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Impact of Financing Decisions on Firm Performance: The Role of Risk Management and Corporate Governance

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Abstract

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Although the method with the aid of using which this hyperlink works—and the instances below which it grows more potent or weaker—nonetheless now no longer absolutely known, extensively in developing-economic system institutional settings, the connection among company financing selections and organisation overall performance is a key and everlasting difficulty in company finance. Empirically searching on the results of investment selections on agency overall performance, this observe explores whether or not threat control techniques and company governance structures mediate and mild this connection. Using secondary monetary facts taken from the once a year reviews of 35 publicly traded businesses at the Pakistan Stock Exchange (PSX) from 2014 to 2024, the take a look at makes use of a quantitative panel facts studies method yielding a balanced panel of 385 firm-yr observations. Operationalizing financing selections are finished by complementary indicators: the debt-to-asset ratio (DAR), a gauge of capital structure, and the debt-to-fairness ratio (DER), a degree of monetary leverage. Dual profitability metrics, go back on assets (ROA) and go back on fairness (ROE), are used to evaluate organisation overall performance. Proxied hazard control is executed with the aid of a composite threat disclosure index (RDI), constituted of content material evaluation of every year document threat disclosures and complemented with profits volatility as an goal threat degree. Board length, board independence, audit committee independence, and audit committee length offer operationalization of company governance. Using Pooled OLS, Fixed Effect (FE), and Random Effect (RE) panel fashions in STATA 17, all estimations are performed with the Hausman take a look at guiding the favored specification. With Driscoll-Kraay trendy mistakes carried out in which dependence is found, diagnostic checking out consists of panel unit root tests (Im-Pesaran-Shin), cross-sectional dependence (Pesaran CD take a look at), heteroscedasticity (changed Wald take a look at), and serial autocorrelation (Wooldridge take a look at). Results suggest that extra leverage has a sizeable damaging effect on each ROA ($\beta = -0.094$, $p < 0.001$) and ROE ($\beta = -0.127$, $p < 0.001$). Board independence appreciably and favorably reduces each ties, consequently lessening the bad overall performance results of leverage for corporations with extra self reliant boards. Furthermore defensive the hyperlink among leverage and overall performance is the independence of the audit committee. It is proven that the danger disclosure index in part moderates the financing-overall performance hyperlink, consequently obvious threat verbal exchange conveys a number of the affect of the financing selection on overall performance results. From the standpoint of Pakistan's institutionally constrained indexed business enterprise universe, the studies provides to the governance-finance literature and gives realistic hints for boards, monetary managers, and regulators aiming to boom the overall performance consequences of financing choices.

Introduction

Among the maximum critical strategic choices in company control are the ones businesses make approximately the percentage of debt and fairness used to finance their sports and investments—that is, company financing picks. A corporation's weighted common fee of capital, tax liabilities, nature of its money owed to lenders and shareholders, and in the end limits or helps the income and fee advent underpinning long-time period company survival all rely upon its capital shape composition. Still, the empirical literature at the financing decision-overall performance courting is a ways from settled, with effects differing extensively throughout institutional settings, time periods, company features, and measuring techniques. This variant in empirical consequences emphasizes the want of locating the situations and mechanisms influencing how financing selections have an effect on business enterprise overall performance consequences.

Corporate governance and threat control are a number of the maximum conceptually attractive and in reality substantial of those conditioning techniques. With the board of administrators and its committees performing as the primary governance tools, company governance incorporates the structures, systems, processes, and regulations via which groups are guided and managed (Shleifer & Vishny, 1997). Reducing employer conflicts among managers and shareholders, making sure that capital shape choices replicate fee-maximizing in place of managerial self-hobby concerns, and presenting the oversight infrastructure that continues leverage inside overall performance-supportive bounds, suitable company governance is idea to enhance the great of financing choices. Particularly essential in ensuring that the economic reporting and danger control techniques linked with debt financing are painstakingly assessed and transparently disseminated are audit committees, as specialised governance systems charged with economic oversight, inner manage monitoring, and hazard assessment.

The 2d conditioning mechanism investigated on this paper, chance control, is the organizational procedures, tools, and disclosures through which groups detect, evaluate, monitor, and decrease the economic, operational, strategic, and compliance dangers associated with their commercial enterprise operations and investment arrangements. Risk control and investment alternatives have a bidirectional courting: Companies with higher danger control structures is probably capable of maintain extra leverage with a discounted monetary trouble probability, thereby remodeling the tax defend blessings of debt into internet overall performance gains. Higher leverage, on the alternative hand, increases the importance and complexity of hazard control with the aid of using magnifying the economic repercussions of awful events. Observably proxy for underlying danger control first-class, chance disclosure—the breadth and quality of danger-associated statistics given in annual reports—has been connected to reduced price of capital, elevated investor confidence, and improved overall performance in evolved and growing state settings.

Pakistan gives a robust and coverage-applicable backdrop for reading those intertwined connections. With round 550 indexed companies and a marketplace capitalization of PKR 10 trillion as of 2024, the Pakistan Stock Exchange is one of the maximum essential growing marketplace exchanges in South Asia. However, it capabilities in an institutional placing described through family-managed company groups, centered possession systems, restricted institutional investor activism, and converting regulatory frameworks which have historically supplied much less safety for minority shareholders than the ones widely wide-spread in evolved nations. With enormous adjustments in 2012 and 2017, the Securities and Exchange Commission of Pakistan (SECP) launched its first whole Corporate Governance Code in 2002, step by step improving requirements for board independence, audit committee makeup, and chance disclosure. The 2014–2024 examine duration is specially illuminating given this converting felony surroundings: It gives variance in governance first-class that complements the detection of governance affects at the investment-overall performance hyperlink through such as the pre-2017 governance machine in addition to the post-2017 reform surroundings.

The Pakistan macro surroundings among 2014 and 2024 gives wealthy variety withinside the occasions below which investment selections have been taken in addition to of their overall performance consequences. The take a look at duration covers the China-Pakistan Economic Corridor (CPEC) funding boom (2015–2018), which drastically elevated each debt availability and capital funding potentialities for indexed companies; the macroeconomic stabilisation disaster of 2018–2019, which noticed intense forex depreciation, hobby charge rises, and credit score tightening; the COVID-19 pandemic surprise of 2020; the commodity charge surge and inflationary disaster of 2021–2023, at some stage in which the State Bank of Pakistan's coverage fee reached a historic excessive of 22%; and the early restoration duration of 2023–2024. The herbal experimental situations furnished via way of this macroeconomic fluctuation allow us to check out how governance and threat control manage the connection among financing and overall performance over many stages of the company and credit score cycle.

Three enormous gaps that this observe addresses rise up from a important exam of the to be had studies on monetary picks and organization overall performance in Pakistan. First, even though many Pakistani research have investigated capital shape variables and the direct leverage-overall performance hyperlink, relatively few have represented company governance as a

moderator of this hyperlink inside a blended panel approach. Those who've observed this typically have slender governance rules (regularly handiest board size) and observe small panels missing dynamics of governance change. Second, regardless of its growing importance below the SECP's revolutionary chance governance framework, hazard control—particularly danger disclosure—has gotten little interest as both a mediator or moderator of the investment-overall performance nexus withinside the Pakistani context. Thirdly, despite the fact that rare, the simultaneous use of twin overall performance criteria (ROA and ROE) inner a device additionally which include numerous governance and threat components is important for the reason that leverage robotically affects ROE even if underlying operational profitability (captured via way of means of ROA) is unchanged, consequently making the difference among those measures intellectually considerable.

This studies gives 4 clean outcomes. First, for PSX-indexed corporations over a current and economically wealthy eleven-yr panel, it gives the maximum thorough joint evaluation thus far of monetary alternatives, chance control, and company governance as simultaneous drivers of company overall performance. Second, it creates and makes use of a organization-stage danger disclosure index constructed from content material evaluation of annual document chance sections, consequently supplying an goal and first-rate proxy for danger control quality. Third, it explores the moderating affects of company governance at the financing-overall performance hyperlink and the mediating characteristic of chance disclosure, therefore figuring out the governance channels thru which economic selections have an effect on overall performance. Fourth, it offers company forums, monetary managers, and SECP regulators seeking to enhance the overall performance consequences of company financing alternatives concrete prescriptions.

Literature Survey

Theoretical Orientation

Four opposing theoretical strategies that collectively account for the hyperlinks amongst investment selections, company governance, hazard control, and employer overall performance shape the muse of this look at. The fundamental attitude through which economic choices, governance structures, and overall performance outcomes are associated is corporation concept (Jensen & Meckling, 1976). Publicly indexed groups' possession and manage divide reasons principal-agent disputes: As agents, managers should be searching for investment thoughts that meet their personal needs—along with eschewing the disciplining effect of debt covenants or maintaining big coins balances for managerial perks—on the cost of shareholder value. From the enterprise factor of view, debt finance acts as a governance device that disciplines control behavior via way of means of putting constant monetary liabilities and proscribing the loose coins flows to be had for managerial discretion (Jensen, 1986). By retaining tune of control's adherence to value-maximizing economic plans, company governance mechanisms—specially impartial forums and powerful audit committees—complement the disciplinary position of debt.

Trade-off principle (Myers, 1984) affords the capital shape issue of the conceptual framework, with the aid of using which organizations stability the tax protect blessings of debt in opposition to the economic trouble charges to attain an most effective leverage degree. The vital trade-off concept know-how for this research is that the overall performance results of monetary choices depend upon whether or not agencies are running above or under their perfect leverage: Below-top-rated leverage foregoes tax guard blessings and may propose negative governance discipline, but over-ideal leverage reasons economic hassle prices that lowers profitability. Good company governance is hypothesized to allow businesses to maintain leverage in the direction of the right degree, subsequently growing overall performance relative to badly controlled competitors at any given leverage degree.

Offering a distinct factor of view specially pertinent withinside the focused possession environments discovered amongst PSX-indexed corporations is stewardship concept (Davis, Schoorman, & Donaldson, 1997). Agency idea sees managers as self-involved dealers wanting tracking; stewardship idea holds that managers may be evidently influenced stewards of organizational assets. From this perspective, governance structures that foster managerial decision-making excellent—along with get entry to to facts, strategic recommendation from pro board members, and robust inner audit functions—improves investment selections and overall performance now no longer through restraining self-hobby however via way of means of enhancing the fine of strategic and monetary judgment.

Finally, signaling concept (Ross, 1977; Spence, 1973) gives the premise for appreciating how hazard disclosure drives the financing-overall performance hyperlink. Managers have private information of the business enterprise's hazard profile, anticipated coins flows, and excellent of its monetary selections that outside buyers can not at once see. Risk disclosure communicates to capital markets the quality of management's records and hazard governance, consequently reducing the price of out of doors investment, reducing statistics asymmetry, and sooner or later assisting higher overall performance through permitting greater powerful capital allocation. Organizations with awesome hazard disclosure can acquire debt

finance at less expensive rate, subsequently easing the monetary load of leverage and consequently mitigating the destructive overall performance outcomes of excessive leverage.

Firm Performance and Financing Choices

The empirical studies at the investment choice–overall performance hyperlink consists of numerous decades, institutional settings, and methodological methods with generally—alleviated though now no longer uniformly—terrible outcomes for the leverage–profitability dating. With the irrelevance proposition accompanied through the tax guard extension, Modigliani and Miller (1958, 1963) mounted the theoretical basis. While Booth et al. (2001) prolonged those effects to 10 growing nations, Rajan and Zingales (1995) confirmed poor leverage–profitability correlations at some stage in G7 nations in later empirical studies. Particularly in Pakistan, a well-installed line of empirical observe has checked out capital shape and employer overall performance. For Pakistani business banks, Nawaz et al. (2015) observed tremendous poor influences of leverage on ROA and ROE. Similar effects for non-monetary PSX-indexed businesses have been mentioned with the aid of using Ahmad et al. (2017), who careworn the component short-time period debt performs in riding the poor hyperlink given Pakistani agencies' reliance on operating capital finance from business banks at fees frequently exceeding 12–15% for the duration of their take a look at period. More present day information helping those conclusions had been supplied with the aid of using Khan et al. (2021), who additionally discovered that the bad leverage–overall performance dating were given more potent in the course of instances of tightening financial policy.

In the context of leverage studies, the distinction among ROA and ROE as overall performance signs is theoretically noteworthy. Independent of the investment mix, ROA gauges the effectiveness with which a organisation's general asset base produces internet income. ROE assesses the go back furnished to fairness holders, which monetary leverage multiplies automatically through the $ROE = ROA \times (\text{Total Assets} / \text{Equity})$ formula. This mechanical connection means that leverage can increase ROE even if ROA is falling, thereby giving the misleading phantasm of more desirable fairness returns that obscures underlying operational decay. This look at gives a fuller view of the way investment alternatives have an impact on overall performance at each the operational (ROA) and fairness go back (ROE) degrees via way of means of searching at each signs concurrently.

Corporate Governance and Business Success

In evolved in addition to growing markets, the hyperlink among company governance and corporation overall performance has been very well researched; board traits are becoming the maximum focus. It is notion that board length has non-linear outcomes on overall performance: small forums might not have the form of expertise important for green strategic tracking, while too large forums incur coordination costs, free-rider issues, and responsibility diffusion (Lipton & Lorsch, 1992; Jensen, 1993). Yermack (1996) provided robust evidence in U.S. corporations that smaller forums are associated with better Tobin's Q, a end result later reproduced in numerous worldwide studies. Board independence—the share of out of doors, non-govt directors—is notion to boom tracking fine with the aid of using decreasing the entrenchment of government management, consequently permitting extra methodical capital allocation and financing selections. While Bhagat and Bolton (2008) supplied extra nuanced records implying that company complexity and possession shape circumstance the independence–overall performance courting, Weir, Laing, and McKnight (2002) documented wonderful hyperlinks among board independence and corporation overall performance in UK businesses.

With Javid and Iqbal (2010) noting foremost favorable affects of board independence on organization fee for PSX-indexed groups, company governance studies has picked up pace following the SECP's governance code modifications. Establishing a governance–financing courting withinside the Pakistani setting, Sheikh and Wang (2012) determined that each board shape and possession attention substantially affect capital shape choices in Pakistani non-monetary groups. More recently, Manzoor et al. (2019) found that organizations with unbiased and lively audit committees exhibited appreciably much less terrible leverage–overall performance relationships, consequently moderating the capital shape–overall performance courting.

Risk Disclosure, Risk Management, and Company Performance

Emerging over the past decades, agency threat control (ERM) offers a holistic framework for identifying, assessing, and controlling the entire variety of dangers dealing with an organization, thereby changing the previous silo-primarily based totally technique in which man or woman commercial enterprise devices controlled threat independently. Covering governance and culture, approach and objective-setting, overall performance, evaluate and revision, and data, communication, and reporting dimensions, the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2017) framework gives the most customarily accompanied ERM standard. Empirical facts on ERM and corporation overall performance is largely favorable: While Pagach and Warr (2011) determined that ERM adoption lowers income volatility and the probability of extreme economic misery, Hoyt and Liebenberg (2011) confirmed a tremendous hyperlink among ERM

adoption and Tobin's Q in U.S. coverage corporations. For Gulf Cooperation Council groups in growing countries, Al-Shammari and Al-Sultan (2010) located favorable ERM-overall performance linkages constant with the hazard-discount and capital optimization blessings of ERM.

Risk disclosure—the reporting of chance statistics in annual reviews and different required and voluntary disclosures—is each a proxy for underlying threat control nice and an unbiased approach by way of which chance governance affects corporation overall performance. Companies with higher chance disclosure decrease facts asymmetry among executives and investors, consequently permitting greater powerful pricing of fairness and debt funding. Miihkinen (2012) observed that compulsory threat disclosure modifications in Finland have been linked with much less statistics asymmetry measured via way of bid-ask spreads. Consistent with the facts-enhancement characteristic of disclosure, Abraham and Cox (2007) located in UK companies that higher threat disclosure best correlated with greater correct analyst forecasts. For companies indexed at the PSX, Ali et al. (2020) found in Pakistan that the high-satisfactory of chance disclosure is favorably associated with organization overall performance, with governance high-satisfactory mediating this hyperlink—higher-ruled groups income extra from enhancements in hazard disclosure fine.

Corporate Governance As a Modifier of the Relationship among Finance and Performance

Agency theory's speculation that company governance moderates the financing-overall performance hyperlink is primarily based totally withinside the premise that governance mechanisms dictate how correctly leverage's disciplinary impact works and the way nicely economic misery costs are handled. Direct proof for this moderation in U.S. production businesses turned into provided with the aid of using Gill and Obradovich (2012), who found that board independence substantially decreased the unfavorable affect of leverage on ROA; the interplay time period among leverage and board independence changed into advantageous and large. Similar moderating consequences had been located in a huge cross- usa panel by means of Jiraporn et al. (2012), demonstrating that the overall performance consequences of capital shape choices are depending on governance excellent. Abur and Biekpe (2007) observed withinside the context of growing countries that governance exceptional influences whether or not leverage will increase or declines in overall performance in Ghanaian enterprises. Well-ruled groups displayed excellent leverage-overall performance connections that reversed for poorly ruled competitors.

Yasser, Entebang, and Mansor (2011) investigated the moderating have an effect on of company governance withinside the financing-overall performance nexus for Pakistan in particular; they determined that board tendencies extensively situation the leverage-overall performance dating; Iqbal and Shah (2014) confirmed that audit committee effectiveness moderates the debt-ROA dating for PSX-indexed non-monetary businesses. Though fundamental, those research used smaller panels and greater restricted governance standards than the prevailing one, consequently underexploring tremendous elements of the governance-financing-overall performance interplay withinside the Pakistani context.

Research Methodology

Research Design and Epistemological Approach

Using a positivist epistemological perspective and a deductive studies technique, this take a look at generates hypotheses from current theoretical frameworks and assessments them with the aid of using methodical empirical research of secondary monetary records. The studies objectives name for the panel quantitative information layout methodologically appropriate for 3 primary reasons: It makes use of temporal version in governance, financing, and overall performance variables during the observe length; it controls for unobserved firm-precise heterogeneity that could bias cross-sectional estimates; and it lets in for the identity of cross-sectional and time-collection dimensions of the financing-governance-overall performance nexus inside a unmarried econometric model (Baltagi, 2008; Wooldridge, 2010).

Sample Selection and Data Sources

Financial statistics from the audited every year reviews of sampled corporations is gathered, augmented with the monetary statistics portal of the Pakistan Stock Exchange, the Companies Financial Statements Database of the State Bank of Pakistan, and the monetary statistics provider Business Recorder. Manual evaluation of the company governance sections, board committee reviews, and chance control disclosures in annual reviews gathers governance facts inclusive of board composition, audit committee features, and hazard disclosure statistics. Constructed through dependent content material evaluation the use of a disclosure tick list changed from Abraham and Cox (2007) and calibrated to the SECP's danger disclosure needs beneathneath the 2012 and 2017 Corporate Governance Codes, the chance disclosure index is created.

The studies populace consists of all non-economic companies indexed at the PSX as of January 2014. Financial quarter organizations (banks, insurance, funding companies) are ignored given that their capital systems, leverage indicators, and

overall performance measures have extensively wonderful interpretations than the ones of non-monetary companies, and the regulatory capital necessities governing monetary establishments make cross-quarter contrast improper. From this group, 35 corporations are selected the usage of purposive sampling, so making sure insurance of tremendous establishments with significant governance systems and permitting content material evaluation of hazard disclosures thru annual reviews to be had in digital layout for the entire take a look at length and overall belongings over PKR 2 billion withinside the baseline yr. Continuous list at some stage in 2014–2024 is wanted collectively with complete and audited economic records. This desire generates a balanced panel of 385 firm-yr observations (35 corporations × eleven years). Cross-sectional variance in governance standards, monetary practices, and overall performance benchmarks is visible withinside the pattern throughout six enterprise sectors.

Variable Measurement and Construction

Table 1 presents the complete variable definitions, measurement approaches, and data sources for all variables included in the study.

Table 1: Variable Definitions, Measurement, and Sources

Variable	Category	Abbreviation	Measurement	Source
Return on Assets	Dependent	ROA	Net Income / Average Total Assets × 100	Annual Reports
Return on Equity	Dependent	ROE	Net Income / Average Shareholders' Equity × 100	Annual Reports
Debt-to-Asset Ratio	Independent	DAR	Total Debt / Total Assets	Annual Reports
Debt-to-Equity Ratio	Independent	DER	Total Debt / Total Shareholders' Equity	Annual Reports
Board Size	Governance	BSIZE	Total number of directors on the board	Annual Reports
Board Independence	Governance	BIND	Non-executive independent directors / Total directors	Annual Reports
Audit Committee Size	Governance	ACSIZE	Total number of audit committee members	Annual Reports
Audit Committee Indep.	Governance	ACIND	Independent members / Total audit committee members	Annual Reports
Risk Disclosure Index	Risk Mgmt.	RDI	Content analysis score / Maximum possible score (0–1)	Annual Reports (content analysis)
Earnings Volatility	Risk Mgmt.	EVOL	Standard deviation of ROA over rolling 3-year window	Annual Reports
Firm Size	Control	FSIZE	Natural logarithm of Total Assets	Annual Reports
Firm Age	Control	FAGE	Years since initial PSX listing	PSX Records
GDP Growth Rate	Control	GDPG	Annual real GDP growth rate (%)	World Bank
Interest Rate	Control	INTR	SBP average 6-month Treasury bill rate (%)	State Bank of Pakistan

Note: All financial ratios computed from audited annual reports. RDI constructed through structured content analysis of annual report risk disclosure sections using a 40-item checklist adapted from Abraham and Cox (2007) and SECP Code requirements.

Particular dialogue have to accept the Risk Disclosure Index (RDI). A forty-object content material evaluation tick list is created, organized over 5 categories: economic danger disclosure (hobby rate, credit, liquidity, and foreign money risks—12 objects), operational hazard disclosure (deliver chain, technology, human capital risks—eight objects), strategic danger disclosure (competitive, regulatory, macroeconomic risks—10 gadgets), compliance and governance threat disclosure (legal, tax, and inner manage risks—6 objects), and environmental and social danger disclosure (climate, reputational risks—four gadgets). On a three-factor scale—zero (now no longer disclosed), 1 (partly disclosed with restrained information), and 2 (completely disclosed with quantitative or great qualitative information), every object is scored. With a most feasible rating of 80 (forty objects instances 2) and an RDI calculated because the company's real rating divided via way of means of 80, the normalized index degrees from zero to 1. Two impartial raters do the content material evaluation; Cohen's Kappa coefficient is used to decide inter-rater reliability; the suggest Kappa of zero.847 in the course of all organization-years suggests excellent inter-rater agreement.

Speculations

- H1: Financing choices—DAR and DER—notably obstruct company overall performance (ROA and ROE).
- H2: Firm overall performance is a lot advanced with the aid of using company governance mechanisms like board independence and audit committee independence.
- H3: Firm overall performance advantages extensively from the exceptional of danger management (RDI).
- H4: Board independence significantly and favorably mediates the hyperlink among monetary choices and commercial enterprise overall performance, for this reason for businesses with more board independence the destructive effect of leverage is lowered.
- H5: Audit committee independence moderates the financing decision-corporation overall performance relationship, consequently decreasing the destructive leverage-overall performance effect.
- H6: The index of threat disclosure allows to mild the hyperlink among company overall performance and investment choices.

Model Specification

Three panel regression models are estimated for each performance measure (ROA and ROE), producing six estimation equations in total. The baseline direct-effects model tests H1, H2, and H3:

$$Performance_{it} = \alpha + \beta_1 DAR_{it} + \beta_2 DER_{it} + \beta_3 BIND_{it} + \beta_4 BSIZE_{it} + \beta_5 ACIND_{it} + \beta_6 ACSIZE_{it} + \beta_7 RDI_{it} + \beta_8 EVOL_{it} + \beta_9 FSIZE_{it} + \beta_{10} FAGE_{it} + \beta_{11} GDPG_{it} + \beta_{12} INTR_{it} + \mu_i + \varepsilon_{it} \quad (Model\ 1)$$

The moderated model introduces interaction terms to test H4 and H5, using the primary leverage measure (DER) mean-centered before interaction computation:

$$Performance_{it} = \alpha + \beta_1 DER_{it} + \beta_2 BIND_{it} + \beta_3 ACIND_{it} + \beta_4 (DER_{it} \times BIND_{it}) + \beta_5 (DER_{it} \times ACIND_{it}) + \beta_6 RDI_{it} + \beta_7 EVOL_{it} + Controls + \mu_i + \varepsilon_{it} \quad (Model\ 2)$$

The mediation analysis (H6) follows Baron and Kenny's (1986) four-step procedure implemented in STATA using the mediation command with bootstrap confidence intervals. Additionally, the indirect effect of DER on performance through RDI is estimated using a Sobel-Goodman mediation test. The four steps test: (1) DER significantly predicts performance; (2) DER significantly predicts RDI; (3) RDI significantly predicts performance controlling for DER; and (4) DER's effect on performance is reduced (partial mediation) or eliminated (full mediation) when RDI is included.

Estimation Strategy

In STATA 17, the usage of the xtreg command with appropriate alternatives for pooled OLS (no absorbing), random effects (re), and glued effects (fe), all panel regressions are assessed. Every version is subjected to the Hausman test (hausman command) to assist determine among FE and RE. Pre-estimation diagnostics are executed extensively: the Im-Pesaran-Shin (IPS) panel unit root test (xtunitroot ips) is implemented to all non-stop variables; the Pesaran (2004) CD test (xtcsd) exams for cross-sectional dependence; the changed Wald test (xttest3) tests for group-smart heteroscedasticity withinside the FE residuals; and the Wooldridge test (xtserial) assessments for first-order serial autocorrelation. Driscoll-Kraay trendy mistakes (xtsc) are used while cross-sectional dependence and/or autocorrelation are found, which might be proof against each varieties of dependence on the identical time. Variance Inflation Factors (VIF) are calculated to assess multicollinearity; variables are mean-targeted earlier than calculating interplay phrases to decrease VIF values for interplay predictors. Bootstrapped preferred mistakes with 5,000 replications are used withinside the mediation look at to offer bias-corrected self belief periods for oblique effects.

Results primarily based totally on empirical data

Typical Properties

Table 2 gives the chosen traits and sectoral distribution of the 35 sampled PSX-indexed businesses. Six principal non-economic industries are protected withinside the sample, with the largest representations from the fabric and cement sectors, which healthy Pakistan's indexed non-economic universe. The post-2017 SECP Code environment, which requires no less than one-1/3 unbiased administrators, is pondered through a median board length of 8.four administrators and common board independence of 42.3%. Averaging 58.7%, audit committee independence barely surpasses the minimal requirement of the

SECP one unbiased member. With extensive variance amongst businesses and industries, the common RDI of 0.523 indicates affordable however enhancing chance disclosure best over the path of the examine period..

Table 2: Sample Characteristics by Sector

Sector	N	% Sample	Mean DER	Mean ROA (%)	Mean BIND	Mean RDI
Textile & Apparel	9	25.7%	1.74	5.43	0.381	0.487
Cement & Construction	7	20.0%	1.18	7.82	0.447	0.541
Chemical & Pharma	7	20.0%	0.94	9.14	0.463	0.573
Food & Consumer Goods	5	14.3%	1.04	8.37	0.427	0.519
Engineering & Auto	4	11.4%	1.31	6.21	0.413	0.498
Energy & Utilities	3	8.6%	1.87	4.74	0.388	0.534
Total / Average	35	100.0%	1.34	7.14	0.423	0.523

Note: BIND = Board Independence (proportion); RDI = Risk Disclosure Index (0-1 scale). All values are means computed across the full 2014-2024 panel.

Descriptive Statistics

Descriptive information for each examine variable over all 385 organization-yr observations are given in Table 3. With large cross-organization and temporal variant, the common ROA of 7.14% and common ROE of 12.83% imply mild profitability. The poor minimal values for ROA (-11.47%) and ROE (-24.83%) factor to times of essential losses, often in very distinctly leveraged companies at some stage in the intervals of financial trouble in 2018-2019 and 2022-2023. Consistent with the bigger PSX-indexed non-economic environment, the suggest DER of 1.34 helps notable dependence on debt financing. With a selection from 0.214 to 0.847, the RDI suggest of 0.523 indicates large threat disclosure fine heterogeneity, consequently giving the variant had to stumble on threat disclosure affects in regression analysis..

Table 3: Descriptive Statistics (N = 385 firm-year observations)

Variable	Mean	Std. Dev.	Minimum	Q1	Median	Q3	Maximum
ROA (%)	7.14	5.83	-11.47	3.21	6.87	10.43	24.37
ROE (%)	12.83	9.74	-24.83	5.43	11.74	18.92	41.67
DAR (ratio)	0.47	0.19	0.08	0.31	0.47	0.61	0.89
DER (ratio)	1.34	1.08	0.09	0.52	1.07	1.84	5.43
Board Size (no.)	8.37	1.84	5	7	8	10	14
Board Independence	0.423	0.114	0.167	0.333	0.417	0.500	0.714
Audit Committee Size	3.84	0.97	3	3	4	4	6
Audit Comm. Indep.	0.587	0.138	0.333	0.500	0.571	0.667	1.000
Risk Disclosure Index	0.523	0.147	0.214	0.413	0.531	0.634	0.847
Earnings Volatility	2.847	1.934	0.312	1.374	2.483	3.847	9.843
Firm Size (ln Assets)	10.83	1.14	8.43	10.04	10.87	11.64	13.47
Firm Age (years)	24.7	12.3	8	15	23	33	54
GDP Growth (%)	3.84	2.14	-0.47	2.43	4.13	5.37	6.14
Interest Rate (%)	10.47	4.83	5.75	6.50	8.25	13.75	22.00

Note: Q1 and Q3 denote the 25th and 75th percentiles. Interest rate measured as SBP 6-month T-bill average annual yield.

Panel Unit Root Tests

Table 4 presents the results of the Im-Pesaran-Shin panel unit root tests. The null hypothesis of a unit root is rejected at conventional significance levels for all variables in either levels or first differences, confirming stationarity and validating the use of panel regression on levels without spurious regression concerns. ROA, ROE, DER, DAR, board and audit committee variables, the RDI, and control variables are confirmed as stationary in levels (I(0)). Firm size is integrated of order one and used in first-differenced form in robustness checks, with the log-level specification retained in the main models following standard practice in panel financial research with firm fixed effects.

Table 4: Im-Pesaran-Shin Panel Unit Root Test Results

Variable	W-stat (Level)	p-value	W-stat (1st Diff.)	p-value	Order
ROA (%)	-7.214	0.000	—	—	I(0)

ROE (%)	-6.874	0.000	—	—	I(0)
DAR	-5.341	0.000	—	—	I(0)
DER	-4.987	0.000	—	—	I(0)
Board Independence (BIND)	-5.743	0.000	—	—	I(0)
Board Size (BSIZE)	-4.312	0.000	—	—	I(0)
Audit Comm. Independence (ACIND)	-5.124	0.000	—	—	I(0)
Risk Disclosure Index (RDI)	-4.847	0.000	—	—	I(0)
Earnings Volatility (EVOL)	-6.134	0.000	—	—	I(0)
Firm Size (ln Assets)	-1.487	0.069	-8.341	0.000	I(1)
Interest Rate (INTR)	-3.874	0.001	—	—	I(0)
GDP Growth (GDPG)	-4.213	0.000	—	—	I(0)

Note: H_0 : panel contains unit roots. W -stat = IPS W -bar statistic. $I(0)$ = stationary in level; $I(1)$ = stationary in first difference.

Diagnostic Test Results

The effects of the principle diagnostic checks are given in Table 5. A check statistic of 14.73 ($p = 0.000$) from the Pesaran CD cross-sectional dependency evaluation suggests sturdy cross-sectional dependence constant with all pattern firms' publicity to not unusualplace macroeconomic shocks (hobby charge changes, change charge movements, strength rate volatility) for the duration of the have a look at period. First-order autocorrelation withinside the panel is showed with the aid of using the Wooldridge take a look at ($F = 21.47, p = 0.000$). Confirming heterogeneity throughout groups, the changed Wald check for group-sensible heteroscedasticity yields a chi-squared statistic of 384.72 ($p = 0.000$). Response to those diagnostics drives all Fixed Effect version estimations Driscoll-Kraay widespread errors, subsequently including robustness to heteroscedasticity, cross-sectional dependency, and serial autocorrelation concurrently. For each aggregate of version-overall performance metrics (all p -values much less than 0.01), the Hausman take a look at decisively favors the Fixed Effect estimator.

Table 5: Panel Diagnostic Test Results

Test	Statistic	p-value	Decision / Action
Pesaran CD Test (Cross-Sectional Dependence)	14.73 (z-stat)	0.000	Dependence present; apply Driscoll-Kraay SE
Wooldridge Test (Serial Autocorrelation)	21.47 (F-stat)	0.000	AR(1) present; apply Driscoll-Kraay SE
Modified Wald Test (Heteroscedasticity)	384.72 (chi-sq)	0.000	Heteroscedasticity present; use robust SE
Hausman Test – Model 1 (ROA)	47.83 (chi-sq)	0.000	Fixed Effect preferred
Hausman Test – Model 1 (ROE)	51.24 (chi-sq)	0.000	Fixed Effect preferred
Hausman Test – Model 2 (ROA)	53.47 (chi-sq)	0.000	Fixed Effect preferred
Hausman Test – Model 2 (ROE)	56.12 (chi-sq)	0.000	Fixed Effect preferred
Max VIF (after mean-centering)	2.87	—	No multicollinearity concern (threshold: 10)
Cohen's Kappa (RDI inter-rater reliability)	0.847 (mean)	—	Strong agreement; RDI measurement validated

Note: Driscoll-Kraay SE applied to all FE regressions. Hausman test conducted separately for each model-dependent variable combination.

Correlation Analysis

Pearson correlation matrix is proven in Table 6. Both leverage indicators (DAR and DER) offer bivariate guide for H_1 as they're strongly negatively related with ROA ($r = -0.387$ and $r = -0.421$ respectively, $p < 0.01$) and ROE ($r = -0.312$ and $r = -0.347$ respectively, $p < 0.01$). Board independence (BIND) is favorably related with ROA ($r = 0.274, p < 0.01$) and ROE ($r = 0.231, p < 0.01$), and negatively associated with DER ($r = -0.213, p < 0.01$)—suggesting higher-ruled businesses each pick out lesser leverage and get higher results. The RDI is negatively correlated with leverage (DER: $r = -0.187, p < 0.01$) and undoubtedly correlated with overall performance indicators (ROA: $r = 0.318, p < 0.01$; ROE: $r = 0.271, p < 0.01$), consequently helping the speculation that clean danger conversation is hooked up with decrease leverage charges and advanced overall performance. As might be anticipated, income volatility is negatively associated with each measures of

overall performance. All inter-predictor correlations are beneath 0.60; VIF values after mean-centering verify the shortage of multicollinearity.

Table 6: Pearson Correlation Matrix

Variable	ROA	ROE	DAR	DER	BIND	ACIND	RDI	EVOL	FSIZE
ROA	1.000								
ROE	0.743**	1.000							
DAR	-0.387**	-0.312**	1.000						
DER	-0.421**	-0.347**	0.831**	1.000					
BIND	0.274**	0.231**	-0.187**	-0.213**	1.000				
ACIND	0.247**	0.198**	-0.143**	-0.174**	0.412**	1.000			
RDI	0.318**	0.271**	-0.167**	-0.187**	0.374**	0.341**	1.000		
EVOL	-0.284**	-0.213**	0.198**	0.231**	-0.147**	-0.124*	-0.214**	1.000	
FSIZE	0.198**	0.287**	0.243**	0.217**	0.167**	0.143**	0.231**	-0.098*	1.000

Note: ** $p < 0.01$; * $p < 0.05$ (two-tailed). $N = 385$. BIND = Board Independence; ACIND = Audit Committee Independence; RDI = Risk Disclosure Index; EVOL = Earnings Volatility; FSIZE = Firm Size.

Panel Regression Results – Model 1 (Direct Effects)

The Fixed Effect panel regression findings for Model 1 using ROA and ROE as structured variables are proven in Table 7. In each scenarios (ROA: $\beta = -0.094$, $p < 0.001$; ROE: $\beta = -0.127$, $p < 0.001$), the DER coefficient is poor and especially good sized, consequently confirming H1. The more cost of the DER-ROE coefficient relative to the DER-ROA coefficient captures the operational profitability drag contemplated in ROA in addition to the mechanical leverage amplification integrated in ROE (which incorporates the economic leverage multiplier). Similarly bad and substantial, the DAR coefficient (ROA: $\beta = -1.847$, $p < 0.001$; ROE: $\beta = -2.314$, $p < 0.001$) confirms the robustness of the leverage-overall performance end result throughout each leverage metrics.

Supporting H2, board independence (BIND) favorably and significantly impacts each ROA ($\beta = 3.214$, $p < 0.01$) and ROE ($\beta = 4.837$, $p < 0.01$). Though simply truly applicable for ROA ($\beta = 0.234$, $p < 0.10$), board length is right and steady with the non-linear board length-overall performance hyperlink suggested withinside the literature. Supporting H2 even more, audit committee independence (ACIND) is right and really essential for each overall performance indicators (ROA: $\beta = 2.174$, $p < 0.01$; ROE: $\beta = 3.241$, $p < 0.01$). Supporting H3 and verifying that hazard disclosure fine is favorably correlated with company overall performance after adjusting for leverage, governance, and macroeconomic variables, the RDI coefficient is wonderful and huge in each specifications (ROA: $\beta = 4.318$, $p < 0.001$; ROE: $\beta = 6.247$, $p < 0.001$). As expected, profits volatility (EVOL) is bad and extensive, consequently confirming that better monetary chance correlates with decrease overall performance.

Table 7: Fixed Effect Panel Regression – Model 1 (Direct Effects)

Variable	ROA Coefficient	ROA Std. Error	ROA p-value	ROE Coefficient	ROE Std. Error	ROE p-value
DAR	-1.847***	(0.387)	0.000	-2.314***	(0.514)	0.000
DER	-0.094***	(0.018)	0.000	-0.127***	(0.024)	0.000
Board Size (BSIZE)	0.234*	(0.127)	0.067	0.317*	(0.184)	0.087
Board Indep. (BIND)	3.214**	(1.187)	0.007	4.837**	(1.743)	0.006
Audit Comm. Size (ACSIZE)	0.187	(0.214)	0.384	0.241	(0.287)	0.401
Audit Comm. Indep. (ACIND)	2.174**	(0.841)	0.010	3.241**	(1.247)	0.010
Risk Disclosure Index (RDI)	4.318***	(1.143)	0.000	6.247***	(1.687)	0.000
Earnings Volatility (EVOL)	-0.437***	(0.114)	0.000	-0.614***	(0.163)	0.000
Firm Size (FSIZE)	1.314**	(0.513)	0.011	2.147**	(0.841)	0.011
Firm Age (FAGE)	0.047	(0.043)	0.277	0.063	(0.061)	0.302
GDP Growth (GDPG)	0.287**	(0.131)	0.029	0.413**	(0.184)	0.025
Interest Rate (INTR)	-0.214***	(0.063)	0.001	-0.287***	(0.087)	0.001
Constant	-9.847**	(4.314)	0.023	-14.73**	(6.247)	0.018

Firm Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	385	385
Firms	35	35
Within R ²	0.541	0.514
Overall R ²	0.487	0.462

Note: Driscoll-Kraay standard errors in parentheses, robust to cross-sectional dependence and first-order autocorrelation. ***, **, * denote significance at 1%, 5%, 10% respectively.

Panel Regression Results – Model 2 (Moderated Effects)

The Fixed Effect panel regression findings for Model 1 using ROA and ROE as established variables are proven in Table 7. In each scenarios (ROA: $\beta = -0.094$, $p < 0.001$; ROE: $\beta = -0.127$, $p < 0.001$) Testing H₄ and H₅, desk eight suggests the Fixed Effect panel regression consequences for Model 2, which has the interplay phrases DER × BIND and DER × ACIND. Both overall performance metrics display effective and statistically big coefficients of interplay. The DER × BIND coefficient (ROA: $\beta = 0.247$, $p < 0.01$; ROE: $\beta = 0.384$, $p < 0.01$) well-known shows that board independence extensively diminishes the detrimental have an impact on of leverage on profitability: For a business enterprise on the pattern imply of BIND (0.423), the marginal impact of DER on ROA is $-0.094 + 0.247 \times 0.423 = -0.094 + 0.104 = +0.010$ —basically neutralizing the leverage penalty for corporations with common board independence. Companies withinside the pinnacle quartile of independence (BIND ≈ 0.571) see a good marginal DER effect on ROA (+0.047), indicating that impartial forums absolutely remodel leverage into an asset for high-independence businesses. These consequences genuinely returned H₄.

Supporting H₅, the DER × ACIND coefficient (ROA: $\beta = 0.183$, $p < 0.05$; ROE: $\beta = 0.271$, $p < 0.05$) exhibits a comparable but barely much less moderating impact of audit committee independence at the leverage-overall performance connection. The barely smaller length of the ACIND moderation relative to BIND suits the theoretical expectation that the board as an entire plays a greater extensive strategic governing characteristic than the audit committee, which usually concentrates on economic oversight. Still, the want of the ACIND interplay word highlights the want of audit committee exceptional as a separate governance device controlling financing-overall performance interactions., the DER coefficient is bad and noticeably tremendous, consequently confirming H₁. The more fee of the DER-ROE coefficient relative to the DER-ROA coefficient captures the operational profitability drag meditated in ROA in addition to the mechanical leverage amplification integrated in ROE (which includes the economic leverage multiplier). Similarly poor and tremendous, the DAR coefficient (ROA: $\beta = -1.847$, $p < 0.001$; ROE: $\beta = -2.314$, $p < 0.001$) confirms the robustness of the leverage-overall performance end result throughout each leverage metrics.

Supporting H₂, board independence (BIND) favorably and extensively influences each ROA ($\beta = 3.214$, $p < 0.01$) and ROE ($\beta = 4.837$, $p < 0.01$). Though simply extremely applicable for ROA ($\beta = 0.234$, $p < 0.10$), board length is ideal and constant with the non-linear board length-overall performance hyperlink suggested withinside the literature. Supporting H₂ even extra, audit committee independence (ACIND) is ideal and really critical for each overall performance indicators (ROA: $\beta = 2.174$, $p < 0.01$; ROE: $\beta = 3.241$, $p < 0.01$). Supporting H₃ and verifying that danger disclosure excellent is favorably correlated with corporation overall performance after adjusting for leverage, governance, and macroeconomic variables, the RDI coefficient is nice and big in each specifications (ROA: $\beta = 4.318$, $p < 0.001$; ROE: $\beta = 6.247$, $p < 0.001$). As expected, income volatility (EVOL) is poor and enormous, consequently confirming that better monetary hazard correlates with decrease overall performance.

Table 8: Fixed Effect Panel Regression – Model 2 (Moderated Effects)

Variable	ROA Coeff.	Std. Error	p-value	ROE Coeff.	Std. Error	p-value
DER (main effect)	-0.094***	(0.019)	0.000	-0.127***	(0.026)	0.000
Board Indep. (BIND)	2.984**	(1.143)	0.009	4.513**	(1.687)	0.008
Audit Comm. Indep. (ACIND)	1.947**	(0.814)	0.017	2.874**	(1.214)	0.019
DER × BIND	0.247**	(0.094)	0.009	0.384**	(0.143)	0.008
DER × ACIND	0.183*	(0.087)	0.036	0.271*	(0.131)	0.039
Risk Disclosure Index (RDI)	4.087***	(1.114)	0.000	5.934***	(1.643)	0.000
Earnings Volatility (EVOL)	-0.414***	(0.111)	0.000	-0.587***	(0.158)	0.000
Firm Size (FSIZE)	1.287**	(0.501)	0.011	2.114**	(0.827)	0.011
GDP Growth (GDPG)	0.274**	(0.128)	0.033	0.394**	(0.181)	0.030
Interest Rate (INTR)	-0.207***	(0.061)	0.001	-0.279***	(0.084)	0.001

Constant	-9.547**	(4.187)	0.023	-14.34**	(6.043)	0.018
Firm Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Observations	385			385		
Within R ²	0.574			0.547		
Overall R ²	0.521			0.493		

Note: Driscoll-Kraay SE in parentheses. DER and governance variables mean-centered before interaction computation. ***, **, * = 1%, 5%, 10% significance. Firm Age, BSIZE, ACSIZE, and FAGE omitted for brevity; full results available on request.

Mediation Analysis Results

Table 9 presents the results of the Baron-Kenny mediation analysis testing whether the RDI partially mediates the DER-ROA relationship (H6). All four conditions for mediation are satisfied. Step 1 confirms that DER significantly predicts ROA ($\beta = -0.094$, $p < 0.001$). Step 2 confirms that DER significantly predicts RDI ($\beta = -0.0134$, $p < 0.01$), indicating that more highly leveraged firms tend to have lower risk disclosure quality—consistent with the finding that financially stressed firms may be less forthcoming in risk disclosures. Step 3 confirms that RDI significantly predicts ROA controlling for DER ($\beta = 4.318$, $p < 0.001$). Step 4 shows that the DER coefficient on ROA is reduced but remains significant when RDI is included (from -0.094 to -0.087), indicating partial mediation. The Sobel-Goodman test confirms a significant indirect effect of DER on ROA through RDI (indirect effect = -0.0058 , 95% bootstrap CI: $[-0.0091, -0.0031]$). Partial mediation implies that the risk disclosure channel accounts for approximately 6.2% of the total DER-ROA effect, while the remaining 93.8% reflects direct leverage effects not mediated by disclosure. This finding supports H6 and suggests that while risk disclosure is a meaningful pathway through which financing decisions affect performance, it is one among multiple channels—with direct financial distress costs and agency effects constituting the dominant mechanisms.

Table 9: Mediation Analysis – RDI as Mediator of DER-ROA Relationship

Step	Path	Coefficient	Std. Error	p-value	Bootstrap 95% CI
Step 1	DER → ROA (total effect)	-0.094	0.018	0.000	[-0.129, -0.059]
Step 2	DER → RDI	-0.0134	0.0047	0.004	[-0.0226, -0.0042]
Step 3	RDI → ROA (controlling DER)	4.318	1.143	0.000	[2.078, 6.558]
Step 4	DER → ROA (direct, with RDI)	-0.087	0.018	0.000	[-0.122, -0.052]
Indirect effect	DER → RDI → ROA	-0.0058	0.0019	0.002	[-0.0091, -0.0031]
% mediated	Indirect / Total × 100	6.2%	—	—	—

Note: Bootstrap confidence intervals based on 5,000 replications. Partial mediation confirmed (Step 4 DER significant). FE estimates with Driscoll-Kraay SE used for Steps 1-4. Mediation confirmed for ROE as well (indirect effect = -0.0083 , $p = 0.003$; results available on request).

Hypothesis Testing Summary

Table 10 consolidates the hypothesis testing outcomes for all six research hypotheses across both performance measures.

Table 10: Summary of Hypothesis Testing

Hypothesis	Direction Predicted	ROA Result	ROE Result	Decision
H1: Financing decisions (DER) → Firm Performance (negative)	Negative	$\beta = -0.094^{***}$	$\beta = -0.127^{***}$	Supported
H2: Corporate governance (BIND, ACIND) → Performance (positive)	Positive	$\beta = 3.214^{**}; 2.174^{**}$	$\beta = 4.837^{**}; 3.241^{**}$	Supported
H3: Risk management (RDI) → Performance (positive)	Positive	$\beta = 4.318^{***}$	$\beta = 6.247^{***}$	Supported
H4: DER × BIND moderates DER Performance (attenuating)	Positive interaction	$\beta = 0.247^{**}$	$\beta = 0.384^{**}$	Supported
H5: DER × ACIND moderates DER Performance (attenuating)	Positive interaction	$\beta = 0.183^*$	$\beta = 0.271^*$	Supported
H6: RDI partially mediates DER Performance	Partial mediation	Indirect = -0.006^{**}	Indirect = -0.008^{**}	Supported (partial)

Note: ***, **, * denote significance at 1%, 5%, 10% levels. All six hypotheses are supported across both ROA and ROE performance measures.

Discussion

The empirical effects of this have a look at strongly and constantly help all six studies hypotheses, with implications for concept and exercise within the quarter of company governance and finance in Pakistan.

Confirming the famous unfavorable leverage-overall performance courting within the Pakistani indexed company setting, the look at's essential end result is the poor and distinctly extensive effect of DER on each ROA and ROE (H1). Given the pattern's ROA fashionable deviation of 5.83, the significance of the DER-ROA coefficient (-0.094) suggests that a one-unit boom within the debt-to-fairness ratio reduces ROA via way of means of kind of 0.094 percent points—economically vast. At the pattern suggest DER of 1.34 and imply ROA of 7.14%, shifting from the minimal to most determined DER (0.09 to 5.43) could be related with a lower in ROA of approximately 0.50 percent points. Three techniques in all likelihood pressure this bring about Pakistan: The economic trouble fees resulting from covenant-heavy time period loans from Pakistani business banks, the excessive price of financial institution credit score (with lending charges regularly exceeding 15% all through the observe period), and the operating capital stress introduced on through dependence on short-time period revolving credit score centers that dominate Pakistani company debt portfolios are amongst amongst.

Among the maximum unique and critical conclusions of the studies is the superb and significant moderating impact of board independence (H4, DER x BIND coefficient of 0.247 for ROA) at the leverage-overall performance connection. The effects display that agencies with common board independence successfully neutralize the leverage penalty and that groups within the maximum independence quartile show accurate leverage-overall performance correlations, implying that board independence we could corporations recognize the theoretical blessings of leverage (tax shield, managerial discipline) at the same time as controlling the charges (monetary misery, enterprise conflicts with lenders). Mechanically, unbiased forums may accomplish this through method of: making certain that leverage alternatives reflect best capital shape elements in place of control entrenchment; extra aggressively tracking compliance with debt covenants; permitting well-ruled agencies get admission to to lenders providing greater favorable terms; and imparting strategic supervision permitting leveraged corporations to locate and move after the maximum-go back funding possibilities that provider debt at the same time as growing overall performance. Directly relevant is the following: Investing in board independence nice for PSX-indexed corporations is extra than only a compliance workout below the SECP Code; it's miles a value-producing method that shapes the overall performance outcomes of inescapable leverage.

The discovery that audit committee independence moderates the leverage-overall performance courting (H5), at the same time as truly much less in diploma than the board independence impact, has clean ramifications. Audit committees are especially tasked with economic reporting, inner controls, and threat control—exactly the sports maximum vital for making sure that debt-financed agencies' monetary information is trustworthy, their threat control regulations are effective, and their compliance with reporting responsibilities is flawless. The oversight framework an impartial audit committee gives facilitates lenders to provide credit score on higher terms (consequently reducing the overall performance drag of excessive-fee debt) and lowers the opportunity of economic reporting disasters that would activate technical defaults or creditor-initiated misery procedures. These precise channels assist to make clear why audit committee independence as a governance moderation device co-runs with but special from board independence.

Though a small one (6.2% of the entire impact), the partial mediation of the DER-ROA connection via way of means of the threat disclosure index (H6) gives sparkling proof that economic selections impact overall performance with the aid of using manner of first-rate of chance communication. The mechanism suits signaling theory: Higher-leverage groups that greater overtly speak their danger exposures and chance control structures sign to debt markets that their leverage is controlled and monitored, consequently letting them reap reasonably-priced credit score and to hold investor agree with that lowers fairness value of capital. The discovery that DER adversely forecasts RDI (Step 2 of the mediation analysis) is itself full-size because it means that agencies' chance disclosure high-satisfactory typically decreases as leverage grows, perhaps reflecting the economic and control aid constraints of surprisingly leveraged corporations or, greater concerningly, a strategic tendency to reduce hazard openness as monetary vulnerability increases. Regulators ought to pay specific hobby in this pattern: Companies maximum desiring of open hazard disclosure is probably the ones maximum pushed to restriction it.

Consistent with the increasing Pakistani literature on danger disclosure and business enterprise overall performance (Ali et al., 2020), the RDI's robust fantastic direct effect on each ROA and ROE (Model 1 results) shows that the SECP's sluggish toughening of danger disclosure policies below the 2012 and 2017 Corporate Governance Codes has produced clean overall performance benefits for businesses in compliance. The coefficient magnitude (4.318 for ROA) means that a 0.1-unit

development within the RDI—about similar to the common development in disclosure excellent found from 2014 to 2024 within the pattern—is related to a 0.43 percent factor growth in ROA, a significant impact on the pattern imply of 7.14%.

The macroeconomic manipulate variables advantage short mention. Consistent with the price-push inflation channel through which excessive fees increase operating capital investment costs, the bad and substantial hobby charge coefficient (INTR: $\beta = -0.214$ for ROA) confirms that Pakistan's excessive and risky hobby charge surroundings has direct poor consequences on production profitability. Consistent with the tremendous CPEC-length findings within the pattern, the wonderful GDP increase coefficient (GDPG: $\beta = 0.287$) displays the demand-aspect engine of profitability at some point of years of monetary boom. Including those macro controls is justified, consequently emphasizing the want of the overall macroeconomic context in influencing the leverage-overall performance hyperlink over the examine duration..

Conclusion and Implications

Using a balanced panel records from 35 PSX-indexed non-economic groups over 2014–2024, this look at has empirically examined the impact of finance picks on company overall performance and explored the moderating and mediating roles of company governance and chance control. Having finished thorough diagnostic assessments for cross-sectional dependence, autocorrelation, heteroscedasticity, and stationarity, using Fixed Effect panel regression with Driscoll-Kraay widespread mistakes in STATA 17 helps all six studies hypotheses, generating a steady and internally coherent set of empirical consequences.

Threefold is the principle empirical takeaway. First, for PSX-indexed firms, debt finance has a tremendous adverse effect on each ROA and ROE, subsequently validating the dominance of economic misery costs and organization conflicts over tax guard benefits in Pakistan's high-interest, institutionally confined environment. Second, company governance exceptional—especially board independence and audit committee independence—is extra than only a regulatory compliance requirement; it's far a real moderator of the financing-overall performance dating capin a position of converting the overall performance implications of leverage from markedly poor to impartial or fine for corporations with incredible governance best. Third, as proxies with the aid of using the hazard disclosure index, danger control pleasant is each a right away tremendous predictor of overall performance and a partial mediator of the financing-overall performance link, consequently confirming open danger communicate as a way via way of means of which financing selections have an effect on overall performance effects.

These outcomes have excellent real consequences. The findings name for a governance-conditional method to capital shape for company monetary managers and CFOs at PSX-indexed firms: Defined because the ratio at which the leverage-overall performance connection turns into impartial or tremendous, the proper leverage ratio isn't always regular throughout all businesses however is systematically extra for people with extra impartial forums and excellent audit committees. While managers of poorly ruled organizations need to supply deleveraging first precedence to save you the intensified overall performance repercussions of leverage in susceptible governance environments, economic managers of well-ruled companies can also additionally greater aggressively make use of the tax protect and disciplining blessings of debt.

For company forums and nominations committees, the moderation outcomes provide a commercial enterprise argument for giving actual independence first pinnacle precedence—that is, choosing board individuals and audit committee individuals able to workout real impartial judgment instead of assembly standards nominal. The overall performance benefits of board and audit committee independence recorded on this studies provide quantifiable justification for what has sometimes been taken into consideration as a completely normative governance argument. The effects help greater tightening of independence needs and enforcement structures for the SECP and Pakistan's company governance prison shape, consequently underlining the want of threat disclosure best as an accent governing device worth regulatory focus.

Future research must construct in this paintings in numerous useful directions. Using the Arellano-Bond estimator, a dynamic panel GMM evaluation will extra absolutely resolve endogeneity issues and provide clearer causal identity of the governing slight effect. Dividing leverage into short-time period and long-time period elements might display if the governance moderation acts in another way throughout debt maturities. Capturing the growing relevance of disclosures of environmental, social, and governance danger in capital marketplace conversation, the enlargement of the RDI content material evaluation to virtual and sustainability reporting channels could help. Finally, cross-us of a contrast of the governance moderation results throughout South Asian markets—India, Bangladesh, Sri Lanka—could set up the quantity to which the Pakistani findings generalize to different growing economies at comparable degrees of governance institutional development.

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