Fiegenbaum & Thomas, 2004; Kaplan & Mikes, 2012) who proposed different theoretical models and frameworks of risk management. But these studies

were marred by a fundamental limitation, that their proposed theoretical frameworks were not supported by empirical evidence. To address this limitation, Andersen (2008) then proposed the concept of "Total Risk Management" (TRM). He concludes that the positive association between TRM and firm value is a result of reduced risk, which reduces firm cost and subsequently improves firm performance (Gupta & Pathak, 2018). However, Andersen (2008) and other similar studies (Andersen, 2009; Kaplan & Mikes, 2012; Sax & Andersen, 2019) failed to document empirical evidence to substantiate two important questions. First, does CRM reduce firm risk? Second, does CRM reduce firm costs?

This study addresses the empirical voids of Andersen (2008) and other similar empirical studies in the domain of CRM. We started our investigation with one of the most basic question i.e. do firm risk management frameworks reduce firm risk? Despite the importance of this question, it has not been explicitly tackled in academic research. Furthermore, to assess the efficacy of CRM against both endogenous and exogenous risks faced by the firm, we categorize firm risk into firm-specific risk and market risk and evaluate them separately. The second gap in the literature pertains to the uncertainty surrounding the financial advantages of CRM (Eisenhardt & Martin, 2000). While most studies assert that effective CRM is linked to cost benefits, they provide little empirical proof to support this claim. Only a few studies, such as Miller and Chen (2003), Bromiley and Washburn (2011), and Zou and Hassan (2017), have examined the direct impact of CRM on a firm's costs. In this study, we aim to address this crucial yet overlooked aspect of CRM research through empirical investigation. Our theoretical and empirical analyses suggest that firm performance is influenced not only by returns but also by costs, emphasizing the significance of examining the impact of CRM on firm costs.

Besides theoretical aspects of the association between CRM with firm risk and cost, this study also entangles the unique business dynamics of Asian Emerging Markets (AEM) in contrast to developed markets (Wright, Filatotchev, Hoskisson, & Peng, 2005). The AEM firms are generally small (Oehmichen, 2018) and tightly controlled by business families (Kondo, 2014; Shen & Lin, 2009). The firms are technology shy and often influenced by government agencies (Wright et al., 2005) and have limited access to their home country's weak capital markets (Saez, 2014). Therefore, a comprehensive investigation is undertaken to explore these novel market dynamics (K. Li, Griffin, Yue, & Zhao, 2013). This study also provides several improvements on the methodological front. First, we introduce separate proxies for risk as well as return, to mitigate the statistical bias inherent in using the mean and variance of firm returns as proxies for corporate risk (Becerra & Markarian, 2013; Coskun & Kulali, 2016; Henkel, 2009; Ruefli, 1990). Second, unlike past studies' reliance on total risk, we classified the firm risk into firm-specific risk and market risk, because each part of the firm risk has different causes, characteristics and implications for firm performance (Patel, Li, & Park, 2018). Third, the use of a cross-sectional data estimation technique enables us to manage the influence of year-to-year changes in important variables and other time-related effects (Becerra & Markarian, 2013; Deephouse & Wiseman, 2000; Gupta & Guha, 2019; Gupta & Pathak, 2018; Holder, Petkevich, & Moore, 2016). Fourth, we also control the endogeneity concerns by introducing 2SLS as an estimation technique (Andersen, 2009; Henkel, 2009; Oviatt & Bauerschmidt, 1991). Fifth, this study will help in the understanding of how firm-specific and systematic risks affect the stakeholders of the firms in AEM. Finally, the segregation of firm performance into sub-proxies of firm return and firm cost expands the traditional, one-

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dimensional, shareholders-centric performance measure to a more comprehensive stakeholders-based firm performance measure.

The paper that remains is structured as follows. The theoretical foundation for hypotheses development is given in section two. The methodology of the study is presented in section three. Section four provides the analysis of empirical results and discussion, followed by concluding remarks in the last section.

2 Theory Building

2.1 *Firm Risk Management*

A firm's risk management is a combination of complicated and multilayered functions organized according to market dynamics, risks, and the firm's operations (Zahra, Sapienza, & Davidsson, 2006). The required organizational and management capabilities to deal with these market dynamics and risks are often difficult to identify, converge, conceive, and operationalize in management research (Laaksonen & Peltoniemi, 2018). For instance, the research conducted by Amit and Livnat (1988); Bettis and Hall (1982); Chang and Thomas (1989); Kim, Hwang, and Burgers (1993), and Lubatkin and Rogers (1989) argue that firm diversification capabilities such as business diversification and geographical expansion are key aspects of higher return and lower risk. Empirical studies conducted by Cool, Dierickx, and Jemison (1989) and Jiménez, Lopez, and Saurina (2013) propose industry dynamics and firm monopolistic control as a reason for superior performance and lower risk. Other researchers (Bromiley, Rau, & Zhang, 2017; Ho, Xu, & Yap, 2004; Soares & Valente, 2020) argue that a firm ability to develop and innovate is a source of risk reduction and performance enhancement. Likewise, Teece, Peteraf, and Leih (2016) signify firm dynamic capabilities as a basic tool to capitalize on market opportunities and initiate necessary actions against systematic and firm-specific risk.

Although, these studies show a divergence in views but also categorize some very important skills and capabilities required to control risk and increase return (Laaksonen & Peltoniemi, 2018). Hence, the real task is to integrate these organizational skills and capabilities logically into a risk management framework (Bromiley, McShane, Nair, & Rustambekov, 2015; Teece et al., 2016).

2.2 *Financial Risk Management*

The tools, market operations, and set of skills required to deal with different types of risk are also thoroughly documented in previous literature. For instance, the most common approach to dealing with different types of risks is financial risk management. According to Hull and Basu (2016), the domain of financial risk management deals with different types of natural hazards (such as earthquakes, floods, tsunamis, workplace fire, and terrorist activities, etc) and financial-economic risks (such as interest rate risk, exchange rate risk, capital market variations, credit risk, commodities prices, supply chain disruption, market demand, and supply variations, etc) faced by the firm. These financial risks are managed in capital markets, using different derivatives contracts (Geyer-Klingeberg, Hang, & Rathgeber, 2021). Besides that, risks associated with firm internal processes and operations (i.e. employee frauds, technological disruptions, process malfunctions, legal problems, and non-compliance to organizational rules)

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are grouped under the category of operational risk (Cornett & Saunders, 2017). These types of risks are also important and proved to be quite catastrophic in recent decades (Toms, 2019). Furthermore, these risks are firm-specific and their impact also varies across the firm's units, business operations, industry, and regions. Therefore, the financial risk management perspective recognizes the significance of managing different exposures and risks but also emphasizes on associated challenges in doing so. Several approaches have been suggested, such as institutionalizing risk management functions and integrating risk management issues into strategic planning. However, effective financial risk management requires a holistic approach involving various functions within the organization, as independent risk management practices may not be enough.

2.3 *Enterprise Risk Management*

To address various risks including natural hazards, financial-economic risks, and operational risks comprehensively and efficiently, many firms have implemented Enterprise Risk Management (ERM) approach (Bromiley et al., 2015; Nocco & Stulz, 2006; J. R. Silva, Silva, & Chan, 2019). This approach has allowed firms to manage different types of risks and market dynamics in a centralized manner, bringing them under a single umbrella. According to Hoyt and Liebenberg (2011) the ERM is defined as a comprehensive and integrated approach to manage risks across an organization. Which involves identifying, assessing, and prioritizing risks, and developing strategies to mitigate or exploit them. They hold that ERM can create significant value for organizations by improving risk management processes, enhancing decision-making, and ultimately leading to better financial performance. Similarly, McShane, Nair, and Rustambekov (2011) found that companies with strong ERM programs are on average 25% more valuable than those without it. They also hold that ERM enables a firm to identify and manage risks more effectively, leading to improved financial performance, better reputation, and increased access to capital. Florio and Leoni (2017) provide evidence that ERM can help companies manage risks more effectively and make better strategic decisions, which ultimately leads to higher financial performance in Italian companies. However, they also note that further research is needed to fully understand the causal relationship between ERM and firm performance, as well as to investigate the moderating effects of different institutional and regulatory contexts. On the other hand, Gleissner (2019) suggested a value-based risk management approach that considers the cost of capital and the probability of default alongside other important factors, that can provide a more accurate and nuanced understanding of a company's risk profile. By identifying areas of potential risk and taking proactive steps to mitigate those risks, companies can improve their financial position and increase investor confidence. This can ultimately lead to higher valuations and greater long-term success for capital. Berry-Stölzle and Xu (2018) find that firms with a higher level of ERM implementation have a lower cost of capital than firms with a lower level of ERM implementation. This result holds even after controlling for other firm characteristics that may affect the cost of capital, such as firm size, leverage, and profitability. The authors also investigate the potential channels through which ERM may affect the cost of capital. They find that the effect of ERM on the cost of capital is partially explained by its impact on the perceived riskiness of the firm and the transparency of the firm's disclosures. Bromiley et al. (2015) provide a critique of ERM by arguing that there is a gap between theory and practice. While the theoretical benefits of ERM are well established, there is a lack of evidence that ERM has a positive impact on organizational performance. They also argue that research should examine the impact of ERM

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on specific risks, such as reputation risk, strategic risk, and operational risk. The above-mentioned authors also highlight some of the challenges associated with implementing ERM, such as cultural and organizational barriers, and the need for ongoing monitoring and assessment of risk management processes. They suggest that successful implementation of ERM requires a strong commitment from senior management, as well as effective communication and collaboration across different functional areas of the organization.

2.4 *Corporate risk management*

The performance of a firm is impacted by a variety of strategic events such as changing technology, new regulations, social trends, and competition. These factors pose significant risks that can be difficult to quantify, making it crucial for risk management considerations to be integrated during the strategic planning process. This ensures that appropriate responsive initiatives are taken into account. On the same guidelines, Andersen (2008) holds that strategic risk is another very important category of risk, which is equally important and often ignored by ERM frameworks adopted by firms. Different types of strategic risks faced by the firms include frequent technological transformations, innovative and creative moves by competitors, changing political dynamics, new entrants, changes in customer preferences and choices, social behavior modification, etc (Bromiley et al., 2015; Sax & Andersen, 2019; E. S. Silva, Wu, & Ojiako, 2013). Hence, firms have to ensure constant market scanning to observe and predict these changes and most importantly, develop response capabilities to transform these challenges into a competitive advantage (Sax & Andersen, 2019). Therefore, following Andersen (2008) we hold that a comprehensive CRM is achieved once the firm ensures the smooth execution of traditional risk management practice, organizes its ERM framework, and then goes beyond that and develops capabilities to respond to strategic risks holistically.

2.4.1 *Corporate risk management and firm risk*

The previous section's discourse indicates that corporate executives must contemplate various types of risks, such as fluctuations in financial prices of assets, defaults, accidents, environmental hazards, political aspects, technological advancements, economic situations, shifting customer preferences, and competitor strategies. Nevertheless, there is a dispute about the practical implementation of this consideration. Therefore, it is important to identify and lay down a blueprint to manage these risks and capitalize on strategic opportunities. The first and the most unpredictable among various risks are natural calamities. Since the probability of its happening and non-happening are doubtful, it can be termed as a natural uncertainty. To deal with such mishaps, firms rely on various insurance contracts (Che, Liebenberg, Liebenberg, & Powell, 2017), employ risk mitigation techniques, and initiate prior preventive measures to reduce the impact of such events (Park, Hong, & Roh, 2013). The financial and economic risks identified as a second category in the above section are managed and controlled by the use of financial derivatives (Stulz, 2003). In addition, product and business diversification also play a substantial role to hedge these risks (Amit & Livnat, 1988; Berger & Ofek, 1995; Campa & Kedia, 2002; Chang & Thomas, 1989; Kim et al., 1993; Lee & Kang, 2015; S. X. Li & Greenwood, 2004). Similarly, ensuring structural maneuverability (Teece et al., 2016) and building close associations with various stakeholders like suppliers, distributors, and retailers to ensure flexible payment contracts can prove to be significant factors to mitigate financial and

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economic risks (Jones, Harrison, & Felps, 2018; S. X. Li & Greenwood, 2004; Miller & Chen, 2003).

The operational risks which are groped in the third category are mainly managed by building strong organizational values, robust vigilance, and control systems (Croitoru, 2014; Scandizzo, 2005). Ensuring employees training and independent auditors also play a significant role to overcome these operational risks (E. S. Silva et al., 2013). Besides the three mentioned categories of risk, a firm's strategic risk is also very vital for organizational success and survival. At one end it comprises some of the most dynamic challenges that a firm can face. But on the other hand, it also provides an opportunity to reap unprecedented profits, if swiftly managed (Zhou & Li, 2010). Such as identifying and adopting new technological trends (Lee & Kang, 2015), coping with competitor's initiatives (Cravens, Piercy, & Baldauf, 2009), adhering to changing political dynamics (Bremmer, 2005; Giambona, Graham, & Harvey, 2017; Villa, Rajwani, Lawton, & Mellahi, 2019), specifying potential new entrants (Stringham, Miller, & Clark, 2015), understanding industry dynamics (Andersen, 2012) and prioritizing customer preferences and choices (Paul, 2019). In a nutshell, once a firm carefully implants all these risk management capabilities into its CRM framework, then the firm is in a position to handle the consequence of boh firm-specific and systematic risk. Thus, we hypothesize that;

H1: *Corporate risk management reduces firm-specific risk.*

H2: *Corporate risk management reduces systematic risk.*

2.4.2 *Corporate risk management and firm performance*

There is very limited empirical evidence, which establishes that CRM improves firm performance in AEM (Zahra et al., 2006). Although, the empirical study by Malik and Kotabe (2009) in AEM reported a positive association between firm superior management capabilities and firm performance. But they also underline the significance of accommodating government policies in defining that relationship. Similarly, Wilden, Gudergan, Nielsen, and Lings (2013) emphasized market competition and flexibility of firm structure to transform a firm's risk management capabilities to a competitive advantage. It is also argued that firm performance is not specifically linked to the CRM, but rather it is dependent upon the nature and flexibility of underlying resources and processes impacted by CRM (Eisenhardt & Martin, 2000). Other empirical studies claim that the impact of risk management on performance is indirect and only confirm its mediating and moderating role (Helfat & Peteraf, 2003; Pavlou & El Sawy, 2011). There is also a view that a firm's extensive risk management activities come with intrinsic costs, which are detrimental to profitability (Zott, 2003). Thus, there exists a tradeoff between the benefits and associated costs of implementing CRM at an organizational level.

As discussed above, CRM is a blend of dynamic, complex, and overlapping activities and strategic decisions. Hence, it must be carefully planned and executed holistically, to control the repetitions and spillover effects across the firm operations. Furthermore, over-dependence on risk management tools, techniques, and precautionary measures also recedes a firm's agility to capitalize on market opportunities (Teece et al., 2016). According to Andersen (2009), a firm can take multiple benefits by adopting and developing effective risk management capabilities, which will improve the cost of doing business, better contracts, and firm-specific investment by

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stakeholders. The firm-specific investment also demonstrates stakeholders' confidence in the firm ability to cope with all types of risk and market opportunities. Hence we hold that CRM will enable the firm to show resilience to risks, reduces the cost of doing business, motivates innovations, and improves revenues (Teece et al., 2016). Thus, we hypothesize that;

H3: *Corporate risk management increases firm return.*

One of the significant side effects of raising firm risks is the addition of extra costs to the firm's operations (Bromiley & Washburn, 2011; Miller & Chen, 2003; Zou & Hassan, 2017). Therefore, the basic feature of CRM outlined by strategy scholars is the improvement in the cost structure of a firm (Bromiley et al., 2015; Bromiley & Washburn, 2011). Furthermore, CRM allows firms to mitigate the negative consequences of diverse risks in the shape of higher costs imposed by different stakeholders and business-changing dynamics (S. Chatterjee et al., 2003). Among these, the firm expected bankruptcy cost is considered to be the most significant. Therefore, firms adhering to CRM functions will incur lower bankruptcy costs. It also increases stakeholders' trust, that the organization is a long-standing and dependable strategic partner (Smith & Stulz, 1985). The effective implementation of CRM functions also induces lenders and investors to finance on more reasonable terms, consequently, lowering the average cost of capital (Miller, 1998; Miller & Chen, 2003; Modigliani & Miller, 1963). Since the cost of capital remains the primary benchmark against any future investment; therefore, any possible reduction in a firm cost of capital increases the chances of investing in economically feasible business opportunities and insure firms conistant growth. Furthermore, the consistency in operating performance also reduces the need of holding short-term liquid assets for cash flow management. Thus, allowing the firm to utilize these spare resources in value-adding operations and strategic investments. Finally, CRM provides a natural shield against debt overhang (Botta, 2020).

The above discussion shows that increased variability in performance due to mismanagement of firm risks can raise the cost of doing business and deter customers from engaging with the firm is grounded in the concept of transaction costs. As firms become riskier, customers and suppliers may require higher compensation for engaging in business transactions, as they may require more effort and resources to monitor the firm's operations and financial health to ensure that their interests are protected. This can raise the cost of doing business for the firm, which in turn can reduce its revenues and profitability. Moreover, the negative implications of risk are consistent with the concept of risk aversion. Investors and other stakeholders are generally risk-averse, and therefore, they may demand higher returns to compensate for the increased risk associated with investing in a risky firm. This can drive down the value of the firm and reduce its returns. Therefore, we hypothesize that;

H4: *Corporate risk management reduces the firm's cost of production.*

H5: *Corporate risk management reduces the firm's operational costs.*

3 Methodology

3.1 *Sample*

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The study sample is taken from all listed firms operating in nine Asian countries (i.e. Taiwan, China, Indonesia, Philippines, Pakistan, South Korea, India, Malaysia, and Thailand) categorized by Morgan Stanley Capital International (MSCI) as emerging markets (Jin & Kim, 2019; Kenourgios & Padhi, 2012; Lingaraja, Mohan, Selvam, Raja, & Kathiravan, 2020; Öztürk, 2018). The final sample is obtained after applying multiple filters. Such as the exclusion of financial institutions, and cross-listed firms across multiple stock exchanges, non-reporting and availability of financial data, infrequently traded stocks, and outliers. The final sample of 4609 firms across nine countries is selected, which is shown in Table 1. The data is gathered from the datastream database for a 5-year interval spanning from 2013 to 2017.

Table 1 Country-Wise Number of Firms

S.No	Country	Total Firms	Financial Institutions	Sample Firms
1	China	4,049	101	1060
2	India	5,739	523	726
3	Malaysia	949	37	618
4	South Korea	2,520	199	550
5	Taiwan	1,924	56	541
6	Thailand	931	88	497
7	Indonesia	701	102	259
8	Pakistan	476	75	220
9	Philippine	300	42	138
Total		**17,589**	**1,223**	**4609**

3.2 *Variables*

3.2.1 *Firm Performance*

Previous studies often conceive firm performance in terms of firm return (Becerra & Markarian, 2021; Gupta & Guha, 2019). However, in recent years firm cost becomes an important driver of success and competitive advantage (Miller & Chen, 2003). Therefore, we conceived firm performance as a function of firm return and cost. Following previous trends and comparability, the proxies of return on assets (ROA) measured as net income divided by total assets and return on equity (ROE) calculated by net income divided by total equity are used for the firm return (Becerra & Markarian, 2021; Gupta & Pathak, 2018; Holder et al., 2016). The two different return proxies also insure the convergent validity of empirical tests (Andersen, 2008; Gupta & Pathak, 2018; Holder et al., 2016). Furthermore, the firm cost is also divided into firm production cost (P_Cost) and operational cost (O_Cost) (Khan, Khan, Khan, & ur Rehman, 2021). The P_Cost is measured as the cost of goods sold divided by sales and O_Cost is measured as operating expenses (selling, general and administrative expenses) divided by sales. All four proxies are averaged over per period of five years.

3.2.2 *Firm risk*

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Firm risk is a complex and multifaceted concept influenced by various factors, making it difficult to accurately define and measure. Various risk proxies such as stock return volatility, beta, leverage ratios, credit ratings, cash flow volatility, and earnings variability have been proposed, but their effectiveness varies across contexts and time (Ricciardi, 2008). Additionally, the evolving business environment and technological advancements mean that the definition and proxies of firm risk are subject to ongoing debate and refinement. To ascertain the endogenous and exogenous effects of the firm risk on firm performance we used the theoretical explanation of CAPM, which divides firm risk into systematic and firm-specific risks (Amit & Wernerfelt, 1990; Bromiley et al., 2017; Dalbor, Hua, & Andrew, 2014; Khan et al., 2021; Lubatkin & Chatterjee, 1994; Narang & Kaur, 2014).

The theoretical significance of CAPM for researchers lies in its ability to help them understand firm business risk and market risk separately. Business risk is specific to a company or industry, while market risk is common to all investments. By separating risks into these two categories, researchers can better understand the factors that are driving the performance and subsequently devise a strategy to overcome those factors. However, it is important to note that CAPM is based on a set of assumptions that may not hold in all contexts, especially in emerging markets (Basu & Chawla, 2010; Fama & French, 1992, 1993). Some of the basic CAPM's assumptions are such as, the investors are rational and risk-averse, availability of well-diversified portfolios, market prices with no taxes or transaction costs, risk-free borrowing and lending, and access to all information and similar expectations among investors, may not hold in emerging markets.

Despite these challenges, CAPM remains a widely used model in finance and investment research (Berk & VanBinsbergen, 2017). While it may not always provide a perfect estimate of expected returns, it provides a useful framework for understanding the relationship between risk and expected return, and it can serve as a useful benchmark for evaluating the performance of alternative asset pricing models (Bodie, Kane, Marcus, & Mohanty, 2008). Furthermore, the other complex models are also not lived up to the expectations and created even further concerns than a solution. Therefore, despite some inherent shortcomings and difficulty to achieve assumptions the empirical significance of CAPM is still unparallel.

Following the proxy used by previous researchers the stock's beta (β_{it}) obtained from the CAPM equation ($R_{it} - R_{ft} = \alpha_{it} + \beta_{it} (Rmt - R_{ft}) + \varepsilon_{it}$) is conceived as systematic risk (SRisk) over five years (Bromiley et al., 2017; Lubatkin & Chatterjee, 1994; McShane et al., 2011; Miller & Bromiley, 1990; Miller & Reuer, 1996; Narang & Kaur, 2014). The main input variable of the CAPM equation is the return on risk-free rate (R_{ft}), for which the respective country's one-year government bonds are considered. Return on market portfolio (R_{mt}) is derived from the main stock index (i.e. Shenzhen Stock Exchange Component Index, BSE 500 Index, PHS All Shares, FTSE Bursa Malaysia Top 100 Index Series, Bangkok SET50 Index, Jakarta Stock Exchange Composite Index, KOPSI daily index, Taiwan Capitalization Weighted Stock Index and KSE 100 Index) of every each country. The firm stock return (R_{it}) is calculated on weakly prices of each sampled firm. Furthermore, the firm-specific risk (FSRisk) is calculated by taking the standard deviation of residual $\boldsymbol{\sigma\ (\varepsilon_{it})}$ from the CAPM (Amit & Wernerfelt, 1990; Dalbor et al., 2014; Quijano, 2013).

3.2.3 *Corporate risk management*

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Corporate risk management is a concept that measures the firm's ability to cope with systematic and firm-specific risks and stabilize corporate earnings over time. Following the proxy defined by Andersen (2008) the construct of CRM is calculated as the coefficient of variation of firm sales divided by the coefficient of variation of firm ROA for a period of 5 years from 2013-2017. Since, the firm's ability to sell its products and services is directly affected by numerous competitive, environmental, organizational, and strategic risk factors. Therefore, these factors have a significant and direct impact on firm sales. Hence, the firm's sales fluctuation over time constitutes a logical proxy of the firm systematic risk. Whereas, the variation in firm return shows the firm's ability to deal with those risks Andersen (2008). A high value for CRM indicates that the firm is successful in managing and mitigating systematic and firm-specific risks, as it has been able to maintain stable firm returns despite economic and market fluctuations. On the other hand, a low value of CRM suggests that the firm is more vulnerable to the impact of systematic and firm-specific risks, which could lead to unpredictable and unstable performance. If the firm's CRM is effective, the firm's earnings may be less volatile despite the presence of external systematic and firm-specific risks. This comparison can be a useful tool for assessing the effectiveness of the firm's risk management practices and identifying areas for improvement. Thus, an increase in the value of CRM shows that the firm is effectively managing the negative effects of systematic and firm-specific risk. The divergent validity for the proxy of CRM is also established by Andersen (2008) in their seminal work.

3.2.4 *Control variables*

According to Devers, McNamara, Wiseman, and Arrfelt (2008) and Gupta and Pathak (2018) firm size and financial leverage are considered to be the most important factors that impact business operations. To mitigate the firm-specific effects on our empirical models, firm size and financial leverage are used as control variables (Chari, David, Duru, & Zhao, 2019). For firm size (FSize), the natural logarithm of firm sales is used (Brick, Palmon, & Venezia, 2015; Narang & Kaur, 2014; Pagach & Warr, 2011; Sharfman, Wolf, Chase, & Tansik, 1988), while for firm financial leverage (FLev), the ratio of long-term debt to total equity is used (Becerra & Markarian, 2013; Miller & Bromiley, 1990; Narang & Kaur, 2014; Saunders, Strock, & Travlos, 1990)

3.3 ***Estimation method***

We started our empirical testing with the OLS estimation reported in Appendix 1, however, endogeneity was observed in various models. To address the endogeneity of variables, the 2SLS estimation technique is implemented, which is recommended in prior research (Andersen, 2008; Hair, Black, Babin, & Anderson, 2014; Wooldridge, 2016). The validity of the instruments is tested by using the Cragg-Donald Wald F statistic test, while the Hansen J statistic is used to verify the strength of the instruments used. Additionally, the under-identification test is conducted through the Kleibergen-Paaprk LM test. The presence of multicollinearity is checked by the variance inflation factor (VIF) values, which are below 2, indicating that the variables are not excessively correlated with one another (Wooldridge, 2016). Finally, The issue of heteroskedasticity is handled by heteroskedasticity robust standard errors (Gujarati, 2009; Wooldridge, 2016). The stability tests for the empirical models are reported in Appendix 2.

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4 Results

4.1 *Descriptive and correlation statistics*

Table 2 shows the results of descriptive statistics. The average ROA and ROE across the sampled firms are 5.33 and 7.68, respectively. These values provide insight into how efficiently the firms are using their assets and equity to generate profits. The standard deviations of 5.14 and 7.50, respectively, indicate that the ROA and ROE vary significantly among the sampled firms. The average values of P_Cost and O_Cost are 70.28 and 18.52, respectively, with standard deviations of 19.03 and 35.24. These statistics suggest that the cost of production and operations also varies considerably across firms. The mean value of systematic risk for the sampled firms is 0.96, and the standard deviation is 0.25. The mean value of firm-specific risk is 0.06, with a standard deviation of 0.02. These statistics provide insight into the level of risk associated with investing in the sampled firms. The average value of CRM across the firms in nine countries is 0.45, which indicates that the sampled firms, on average, have moderate risk management practices. However, the relatively high standard deviation of 0.73 suggests that the level of risk management varies widely across firms.

Table 2 Descriptive Statistics

Variables	Obs	Mean	Std.Dev	Min	Max
ROA	4609	5.33	5.14	-14.42	27.10
ROE	4609	7.68	7.50	-32.85	40.29
P_Cost	4609	70.28	19.03	0.59	187.46
O_Cost	4609	18.52	35.24	0.14	173.42
SRisk	4609	0.96	0.25	-1.11	1.98
FSRisk	4609	0.06	0.02	0.01	0.19
CRM	4609	0.45	0.73	-8.07	8.83
FLev	4609	32.61	21.94	0.01	100.00
LnFSize	4609	11.68	1.91	0.66	19.75

Table 3 presents the correlation statistics for the variables under consideration. The correlation between systematic risk and firm ROA and ROE is negative, implying that an increase in systematic risk leads to a reduction in returns for the firms. However, the correlation coefficient is both small and statistically insignificant. In contrast, the correlation coefficient between firm-specific risk (FSRisk) and ROA and ROE is relatively large, negative, and statistically significant, indicating that an increase in firm-specific risk has a significant negative impact on the returns of the firms. Moreover, the coefficient value of CRM is 0.40 and 0.42 with ROA and ROE respectively, which indicates a good degree of positive and significant correlation. Furthermore, the negative correlation coefficient of CRM with P_Cost, O_Cost, SRisk, and FSRisk signifies the reduction in firm costs and risks with an increase in firm CRM capabilities.

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Table 3 Correlation Statistics

Variables	ROA	ROE	P_Cost	O_Cost	SRisk	FSRisk	CRM	LnF_Size	F_Lev
ROA	1								
ROE	0.99*	1							
P_Cost	-0.27*	-0.26*	1						
O_Cost	-0.12*	-0.12*	-0.30*	1					
SRisk	-0.02	-0.02	-0.03*	0.02	1				
FSRisk	-0.23*	-0.22*	0.05*	0.07*	0.02	1			
CRM	0.40*	0.42*	-0.15*	-0.14*	-0.01	-0.10*	1		
LnF_Size	0.14*	0.17*	0.19*	-0.26*	0.13*	-0.29*	0.17*	**1**	
F_Lev	-0.27*	-0.26*	0.20*	-0.08*	0.01	0.05*	-0.08*	0.15*	1

** Shows significance at the .05 level*

4.2 ***Results***

In Table 4 the impact of CRM on firm-specific risk and systematic risk is captured by Model 1 and Model 2 respectively. The association between CRM on firm-specific risk as well as systematic risk is negative and highly significant. These results signify that firms adhering to CRM functions are better equipped to handle its unique but complex firm-specific risk as well as systematic risk imposed on the firm by its environment. Therefore, we accept H1 and H2. These results provide evidence to support the first part of our argument that, CRM reduces firm risk. The results of Model 3 and Model 4 show a highly significant and positive impact of firm CRM on firm ROA and ROE. Hence we also accept H3, which confirms our hypothesized notion that firms with the capability to monitor and control their risk are better positioned to report high returns. The coefficients of P_Cost and O_Cost in Model 5 and Model 6 are highly significant and negatively associated with firm CRM. This signifies that firm CRM also reduces firm costs. Hence, we accept H4 and H5. These results also provide strong empirical evidence to support our second argument that, CRM increases firm performance by increasing firm return and reducing firm cost.

Table 4 Impact of CRM on Firm Risk and Return

	Firm Risk		**Firm Return**		**Firm Cost**	
	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)
	LogFSRisk	**LogSRisk**	**ROA**	**ROE**	**P_Cost**	**LogO_Cost**
LogCRM	-0.08***	-0.02***	0.80***	1.50***	-5.150***	-0.071***
	(0.01)	(0.01)	(0.18)	(0.29)	(0.354)	(0.014)
FLev	0.01	-0.01***	-0.06***	-0.08***	0.084***	-0.008***
	(0.00)	(0.00)	(0.01)	(0.01)	(0.020)	(0.001)
LnFSize	-0.04***	0.03***	0.39***	0.65***	2.269***	-0.116***
	(0.01)	(0.01)	(0.05)	(0.07)	(0.194)	(0.009)
Cons	-2.73***	-0.42***	5.41***	7.71***	23.950***	3.891***
	(0.05)	(0.04)	(0.91)	(1.31)	(2.533)	(0.110)
Obs.	4609	4581	4609	4609	4609	4609
F Statistics	114.36***	25.62***	147.91***	158.75***	160.99***	130.13***

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Standard errors are in parenthesis
*** p<0.01, ** p<0.05, * p<0.1

4.3 *Robustness Check*

To confirm the validity and stability of the above-reported empirical results, we conducted a series of robustness tests. To control for any country or sector-specific effect (i.e. difference in accounting principles) we used country and sector effects by introducing country and sector dummies for all empirical models. The results in Table 5 reconfirm that, CRM has a negative and significant impact on firm risk and cost. Whereas, a positive and significant association is reconfirmed between CRM and firm return.

Table 5: 2SLS Results after controlling country and sector-specific effect

	Firm Risk		**Firm Return**		**Firm Cost**	
	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)
	LogFSRisk	**LogSRisk**	**ROA**	**ROE**	**P_Cost**	**LogO_Cost**
LogCRM	-0.075***	-0.011**	5.447***	7.719***	-6.554***	-0.014**
	(0.007)	(0.005)	(0.250)	(0.353)	(0.423)	(0.006)
F_Lev	0.001***	-0.000	0.002	0.003	-0.012	-0.002***
	(0.000)	(0.000)	(0.012)	(0.016)	(0.024)	(0.000)
LnFSize	-0.059***	0.019***	-0.292**	-0.290*	3.427***	-0.058***
	(0.004)	(0.003)	(0.123)	(0.172)	(0.233)	(0.004)
_cons	-2.379***	-0.292***	26.816***	36.748***	9.085***	1.723***
	(0.057)	(0.044)	(1.878)	(2.643)	(3.383)	(0.056)
Country Effect	Y	Y	Y	Y	Y	Y
Sector Effect	Y	Y	Y	Y	Y	Y
Obs.	4609	4581	4609	4609	4609	4609
F statistics	80.69***	17.13***	28.61***	28.81***	48.26***	51.63***

Standard errors are in parenthesis
*** p<0.01, ** p<0.05, * p<0.1

To overcome the overriding influence of firms in big countries like China and India and the resigned presence of firms from small countries like the Philippines and Pakistan, we introduced a series of robustness tests to confirm our empirical result. Table 6 shows the empirical results, after sequentially removing the firms of two small countries (i.e. Philippines and Pakistan) and two large countries (i.e. China and India) from our sample. The reported coefficients of CRM of each model remained stable and reconfirmed the direction as well as the significance of our previously reported results in Table 4.

Table 6: Results after sequential removal of small and large countries

	Firm Risk		**Firm Return**		**Firm Cost**	
	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)
	LogFSRisk	**LogSRisk**	**ROA**	**ROE**	**P_Cost**	**LogO_Cost**
LogCRM[1]	-0.080***	-0.016***	0.837***	1.571***	-5.112***	-0.028***
	(0.007)	(0.005)	(0.186)	(0.272)	(0.354)	(0.006)
LogCRM[2]	-0.059***	-0.017***	0.840***	1.546***	-5.239***	-0.022***
	(0.007)	(0.005)	(0.175)	(0.255)	(0.358)	(0.006)
LogCRM[3]	-0.083***	-0.019***	1.431***	2.025***	-5.025***	-0.044***

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	(0.008)	(0.006)	(0.233)	(0.329)	(0.399)	(0.007)
LogCRM[4]	-0.105***	-0.009*	0.375	0.535	-5.253***	-0.042***
	(0.009)	(0.006)	(0.322)	(0.454)	(0.420)	(0.007)

Standard errors are in parenthesis
*** p<0.01, ** p<0.05, * p<0.1
1. Sample without Philippine firms
2. Sample without Philippine & Pakistan firms
3. Sample without China firms
4. Sample without China & Indian firms

4.4 ***Discussion***

The above empirical result shows that CRM allows the firm to identify, monitor and most importantly shield the firm's operations from endogenous and exogenous risks and thereby evade its negative consequences and challenges (Aisyah, Sukoco, & Anshori, 2019; Song, Newburry, Kumaraswamy, Park, & Zhao, 2019). The empirical finding also substantiates that, the negative effects of firm-specific and systematic risk on business prospects and most importantly on the perceptions of a firm's key stakeholders can be effectively taken away with the introduction of a firm CRM framework (Khanna, Palepu, & Sinha, 2005; Miller & Chen, 2003). These positive perceptions about the firm prospects, help to establish a long-term stable relationship with various stakeholders and thus reduces the demand and supply volatilities of the firm (Aybar & Thirunavukkarasu, 2005). Similarly, it also builds and strengthens loyalty among business partners and key stakeholders such as customers, employees, vendors, distributors, and suppliers (Khan, Khan, & Bhutto, 2019). Thus, these key stakeholders will not shy away to extend essential credit lines and support incentives to the firm. As a whole, the empirical results converge with our hypothesized theory that firm CRM is paramount for risk control and better stakeholders relationship. Based on which firm can benefit by maintaining comparatively relaxed and long-term contractual deals with various stakeholders. These long-lasting and sustainable stakeholders' incentives unfold countless market opportunities even in times of uncertainties. Furthermore, such resilient business operations also set the platform to avail credit facilities from financial lenders at lower rates (McShane et al., 2011; Miller, 1998). Mainly because financial institutions' primary focus remains on the firm ability to generate consistent cash flow and its resilience to sustain market shocks. Implementing a better CRM framework also improves firm credit rating, which helps significantly to reduce operational and financial costs related to insurance companies(McShane et al., 2011).

In short, the efficient execution of CRM functions reduces the cost of doing business and enhances the firm capability to foresee and select value-adding business projects (Campbell & Taksler, 2003; Fu, 2009; Quijano, 2013). These findings are also in agreement with previous researchers (such as Andersen, 2008; Andersen, 2009; Becerra & Markarian, 2013; Copeland & Weston, 2005; Damodaran, 2012; Khan et al., 2019; Sax & Andersen, 2019; Stulz, 1996) assertion that a firm adhering to superior risk control and management capabilities would keep the cost of doing business lower and subsequently result into higher returns. Therefore, based on findings in the AEM we confirm that the CRM framework facilitates the firm to manage operational, technical, strategic, economic, and financial risks and, consequently, decrease the firm cost and increase its return (Andersen, 2008; Jafari, Aghaei Chadegani, & Biglari, 2011; Kallenberg, 2007; McShane et al., 2011).

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5 Conclusion

In recent years the effectiveness of firm risk management framework against firm risk and its utility to improve firm performance is consistently under empirical oversight in western countries (Battaglia, Fiordelisi, & Ricci, 2016; Krause & Tse, 2016). However, there is very limited empirical evidence in AEM. Furthermore, the AEM firms also exhibit some unique characteristics which distinguished them from their western counterparts. The AEM firms are generally smaller in size, financial markets are weak and inefficient, poor contract enforcement laws, thin supply lines, distinctive but fragile corporate governance mechanisms, and most importantly extremely exposed to political, macro-economic, organizational, and environmental risks (Khan, Khan, ur Rehman, & Khan, 2022). Therefore, this study is an attempt to fill this empirical void in AEM, by establishing the effectiveness of the CRM framework developed by Andersen (2008) against firm risks and performance.

The empirical results of this study provide compelling evidence of the significance of CRM in AEM. Firms that have implemented the CRM framework have effectively managed and minimized their firm-specific and systematic risks and are aligned with the conventional rationale for establishing a dynamic risk management framework. Furthermore, transaction costs and risk aversion are important factors that can help explain why risk can have such a significant impact on a firm's performance. By increasing the costs of doing business and lowering investor and stakeholder confidence, risk can have a compounding effect that can be difficult for firms to overcome. This highlights the importance of effective CRM to minimize the negative impacts of risk on a firm's operations and financial performance. Based on the empirical results, it is also established that having a diverse range of stakeholders can provide significant organizational benefits for firms. One of the main benefits is the ability to establish better contractual agreements and strategic partnerships, which can reduce production and operational costs. This, in turn, can improve a firm's efficiency and ultimately reduce the cost of doing business. In addition to these cost-saving benefits, the study suggests that a comprehensive CRM framework can also increase a firm's return by reducing risk and subsequent costs. It is important to note that while the results of the study are promising, there may be other factors that contribute to a firm's success or failure. Additionally, the specific strategies and approaches that work for one firm may not work for another. Therefore, it is important for firms to carefully consider their unique situation and tailor their CRM framework accordingly. Therefore, the empirical result of this study recommends that firms operating in AEM markets establish a holistic CRM framework to fully realize the benefits of having diverse stakeholders.

As with any research, this study has its limitations which need to be addressed in future investigations to overcome the inherent shortcoming associated with this study. First, it is suggested that models consistent with the neoclassical paradigm of imperfect capital markets are used to predict firm risk based on stock returns. Furthermore, cash flow volatility also poses a significant risk to firm operations, thus measuring risk using accounting-based firm cash flows will add a significant improvement to the literature based on income stream risk. Second, there is an important implication of corporate risk management for accounting-based financial cost (i.e. interest expense) and cost of capital that has not yet been fully explored. Future research may need to consider these implications to better understand the effects of CRM on firm risk and cost of capital.

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Appendix 2 Stability Tests

Stability Tests	Firm Risk		Firm Return		Firm Cost	
	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)
	LogFSRisk	**LogSRisk**	**ROA**	**ROE**	**P_Cost**	**LogO_Cost**
Endogeneity Test of Endogenous Variables	118.7	12.87	0.56	3.55	180.91	22.72
P-value	0.00	0.00	0.046	0.06	0.00	0.00
Under-Identification Test						
Kleibergen-Paap rk LM statistic:	516.7	511.9	105.4	105.4	547.48	569.35
P-value	0.00	0.00	0.00	0.00	0.000	0.00
Over-Identification Test of all instruments						
Hansen J statistic:	3.45	0.40	3.26	3.40	0.003	2.80
P-value	0.06	0.53	0.07	0.07	0.96	0.09

Appendix 1 OLS Regression results

	Firm Risk		Firm Return		Firm Cost	
	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)
	LogFSRisk	**LogSRisk**	**ROA**	**ROE**	**P_Cost**	**LogO_Cost**
LogCRM	-0.011***	0.003	0.705***	1.063***	-1.051***	-0.005***
	(0.002)	(0.002)	(0.025)	(0.037)	(0.113)	(0.002)
F_Lev	0.001***	-0.001**	-0.061***	-0.086***	0.137***	-0.003***
	(0.000)	(0.000)	(0.004)	(0.005)	(0.016)	(0.000)
LnFSize	-0.053***	0.025***	0.402***	0.705***	1.723***	-0.051***
	(0.003)	(0.003)	(0.039)	(0.058)	(0.166)	(0.003)
_cons	-2.417***	-0.337***	4.964***	5.770***	42.201***	1.763***
	(0.041)	(0.036)	(0.502)	(0.738)	(2.006)	(0.040)
Obs.	4609	4581	4609	4609	4609	4609
R-squared	0.071	0.025	0.223	0.238	0.083	0.116

Standard errors are in parenthesis
*** *p<0.01*, ** *p<0.05*, * *p<0.1*

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Weak Identification Test						
Cragg-Donald Wald F statistic	355.1	351.2	54.28	54.28	387.78	418.66
Stock-Yogo weak ID test critical values						
5% max IV						
10% max IV	19.93	19.93	19.93	19.93	19.93	19.93
15% max IV	11.59	11.59	11.59	11.59	11.59	11.59
20% max IV	8.75	8.75	8.75	8.75	8.75	8.75
25% max IV	7.25	7.25	7.25	7.25	7.25	7.25

Table 1 Country-Wise Number of Firms

S.No	Country	Total Firms	Financial Institutions	Sample Firms
1	China	4,049	101	1060
2	India	5,739	523	726
3	Malaysia	949	37	618
4	South Korea	2,520	199	550
5	Taiwan	1,924	56	541
6	Thailand	931	88	497
7	Indonesia	701	102	259
8	Pakistan	476	75	220
9	Philippine	300	42	138
Total		**17,589**	**1,223**	**4609**

Table 2 Descriptive Statistics

Variables	Obs	Mean	Std.Dev	Min	Max
ROA	4609	5.33	5.14	-14.42	27.10
ROE	4609	7.68	7.50	-32.85	40.29
P_Cost	4609	70.28	19.03	0.59	187.46
O_Cost	4609	18.52	35.24	0.14	173.42
SRisk	4609	0.96	0.25	-1.11	1.98
FSRisk	4609	0.06	0.02	0.01	0.19
CRM	4609	0.45	0.73	-8.07	8.83
FLev	4609	32.61	21.94	0.01	100.00
LnFSize	4609	11.68	1.91	0.66	19.75

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Table 3 Correlation Statistics

Variables	ROA	ROE	P_Cost	O_Cost	SRisk	FSRisk	CRM	LnF_Size	F_Lev
ROA	1								
ROE	0.99*	1							
P_Cost	-0.27*	-0.26*	1						
O_Cost	-0.12*	-0.12*	-0.30*	1					
SRisk	-0.02	-0.02	-0.03*	0.02	1				
FSRisk	-0.23*	-0.22*	0.05*	0.07*	0.02	1			
CRM	0.40*	0.42*	-0.15*	-0.14*	-0.01	-0.10*	1		
LnF_Size	0.14*	0.17*	0.19*	-0.26*	0.13*	-0.29*	0.17*	**1**	
F_Lev	-0.27*	-0.26*	0.20*	-0.08*	0.01	0.05*	-0.08*	0.15*	1

** Shows significance at the .05 level*

Table 4 Impact of CRM on Firm Risk and Return

	Firm Risk		**Firm Return**		**Firm Cost**	
	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)
	LogFSRisk	**LogSRisk**	**ROA**	**ROE**	**P_Cost**	**LogO_Cost**
LogCRM	-0.08***	-0.02***	0.80***	1.50***	-5.150***	-0.071***
	(0.01)	(0.01)	(0.18)	(0.29)	(0.354)	(0.014)
FLev	0.01	-0.01***	-0.06***	-0.08***	0.084***	-0.008***
	(0.00)	(0.00)	(0.01)	(0.01)	(0.020)	(0.001)
LnFSize	-0.04***	0.03***	0.39***	0.65***	2.269***	-0.116***
	(0.01)	(0.01)	(0.05)	(0.07)	(0.194)	(0.009)
Cons	-2.73***	-0.42***	5.41***	7.71***	23.950***	3.891***
	(0.05)	(0.04)	(0.91)	(1.31)	(2.533)	(0.110)
Obs.	4609	4581	4609	4609	4609	4609
F Statistics	114.36***	25.62***	147.91***	158.75***	160.99***	130.13***

Standard errors are in parenthesis
**** p<0.01, ** p<0.05, * p<0.1*

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Table 5: 2SLS Results after controlling country and sector-specific effect

	Firm Risk		Firm Return		Firm Cost	
	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)
	LogFSRisk	**LogSRisk**	**ROA**	**ROE**	**P_Cost**	**LogO_Cost**
LogCRM	-0.075***	-0.011**	5.447***	7.719***	-6.554***	-0.014**
	(0.007)	(0.005)	(0.250)	(0.353)	(0.423)	(0.006)
F_Lev	0.001***	-0.000	0.002	0.003	-0.012	-0.002***
	(0.000)	(0.000)	(0.012)	(0.016)	(0.024)	(0.000)
LnFSize	-0.059***	0.019***	-0.292**	-0.290*	3.427***	-0.058***
	(0.004)	(0.003)	(0.123)	(0.172)	(0.233)	(0.004)
_cons	-2.379***	-0.292***	26.816***	36.748***	9.085***	1.723***
	(0.057)	(0.044)	(1.878)	(2.643)	(3.383)	(0.056)
Country Effect	Y	Y	Y	Y	Y	Y
Sector Effect	Y	Y	Y	Y	Y	Y
Obs.	4609	4581	4609	4609	4609	4609
F statistics	80.69***	17.13***	28.61***	28.81***	48.26***	51.63***

Standard errors are in parenthesis
*** *p<0.01, ** p<0.05, * p<0.1*

Table 6: Results after sequential removal of small and large countries

	Firm Risk		Firm Return		Firm Cost	
	(M1)	(M2)	(M3)	(M4)	(M5)	(M6)
	LogFSRisk	**LogSRisk**	**ROA**	**ROE**	**P_Cost**	**LogO_Cost**
LogCRM[1]	-0.080***	-0.016***	0.837***	1.571***	-5.112***	-0.028***
	(0.007)	(0.005)	(0.186)	(0.272)	(0.354)	(0.006)
LogCRM[2]	-0.059***	-0.017***	0.840***	1.546***	-5.239***	-0.022***
	(0.007)	(0.005)	(0.175)	(0.255)	(0.358)	(0.006)
LogCRM[3]	-0.083***	-0.019***	1.431***	2.025***	-5.025***	-0.044***
	(0.008)	(0.006)	(0.233)	(0.329)	(0.399)	(0.007)
LogCRM[4]	-0.105***	-0.009*	0.375	0.535	-5.253***	-0.042***
	(0.009)	(0.006)	(0.322)	(0.454)	(0.420)	(0.007)

Standard errors are in parenthesis
*** p<0.01, ** p<0.05, * p<0.1
1. Sample without Philippine firms
2. Sample without Philippine & Pakistan firms
3. Sample without China firms
4. Sample without China & Indian firms