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# Ownership Structure and Leverage as Precursors to Financial Distress in an Emerging Economy: A Mediating Model

(Articles-in-Press)

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#### **Abstract**

**Purpose**—This study investigates the mediating role of leverage structure in the relationship between corporate ownership composition and financial distress within an emerging economy. Given that stakeholders' influence on leverage decisions can significantly alter a firm's risk profile, we examine the specific pathways through which different ownership categories, via their leverage choices, affect the likelihood of financial distress.

Design/methodology/approach — The study examines the impact of leverage structure on the relationship between ownership structure and financial distress. A panel dataset from 2017 to 2021 in Pakistan is analyzed using the Preacher-Hayes (Preacher & Hayes, 2004) method to identify both direct and indirect pathways. Additional sensitivity analysis involves testing different methodological approaches and alternative proxies for mediating variables. Pooled OLS regression serves as the main estimation method, with PCSE (panel-corrected standard error) regression used for robustness checks.

**Findings** – Results show that total leverage mediates the impact of institutional ownership, insider ownership, and foreign ownership on financial distress in Pakistan. Regarding debt maturity, findings confirm that the effects of institutional and foreign ownership on financial distress are mediated by long-term leverage. Additionally, the influence of insider ownership, foreign ownership, and state ownership on financial distress is mediated by short-term leverage.

**Research limitations/implications** – This study focuses on an emerging economy and highlights implications of the tradeoff theory, which limits the extensive use of leverage, whether short-term or long-term.

**Originality/value** – This research explores the less-examined mediating role of leverage structure, which integrates both capital and debt maturity structures. Moreover, there is limited literature linking ownership structure with financial distress in both developed and developing countries. The findings provide a quantitative framework that enhances managerial decision-making by clarifying how different ownership structures, through the mechanism of leverage, impact financial risk, thereby making a significant contribution to the corporate finance literature on risk management and governance. The findings offer a granular framework for decision-makers to understand and mitigate financial risk originating from the interplay of ownership and leverage.

**Keywords**: Ownership structure, leverage structure, financial distress, mediation, Pooled OLS, PCSE

JEL Classifications: C51, C54, C58, G32, G34

#### References

- Adil, M., Hussain, R. Y., Irshad, H., & Awais, M. (2024). Unveiling the Financial Leverage-Profitability Nexus in Pakistan's Textile Sector: A Moderating Role of Growth Considering the Influence of COVID-19. *Advances in Business and Commerce* 3(1), 114-142.
- Adil, M., Hussain, R. Y., Rassas, A. H. A., Hussain, H., & Irshad, H. (2025). Assessing the impact of economic policy uncertainty on corporate leverage structure: do foreign ownership act as buffer?. *Cogent Economics & Finance*, 13(1), 2476100.
- Aggarwal, R., Erel, I., Ferreira, M., & Matos, P. (2011). Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics*, *100*(1), 154-181.
- Alam, S., Das, S. K., Dipa, U. R., & Hossain, S. Z. (2024). Predicting financial distress through ownership pattern: dynamics of financial resilience of Bangladesh. *Future Business Journal*, 10(1), 91.
- Al-Fayoumi, N., Abuzayed, B., & Alexander, D. (2010). Ownership structure and earnings management in emerging markets: The case of Jordan. *International Research Journal of Finance and Economics*, 38(1), 28-47.
- AL-Gharaibeh, M., Ali, A., Farooq, U., & Alhaddad, L. (2024). The interaction between asset tangibility, cash holdings, and financial development: An evidence from emerging economy. *Advances in Decision Sciences*, 27(4), 114-132.
- Ali, S., Ur Rehman, R., Yuan, W., Ahmad, M. I., & Ali, R. (2022). Does foreign institutional ownership mediate the nexus between board diversity and the risk of financial distress? A case of an emerging economy of China. *Eurasian Business Review*, 12(3), 553-581
- Allaya, M., Derouiche, I., & Muessig, A. (2022). Voluntary disclosure, ownership structure, and corporate debt maturity: A study of French listed firms. *International Review of Financial Analysis*, 81, 101300.
- Altaf, K., Ayub, H., Shabbir, M. S., & Usman, M. (2022). Do operational risk and corporate governance affect the banking industry of Pakistan?. *Review of Economics and Political Science*, 7(2), 108-123.
- Altman, E. I. (2005). An emerging market credit scoring system for corporate bonds. *Emerging Markets Review*, 6(4), 311-323.
- Anderson, R. C., & Reeb, D. M. (2003). Founding-family ownership and firm performance: evidence from the S&P 500. *The Journal of Finance*, *58*(3), 1301-1328.
- Angsoyiri, D., & Ativor, A. (2021). The Potential for the Application of the Emerging Market Z-score Model in the case of Listed Banks in Ghana. *International Journal of Business, Technology and Organizational Behavior (IJBTOB)*, 1(2), 85-97.
- Ararat, M., Claessens, S., & Yurtoglu, B. B. (2021). Corporate governance in emerging markets: A selective review and an agenda for future research. *Emerging Markets Review*, 48, 100767.
- Barry, J. W., Campello, M., Graham, J. R., & Ma, Y. (2022). Corporate flexibility in a time of crisis. *Journal of Financial Economics*, 144(3), 780-806.
- Bebchuk, L. A., Kraakman, R., & Triantis, G. (2000). Stock pyramids, cross-ownership, and dual class equity: the mechanisms and agency costs of separating control from cash-flow rights. In *Concentrated corporate ownership* (pp. 295-318). University of Chicago Press.
- Blum, J. M. (2002). Subordinated debt, market discipline, and banks' risk taking. *Journal of Banking & Finance*, 26(7), 1427–1441.

- Brailsford, T. J., Oliver, B. R., & Pua, S. L. H. (2002). On the relation between ownership structure and capital structure. *Accounting and Finance*, 42(1), 1–26.
- Brown, D. T., Fee, C. E., & Thomas, S. E. (2009). Financial leverage and bargaining power with suppliers: Evidence from leveraged buyouts. *Journal of Corporate Finance*, 15(2), 196–211.
- Bui, T. (2022). Corporate blockholders and financial leverage. Financial Review, 57(3), 559-583.
- Chang, C. L., McAleer, M., & Wong, W. K. (2018). Decision sciences, economics, finance, business, computing, and big data: Connections. *Advances in Decision Sciences*, 22(1), 36-94.
- Chen, X., Lin, S., & Reed, W. R. (2008). A Monte Carlo evaluation of the efficiency of the PCSE estimator. *Applied Economics Letters*, 17(1), 7–10.
- Choi, I. (2001). Unit root tests for panel data. *Journal of International Money and Finance*, 20(2), 249-272.
- Chow, C. K., & Fung, M. K. Y. (2000). Small businesses and liquidity constraints in financing business investment. *Journal of Business Venturing*, 15(4), 363–383.
- Cooper, M. J., Gulen, H., & Schill, M. J. (2008). Asset growth and the Cross-Section of stock returns. *The Journal of Finance*, 63(4), 1609–1651.
- Crisóstomo, V. L., & Freire, F. D. S. (2015). The influence of ownership concentration on firm resource allocations to employee relations, external social actions, and environmental action. *Revista brasileira de gestão de negócios*, 17(55), 987-1006.
- Dang, C., Li, Z., & Yang, C. (2018). Measuring firm size in empirical corporate finance. *Journal of Banking and Finance*, 86, 159–176.
- Das, P. (2014). The role of corporate governance in foreign investments. *Applied Financial Economics*, 24(3), 187-201.
- Fayoumi, N. A., & Abuzayed, B. (2010). Ownership structure and earnings management in emerging markets: The case of Jordan. *The International Research Journal of Finance and Economics*, 49, 88-102.
- Ferreira, M. A., & Matos, P. (2008). The colors of investors' money: The role of institutional investors around the world. *Journal of Financial Economics*, 88(3), 499-533.
- Firmansyah, I., & Maharani, A. (2021). Pengaruh Current Ratio (Cr) Dan Debt to Equity Ratio (Der) Terhadap Harga Saham Pada Perusahaan Sektor Infrastruktur, Utilitas, Dan Transportasi Yang Terdaftar Di'Bei. *Land Journal*, 2(1), 11-22.
- Flammer, C., Toffel, M. W., & Viswanathan, K. (2021). Shareholder activism and firms' voluntary disclosure of climate change risks. *Strategic Management Journal*, 42(10), 1850–1879.
- Gilson, R. J., & Gordon, J. N. (2013). The agency costs of agency capitalism: Activist investors and the revaluation of governance rights. *Colum. L. Rev.*, 113, 863.
- Gultekin, I., & Sayilgan, G. (2021). Investigating the roles of leverage and size on firm's vulnerability: Turkey evidence. *Global Journal of Accounting and Finance*, *5*(2), 167–179.
- Habib, A., Costa, M. D., Huang, H. J., Bhuiyan, M. B. U., & Sun, L. (2020). Determinants and consequences of financial distress: Review of the empirical literature. *Accounting & Finance*, 60, 1023-1075.
- Hasan-Zadeh, A. (2019). Mathematical modelling of decision-making: Application to investment. *Advances in Decision Sciences*, 23(2), 1-14.
- Hazami-Ammar, S., & Gafsi, A. (2021). Governance failure and its impact on financial distress. *Corporate Governance: The International Journal of Business in Society, 21*(7), 1416-1439.

- Himmelberg, C. P., Hubbard, R., & Palia, D. (1999). Understanding the determinants of managerial ownership and the link between ownership and performance. *Journal of Financial Economics*, 53(3), 353–384.
- Hoang, K., Arif, M., & Nguyen, C. (2022). Corporate investment and government policy during the COVID-19 crisis. *International Review of Economics & Finance*, 80, 677-696.
- Hotchkiss, E. S., John, K., Mooradian, R. M., & Thorburn, K. S. (2008). Bankruptcy and the resolution of financial distress. *Handbook of Empirical Corporate Finance*, 235-287
- Huang, G. (2006). The determinants of capital structure: Evidence from China. *China Economic Review*, 17(1), 14-36.
- Huang, X., Kabir, R., & Zhang, L. (2018). Government ownership and the capital structure of firms: Analysis of an institutional context from China. *China Journal of Accounting Research*, 11(3), 171–185.
- Hussain, R. Y., Qalati, S. A., & Hussain, H. (Eds.). (2025). Corporate Risk Mitigation Through Socially Responsible Governance. IGI Global. https://doi.org/10.4018/979-8-3693-5733-0
- Hussain, R. Y., Wen, X., Butt, R. S., Hussain, H., Ali Qalati, S., & Abbas, I. (2020). Are growth led financing decisions causing insolvency in listed firms of Pakistan?. *Zagreb International Review of Economics & Business*, 23(2), 89-115.
- Hussain, R. Y., Wen, X., Hussain, H., Saad, M., & Zafar, Z. (2022). Do leverage decisions mediate the relationship between board structure and insolvency risk? A comparative mediating role of capital structure and debt maturity. *South Asian Journal of Business Studies*, 11(1), 104-125.
- Hussain, R. Y., Xuezhou, W., Hussain, H., Saad, M., & Qalati, S. A. (2021). Corporate board vigilance and insolvency risk: a mediated moderation model of debt maturity and fixed collaterals. *International Journal of Management and Economics*, 57(1), 14-33.
- Huynh, Q. L., Hoque, M. E., Susanto, P., Watto, W. A., & Ashraf, M. (2022). Does financial leverage mediate corporate governance and firm performance?. *Sustainability*, *14*(20), 13545.
- İltaş, Y., & Demirgüneş, K. (2020). Asset tangibility and financial performance: A time series evidence. *Ahi Evran Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 6(2), 345-364.
- Isayas, Y. N. (2021). Financial distress and its determinants: Evidence from insurance companies in Ethiopia. *Cogent Business & Management*, 8(1), 1951110.
- Jensen, G. R., Solberg, D. P., & Zorn, T. S. (1992). Simultaneous determination of insider ownership, debt, and dividend policies. *Journal of Financial and Quantitative Analysis*, 27(2), 247-263.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, 76(2), 323-329.
- Jensen, M. C. (2003). A theory of the firm: governance, residual claims, and organizational forms. *Harvard University Press*.
- Kalash, I. (2021). The financial leverage–financial performance relationship in the emerging market of Turkey: the role of financial distress risk and currency crisis. *EuroMed Journal of Business*, 18(1), 1–20.
- Kanoujiya, J., Singh, K., & Rastogi, S. (2023). Does promoters' ownership reduce the firm's financial distress? Evidence from non-financial firms listed in India. *Managerial Finance*, 49(4), 643-660.
- Kassim, A. M., Ishak, Z., & Manaf, N. (2013). Board effectiveness and comapny performance: assessing the mediating role of capital structure decisions. *International Journal of Business and Society*, 14(2), 319-338.

- Kijkasiwat, P., Hussain, A., & Mumtaz, A. (2022). Corporate governance, firm performance and financial leverage across developed and emerging economies. *Risks*, *10*(10), 1–20.
- Lin, J., Monga, C., te Velde, D. W., Tendulkar, S. D., Amsden, A., Amoako, K. Y., Pack, H., & Lim, W. (2011). DPR debate: growth identification and facilitation: The role of the state in the dynamics of structural change. *Development Policy Review*, 29(3), 259-310.
- Mateus, C., Joaquim, I., & Nunes, C. (2015). Measuring hospital efficiency—comparing four European countries. *The European Journal of Public Health*, 25(suppl\_1), 52-58.
- Mboi, C. S., Muturi, W., & Wanjare, J. (2018). Effect of short-term debt to total assets ratio on financial performance of medium-sized and large enterprises in Kenya. *Research Journal of Finance and Accounting*, *9*(18), 40–49.
- Megginson, W. L. (2017). Privatization, state capitalism, and state ownership of business in the 21st century. *Foundations and Trends*® *in Finance*, *11*(1-2), 1-153.
- Mistri, P., & Chakrabarti, M. (2024). Impact of firm's ownership structure on capital structure: An empirical study on the large-cap auto-ancillaries companies in India. In *Perspectives in Finance and Digital Transformations in Business* (pp. 62-72). Routledge India.
- Miyajima, H., Hoda, T., Ogawa, R., & Kwon, J. (2016). Does ownership really matter?: The role of foreign investors in corporate governance in Japan. *Asia Review*, 5(2), 109.
- Mueller, D. C. (1972). A life cycle theory of the firm. The Journal of Industrial Economics, 199-219.
- Naseem, M. A., Lin, J., Rehman, R., Ahmad, M. I., & Ali, R. (2021). Does capital structure mediate the link between CEO characteristics and firm performance? Management Decision, 58(1), 164-181. doi:https://doi.org/10.1108/MD-05-2018-0594
- Nguyen, M. (2021). The impact on corporate financial leverage of the relationship between tax avoidance and institutional ownership: A study of listed firms in Vietnam. *Montenegrin Journal of Economics*, 17(4), 65–73.
- Olakunle, A. O., & Oni, E. O. (2014). Assessing the impact of asset tangibility on capital structure: choice for listed firms in Nigeria, *Journal of Applied Economics and Business*, 2(3), 5-20.
- Owolabi, S. A., & Obida, S. S. (2012). Liquidity management and corporate profitability: Case study of selected manufacturing companies listed on the Nigerian stock exchange. *Business Management Dynamics*, 2(2), 10-25.
- Paeleman, I., Guenster, N., Vanacker, T., & Siqueira, A. C. O. (2024). The consequences of financial leverage: Certified B Corporations' advantages compared to common commercial firms. *Journal of Business Ethics*, 189(3), 507-523.
- Pindado, J., & De La Torre, C. (2011). Capital structure: new evidence from the ownership structure. *International Review of Finance*, 11(2), 213-226.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*, 717-731.
- Rahman, A. A. (2010). Financing structure and insolvency risk exposure of Islamic banks. *Financial Markets and Portfolio Management*, 24, 419-440.
- Ramli, N. A., & Nartea, G. (2016). Mediation effects of firm leverage in Malaysia: Partial least squares-structural equation modeling. *International Journal of Economics and Financial Issues*, 6(1), 301-307.
- Rani, N., Yadav, S. S., & Tripathy, N. (2020). Capital structure dynamics of Indian corporates. *Journal of Advances in Management Research*, 17(2), 212-225.

- Rizqia, D. A., & Sumiati, S. A. (2013). Effect of managerial ownership, financial leverage, profitability, firm size, and investment opportunity on dividend policy and firm value. *Research Journal of Finance and Accounting*, 4(11), 120-130.
- Roodposhti, F. R., & Chashmi, S. N. (2011). The impact of corporate governance mechanisms on earnings management. *African Journal of Business Management*, 5(11), 4143.
- Saputra, F. (2022). Analysis effect return on assets (ROA), return on equity (ROE) and price earning ratio (PER) on stock prices of coal companies in the Indonesia Stock Exchange (IDX) period 2018-2021. *Dinasti International Journal of Economics, Finance and Accounting*, *3*(1), 82-94.
- Shahab, Y., Ntim, C. G., & Ullah, F. (2019). The brighter side of being socially responsible: CSR ratings and financial distress among Chinese state and non-state owned firms. *Applied Economics Letters*, 26(3), 180-186.
- Shleifer, A., & Vishny, R. W. (1994). Politicians and firms. *The Quarterly Journal of Economics*, 109(4), 995-1025.
- Shukla, R. N., Vyas, V., & Chaturvedi, A. (2024). Leverage adjustment analytics: effect of Covid-19 crisis on financial adjustments of Indian firms. *Journal of Economics and Finance*, 48(2), 513-543.
- Siah, K. Y., & Ting, I. W. K. (2023). Risk assessment of suncon: an empirical study of construction sector in Malaysia. *International Journal of Industrial Management*, 17(3), 168-177.
- Strahan, P. E. (2013). Too big to fail: causes, consequences, and policy responses. *Annual Review of Financial Economics*, *5*(1), 43–61.
- Studenmund, A. H. (2014). Using econometrics a practical guide. Pearson Education Limited.
- Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of Financial Economics*, 26(1), 3-27.
- Su, L. D. (2010). Ownership structure, corporate diversification and capital structure: Evidence from China's publicly listed firms. *Management Decision*, 48(2), 314-339.
- Su, Z. Q., Zhu, Y., Su, W., & Xiao, Z. (2025). A fall into the pit, a gain in your wit: Top managerial career setback experience and accounting conservatism. *Australian Journal of Management*, 50(2), 524-570.
- Tahir, H., Masri, R., & Rahman, M. (2020). Corporate board attributes and dividend pay-out policy: Mediating role of financial leverage. *Journal of Asian Finance, Economics and Business*, 7(1), 167–181. https://doi.org/10.13106/jafeb.2020.vol7.no1.167
- Tayachi, T., Hunjra, A. I., Jones, K., Mehmood, R., & Al-Faryan, M. A. S. (2023). How does ownership structure affect the financing and dividend decisions of firm?. *Journal of Financial Reporting and Accounting*, 21(3), 729-746
- Thomsen, S., & Pedersen, T. (2000). Ownership structure and economic performance in the largest European companies. *Strategic Management Journal*, 21(6), 689–705.
- Udin, S., Khan, M. A., & Javid, A. Y. (2017). The effects of ownership structure on likelihood of financial distress: An empirical evidence. *Corporate Governance*, 17(4), 589–612.
- Velte, P. (2024). Institutional ownership and board governance. A structured literature review on the heterogeneous monitoring role of institutional investors. *Corporate Governance: The International Journal of Business in Society*, 24(2), 225-263.
- Widhiadnyana, I. K., & Ratnadi, N. M. D. (2019). The impact of managerial ownership, institutional ownership, proportion of independent commissioner, and intellectual capital on financial distress. *Journal of Economics, Business & Accountancy Ventura*, 21(3), 351.

- World Bank. (2020). COVID-19: The regulatory and supervisory implications for the banking sector: A joint IMF-World Bank staff position note. Washington, DC, USA.
- Xuezhou, W., Hussain, R. Y., Hussain, H., Saad, M., & Butt, R. S. (2020). Interaction of asset tangibility on the relationship between leverage structure and financial distress in agriculture—linked non-financial firms. *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, 20(3).
- Xuezhou, W., Hussain, R. Y., Hussain, H., Saad, M., & Qalati, S. A. (2022). Analyzing the impact of board vigilance on financial distress through the intervention of leverage structure and interaction of asset tangibility in the non-financial sector of Pakistan. *International Journal of Financial Engineering*, 9(02), 2150004.
- Xuezhou, W., Hussain, R. Y., Salameh, A. A., Hussain, H., Khan, A. B., & Fareed, M. (2022). Does firm growth impede or expedite insolvency risk? A mediated moderation model of leverage maturity and potential fixed collaterals. *Frontiers in Environmental Science*, 10, 841380.
- Yahya, A., & Hidayat, S. (2020). The influence of current ratio, total debt to total assets, total assets turn over, and return on assets on earnings persistence in automotive companies. *Journal of Accounting Auditing and Business*, 3(1), 62-72.
- Younas, N., UdDin, S., Awan, T., & Khan, M. Y. (2021). Corporate governance and financial distress: Asian emerging market perspective. *Corporate Governance: The International Journal of Business in Society*, 21(4), 702-715.
- Yousaf, U. B., Jebran, K., & Ullah, I. (2024). Corporate governance and financial distress: A review of the theoretical and empirical literature. *International Journal of Finance & Economics*, 29(2), 1627-1679.
- Zhou, M., Huang, Z., & Jiang, K. (2024). Environmental, social, and governance performance and corporate debt maturity in China. *International Review of Financial Analysis*, 95, 103349.
- Zhu, L., Li, M., & Metawa, N. (2021). Financial risk evaluation Z-score model for intelligent IoT-based enterprises. *Information Processing & Management*, 58(6), 102692.
- Zingales, L. (2000). In search of new foundations. *Journal of Finance*, 55(4), 1623-1653.
- Zurriah, R. (2021). Pengaruh Return on Asset (ROA) Terhadap Nilai Perusahaan. *Jurnal AKMAMI (Akuntansi Manajemen Ekonomi)*, 2(3), 580-587.
- Zwiebel, J. (1996). Dynamic capital structure under managerial entrenchment. *The American Economic Review*, 86(5), 1197-1215.