The Nexus Between Institutional Investors and Firm Growth in Pakistan's Non-Financial Sector: A Panel Data Analysis

Dr. Muhammad Sadil Ali
Department of Commerce,
Allama Iqbal Open University, Islamabad
Email: sadil.ali@aiou.edu.pk

Mr. Moazzam Ali
Department of Commerce,
Allama Iqbal Open University, Islamabad
Email: moazzam.ali@aiou.edu.pk

Prof. Dr. Syed Muhammad Amir Shah
Department of Commerce,
Allama Iqbal Open University, Islamabad
Email: dramirshah@aiou.edu.pk

Abstract

Institutional investors exert a significant influence on firm growth by enhancing firms earning potential, profitability, and shareholder wealth, particularly in developing countries. Recognizing the importance of this phenomenon within the corporate sector, this study investigates the relationship between institutional investors and firm growth in Pakistan. This study collected data from 100 non-financial companies listed on the Pakistan Stock Exchange (PSX) from 2013 to 2022 (10 years). Sales growth was used to measure firm growth, while the ratio of shares owned by institutional shareholders to total outstanding shares was employed to assess institutional investor holdings. The generalized method of moment (GMM) was applied to analyze panel data and test the study hypothesis. The findings revealed a positive relationship between institutional investors and firm growth supporting active monitoring role. Furthermore, firm growth is positively associated with firm profitability, while it is negatively related to firm size and leverage. These results are valuable for policymakers, investors, and firms, highlighting that firm growth is associated with institutional ownership in Pakistan. These insights are especially relevant for decision-makers, managers, and investors. It is essential for investors to thoroughly assess the ownership structure of firms before making investment decisions to ensure more informed and rational choices.

Keywords: Institutional Investors, Firm Growth, Sales Growth, Panel data, Pakistan

Introduction

The growth of the corporate sector is essential for a nation's economic development and the well-being of its citizens. Corporate firms play a crucial role in developing economies by creating employment opportunities, generating revenues, and increasing national wealth (Almus, 2002). Pakistan, as a developing economy, stands to benefit significantly from firm growth, which can lead to improved employment prospects and better financial outcomes for its people. The growth of firms is influenced by various country-specific and firm-specific factors, with ownership structure and types of shareholders being particularly significant. Different ownership patterns generate distinct incentives, which can result in varying levels of management activities and decision-making processes.

In many developing countries, including Pakistan, firms often have controlling shareholders characterized by concentrated institutional and family ownership (Sethi et al., 2022). This concentration can create opportunities for controlling shareholders to prioritize their interests, sometimes at the expense of minority shareholders, resulting in potential expropriation (Pandey & Sahu, 2021). Moreover, financial market in developing countries usually suffer from the lack of investors and creditor protection and have weak governance system (Masud et al., 2018). The context of institutional ownership and its relationship with firm growth in developing market is likely to differ what is common in developed markets. Hence, investigating institutional ownership and firm growth in developing country is of significant importance. The study of institutional ownership and firm growth is particularly relevant to the financial market of Pakistan as financial markets is characterized by market frictions such as information asymmetry, agency problems, limited access to external finance and high level of ownership concentration (Ali & Hashmi, 2018).

Generally financial markets in developing countries are more prone to financial frictions (Kaboski, 2023). Market frictions such as agency problem and asymmetric information can increase the financial vulnerability of firms. These market frictions can lead to more financial hurdles and compel firm growth. Different equity ownership structures such as those involving institutional investors, can help mitigate the negative role of market frictions and increases firm performance and growth. Cao et al. (2020) documented that institutional investors play a fundamental role in addressing agency problems and reducing information asymmetry, thereby improving overall efficiency and performance. Eliwa et al. (2025) contended that institutional investors play a crucial role in decision making as they effectively exercise monitoring functions to mitigate information asymmetry. Such monitoring capability allows them to enhance firm performance and growth through their active engagement in oversight activities.

Theoretically institutional shareholders influence firm growth as institutional investors play a monitoring role in decision making process which enhance the performance and growth rate of firms. Institutional shareholders tend to have access to more resources and experience than individual investors, allowing them to make improved financial and investment decisions (Sakawa & Watanabel, 2020). Likewise, Arikawa et al. (2017) documented that institutional shareholders are seen to be more powerful than other investors in exercising rights to vote and decision making when management actions are not aligned with shareholders interest. Though considerable evidence advocates a positive role of institutional investors in improving firm performance, the question of whether this beneficial role renders into better firm growth for firms operating in Pakistan remains a main concern for academician, policy makers and researchers.

Moreover, empirical evidence shows that research on the link between ownership structure and firm growth in Pakistan is scarce, with no inclusive studies addressing this issue. Prior studies have mostly focused on the relationship between ownership structure and firm performance (i.e., Din et al., 2022; Farooq et al., 2022). While other research has studied the relationships between firm growth and foreign ownership (Ali & Shah, 2023) and ownership concentration (Rehan & Javaid, 2019). Nevertheless, these studies often lack a detailed analysis of how other types of equity ownership may affect firm growth.

Especially, the link between institutional investors and firm growth has not been widely studied in Pakistan, nevertheless evidence signify that institutional investors play a decisive role in firm's decision making process (Das et al., 2025) and monitoring firm performance (Eliwa et al., 2025) in developing countries such as Pakistan. Such gap highlights the need for more enquiry into how institutional investors influence firm growth in developing financial markets, particularly in Pakistan. Recognizing the reputation of institutional investors in the corporate sector, this study aims to examine the link between institutional investors and firm growth. Hence, this study will contribute to the existing literature by providing empirical evidence regarding the influence of institutional investors on firm growth.

Theoretical background and literature review

Theoretical background

The theoretical association between ownership structure and firm growth is grounded in Meckling and Jensen (1976) agency theory. This theory asserts that conflicts of interest between shareholders and managers can create agency problems that negatively impact firms. Various mechanisms exist to supervise management activities and reduce these agency issues. Shleifer and Vishny (1986) argue that, among the different mechanisms for equity ownership, institutional shareholding is the most effective approach for closely monitoring managerial performance. Typically, institutional investors hold significant

ownership stakes and actively monitor managerial actions to address these agency problems, ultimately improving firm performance (Din et al., 2022). Institutional investors are considered as major shareholders and they oversee management activities to ensure adaptation of growth-oriented strategies aligned with shareholder interests (Eliwa et al., 2025), thereby improving overall firm growth. Since managers, as agents, always do not act in the best interests of shareholders, the monitoring role of institutional investors is vital for enhancing firm performance and growth.

Institutional investors and firm growth

Evidence from the pertinent literature shows that several ownership variables can influence firm growth. For example, Nguyen et al. (2019) studied the link between ownership structure and firm growth and found a significant association between ownership structure variables and firm growth. Their study highlights how various types of ownership, such as state and foreign investors, can influence firms financial decisions and fund allocation, ultimately impacting its growth. Likewise, Hake (2009) stated that changes in ownership is significantly related to firm growth. Pham et al. (2020) empirically investigated the effects of ownership structure on firm growth, revealing that ownership structure is critical to a firm's long term growth. Bishara et al. (2020) examined the link between ownership structure, asymmetric information and firm growth. The analysis discovered that institutional investors, particularly brokerage firms and investment managers, plays a robust role in increasing firm growth in financial markets characterized by low information asymmetry.

Furthermore, Rehan and Javaid (2019) evaluated how ownership concentration influence the firm growth, finding a positive link between concentrated ownership and firm growth. likewise, Torres et al. (2024) analyze the association between equity ownership and firm growth, signifying that different types of equity ownership, particularly concentrated ownership significantly affect firm growth, especially, the link is stronger in high-growth industries. Institutional investors also have predominant role in influencing firm performance and growth (Sakawa & Watanabel, 2020).

In the literature various studies on link between institutional investors, firm performance and firm growth have found positive evidence (i.e., Bishara et al., 2020; Doğan, 2020). Institutional investors generally positively influence firm performance and growth, as they consistently monitor managerial actions related investments, which enhance overall investment efficiency and decision making (Park et al., 2016) . By supervision managers actions, institutional investors induce managers to act in the interest of firms (Abdullah et al., 2017). Cao et al. (2020) contended that institutional investors play a key role in addressing agency problems and mitigating information asymmetry, thereby improving overall decision making. Institutional investors also positively affect firm growth, due to superior access to information and resources, which enable firms to make better

decisions making (Sakawa & Watanabel, 2020). Furthermore institutional investors provide necessary funds, allowing firms to invest in healthy projects that may increase growth (Park et al., 2016). Institutional shareholders can indeed influence firm growth by minimizing financial constraints that firms faced when investing in potential projects (Chung & Wang, 2014).

Furthermore, Kansil and Singh (2018) documented that institutional shareholding positively related with firm performance. Institutional investors encourage firms to adopt good governance practices and compel managers to protect the interests of the shareholders, which eventually translates into improved firm performance. Abedin et al. (2022) found that, in line with the "active monitoring" perspective, both domestic and foreign institutional investors have a positive impact on firm performance. Din et al. (2022) found that institutional ownership exerts a significant positive impact on firm performance, suggesting that institutional investors play a crucial role in improving the financial performance of firms. The positive influence of institutional investors may stem from their ability to moderate the principal-agent problem. Moreover, institutional investors reduce the incentives for unprofessional behavior among managers, which in turn improves firm performance and growth. Based on the theoretical and empirical evidence presented, this study proposes the following hypothesis:

Hypothesis*: There is a positive relationship between institutional investors and the growth of listed non-financial firms in Pakistan*

Research Methodology

Data description

Data were collected from non-financial companies in Pakistan. Only non-financial firms were included in the study, while financial firms were excluded, as Non-financial companies have different opportunities and growth as compared to other financial firms such as banks, insurance firms and investments companies (Kirimi et al., 2022). Moreover, based on market capitalization 100 firms were selected from Pakistan Stock Exchange (PSX). The data were collected over a 10-year period, spanning from 2013 to 2022. The financial data like market capitalization and leverage were obtained directly from the PSX website. The remaining accounting and ownership data were extracted from annual reports of sample firms and balance sheet analysis (BSA) published by the State Bank of Pakistan.

Measurement of variables

Firm growth. Firm growth means an increase of firm size, sales, and assets. In the relevant literature, several proxies have been used to measure firm growth. Literature reveals that there is no consensus among scholars about which proxy is best and more appropriate to measure firm growth. Though many studies considered sales growth to be the most appropriate measures

of firm growth (Ali & Shah, 2023). Shepherd and Wiklund (2009) have reviewed 82 published articles and found sales growth as a popular measure and also documented that 60% of the studies used sales growth. Hence, this study uses sales growth to measure firm growth. To estimate sales growth, firm sales in current year is subtracted from previous year sales and then divided it by the total sales in preceding year.

Institutional Investors. Institutional investors holding is the percentage of shares held by institutional investors (Chung & Wang, 2014). Institutional shareholders refer to shares held by different public and private institutions i.e., insurance and investment companies, banks, corporations, mutual funds. The share of institutional investors is calculated by summing the total number of common shares held by institutional investors and dividing that total by the firm's total shares outstanding (Chung & Wang, 2014). A firm's total institutional shareholdings can be measured as the percentage of shares owned by all types of institutional investors (Kim et al., 2019).

Control Variables. Previous studies investigated the link of ownership structure, firm performance and growth using a variety of control variables. Relevant literature suggests some control variables beyond ownership variables that can affect firm growth. Based on previous literature, this study included firm profitability, firm size and leverage as control variables. Return on assets (ROA) is used to measure firm profitability as Rizqia and Sumiati (2013) stated that profitability can be measured through return on assets (ROA) as it reflects firm ability to use assets to generate return and profit. Natural log of total assets is used to measure firm size, consistent with the approach taken by Cheng et al. (2022) in estimating firm size. A firm's leverage is defined as the ratio of total debt to total assets, and it is measured using the same ratio (Cheng et al., 2022).

Data analysis and estimation techniques

This study employed Generalized Method of Movement (GMM) proposed by Arellano and Bover (1995) and Blundell and Bond (1998) to counter the endogeneity issue as ownership structure variables may have endogeneity issue. The GMM method has been applied due to the fact that it enables the use of increased number of regressor without worrying about endogeneity issues (Khan et al., 2021). The use of GMM also eliminates time variant, fixed and firm specific effects, GMM method further uses lagged values of the depended variables as internal instruments to control for the possible endogeneity and individual heterogeneity problem (Wintoki et al., 2012). Likewise, we have used lag dependent variables for observable and unobservable previous information of the company. Moreover, GMM estimation technique is considered as the most reliable method which mitigates the possibility of collinearity among the independent variables. Previous studies also observed that ownership variables exhibit endogenous behavior (Din et al., 2022). Therefore, the GMM method has been applied to achieve consistent and reliable results.

Model specification

To test the relationship between institutional ownership and firm growth, the following equation has been developed.

$$SG_{i,t} = \beta 0 + \beta 1 SG_{i,t-1} + \beta 2 II_{i,t} + \beta 3 ROA_{i,t} + \beta 4 FS_{i,t} + \beta 5 FL_{i,t} + \varepsilon_{i,t}$$

Where:

i= firm

t= time (year)

β= beta

β0 = intercept

$SG_{i,t}$ = Sales growth of firm i at year t (proxy of firm growth)

$II_{i,t}$ = Vector of institutional investors of firm i at year t

$ROA_{i,t}$ = Profitability of firm i at year t

$FS_{i,t}$ = Size of firm of firm i at year t

$FL_{i,t}$ = Leverage of firm i at year t

$\varepsilon_{i,t}$ = Error term

$SG_{i,t-1}$ is lag of sales growth used as independent variable in the equations, as the GMM method suggests using lag of dependent variable as independent variable.

Table 1. Definitions and measurement of variables

Variable	Definitions	Source
Sales Growth	Sales growth $= \frac{Change\ in \text{ total } sales}{Total\ sales\ in\ prior\ year}$	(Ali & Shah, 2023)
Institutional investors	$II = \frac{No.of\ shares\ owned\ by\ institutions}{Total\ number\ of\ outstanding\ shares}$	(Chung & Wang, 2014)
Return on Assets	$ROA = \frac{Net\ Income\ of\ the\ firm\ at\ time\ t}{Total\ assets\ of\ the\ firm\ time\ t}$	(Rizqia & Sumiati, 2013)
Firm Size	$FS = Natural\ log\ of$ total assets of a firm at t	(Cheng et al., 2022)
Firm Leverage	$FL = \frac{Total\ debt\ of\ firm\ at\ time\ t}{Total\ asset\ of\ firm\ at\ time\ t}$	(Cheng et al., 2022)

Results and Discussions

Descriptive Statistics

Descriptive statistics offer a comprehensive summary of the data, encompassing key measures such as the mean, standard deviation, minimum, and maximum values. The results for the sample firms are presented in Table 2.

Table 2. Descriptive Statistics for Sample Firms

Variables	Obs.	Mean	Std. Dev.	Min.	Max.
Sales growth (SG)	1000	0.1065	0.1584	-0.4665	0.7526
Institutional Investors (II)	1000	0.4512	0.2811	0.0000	0.9087
Profitability (ROA)	1000	0.0880	0.1065	0.0000	0.7681
Firm size (FS)	1000	16.936	1.296	13.468	20.574
Firm leverage (FL)	1000	0.1846	0.1813	0.0000	0.7496

Note: Obs. (observations), Std. Dev. (value of standard deviation), Min. (Minimum value), and Max. (Maximum value).

Table 2 indicates the mean value of sales growth is 0.1065, representing an average sales growth rate of approximately 10.65%. The standard deviation of 0.1584 suggests considerable variability in sales growth among the firms, with a minimum observed value of -0.4665 and a maximum of 0.7526, reflecting a range from negative to substantial positive growth. The mean value for managerial ownership indicates that, on average, institutional investors hold 45.12% of the firms' shares. The standard deviation of 0.2811 signifies a moderate level of variation in the holdings of institutional investors. The mean return on assets (ROA) is 0.0880, indicating an average profitability of 8.80%. Firm size, measured as the natural logarithm of total assets, has a mean of 16.9362, reflecting a substantial firm size. Furthermore, the firm leverage (FL) has a mean of 0.1846, indicating that, on average, 18.46% of the firms' capital structure is comprised of debt.

Correlation Analysis

Correlation analysis demonstrates the associations among the study variables, highlighting how they relate to one another within the dataset.

Table 3. Correlation Analysis of sample Firms

Variables	SG	II	ROA	FS	FL
1. SG	1.0000				
2. II	0.1364	1.0000			
3. ROA	0.0432	0.0725	1.0000		
4. FS	-0.1828	-0.0303	-0.1779	1.0000	
5. FL	-0.1083	-0.1083	-0.1910	0.0048	1.0000

Note: AG represents asset growth while. II (institutional investors), ROA (return on equity), FL (firm leverage), FS (firm size)

Table 3 presents the correlation results for the sample firms. The correlations indicate that sales growth is positively associated with institutional investors and firm profitability, while showing a negative correlation with firm size and firm leverage. Moreover, institutional ownership is positively related to firm profitability but negatively correlated with firm size and leverage. Similarly, firm profitability exhibits a negative correlation with both firm size and firm leverage. Lastly, firm size is positively correlated with firm leverage.

Regression analysis for Institutional investors and firm growth

In line with prior studies, GMM method was used to examine the relationship between institutional investors and firm growth. This method was employed to address the issue of endogeneity, as prior studies have identified endogeneity concerns in the relationship between ownership structure variables and firm performance (Hu & Izumida, 2008). The reliability of the GMM estimator depends on the validity of the instruments and the absence of second-order correlation in the error terms. The validity of the instruments can be assessed using the Sargan test for over-identification restrictions, which operates under the null hypothesis that the instruments used in the regression are not associated with the residuals. The serial correlation can be checked by using Arellano-Bond test under the null hypothesis that the errors in the first differenced (AR-1) should be correlated but depict no serial correlation in second differenced (AR-2) (Al-Malkawi & Javaid, 2018).

Table 4 shows that the number of groups (100) exceeds the number of instruments (49), satisfying GMM method requirements of having more groups than number of instruments (Ejemeyovwi & Osabuohien, 2020). The p- value of Sargan test (0.086), shows that instruments used in the model are valid and correctly recognized. Furthermore, the Arellano-Bond test reveals the presence of first-order serial correlation in the difference errors (p-value 0.000), while no second-order correlation is detected (p-value 0.1245). These findings fulfill the requirements for the system GMM estimator, thereby confirming that the conditions for applying the GMM method have been contented.

Table 4. GMM results for Institutional investors and firm growth

Variables	Coefficient	Std. Err.	t-value	p-value
Lag of sales growth	0.199	0.020	9.95	0.000
Institutional investors	0.403	0.063	6.39	0.000
Firm profitability	0.353	0.103	3.41	0.001
Firm size	-0.095	0.008	-11.44	0.000
Financial leverage	-0.103	0.023	-4.47	0.000
Constant	1.480	0.136	10.85	0.000
Year fixed effect	Yes			
Observations	900			
No. of groups	100			
No. of instrument	49			
Wald chi2	401.83			

Sargan test	56.150
(p value)	(0.086)
AR-1 states *(p value)*	0.000
AR-2 states *(p value)*	0.124

Note: One year lagged dependent variable is used as instrument variable. Sargan states for the test of overidentification. AR1 & AR2 states are the tests for serial correlation. Sales growth is dependent variable which is a proxy of firm growth.

Table 4 presents the results concerning the relationship between institutional investors and firm growth among listed firms in Pakistan. The dependent variable is firm growth, measured by sales growth, while the explanatory variable is institutional investors. Control variables include return on assets, firm size, and financial leverage. The coefficient for the lag of sales growth is positive and significant (0.199, p-value < 0.001), indicating that past sales growth is significantly related to the current sales growth of firms in Pakistan. Furthermore, the relationship between institutional investors and sales growth is both positive and statistically significant (0.403, p-value < 0.001). A one-unit increase in institutional ownership results in a 0.403 increase in sales growth. This suggests that institutional investors positively influence firm growth by enhancing sales performance.

As far as control variables are concerned, the results indicate that firm profitability (ROA) is positive and statistically significant (0.353, p-value < 0.01). In contrast, the relationship between firm size and sales growth is negative and significant (-0.095, p-value < 0.001). Similarly, the coefficient for firm leverage is also negative and marginally significant (-0.103, p-value < 0.001). These findings suggest that higher profitability positively affects sales growth, while larger firm size and increased leverage are associated with lower sales growth.

The findings show that there exists a positive relationship between institutional investors and sales growth in Pakistan. Subsequently, the hypothesis has been accepted, indicating that institutional investors are significantly and positively related with firm growth. This result supports the monitoring role of institutional investors as these investors are often regarded as watchdogs overseeing management performance (Abdullah et al., 2017; Bhakar et al., 2024). The results also support the "active monitoring" perspective, indicating that institutional investors in Pakistan are actively engaged in overseeing and enabling firms to boost their performance and growth. Additionally, Doğan (2020) also identified a positive link between institutional ownership and firm value. Similarly, Abedin et al. (2022) contended that institutional investors, through strong supervision, can assist managers in making sound financial decisions.

These results are also in line with previous studies such as Kao et al. (2019), Din et al. (2022), and Bishara et al. (2020) as these also argued that institutional ownership positively influences firm performance and growth. Chung and Wang (2014) stated that the role of institutional investors is important for mitigating agency problems. Certainly, institutional investors are large and experienced entities, possessing the resources necessary to undertake investments opportunities. Finally, the findings emphasize the major role of institutional investors in enhancing firm performance and firm growth through interest alignment and better supervision.

Conclusion and implications

Conclusion

The study aims to examine the relationship between institutional investors and firm growth in Pakistan. for this purpose, panel data was collected from 100 listed non-financial companies for the period of 10 years, from 2013 to 2022. Firm growth was measure by using annual growth in sales, while the ratio of shares owned by institutional shareholders to total outstanding shares was used to estimate institutional investor holdings. By using GMM method, the study result shows that institutional investors positively and significantly related with firm growth in Pakistan, supporting the effective monitoring role of these investors in financial market of Pakistan. Typically, institutional investors are large, experienced entities with the resources necessary to avail potential investment opportunities. Generally, they actively oversee managerial decisions, thereby reducing agency issues and under-over investment. Overall, the findings highlight the significant role of institutional investors in improving firm performance and promoting growth. Generally, managers, as agents, do not always act in the best interests of firms, the supervision and monitoring role of institutional investors is important for enhancing firm performance and growth.

Implications

The study found a positive and significant relationship between institutional investors and firm growth, which carries substantial implications for investors, managers and policy makers. This positive association specify that institutional investors may play an active role in monitoring management activities of firms in Pakistan. Thus, it is important to strengthen institutional ownership to further enhance the performance and growth of firms in the country. Furthermore, investors should carefully examine the ownership composition of respective firms before making investment decisions to ensure more robust and rational financial decisions. Specifically, it is critical for investors to evaluate factors such as the existence of institutional investors, foreign investors, and insider investors, as these elements can significantly influence the decision-making processes of firms.

Limitations and research directions

The study concentrates solely on non-financial listed companies, excluding other financial companies such as investment companies, insurance companies, banks etc. Subsequently, the findings cannot be generalized to the financial sector. The study used sales growth as the sole measure of firm growth; future research could use alternative proxies of firm growth, such as asset growth and employee growth. Furthermore, while this study primarily examines ownership by institutional investors, future investigations could include other equity shareholders, such as family shareholders, managerial shareholders, and foreign investors. This broader approach would enhance the analysis and provide a more comprehensive understanding of the role of ownership structure in firm growth.

References

- Abdullah, N. A. I. N., Ali, M. M., & Haron, N. H. (2017). Ownership structure, firm value and growth opportunities: Malaysian evidence. *Advanced Science Letters*, *23*(8), 7378-7382.
- Abedin, S. H., Haque, H., Shahjahan, T., & Kabir, M. N. (2022). Institutional ownership and firm performance: evidence from an emerging economy. *Journal of Risk Financial Management*, *15*(12), 567.
- Al-Malkawi, H. A. N., & Javaid, S. (2018). Corporate social responsibility and financial performance in Saudi Arabia. *Managerial Finance*, *44*(6), 648-664. https://doi.org/10.1108/MF-12-2016-0366
- Ali, M. S., & Hashmi, S. H. (2018). Impact of institutional ownership on stock liquidity: Evidence from Karachi Stock Exchange, Pakistan. *Global Business Review*, *19*(4), 939-951. https://doi.org/https://doi.org/10.1177/0972150918772927
- Ali, M. S., & Shah, S. M. A. (2023). Foreign Ownership and Firm Growth: Evidence from Non-Financial Sector of Pakistan. *Journal of Business Management Research*, *2*(2), 54-70. https://jbmr.com.pk/index.php/Journal/article/view/27
- Almus, M. (2002). What characterizes a fast-growing firm? *Applied economics*, *34*(12), 1497-1508.
- Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*(1), 29-51. https://doi.org/https://doi.org/10.1016/0304-4076(94)01642-D
- Arikawa, Y., Kotaro, I., & Takuji, S. (2017). Corporate governance, employment laws, and corporate performance in Japan: An international perspective. *Tokyo Institute of Technology*, *9*, 1-34.

- Bhakar, S., Sharma, P., & Kumar, S. (2024). Ownership structure and firm performance: A comprehensive review and empirical analysis. *Journal of the Knowledge Economy*, *15*, 19824–19865. https://doi.org/https://doi.org/10.1007/s13132-024-01893-1
- Bishara, M. K., Andrikopoulos, P., & Eldomiaty, T. (2020). Ownership structure, information asymmetry and growth of the firm: Implications from nonfinancial firms listed in S&P500. *Managerial and Decision Economics*, *41*(8), 1580-1589. https://doi.org/https://doi.org/10.1002/mde.3204
- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115-143. https://doi.org/https://doi.org/10.1016/S0304-4076(98)00009-8
- Cao, Y., Dong, Y., Lu, Y., & Ma, D. (2020). Does institutional ownership improve firm investment efficiency? *Emerging Markets Finance Trade*, *56*(12), 2772-2792.
- Cheng, X., Wang, H. H., & Wang, X. (2022). Common institutional ownership and corporate social responsibility. *Journal of Banking Finance*, *136*, 106218.
- Chung, C. Y., & Wang, K. (2014). Do institutional investors monitor management? Evidence from the relationship between institutional ownership and capital structure. *The North American Journal of Economics Finance*, *30*, 203-233.
- Das, S., Kumar, A., & Mishra, T. J. (2025). How do institutional investors dictate corporate cash holdings in a financially constrained environment? *The European Journal of Finance*, 1-17.
- Din, S. U., Arshad Khan, M., Khan, M. J., & Khan, M. Y. (2022). Ownership structure and corporate financial performance in an emerging market: a dynamic panel data analysis. *International Journal of Emerging Markets*, *17*(8), 1973-1997.
- Doğan, M. (2020). Institutional ownership and firm value: A study on the bist manufacturing Index. *Ekonomika*, *99*(2), 59-75.
- Ejemeyovwi, J. O., & Osabuohien, E. S. (2020). Investigating the relevance of mobile technology adoption on inclusive growth in West Africa. *Contemporary Social Science*, *15*(1), 48-61. https://doi.org/https://doi.org/10.1080/21582041.2018.1503320
- Eliwa, Y., Haslam, J., Abraham, S., & Saleh, A. (2025). The power of oversight: institutional investors as moderators of the earnings quality-information asymmetry nexus in Europe. *International Journal of Accounting Information Management*, *33*(1), 68-103.
- Farooq, M., Noor, A., & Ali, S. (2022). Corporate governance and firm performance: empirical evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society*, *22*(1), 42-66.

- Hake, M. (2009). *Firm growth and ownership change in CEE countries*. https://www.etsg.org/ETSG2009/papers/hake.pdf
- Hu, Y., & Izumida, S. (2008). Ownership concentration and corporate performance: A causal analysis with Japanese panel data. *Corporate Governance: An International Review*, *16*(4), 342-358.
- Kaboski, J. P. (2023). Financial frictions, financial market development, and macroeconomic development. *Oxford Development Studies*, *51*(4), 397-416.
- Kansil, R., & Singh, A. (2018). Institutional ownership and firm performance: evidence from Indian panel data. *International Journal of Business Emerging Markets Finance Trade*, *10*(3), 250-269.
- Kao, M.-F., Hodgkinson, L., & Jaafar, A. (2019). Ownership structure, board of directors and firm performance: evidence from Taiwan. *Corporate Governance: The International Journal of Business in Society*, *19*(1), 189-216.
- Khan, M. H., Bhatti, H. Y., Hassan, A., & Fraz, A. (2021). The diversification–performance nexus: mediating role of information asymmetry. *Journal of Management Governance*, *25*(3), 787-810.
- Kim, J.-B., Pevzner, M., & Xin, X. (2019). Foreign institutional ownership and auditor choice: Evidence from worldwide institutional ownership. *Journal of International Business Studies*, *50*, 83-110.
- Kirimi, P. N., Kariuki, S. N., & Ocharo, K. N. (2022). Ownership structure and financial performance: Evidence from Kenyan commercial banks. *PloS one*, *17*(5), e0268301.
- Masud, M. A. K., Nurunnabi, M., & Bae, S. M. (2018). The effects of corporate governance on environmental sustainability reporting: empirical evidence from South Asian countries. *Asian Journal of Sustainability and Social Responsibility*, *3*(1), 3. https://doi.org/10.1186/s41180-018-0019-x
- Meckling, W. H., & Jensen, M. C. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, *3*(4), 305-360.
- Nguyen, T. T., Trinh, T. A., & Do, T. T. (2019). Ownership structure and firm growth: evidence from Vietnam. *International Journal of Business Marketing Management*, *4*, 1-11.
- Pandey, K. D., & Sahu, T. N. (2021). Ownership Concentration and Agency Crises in Indian Manufacturing Firms. *Business Perspectives and Research*, *9*(1), 128-143. https://doi.org/10.1177/2278533720910842
- Park, H.-Y., Chae, S.-J., & Cho, M.-K. (2016). Controlling shareholders' ownership structure, foreign investors' monitoring, and investment efficiency. *Investment Management Financial Innovations*, *13*(3), 159-170.

- Pham, H. N., Kalyebara, B., & Islam, S. (2020). Ownership Structure, Capital Structure and Firm Growth: Empirical Evidence and Sustainable Growth Implications. *International Journal of Business Economics*, *19*(3).
- Rehan, A., & Javaid, A. Y. (2019). How Concentrated Ownership Affects the Growth of Firms in Pakistan? *Journal of Business Economics*, *11*(2), 125-141.
- 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 Accounting Research Journal*, *4*(11), 120-130.
- Sakawa, H., & Watanabel, N. (2020). Institutional ownership and firm performance under stakeholder-oriented corporate governance. *Sustainability*, *12*(3), 1021.
- Sethi, N., Das, A., Sahoo, M., Mohanty, S., & Bhujabal, P. (2022). Foreign direct investment, financial development and economic prosperity in major south Asian economies. *South Asian Journal of Business Studies*, *11*(1), 82-103. https://doi.org/10.1108/SAJBS-12-2019-0225
- Shepherd, D., & Wiklund, J. (2009). Are we comparing apples with apples or apples with oranges? Appropriateness of knowledge accumulation across growth studies. *Entrepreneurship theory practice*, *33*(1), 105-123.
- Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of political economy*, *94*(3, Part 1), 461-488.
- Torres, P., Silva, P., & Augusto, M. (2024). Equity ownership concentration and firm growth: the moderating role of industry growth. *Management Research Review*, *47*(7), 1096-1111.
- Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of financial economics*, *105*(3), 581-606. https://doi.org/https://doi.org/10.1016/j.jfineco.2012.03.005