



Ownership Structure and earnings management: Empirical evidence from listed pharmaceuticals and chemical firms of Bangladesh

Dewan Azmal Hossain

Department of Accounting & Information Systems, University of Dhaka, Dhaka-1000, Bangladesh

ABSTRACT

Objective – This study aims to examine the relationship between ownership structure (determined by institutional and foreign ownership) and earnings management in the context of Bangladeshi Pharmaceuticals and Chemical firms.

Methodology/Technique – Out of 32 listed firms, this study examined 29 firms from the pharmaceuticals and chemical industry of Bangladesh from 2014 to 2018. Three firms are omitted as they got listed in 2018 and 2019 respectively. This study uses discretionary working capital accrual to measure earnings management that is the dependent variable. Ordinary least square regression analysis is conducted to assess the result of this study. Institutional and foreign ownership are independent variables. ROA, size, cash flow from operation, and leverage are control variables.

Findings – It is found that institutional ownership is negatively related to earnings management and foreign ownership is positively related to earnings management but none of them are statistically significant indicating institutional and foreign ownership do not help in resolving or reducing the earnings management problems in the context of Bangladeshi pharmaceuticals and chemical firms.

Novelty – Previous studies in Bangladesh deal only with the techniques of earnings management. To my knowledge, it is the first study that tries to assess the relationship of ownership structure defined by institutional and foreign shareholdings with earnings management in the context of Bangladeshi pharmaceuticals and chemical firms. These two ownership patterns are selected because they are supposed to increase the quality of financial information and also because in Bangladesh state and general shareholders are too dispersed to monitor the governance issues. The practical implications of this study is that investors should not consider institutional and foreign ownership percentage as a determining factor of good governance when considering investment decisions rather should look for other firm-specific factors as institutional and foreign shareholders are found to be inactive in increasing the quality of financial information in the context of Bangladesh. Policymakers should identify why institutional and foreign shareholders are not active and should revise the governance mechanisms accordingly.

Type of Paper: Empirical

Keywords: Ownership structure; Institutional Shareholdings; Foreign Shareholdings; Earnings Management; Bangladesh.

Reference to this paper should be made as follows: Hossain, D.A. (2020). Ownership Structure and earnings management: Empirical evidence from listed pharmaceuticals and chemical firms of Bangladesh, *J. Fin. Bank. Review*, 5 (2): 58 – 69 [https://doi.org/10.35609/jfbr.2020.5.2\(3\)](https://doi.org/10.35609/jfbr.2020.5.2(3))

JEL Classification: G40; G41; G49.

1. Introduction

The modern accounting world is characterized by imperfect information. There are many consequences of this imperfect information.

* Paper Info: Revised: July 13, 2020

Accepted: September 30, 2020

* Corresponding author: Dewan Azmal Hossain

E-mail: dewanazmal06@gmail.com

Affiliation: Department of Accounting & Information Systems, University of Dhaka, Dhaka-1000, Bangladesh

Earnings management is one of them. When assessing a firm's performance accounting earnings plays a major role as a key indicator (Alves, 2012). According to Healy and Wahlen (1999): "Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers" (p. 368). In recent years, many investors are concerned about the quality of financial information. Many reasons lead to reduce the faith that users of financial information have on financial information. According to Rusmin (2010) earnings management is one of them. According to Anwar and Buwanendra (2019), stakeholders are also interested in understanding the issues of earnings management as earnings management is used to put a curtain on the actual accounting information. Due to the monitoring cost and dispersion between the shareholders and management, there is always a chance for the management to show earnings that are not actual (Alzoubi, 2016; Alexander, 2019).

With the increase of concern on earnings management, many steps are taken such as strong corporate governance, increasing the power of institutional shareholders, and foreign shareholders (Dechow et al., 1996). According to Hadani et al. (2011), institutional shareholders have informational advantages and they act on behalf of shareholders (public) and help to reduce any potentially harmful activity like earnings management that reduces shareholders right on the organization's earnings. There are many ways to do earnings management, like using the working capital, depreciable assets. In short, it can be said that through discretionary accruals earnings management can be done. And institutional shareholders can play an important role in checking the earnings management practices of management. Foreign shareholders also play an important role in this regard as they follow the same prospects of institutional shareholders (Alves, 2012). Moreover, foreign investors invest in those organizations where corporate governance is strong. That's why in this study the relationship between ownership structure determined by institutional and foreign ownership and earnings management is investigated.

With this in mind, one question arises why ownership structure. Kankanamage (2015) stated that due to the lack of governance mechanism a good sum of corporate fraud cases arises in recent years and because of this stakeholders are placing an important view on many governance mechanisms such as ownership structure. Al-Fayoumi et al. (2010) stated that ownership structure influences the quality of financial information.

However, like many developing countries, not much research is done on determining the relationship between ownership structure and earnings management. Like, Bhuiyan (2015) identified that Bangladeshi companies are using accrual earnings management techniques to cross the earnings thresholds. But it is unknown whether earnings management has any relationship with institutional and foreign shareholders in the pharmaceuticals and chemical industry of Bangladesh which is one of the export-oriented sectors and thus plays an important role in the country's economy. To fill this gap, this study attempts to identify the relationship between ownership structure defined by institutional and foreign shareholdings and earnings management. The next sections of this study include a literature review and hypothesis development, research methodology, findings and analysis, discussion, and conclusion.

2. Literature review and hypothesis development

2.1 Theoretical Framework: An Agency theory perspective

To analyze the relationship between principal and agent, agency theory is used. In agency theory, a person or group of people (principal) delegate a certain responsibility to another group of people known as the agent. According to Jensen & Meckling (1976), the principal assumes that the agent will work for the best of their

interest. Bendickson et al. (2016) identified that one assumption of agency theory is that agents are opportunistic and this behavior leads to the violation of goal congruence between the principal and agent. Necessary steps must be taken when the conflict of interest arises between agent and principal. According to Charitou et al. (2016), in theory, there are two types of agency conflicts namely conflict between managers and shareholders, and conflict between minority and majority shareholders. Mitchell & Meacham (2011) stated that these conflicts arise because it is difficult for the principal to monitor every move of the agents, imperfect contract information, and information asymmetry. Jensen (1983) identified two types of agency theory. One is principal-agent related theory and another one is positivist theory. Positivist theory is related to how governance mechanisms can reduce agency conflicts, and principal-agent relationship theory is concerned about the specific details on the contract and how they can be used to minimize agency conflicts. This study used positivist lenses to describe the result of this study.

2.2. Institutional ownership and Earnings Management

Apart from individuals, various institutions like, pension funds, banks, investment companies also own the share of the companies from time to time. This type of ownership is called institutional ownership. As mentioned before, numerous reasons led to reducing the quality of financial information. According to Affan et al. (2017), institutional ownership can enhance the quality of financial reporting by checking on the management which ultimately reduces the agency conflict. Because of the actions of institutional owners, managers are expected to reduce their participation in earnings management which ultimately led to increasing the quality of overall corporate governance (Siregar & Utama, 2008; Sirat, 2012; Latif & Abdullah, 2015).

Many prior studies identified a negative association between ownership structure defined by institutional ownership and earnings management practices. According to Hadani et al. (2011) earnings management has a negative relationship with institutional shareholders as it tends to protect their investments by close monitoring. They drew their sample from the S&P 500 from 2001 to 2004 and analyzed 348 firms of the United States of America and found that there is a negative relationship between institutional shareholders and earnings management. Boulila & Mbarki (2014) investigated the relationship of earnings management and institutional ownership taking Tunisian banks as a sample over the period of 1998-2007 and found that institutional ownership is negatively associated with earnings management practices. Siregar and Utama (2008) identified that as per the active monitoring hypothesis if the number of institutional shareholders is high, the management is under pressure to enhance the quality of financial information and mitigate agency cost that reduces the chance of earnings management. According to Dechow et al. (2012), the larger the percentage of institutional ownership the lesser the chance of earnings management practices. Dharwadkar et al. (2008) found that there is a negative relationship between institutional ownership, earnings management, and top executives' compensation. Khan et al. (2005) also found that institutional shareholdings, earnings management, and total compensation and share-based compensation are inversely related. Schnatterly et al. (2008) found that institutional shareholdings are negatively related to earnings management and positively related to bid-ask spread in the share price indicating the informational advantages of institutional shareholdings. Alves (2012) also found a negative association between institutional ownership and earnings management.

There are some other studies (Cheng & Reitenga, 2009; Charitou et al., 2007) that found a positive association between institutional ownership and the practice of earnings management. They claim that institutional shareholders sometime put pressure on the management to meet the short-term goals which increase the chance of adapting the techniques of earnings management. As per the passive hand hypothesis due to the low percentage of institutional shareholdings, management gets active in the practice of achieving short-term goals which lead to the increase of earnings management practices (Boulila & Mbarki, 2014; Latif & Abdullah, 2015). However, there are some other studies (Moslemamy & Nathan, 2019; Gonzalez & Garcia,

2014; Peasnell et al., 2005) that found there is no significant relationship between institutional shareholdings and earnings management. Based on the above discussions the hypothesis related to institutional ownership is developed below:

Hypothesis 1(a): Institutional ownership is negatively associated with earnings management.

Hypothesis 1(b): Institutional ownership is positively associated with earnings management.

Hypothesis 1(c): There is no significant association between institutional ownership and earnings management.

2.3. Foreign ownership and Earnings Management

According to Alexander (2019), “Foreign ownership refers to the portion of shares held by foreign investors, i.e. companies owned by individuals, legal entities, the government, and their sections of foreign status. The greater the shares controlled by foreign parties, the more foreign representatives are appointed within the company, either on the board of commissioners or the board of directors” (p. 40).

Many prior studies (Wiranata & Nugrahanti, 2013; Suto 2003; Dahlquist & Robertson, 2001) have found a negative relationship between foreign ownership and earnings management. Wiranata & Nugrahanti (2013), claimed that foreign owners try to match the interest of stakeholders and management to enhance the quality of financial information that tends to reduce the scope of earnings management. Dahlquist and Robertson (2001) identified that foreign shareholdings have a negative relationship with earnings management and they tend to monitor the management from activities that are non-value maximizing which ultimately enhances the financial information. Suto (2003) also found a negative association between earnings management discretionary accruals. The foreign investment put pressure on the management to comply with numerous international standards that increase information quality (Guo et al., 2015; Grinblatt & Keloharju, 2000). Herrmann et al. (2003) found that in Asia, companies that have foreign shareholders are more productive and transparent than those that do not have any foreign ownership. Chung et al. (2004) identified the relationship between foreign ownership and earnings management and found that to increase the reputation among foreign investors firms tend to deter earnings management practices. In Asian countries, foreign ownership is an indicator of good corporate governance practices and increases the chance of reducing earnings management (Gilson and Milhaupt, 2005; David et al., 2006). However, Dvorak (2005) found that due to the information asymmetry hypothesis sometimes foreign investors are not capable to assess the information quality that may increase the chance of earnings management. Moslemany & Nathan (2019) and Gonzalez & Garcia (2014), on the other hand, found no statistically significant relationship between foreign ownership and earnings management. Based on the above discussions the hypothesis related to foreign ownership is developed below:

Hypothesis 2(a): Foreign ownership is negatively associated with earnings management.

Hypothesis 2(b): Foreign ownership is positively associated with earnings management.

Hypothesis 2(c): There is no significant association between foreign ownership and earnings management

3. Research methodology

3.1. Data and Sample Collection

This study aims to determine the relationship between ownership structure (determined by institutional and foreign ownership) and earnings management taking the pharmaceuticals and chemical sector of Bangladesh as a sample sector as this sector is one of the most rapidly expanding sectors in Bangladesh that currently have approximately 15% growth rate in the export market and this sector's contribution to the national exchequer in Bangladesh is over two billion USD which is the second largest in terms of the total market size (Mazumder and Hossain, 2019). To satisfy the aim of this study, secondary data from the annual reports of all the listed firms are collected manually because of many of the advantages of manual data collection as discussed in the study of Abed et al. (2016). Data are collected from the annual reports of the companies. The sample time period is 2014-2018 but data from 2013 is also collected to assess the changes in variables. Initially, all the listed 32 pharmaceuticals and chemical firms are selected but subsequently, 29 firms are analyzed. So, in total there are 174 firm years. The latest data are collected to assess the current scenario of this sector.

3.2. Measurement of Variables

Table 1 Variables' description

Variables	Acronym	Description	Reference
Dependent Variable			
Discretionary working capital accruals	DWCA	This study used discretionary working capital as a dependable variable to represent discretionary working capital accruals (DWCA). Working capital accruals is measured by taking changes in non-cash current assets minus changes in current liabilities.	Ali et al. (2008); Kothari et al. (2005)
Independent Variables			
Institutional shareholdings	INST	This data is collected from the company annual reports. This study used the aggregate percentage of institutional shareholdings in a particular year	Guo and Ma (2015); Abdullah et al. (2012);
Foreign Shareholdings	FOREIGN	This data is collected from the company annual reports. This study used the aggregate percentage of foreign shareholdings in a particular year	Alzoubi, (2016)
Control Variables			
Return on Assets	ROA	ROA is calculated by taking the ratio of net profit after tax to average total assets.	Alzoubi, (2016)
Firm Size	SIZE	Size is calculated by taking the natural log of total assets.	Alzoubi, (2016)

Leverage	LEV	Leverage is calculated by taking the ratio of debt to total asset.	Alves (2012)
Cash Flow from Operation (CFO)	CFO	As per Ali et al. (2008), CFO has significant relationship with earnings management. Information related to CFO is collected from Cash flow statement	Ali et al.(2008)

3.3. Measure of Analysis

Jones (1991) model states that depreciable assets should be used to estimate discretionary accruals. But as suggested by Peasnell et al. (2000) working capital is easier to manipulate than depreciable assets as it is invisible to the public. That's why this study used discretionary working capital as a dependent variable to represent discretionary working capital accruals (DWCA). Ali et al. (2008) also used working capital as a dependable variable in their study.

$$WCA_{it}/A_{it-1} = \alpha_{it} [1/A_{it-1}] + \beta_{1it} [\Delta REVENUE_{it}/A_{it-1}] + \varepsilon_{it}$$

Where:

WCA_{it} : working capital accruals in year t for firm i; A_{it-1} : total assets in year t-1 for firm i; $\Delta REVENUE_{it}$: changes in revenues in year t for firm i; ε = random error.

3.4. Research model

$$DWCA_{it} = \alpha_0 + \alpha_1 INST_{it} + \alpha_2 FOREIGN_{it} + \alpha_3 SIZE_{it} + \alpha_4 ROA_{it} + \alpha_5 LEV_{it} + \alpha_6 CFO_{it} + \varepsilon_{it}$$

Where, DWCA = Discretionary working capital accruals; INST = Institutional shareholdings; FOREIGN= Foreign shareholdings; SIZE = Firm Size; ROA = Return on Assets; LEV = Leverage; CFO = Cash flow from operation; ε = random error term.

4. Findings and analysis

4.1. Descriptive Statistics

Table 2 Descriptive analysis

Variable	Obs.	Mean	Median	Std. Dev.	Min.	Max.
ROA	135	.0892593	0.0560275	.12681	-.12	1.024
SIZE	135	21.91267	21.93339	1.535378	18.29	24.84
LEV	135	.446963	0.450000	.2446572	.02	.99
CFO	135	795125.499	124360.000	1844456.251	-2408772.515	10009377.235
INST	135	.209543	.170000	.1509678	0	.66
FOREIGN	135	.0408963	.0000000	.072397	0	.3633
DWCA	135	.0663085	.0615998	.7552882	-1.508061	8.450252

From table 2 it can be interpreted that the mean value of all the items is almost equal to their median value (indicating normality) except for the CFO. The standard deviation of the variable indicates that the values are close to their respective mean value except for the CFO which indicates that values of CFO are widely dispersed.

4.2. Correlation Analysis

From table 3 it can be interpreted that ROA, CFO, and INST are negatively correlated with DWCA. On the other hand, SIZE, LEV, and FOREIGN are positively correlated with DWCA but none of them are statistically significantly correlated with DWCA. There is a statistically significant correlation among INST, SIZE, and LEV where SIZE is positively correlated, and LEV is negatively correlated with INST. FOREIGN is positively correlated with ROA, SIZE, LEV, CFO, INST, and DWCA, and among them, ROA, SIZE, and CFO are statistically significantly correlated with FOREIGN.

Table 3 Correlation matrix

	ROA	SIZE	LEV	CFO	INST	FOREIGN	DWCA
ROA	1.0000						
SIZE	0.0287	1.0000					
LEV	0.0857	-0.2048**	1.0000				
CFO	0.2451*	0.4771*	-0.3389*	1.0000			
INST	0.0462	0.2198**	-0.1699**	0.1146	1.0000		
FOREIGN	0.1493***	0.3900*	0.0435	0.5796*	0.0890	1.0000	
DWCA	-0.1309	0.0196	0.0605	-0.0173	-0.0306	0.0505	1.0000

*Significant level for correlation is at .01 or 1%

** Significant level for correlation is at .05 or 5%

*** Significant level for correlation is at .10 or 10%

4.3. Analysis of ownership structure and earnings management

From table 4 it can be interpreted that the VIF value is 1.48 indicating no multicollinearity problem exists in this study as the value is less than 10. To identify the existence of autocorrelation, the Durbin-Watson test is conducted. It is found that the score is 2.087 which lies within the range of 1.5 to 2.5 indicating there is no autocorrelation problem. F-statistics score falls outside the significant range of 10% and the adjusted R-squared is almost zero indicating independent variables state 0% changes of earnings management.

Table 4 Result of Hypothesis

Variables	Coefficient	t-statistics	P> t
Constant	.0660224	2.01**	0.047
ROA	-.0199312	-1.22	-0.225
SIZE	.0001776	0.12	0.906
LEV	-.0156672	-1.69***	-0.093
CFO	-1.01e-09	-0.64	0.523
INST	-.0001174	-0.87	0.385
FOREIGN	.0002600	0.73	0.467
Adjusted R-Squared	-0.0007		
F-statistics	0.99		
Durbin-Watson test	2.087		
VIF	1.48		

Note: ** indicates p value is significant at ≤ 0.05 and *** indicates p value is significant at ≤ 0.10

According to the analysis of the result of the hypothesis, it is found that INST is negatively related to earnings management, and FOREIGN is positively associated with earnings management, but none of them are statistically significant. This means that there is no path to prove whether institutional shareholders and foreign shareholders help to mitigate earnings management problems. Prior studies (Al-Fayoumi et al., 2010; Moslemany & Nathan, 2019; Gonzalez & Garcia, 2014) also found institutional shareholders and foreign shareholders do not play any significant role in mitigating earnings management. This indicates that the active monitoring hypothesis does not work in the context of Bangladesh. As discussed in the section two, the result if this study is analyzed through positivist lenses which focus on governance mechanisms. Through these results, it can be opined that governance mechanisms are not strong enough to assess the quality of financial information that managers publish to the stakeholders. It can also be interpreted that institutional shareholders and foreign shareholders are not active and their participation is too low in the context of Bangladesh especially in the Pharmaceuticals and Chemical sector which indicates that they are not able to pressurize the management to reduce earnings management practices rather they focus only on the firm performance or profitability for investment.

As for the control variable, there is a negative relationship among ROA, LEV, CFO, and DWCA, and SIZE is positively related to DWCA but except for LEV none of the other control variables are statistically significant. The negative association between LEV and DWCA indicates that in Bangladesh, firms in the pharmaceuticals and chemical sector do not use earnings management practices to get out from financially distressed position and are financially stable which lead them not to take too much debt that may cause them to experience financial distress.

5. Conclusion

This study aims to examine the relationship between ownership structure and earnings management. This study examined 29 listed firms from the pharmaceuticals and chemical sector of Bangladesh from 2014-2018 and found that institutional ownership is negatively related with earnings management and foreign ownership is positively related with earnings management but none of them are statistically significant indicating institutional ownership and foreign ownership do not help in resolving or reducing the earnings management problem. The results of this study are consistent with the hypothesis of this study. This study suggests that investors should not consider institutional and foreign ownership percentage as a determining factor when considering investment decisions rather should look for other firm-specific factors as institutional and foreign shareholders are not active in the context of Bangladesh. Policymakers should identify why institutional and foreign shareholders are not active and should revise the governance mechanisms accordingly. Like all the studies, this study is not free from limitations. This study only analyzed the last five years. Further study can be done using a longitudinal approach or case study of a particular organization. Cross-sectoral comparative analysis can also be done and all these will increase the inner validity of the findings of this study.

References

- Abdullah, N. M. H., Ahmad, Z., & Roslan, S. (2012). The influence of ownership structure on the firm's dividend policy based Lintner Model. *International Review of Business Research Papers*, 8(6), 71–88. https://www.researchgate.net/profile/Zuraidah_Ahmad4/publication/282850442_The_Influence_of_Ownership_Structure_on_the_Firms_Dividend_Policy_Based_Lintner_Model/links/561e69e008aeca1accab76/The-Influence-of-Ownership-Structure-on-the-Firms-Dividend-Policy-Based-Lintner-Model.pdf
- Abed, S., Al-Najjar, B., & Roberts, C. (2016). Measuring annual report narratives disclosure: empirical evidence from forward-looking information in the UK prior the financial crisis. *Managerial Auditing Journal*, 31(4/5), 338–361. <https://www.emerald.com/insight/content/doi/10.1108/MAJ-09-2014-1101/full/html>
- Affan, M. W., Rosidi, & Lilik, P. (2017). The Effect of Ownership Structure on the Quality of Financial Reporting of Manufacturing Companies Listed in the IDX during the Period of 2013-2015. *Imperial Journal of Interdisciplinary Research*, 3(7), 165-174. <https://www.semanticscholar.org/paper/The-Effect-of-Ownership-Structure-on-the-Quality-of-Affan-Rosidi/dba8244bb915b800edd8a6e743cabf44f8b1a851>
- Alexander, N. (2019). Ownership Structure and Earnings Management, *Accounting and Financial Review*, 4 (2), 38 – 42 <https://doi.org/10.35609/afr.2019.4.2>
- 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. https://www.researchgate.net/publication/228642167_Ownership_Structure_and_Earnings_Management_in_Emerging_Markets_The_Case_of_Jordan
- Alves, S. (2012). Ownership Structure and Earnings Management: Evidence from Portugal. *Australasian Accounting, Business and Finance Journal*, 6(1), 2012, 57-74. <https://ro.uow.edu.au/aabfj/vol6/iss1/12/>
- Alzoubi, E.S.S. (2016). Ownership structure and earnings management: Evidence from Jordan. *International Journal of Accounting & Information Management*, 24(2), 135–161. <https://doi.org/10.1108/IJAIM-06-2015-0031>
- Anwar, H., & Buvanendra, S. (2019). Earnings management and ownership structure: Evidence from Sri Lanka. *Colombo Business Journal*, 10(1), 44-65. <http://doi.org/10.4038/cbj.v10i1.42>
- Ali, S. A., Salleh, N. M., & Hassan, M. S. (2008). Ownership Structure and Earnings Management in Malaysian Listed Companies: The Size Effect. *Asian Journal of Business and Accounting*, 1(2), 89-116. <https://www.semanticscholar.org/paper/Ownership-Structure-and-Earnings-Management-in-The-Ali-Salleh/11ed725bcd1accf59f814decf11a3f0b6e07d5>
- Bendickson, J., Muldoon, J., Liguori, E., & Davis, P. E. (2016). Agency theory: the times, they are a-changin'. *Management decision*, 54(1), 174-193. <https://doi.org/10.1108/MD-02-2015-0058>
- Bhuiyan, H. U. (2015). Earnings Management to Exceed Earnings Threshold: Evidence from Bangladesh. *Journal of Business Studies*, XXXVI, 3, 1-22. https://www.fbs-du.com/news_event/15053071271.%20Dr.%20Md.pdf

- Boulila, N., & Mbarki, I. (2014). Board characteristics, external auditing quality and earnings management: Evidence from the Tunisian banks. *Journal of Accounting in Emerging Economies*, 4 (1), 79-96. <https://doi.org/10.1108/JAEE-10-2011-0046>
- Charitou, A., Lambertides, N., & Trigeorgis, L. (2007). Earnings behavior of financially distressed firms: the role of institutional ownership. *Abacus*, 43 (3), 271-296. <https://doi.org/10.1111/j.1467-6281.2007.00230.x>
- Charitou, A., Louca, C., & Tsalavoutas, I. (2016). Corporate governance, agency problems, and firm performance: Empirical evidence from an emerging European market. *SSRN Electronic Journal*, 1-42. <http://dx.doi.org/10.2139/ssrn.2221612>
- Cheng, A. C., & Reitenga, A. (2009). Characteristics of institutional investors and discretionary accruals. *International Journal of Accounting & Information Management*, 17 (1), 5-26. <https://doi.org/10.1108/18347640910967717>
- Chung, R., Ho, S., & Kim, J. B. (2004). Ownership structure and the pricing of discretionary accruals in Japan. *International Journal of Accounting, Auditing and Taxation*, 13 (1), 1-20. <https://doi.org/10.1016/j.intaccudtax.2004.02.003>
- Dahlquist, M., & Robertson, G. (2001). Direct Foreign Ownership, Institutional Investors and Firm Characteristics. *Journal of Financial Economics*, 59(3), 413-440. [https://doi.org/10.1016/S0304-405X\(00\)00092-1](https://doi.org/10.1016/S0304-405X(00)00092-1)
- David, P., Yoshikawa, T., Chari, M., & Rasheed, A. (2006). Strategic investments in Japanese Corporations: Do foreign portfolio owners foster underinvestment or appropriate investment? *Strategic Management Journal*, 27 (6), 591-600. <https://doi.org/10.1002/smj.523>
- Dechow, M., Hutton, P., Kim, H., & Sloan, G. (2012). Detecting earnings management: A new approach. *Journal of Accounting Research*, 50(2), 275-334. <https://doi.org/10.1111/j.1475-679X.2012.00449.x>
- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1996). Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research*, 13(1), 1-37. <https://doi.org/10.1111/j.1911-3846.1996.tb00489.x>
- Dharwadkar R., Goranova M., Brandes P., & Khan R. (2008) Institutional ownership and monitoring effectiveness: it's not just how much but what else you own. *Organization Science*, 19(3), 419-40. <https://www.jstor.org/stable/25146191>
- Dvorak, T. (2005). Do domestic investors have an informational advantage? Evidence from Indonesia. *Journal of Finance*, 60(2), 817-839. <https://www.jstor.org/stable/3694768>
- Gilson, R. J., & Milhaupt, C.J. (2005). Choice as regulatory reform: the case of Japanese corporate governance. *The American Journal of Comparative Law*, 53(2), 343-377. <https://www.jstor.org/stable/30038699>
- Gonzalez, S., & Garcia M. E. (2014). Does corporate governance influence EMin Latin American Markets? *Journal of Business Ethics*, 121 (3), 419-440. <https://www.semanticscholar.org/paper/Does-Corporate-Governance-Influence-Earnings-in-Gonz%C3%A1lez-Garc%C3%ADa-Meca/a23cd8e3c61c58adc5b505dd7e7a2d53e6b63ccf>
- Grinblatt, M., & Keloharju, M. (2000). The investment behavior and performance of various investor types: A study of Finland's unique data set. *Journal of Financial Economics*, 55(1), 43-67. [https://doi.org/10.1016/S0304-405X\(99\)00044-6](https://doi.org/10.1016/S0304-405X(99)00044-6)
- Guo, F., & Ma, S. (2015). Ownership characteristics and earnings management in China. *The Chinese Economy*, 48(5), 372-395. <https://doi.org/10.1080/10971475.2015.1067086>
- Guo, J., Huang, P., Zhang, Y., & Zhou, N. (2015). Foreign Ownership and Real Earnings Management: Evidence from Japan. *Journal of International Accounting Research*, 14 (2), 185-213. <https://aaapubs.org/doi/abs/10.2308/jiar-51274>
- Hadani, M., Goranova, M., & Khan, R. (2011). Institutional investors, shareholder activism, and earnings management. *Journal of Business Research*, 64(12), 1352-1360. <https://doi.org/10.1016/j.jbusres.2010.12.004>
- Healy, P.M., & Wahlen, J.M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, 13(4), 365-383. <https://meridian.allenpress.com/accounting-horizons/article-abstract/13/4/365/52187/A-Review-of-the-Earnings-Management-Literature-and?redirectedFrom=fulltext>
- Herrmann, D., Inoue, T., & Thomas, W. B. (2003). The sale of assets to manage earnings in Japan. *Journal of Accounting Research*, 41 (1), 89-108. <https://doi.org/10.1111/1475-679X.00097>
- Jensen, M. C. (1983). Organization theory and methodology. *Accounting Review*, 56, 319-338. <https://www.jstor.org/stable/246838>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal Financial Economics*, 3(4), 305-360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jones, J.J. (1991). Earnings Management during Import Relief Investigations. *Journal of Accounting Research*, 29(2), 193-228. <https://www.jstor.org/stable/2491047>

- Kankanamage, C. A. (2015). The relationship between board characteristics and earnings management: Evidence from Sri Lankan listed companies. *Kelaniya Journal of Management*, 4(2), 36–43. <http://doi.org/10.4038/kjm.v4i2.7499>
- Khan, R., Dharwadkar, R., & Brandes, P. (2005). Institutional ownership and CEO compensation: A longitudinal examination. *Journal of Business Research*, 58(8), 1078–88. <https://doi.org/10.1016/j.jbusres.2004.02.002>
- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163–197. <https://doi.org/10.1016/j.jacceco.2004.11.002>
- Latif, S., & Abdullah, F. (2015). The effectiveness of corporate governance in constraining earnings management in Pakistan. *The Lahore Journal of Economics*, 20(1), 135–155. https://www.researchgate.net/publication/280002168_The_Effectiveness_of_Corporate_Governance_in_Constraining_Earnings_Management_in_Pakistan
- Mazumder, M. M. M., & Hossain, D. M. (2019). Exploring the nature of risk disclosure in the annual report narratives of Bangladeshi pharmaceutical companies: an impression management perspective. *International Journal of Comparative Management*, 2(3/4), 273–296. <https://www.inderscience.com/info/inarticle.php?artid=105975>
- Mitchell, R., & Meacham, D. (2011). Knowledge worker control: Understanding via principal and agency theory. *The Learning Organization*, 18(2), 149–160. <https://doi.org/10.1108/09696471111103740>
- Moslemany, R. E., & Nathan, D. (2019). Ownership structure and Earnings Management: evidence from Egypt. *International Journal of Business and Economic Development*, 7 (1), 18–32. <https://doi.org/10.24052/IJBED/V07N01/ART-02>
- Peasnell, K.V., Pope, P.F., & Young, S. (2000). Accrual Management to Meet Earnings Targets: UK Evidence Pre – and Post – Cadbury. *British Accounting Review*, 32(4), 415–445. <https://doi.org/10.1006/bare.2000.0134>
- Peasnell, K.V., Pope, P. F., & Young, S. (2005). Board monitoring and earnings management: Do outside director's influence abnormal accruals? *Journal of Business Finance & Accounting*, 32 (7/8), 1311–1346. <https://doi.org/10.1111/j.0306-686X.2005.00630.x>
- Rusmin, R. (2010). Auditor quality and earnings management: Singaporean evidence. *Managerial Auditing Journal*, 25(7), 618–638. <https://doi.org/10.1108/02686901011061324>
- Schnatterly, K., Shaw, K.W., & Jennings, W.W. (2008). Information advantages of large institutional owners. *Strategic Management Journal*, 29(2), 219–27. <https://doi.org/10.1002/smj.654>
- Sirat, H. (2012). Corporate governance practices, share ownership structure, and size on earning management. *Journal of Economics, Business, and Accountancy Ventura*, 15(1), 145–156. <http://dx.doi.org/10.14414/jebav.v15i1.67>
- Siregar, S., & Utama, S. (2008). Type of EM and the effect of ownership structure, firm size, and corporate-governance practices: Evidence from Indonesia. *The International Journal of Accounting*, 43(1), 1–27. <https://doi.org/10.1016/j.intacc.2008.01.001>
- Suto, M. (2003). Capital structure and investment behaviour of Malaysian firms in the 1990s: A study of corporate governance before the crisis. *Corporate Governance: An International Review*, 11(1), 25–40. <https://doi.org/10.1111/1467-8683.00299>
- Wiranata, Y. A., & Nugrahanti, Y. W. (2013). The effect of ownership structure towards profitability of Indonesia manufacturing companies. *Accounting and Finance Journal*, 15 (1), 15–26. <https://doi.org/10.9744/jak.15.1.15-26>

Appendix:

Table 5 List of the firms

Code name of the firms	Year of establishment	Year of listing
ACI	1973	1976
ACIFORMULA	1995	2008
ACMELAB	1954	2016
ACTIVEFINE	2004	2010
ADVENT	2007	2018
AFCAGRO	2010	2014
AMBEEPHA	1976	1986
BEACONPHAR	2001	2010
BXPHARMA	1976	1985

BXSYNTH	1990	1993
CENTRALPHL	1980	2013
FARCHEM	2007	2014
GHCL	2000	2013
GLAXOSMITH	1974	1976
IBNSINA	1983	1989
IBP	1954	2018
IMAMBUTTON	1996	1996
JMISMDL	1999	2013
KEYACOSMET	1996	2001
KOHINOOR	1956	1988
LIBRAINFU	1985	1994
MARICO	1999	2009
ORIONINFU	1983	1994
ORIONPHARM	1965	2013
PHARMAID	1981	1987
RECKITTBEN	1961	1987
RENATA	1972	1979
SALVOCHEM	2002	2011
SILCOPHL	1996	2019
SILVAPHL	2001	2018
SQURPHARMA	1958	1995
WATACHEM	1981	1992