Modeling Risk of Financial Signaling and Information Asymmetries in Debt Vs. Equity

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ABSTRACT

The study explores the risk towards decisions of Debt Vs. Equity, persistency over time, financial signaling, and asymmetric information behavior on capital structure, covering the period from 2012 to 2022. Agency issue prevails due to lack of information because managers have excessive information of a particular firm. Negative financial signaling and information asymmetries have causal affect towards investor's behavior about risk level. Extreme Bound Analysis (EBA), Z-score, and Beta are used to analyze results. The contradiction in theory, and empirics in emerging, and transitional economies were captured. There found financial signaling, and information asymmetric risk on capital structure (CS) of non-financial firms recorded in Pakistan Stock Exchange (PSE). The firm prefers debt issuance based on degree of equity with lower information. Capital structure theories provide base for understanding the decisions of Debt Vs. Equity, financial signaling, and asymmetric information behavior with regard to emerging and transitional markets. This research is a valuable flight for researchers, analysts, and investors regarding decision making. The implications of the study are management of financial signaling and asymmetries of information still holds in emerging and transitional economies.

Keywords: Capital structure, Asymmetry of information, Financial Signaling, Z - Score.

Introduction

The creation of value in financial matters and processes are the core and important fields of study in financial economies. The Western economies are the core part of the development of markets from more than 60 years approximately. The puzzle has been created among the scholars, researchers and practitioners in this regard. 1950s

is an important era regarding financial policies and their emergent (Durand, 1952), (Ibhagui& Olokoyo, 2018), and (Miller & Modigliani, 1958). The firm value is a key element in relevance theory that affects the financial policy (Durand, 1952). Weighted average cost of capital that is known as WACC is relatively affected by cost of capital.

The negation of firm's value through financial policy in irrelevance theory has pronounced the behavioral face that shown in markets (Miller and Modigliani, 1958). The debt is a key factor that can optimize the benefits and cause to relaxation in market model regarding to make incremental firm's value portion because of tax deduction on debt's interest. (De Amgelo & Masulis, 1980) argued that debt's savings from corporate tax bankruptcy regarding debt's price leveraged in non tax shield in term of debt and funds of tax credits, and depreciation. The theory of bankruptcy first, designed by Baron, 1974 and risk regarding equity increased by debts. Thus, financial risk, non-employment's debt risk could rise market's value. Investor's risk, and prospects quality defines manipulation risk of signal (Akerlof, 1970). Investors are ambiguous upon signal risk and relatively inexpensive exacerbated in initial stage (Momtaz, 2021). Investor's risk can be minimized while in phase of pre- investment, challenge screening efforts, and through evaluation of investment from pool resources (Bellavitis, Kamuriwo, and Hommel, 2019).

The debt advantage supports debt's level that is proposed in trade off theory (TOT) and has direct effect regarding the facets of cost of debts. Trade of theory (TOT) explored the idea in term to capture the positive and negative effects in the factors. Pecking order theory- (POT), enclosed asymmetric information among stakeholders (creditors, shareholders, and managers etc.), who involve in debt/equity decisions (Myers &Majluf, 1984).The diverse decisions rationality depends for returns and volatility both (Hussain et al. 2011).Diverse behavior is the indication of the value change in equity securities either up and fall side (Akash& Abbas, 2015). The financial policy selection regarding to adjust the cost is an expensive and provides a mechanism to trade off behavior (Akash, Khan & Shear, 2023).

However, markets are not perfect in reality, and needs to build the brand character (Khan, Hussain & Akash, 2023). The work of Miller and Modigliani explored the react regarding researcher's contribution rapidly, and further development regarding capital structure's determinants, and its impact on firm's value in case of deficient market (Akash et al. 2011). Capital structure model regarding firms based on currency composition, asymmetric information was developed, and debt considered owning tax benefits (Eren, and Malamud, 2022). In view of above, considered Pakistan is a case of deficient and inaccurate market. Better understanding regarding risk and puzzle provide a way to design a financial policy and increase in decision's efficiency in investment (Akash, Khan & Shear, 2023). The empirical support is an important element regarding to work on financial policy and more pronouncements of risk and hazards.

In view of the above, this paper highlights the risk attainment towards decisions of Debt Vs. Equity, persistency over time, financial signaling, and asymmetric information behavior on capital structure with regard to emerging and transitional markets from 2012 to 2022. The other sections of this work is designed as the second will be literature review, third is based on data and methodology, fourth is result and discussion and final section will be on conclusion which includes recommendation and future directions of the study.

Literature Review

It is very hard to perceive the risk for economies investors. The avoidance of risk is difficult task when financial market's price they consider. Risk and return trade off phenomenon show the behavior like higher returns target through higher risk. The minimum level can be taken in risk through choice of capital structure (Akash, Ghafoor& Siddique, 2020). Risk of financial matters ascends fixed interest-bearing securities (debt). The trade off behavior matches the firm's value with financial risk and debt capital is also a component of non employment risk that creates more value.Durand (1952) described that debt's, and equity's cost provides the base to capital structure choice in terms of firm's value. The sustainable firm's value increases the performance of business (Khan et al. 2021).

The reliability in work of the Miller and Modigliani, 1958 has suggested that the firm's values are irrelevant to leverage. The mode of signaling and firm's insider ownership both are not equal to financial structure as documented by Tse, 2007. But it is better for the signalers to consider it less or more likely (Akash, Mehmood & Hamid, 2019). The debt role of the investors has also been dynamically and statically reported by Harris &Reviv in1990. The market explores the perceived value at the time of when leverage increases and value of the firm rise in cross section (Ross, 1977). Cash flows are the believes for the firms on higher sides instead of profits in terms of trusts and asymmetric information consideration occupied in leverage for the firms (Gralewska & Jaworska, 2022).The important model regarding economic trust is explored by Akerlof, 1970. The intrinsic is an evil regarding worth upright. It is actual hard to diversify the world in term of corporate. The trade off theory (TOT) explored the facts that coefficients are being explored expectedly through positively and significant independent covariate trends (Buferna, 2005). The position in market is explored through signaling models and the firms also show the actual position in the market (Heinkel, 1982).The Net Present Value in future is a device in between the choices of debt and equity in terms of cash flows. The asymmetric information in terms of efficient market hypothesis (EMH) also a verdict for decision making and market timings are the base of financial structure (Klein, 2002). The investors and fund managers have not similar decisions regarding debt and equity risk.

Moreover, the stock return's volatility and intensity of insider trading both have significant attributes regarding asymmetric information (Bharath, 2009).

Barton & Gordon, 1988 explored the reflection of debt and equity. Risk is the major perception for investor's decisions (Jordon et al., and Lower et al., 1994). Debt's, and equity's agency cost effect determined (Jenson and Meckling, 1976). The findings of monetarist base widely considered in corporate governance. This pertinent to instruments to choose an accurate interest's choice, and conflict reduction regarding shareholders. (Hassan et al., 2011) documented that a level, exposé voluntarily, and predictable measure β - beta contains negative value, are correlated to each other.The corporate disclosure practices are explored voluntarily and systematic risk can also be analyzed in term of beta that is abbreviated as β. This disclosure has been tested in the sample of Egyptian companies. The corporate practices regarding disclosure voluntarily elucidated through beta (β) has shown as negative relation.

(Carpentier, 2006) explored that financial structure and changes in value of firm show effect in long term. The corporate value can be determined through corporate social responsibility (CSR), and project cost minimized (Ahmad, Khan & Cheema, 2022). The future performances have affected by the losses and the framework is developed by Krause, 2006. The probability and the capital structure of the firms has positive relation and also with the growth opportunities, ownership structure and size as documented by Al-Ajmi et al., 2009.The diverse relation has been explored regarding tangibility and capital structure that was also the association of the diverse relation of government ownership, risk and business liquidity and dividend payout. Moderate risk-return tradeoff regarding profitability, and liquidity was announced in hypothesis (Khan et al. 2011). (Huynh and Petrunia, 2008) described significant inverse (negative) relation between age, and leverage. The financial institutions try to mitigate the risk that increases the growth of firms (Khan, Bashir & Amir, 2023).

The sensitivity analysis indicated debt's short-term adjustment or otherwise debt's long term in match with systematic risk. The level of risk in term of at lower side with pecking order theory. Asymmetric information, and capital structure choice have linked, and possible correlation in phenomenal view. Moreover, it effects through information asymmetry conclusively target equity value, and leverage intensity (Huynh, Wu & Duong, 2020). Information asymmetric behavior targets investor turn; a safe haven to consider choices (Khan, Akhter & Bhutta, 2020). The best policies can enhance the investment and economic growth (Amir, Bilal & Khan, 2023).

Theoretical Background

The management fully occupies access of internal information and investors are lack regarding asymmetric information, and financial signaling of firms. The signaling theory proposed that the responsibility lies on managers regarding financial structure choice. This should precede market's signals. Debt's, and equity's choices-where debt could cause market's signal, and managers are very confident to the service i.e., debt's interest payments. So, investor's trust, and market's value may increase.

Moreover, positive signal precedes future's cash flows, and size which cause that firm of high profit show disagreement of more debt. Then the debt could offer to investors, poor signal in future predictions. The poor signal also offered by equity to investors, overpricing in future predictions cause negative market signal, and lack of investor's interest, resultantly reduction in firm's value in market with high risk. Level of risk depends on information asymmetry, and forecast value of firms (Khan, Akhter & Bhutta, 2020).

The behavior of the agent (managers) that cannot turn in the interest of principals (owners) is another theory of agency cost. Risk in returns could show misalignment behavior to the principals (owners). (Jensen and Meckling, 1976) explored monitoring outlay of the principal for prediction of agency cost, and bonding outlay for prediction of residual risk of agents. Cost and benefits linked with the debt equity selection sets produced in static tradeoff theory (Myers, 1984). Selection criteria holds financial distress, cost of agency, and tax due to rise, and fall in share prices, and debt's/equity best selection from doubtful selection. The perfect market theorem identified about corporate tax effect included in model (Modigliani and Miller, 1963). Moreover, trade off theorem proved arguments about the optimal level of financial structure. Pecking order theory (POT) that argued about the financial decisions and regarding its hierarchy for firms (Myers and Majluf, 1984). Firstly, internal/external funds i.e., retain earning, and bank's loan respectively, and then preference of equity (public debt), financed by firms. The basic logic, unwilling to public debt (equity) by firms is for the reason that of asymmetric information between manager, and investor. Risk of asymmetric information would ultimately become risk for firm's value.

Financial signaling and information Asymmetry approach that firm's quality in market conveyed to information excellence (Ross, 1977). Selection of capital structure alternatively offered company's information not to distribute at equal to management and investor. The management assumed better information but investors do not. The spreading of higher quality match with lowering risk or vice versa. The spreading of higher quality could produce positive signals preceded by reduction of asymmetric information or vice versa.

Transaction cost economics (TCE) approach regarded with governance of contractual relationship between two parties was explored (Williamson, 1988). The investment decisions which are founded on the degree of asset specificity of firm's assets. Asset specificity incremental change will choose firm's equity financing. Reconsideration of assets at the event of liquidity could not be easily made while lowering its value. Asset specificity degree generally chooses firm's debt financing. These assets have higher value can be employed easily at the event of liquidation. The use of market's decisions, market's buying, and its reflection on debt/equity evaluation difference is exposed as transaction cost economics (Coase, 1937, and Kochhar, 1996). The foundation of life stages regarding organization is developed by Frielinghaus, Mostret and Firer (2005). The firm's active organisms in an alike

way. The organization's life stages jump with birth, and finish with death. As the firm's prime life, it employs more debt. Business risk could be managed through life stages of an organization (Bender & Ward 1993). The business risk may reduce over time. Typical pattern behavior could be explored resultantly from life stage uses (Adizes, 1979). Positive capital structure linked with market timing strongly is explored as market timing theory (Baker & Wurgler, 2002). Capital structure results cumulatively preceded by efforts of past equity over time. The overrated new stock issued, and backed (bought) underrated. The empirical support to offer justification and validation regarding market timing theory is deficient to explore optimum capital structure (Frank & Goyal, 2004).

Data and Methodology

DATA

This research is based on the non-financial listed companies' data in Pakistan Stock Exchange (PSE), collected from balance sheet analysis, and market index is collected from published sources i.e., yahoo – finance from 2012 to 2022. The complete data has been prepared regarding selection of inclusion criteria in the firm's sample.

Table -1: THEORY & HYPOTHESIS AND EXAMPLES (RISK COVARIATES)

RISK VARIABLES	THEORY /HYPOTHESIS	EXAMPLES
Z – Score (Operational Risk)	Bankruptcy predictable or forecasted on basis of accounting ratios prior to the occurrence of the event.	(Altman., 1968, 1984, 2000, Eidleman., 1995).
Systematic Risk	Systematic risk explored the market risk. It is used to capture the sensitivity of the market and as a determinant.	(Sharp and Linter,1964,1965)
Asset Tangibility	Higher amount of fixed assets were opted to increase the debt at cheaper rates due to collateral value.	(Martin, and Scott, 1974, Schmidt, 1976, Jenson, and Meckling, 1976, Scott, 1977, Myers, 1977, Ferri, and Jones, 1979, Smith, and Warner, 1979, Stulz,

		and Johnson, 1985, and Ghosh et., al. 2000).
Size	The firm's debt issuance for larger in size, reduction in bankruptcy risk, and less asymmetrical information.	(Gupta, 1969, Schmidt, 1976, Toy et., al. 1974, Scott, 1977, Kim, and Sorensen, 1986, Chung, 1993, Rajan, and Zingales, 1995, Titman, and Wessels, 1988, Homaifar et., al. 1994, and Ozkan, 2001.
Profitability	The higher the profitability, reasons to issue debt, reducing tax burden.	Martin, and Scott, 1976, Toy et., al., 1974, Marsh, 1982, Carleton, and Silberman, 1977, Long, and Maltiz, 1985, Harris, and Raviv, 1991, and Ozkan, 2001).

Table -2: Path of The Result & Observed Findings (Risk Covariates)

DETERMINING FACTOR	MEASURE (PROXY)	PATH OF THE RESULT	OBSERVED FINDINGS
Z – Score (Operational Risk)	ZS	Negative	Negative
Systematic Risk	SR	Negative	Negative
Asset Tangibility	AT	Positive	Positive
Size	SZ	Positive	Positive
Profitability	PF	Positive	Positive

METHODOLOGY:

MODELING RISK FINANCIAL COVARIATES:

By considering debt Vs. equity (accounting factors), explored the variation in macroeconomics effects. Regression equation is further explored for typically in panel data regarding debt/equity.

$$Y_{ct} = \alpha_t + \sum_{f=1} \beta_{nc} X_{ntc} + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where t = 1, ……..., 10 $\boldsymbol{c}$ = Firm's number in each group

The anticipated change is estimated in debt/equity as $Y_{ct} = \Delta\, D/E = (D/E_t - D/E_{t-1})$.The measures of financial policy are used as financial leverage = Debt /Equity Where Yct = Financial Leverage. Seven time-varying financial covariates impact for macroeconomics, and accounting factors (Debt/Equity) were considered in base model to observe on capital structure.

Model – 2 is a model to opt to capture the financial risk in terms of time varying effect for both the debt and equity variables.

$$Y_{ct} = \alpha_t + \delta \mathrm{RISK}_{tc} + \mu_{tc} \ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

The modified form of model is as under.

$$Y_{ct} = \alpha_t + \boldsymbol{\beta_1}\,(Z.Score) + \boldsymbol{\beta_2}(\boldsymbol{Systematicrisk}) + \boldsymbol{\beta_3}\,(Assettangibility) + \boldsymbol{\beta_4}\,(\boldsymbol{Size}) + \boldsymbol{\beta_5}\,(\boldsymbol{Profitability}) + \mu_{tc} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Where subscript where t 1, 10 is time and Kfirm's number in defined groups respectively, Y_{ct} is independent variable and which is measure of capital structure. $\boldsymbol{\beta_1}$, $\boldsymbol{\beta_2}$, $\boldsymbol{\beta_3}$, $\boldsymbol{\beta_4}$, $\boldsymbol{\beta_5}$ are independent variables. Where $\boldsymbol{\beta_1}$is measure for $Z.Score$which is considered to explore the operational risk of the firm and $\boldsymbol{\beta_2}$is measure of systematic risk. The $Z.Score$is is considered to capture the firm's survival in terms of probability, specifically for one year and for future (Altman, 1968).

$$Z = 1.2X_t + 1.4\mathrm{X}_2 + 3.3\mathrm{X}_3 + .6\mathrm{X}_4 + .999\mathrm{X}_5 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Whereas

$\boldsymbol{X_1} =$ $(WorkingCapital/TotalAssets)$.

$\boldsymbol{X_2} =$ $(RetainedEarnings/TotalAssets)$.

$\boldsymbol{X_3} =$ $(EarningsbeforeInterest, andTax/TotalAssets)$.

$$\boldsymbol{X_4} = \quad (MarketValueofEquity/TotalLiabilities).$$

$$\boldsymbol{X_5} = \quad (Sales/TotalAssets).$$

Altman (1968) elucidated the Z-score regarding to focus on bankruptcy forecasting. The predictor of probability is judged for bankruptcy and with Z-score at a specified time period. The firm's strength is explored with the consideration of the values of income statements and balance sheet. The exploration of bankruptcy has been tested through recipe of five weighted factors that showing the linearity trends and ratios through Z-score. This model was explored by Beaver William in 1966 and is basically further initialized by Altman in 1968. Bankruptcy has been explored and predicted through t-test first time and paired in sample for the firms by William in 1966, and 1968. The univariate analysis has been initiated to explore the significance level at once, and used in model. The Altman in 1968 made out the best fit model by considering the discriminating analyses as reported by Fisher in 1936. He has presented that initially the Z-score at 72% was reported by Altman, 1968 to explore the two years occurrence regarding the bankruptcy that elucidated the 6% errors in the model. Those errors were type II. Altman (2000) explored the Z. score and précised in bankruptcy forecasting upto 80% to 90%. The occurrence of the events has also been tested prior to one year and it was type II error. The type II errors have been reported as 15% to 20% in the model and considered as false positive. The classification of the firms regarding bankruptcy and not in term of bankruptcy both made a zone of diversification in terms of Z. score that elucidated the Z>2.99. This zone was noted as safe. The gray zone was at 1.81<Z<2.99 and the distress zone was mentioned as Z>1.81. The equation has captured the continuously rate of return as under.

$$R_t = ln\ (P_t\ /P_{t-1})$$

$$\boldsymbol{R_t} = Returnonyeart$$

$$\boldsymbol{P_t} = Indexclosingvalueonyeart$$

$$\boldsymbol{P_{t-1}} = Indexclosingvalueonyeart - 1$$

$$\boldsymbol{ln} = Natural\ Log$$

Beta which is proxy for systematic risk can be used to as determinants of sensitivity stock. Beta can be calculated as under.

$$\beta tc = \mathrm{Cov\,im}/\ \delta 2m$$

Covim =Cov (Security return, Market return)

δ2 =Variance of Market return

Extreme Bounds Analysis (Eba):

The alteration form of regression parameters is extreme bound analysis (EBA). The variables categorization misspecification, and biasness in model emerged from Bayesian Technique (BT), developed by (Leamer, 1978; 1983; and 1985, and Leamer& Herman, 1983), extreme bound analysis (EBA), is a solution, and extended form of simple regression. The interpretation and best illustrative part in simple regression parameters cannot be captured. Moreover, extreme bound analysis (EBA) practicality, and use analyzed (Levine, and Runlet, 1992, and Levine, and Zervos, 1993). The upper bounds and lower bounds regarding higher significant factors are used to capture interest of combined explanatory factors potentially in extreme bound analysis (EBA). The power of extreme bound analysis (EBA) is to report, and assesses the degree (sensitivity) of predicted outcomes. The pessimistic criteria in regression are not like variable's coefficient particularly (Xaviar, X. Sala-I-Martin, 1996; 1997). Fragility and robustness resolve function's coefficient problem being an option. Reliability of results becomes question marks in previous studies during calculation of robustness, and sensitivity. Model specification is major root which include, and exclude factors in regression equation. The existing literature also explores it in limited scope. Higher the selectivity of explanatory variables offers higher selectivity. Sensitivity analysis encountered the larger factor number regarding explanatory variables. For this, extreme bound analysis is considered to capture sensitivity.

Upper and lower bounds in extreme bounds analysis (EBA) explored as maximum and minimum bounds, a modified approach for parameters series regarding M combination. Coefficient robustness is valuable root for selection criteria, and useful condition to satisfy the results. The significant criteria of coefficients are at 5% level, is used to predict opposite sign. M variables are incorporated at significance 50%, inclusion of parameters in combination. The identical sign is maintained to predict robustness or otherwise fragile by inclusion of upper, and lower bounds in analysis. For parameters coefficients estimation, **β2ji** base of covariates interest in particular regression is occupied. The constraints **β2ji** defines combinations of M variables at significance of 50%. The upper and lower bounds have been testes as the higher **β2ji,** exploration of maximum upper bound as **(βm ± 2δ)** and lower bound as **β2ji**is considered to explore the lower bound at minimum level. The EBA analysis explored the support for Leamer methodology regarding to capture the upper and lower bounds at their extreme level. It also considers the entire distribution by Sala-i-Martin Extreme Bounds Analysis (EBA).

RESULTS AND DISCUSSION:

DESCRIPTIVE STATISTICS:

Table-3 explored descriptive statistics regarding six (06) variables which are debt-equity, Operational Risk (Z-Score), Systematic Risk (β), Asset Tangibility (AT), profitability (PF) and Size (SZ).Debt Vs. Equity explored higher percentage average

change of 03577 annually, and standard deviation is 1.07.The operational risk (ZSC) exposed the -230.77change per year which is significantly high, systematic risk (SR) .2381 change, asset tangibility (AT) 6.79 and size (SZ) showed 7.092 change. The profitability (PF) reflected .0521 a low average change within one year. The results predicted that the standard deviation regarding operational risk (ZSC) showed that the mean value was deviating from its original value by 12739.22 which explored that the company's operational risk was at higher side due the level of probability and volatility that was also at higher side. Systematic risk (SR) 0.122614, asset tangibility (AT) 1.627651, size (SZ) 1.721199, profitability (PF) 0.45198exhibited the volatility. The systematic risk – market risk factor has surprising level of range Maximum 1.258121and Minimum -0.44214. The size (SZ) indicates the change in Minimum -2.50104 and Maximum 12.24563. The maximum decrease in asset tangibility (AT) is -2.74887and maximum increase 22.87997. However significantly inconsistency is detected in risk factors of the work and Debt Vs. Equity. The summary of variables included is as under.

Table3: DESCRIPTIVE STATISTICS (10 - YEAR SUMMARY)

Variable	N	Minimum	Maximum	Mean	Median	Std. Deviation
DE	3260	-6.77442	6.773256	0.534216	0.425163	1.06523
ZS	3260	-29.2952	626543.58	340.9123	1.623462	136523.45
B	3260	-0.56258	1.364215	0.347563	0.203541	0.135269
AT	3260	-2.74887	12.48011	6.790789	6.762151	1.627651
PR	3260	-3.0122	22.87997	0.0521	0.027447	0.45198
SZ	3260	-2.50104	12.24563	7.092562	7.019744	1.721199

Correlations Analysis

This portion is exploring the results regarding correlation analysis for the sake to highlight the risk regarding debt and equity in terms of their impact. This provided evidence that relationship does exist in between risk variables and debt vs. equity. The results exposed that there found risk in variables, and negative relation with

debt/equity.The dependent variable debt vs. equity was found to be correlated with independent variables, macroeconomic variables. This reflected that proxy of risk variables, - operational risk (Z- Score). Both have negative relation. This replicated that, representations of risk factors**,** systematic risk (SR), and asset tangibility (AT), size (SZ), profitability (PF), a significant positive relationship. However, the results for operational risk (Z- Score), systematic risk (β), and asset tangibility (AT), size (SZ), profitability (PF) reflected no significant correlation in all cases.

Table-4: Correlations among Independent Variables

Variable	DE	ZS	B	AT	PR	SZ
DE	1					
ZS	-0.00042	1				
B	0.025732	-0.00645	1			
AT	0.048785	-0.01255	0.02355	1		
PR	0.001278	-0.00443	0.050046	-0.02109	1	
SZ	0.048274	-0.00957	0.027228	0.877461	-0.00873	1

Table-4 explored risk, and debt/equity correlation analysis. The findings suggested that risk factors and debt/equity both have no relation. Moreover, a week relation of risk factors, and debt/equity. The operational risk (Z-Score) is negatively correlated. Where systematic risk (β), asset tangibility (AT), profitability (PF) is positively correlated.

Table 5: The Estimates Of Risk Factors Of Debt Vs. Equity Relevant To Emerging And Transitional Market.

Variables	***Coefficients***	***t* value**
ZS	-.00000230	-1.18

s B	-1.034569	-5.09***
TG	-.131656	-4.13***
PF	-2.0426	-37***
SZ	.3608536	11.98***
C	.2434741	2.05**

Risk Estimation of Debt Vs. Equity

*** Significant at 1% level, ** Significant at 5% level, and * Significant at 10% level

Table -5 explored the results regarding risk factors as the effect of market either transitional or emerging both have relevant for debt and equity. The literature also supports the results highlights and was found statistically significant. It was worth mentioned that both the variables i.e., profitability and tangibility both have explored the sign of coefficients that were much concerned with the literature and assumptions were confirmed in this study. Asset tangibility and profitability both explored the asymmetric negative effect in terms of information. The study also explored the significant risk parameters that elucidated the new idea for the Pakistan being as transitional and emerging market

(The operational risk (ZS), systematic risk (β), asset tangibility and profitability are negatively significant and size (SZ) is positively significant. The highlights of this study concern the exposition in term of risk for debt and equity. This exposition is a way to further highlight the signaling effect. This work is an effort to pronounce the signaling effect regarding risk variables and reported significantly relative to debt and equity. The negative relationship of asset tangibility (TG) and Profitability (PF) reflected that investors have no idea regarding to the benefits of the particular variables.

Testing the Robustness of Debt Vs. Equity Financial Signaling Effect:

Table -6 explored extreme bound analysis (EBA) results. The range of coefficient values of interest variables are displayed in results. The $\boldsymbol{\beta max,}$ and $\boldsymbol{\beta min}$respectivesignificance level in percentage at 5% level of significance.

Table 6: Coefficients Signaling & Sensitivity Modified Approach (EBA)

Variables	*Bbase*	*Bmax*	*Bmin*	Sign *β, s (%)*	EBA Results
LOG(ZS)	-0.361	-0.240	-0.361	100%	Robust
LOG(β)	-0.537	-0.349	-0.544	100%	Robust
Robust movement in groups			100 %		Globally Robust

The base β is an estimator of the coefficient of M variables, and continually comprised in interest variables I. The maximum β used to estimate extreme maximum bound. The minimum β used to estimate extreme minimum bound. The sensitivity of the operational risk (ZS) and systematic risk (β) is measured from maximum and minimum bounds. These extreme bounds are used to indicate the relationship robust or fragile. The reported factors (variables) change in debt/equity effect indicated by degree of robustness, and fragility. This is shown in table 4 that operational risk (ZS) and systematic risk (β) have robust relationship and highly sensitive to Debt Vs. Equity. This means that operational risk (ZS) and systematic risk (β) have magnitude of debt/equity less in value.

Table 7: EBA of the Coefficients Signaling & Sensitivity: Leamer Approach

Variables	Mean μ	Upper bound (μ+2s)	Lower bound (μ-2s)	Cases Sign. at 5%	Leamer EBA Results
LOG(ZS)	-0.276	-0.182	-0.370	100%	Robust
LOG(β)	-0.401	-0.240	-0.562	100%	Robust
Robust movement in groups			100 %		Globally Robust

Table-7 explored the upper, and lower bounds values, and their ranges of interest variables with respect to 5% significance. The results predicted that the upper and lower bounds in the model are showing the results as robust and fragile. The robust variables are taken as operational risk that is abbreviated in terms of ZS and another is systematic risk that is abbreviated as β. The previous results have been validated through the prediction of results and are shown in table-04. Moreover, the consistency of the results in term of significant change explored the new chapter for policy makers.

Conclusion

In this research, financial signaling, and asymmetric information regarding risk on capital structure is exposed under transitional and emerging economy. The main concern of the investigation to contribute in exiting literature. Z-score is recognized in search of risk i.e., business, systematic, and market as well. The results predicted that the debt's choice is represented by tax shield and with minimum capital cost also. The firm's lives and their survivals depend upon the probability and low risk in business and high cash flows. The risk and return integration set the dimensions of the growth in businesses. It may be on higher and lower side. Z-score and systematic risk both have represented the significant trend on negative side for PSE that is confirmed in results. The results and analyses both have predicted the logic of financial signaling dilemma and asymmetric behavior in information in relation to risk. The financial structure was significantly impacting to systematic risk that is confirmed by Beta value. The fluctuation in market is the key indication regarding to change the value of firm. The significant result also represents the negative relationship between Asset tangibility (AT), Profitability (PF) and capital structure. This is due to lack of trust and confidence of the investors due to threaten of bankruptcy and mispricing of the equity. This is suggested to improve the faith and assurance of investors by making market more capable and frictionless.

6.1 Implications, Limitations, and Future Research Directions.

The good corporate governance and corporate social responsibility can have the implications to reduce mis presentation and anomalous behavior in the market. The ethical values in corporate governance and corporate social responsibility can diversify the risk by making market efficient and have the best support of optimal capital structure. This is only possible where the debt vs. equity works as device which can reserve the productivity of corporate governance and produced the protection of value creation through divergence of risk. The financial policy makers considered the impact on financing concerns for better cost alignment of financial signals and asymmetric risk as transitional and emerging market.

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