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# The Relationship between Managerial Ownership and Earnings Management - Evidence from Mongolian Listed Firms

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Abstract

The purpose of this study is to examine the relationship between managerial ownership and earnings management of listed Mongolian firms in 2009-2015. Most of the Mongolian enterprises were state-owned and state-controlled until the transition to free market economy. The stock exchange was established by privatizing those state-owned companies and was created managerial owners. Proxy of earnings management is defined by discretionary accruals. The managerial ownership is measured as the percentage of shareholder's shares directly or indirectly held by manager. A total of 122 Mongolian listed firms are chosen as a study sample and found that managerial ownership is negatively and significantly related to earnings management. This result is almost similar with previous literatures.

*Keywords*: managerial ownership, earnings management

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## 1. Introduction

The Mongolian Stock Exchange (MSE) was established in 1991 to implement privatization and develop securities market. The development of the MSE is basically classified into three phase. The aim of the first phase was a privatization related to the shift from the centrally planned to the market economy. This privatization process had three forms: large scale, small scale and agricultural privatization. In the beginning of 90's, citizens didn't have any knowledge of private property, market economy and money to buy state industries. So, in order to privatize, privatization process used investment vouchers, which consisted of one blue and three pink vouchers. The blue vouchers were used to buy large factories whereas the pink vouchers were used to buy small companies in trade and service. According to the Mongolian Civil Law, all vouchers were distributed to citizens free of charge. Citizens bought shares of large factories with blue vouchers and became its' shareholders. As a result of this process, 475 factories were registered on the stock market. In another words, 25% of large enterprises were privatized by blue vouchers. In this way, the state factories were privatized and changed their ownership status.

Although the stock market was established, a secondary market did not develop well until 1995. After 1995, when the second security trading has started, shares were concentrated and held by people who had money, also knowledge on market economy and stock. As a result of the concentration, the companies' function was changed. For instance, building and industrial equipment was sold out and leased, instead of producing goods, factories were made into department stores, services, and etc.

In 2005, the third phase started with registering and issuing shares of "Genco tour bureau". Since the very first IPO that has occurred in Mongolia, only 13 companies launched IPO at the stock market. Moreover, between 2005 and 2011, the legal environment was created to develop stock market.

Finally, from that time until now, 13 companies did IPO and 301 companies were delisted. Privatization was a feature of the first phase, ownership concentration - of the second phase and the first IPO - of the third phase.

Same as other Asian countries, most of the Mongolian companies are family owned and members of the same family work at managerial position to protect their assets and to increase benefits. Family owned companies tend to dominate in Mongolia. In 2016, out of Mongolian TOP-100 companies, 83 were family owned companies as 80% and more of shares were owned by only three to five people. Dominant role of family and its members characterizes Mongolian ownership structure. Toshio Kikuchi (2011) found out that about 50% of the firms' owners and their families own more than 31% of shares. In other words, around half of listed companies are owned by founders or their family members, and therefore they have the characteristics of a family business.

Mongolians were not experienced in terms of ownership before 1990. So, we thought that owner should control and manage the company himself. Shareholders usually work in high posts, like CEOs, managers or members of the board of directors, and they participate in daily operation. This situation has been changing in recent years; however, shareholders appoint professional, experienced managers and give them certain amount of stocks. Professional managers are

taking care of company's day-to-day running and shareholders entrust them. Managers' aim is to maximize their own benefits, while shareholders' aim is maximizing the firm value. The most CEOs and senior managers of Mongolian companies are founders himself or his family members. Kim & Lyn (1988) state that firm is considered with high insider ownership, if managerial ownership is more than 25% and with low insider ownership if managerial ownership less than 5%. According to Kim & Lyn, analyze on our data showed that 40 companies have high insider ownership, as managers own more than 25% of shares. In case of Mongolia, it is common for a family or related parties to own one or more companies. If a person or family members own shares of many companies at the same time, it is common to hire capable and competent managers as executives.

Table 1. Manager's ownership

| Manager's share | Number of company | Average of ownership (%) |
|---|---|---|
| 5-30% ownership concentration | 53 | 18.38 |
| 30-60% ownership concentration | 24 | 42.67 |
| 60-90% concentration | 6 | 78.93 |
| More than 90% concentration | 2 | 95.16 |

Based on research data, mean of managerial ownership equals to 51.5%. Table 1 shows that even though, managerial ownership is relative high, experience and sophisticated managers tend to manage company's activity process.

## 2. Literature Review

When managers' ownership share increases in a firm, it may be addressed using two hypotheses: managerial entrenchment and alignment of interest.

Jensen & Meckling (1976) identify that increasing managerial ownership decreases agency conflicts of managers and shareholders, consistent with the alignment of interest hypothesis. This reduces the opportunistic behavior of managers. Relating to this, Demsetz & Lehn (1985) discover that firm performance and managerial ownership have positive relation.

Regarding to the entrenchment hypothesis, Morck *et al.* (1988) report that managers can exploit minor shareholders, if they are put in a position beyond their ownership stakes. Teshima & Shuto have developed a theoretical model by examining the relation of managerial ownership with earnings management. Earnings management incentives are low when managerial ownership is either low or high; and incentives are high when ownership is at an intermediate level, according to this model. Therefore, nonlinear or cubical relation exists between managerial ownership and earnings management.

Salamon *et al.* (1982) find that managerial ownership has negative relation to earnings manipulation. Managerial ownership can reduce agency costs, because managers' motivation is closely related to the goals of other shareholders.

## 3. Research Hypotheses Development

The agency theory states that high managerial ownership gives incentives to maximize firm value, since it influences managers' wealth. When managers acquire company shares, their interests match with shareholders' interests (Jensen & Meckling, 1976). Similarly, Warfield *et al.* (1995) support that low managerial shareholding motivates managers to engage in earnings manipulation for their own benefit. The same study results suggest that when ownership

and management are distinct, contracts are written to reduce value reducing behaviour of managers. Moreover, You *et al.* (2003) and Klein (2002) find negative association between discretionary accruals and managerial ownership. Banderlipe (2009) and Sandra Alves (2012) claim that high managerial ownership decreases earnings management and that increase of managers' shares discourages managers to participate in earnings manipulation.

On the other hand, the high managerial shareholding leads to entrenchment, providing managers with authority to make private benefits without fear of punishment (Cornett *et al.,* 2008). Morck *et al.* (1988) claim that greater entrenchment and strong motivation for opportunistic behavior are a result of greater insider ownership. Alongside, Mitani (2010) and Nedal Al-Fayomi *et al.* (2010) identify significant positive relation between managerial ownership and earnings management.

In Mongolia, managerial owner's positions are usually inherited, so not every manager is skilled, capable and professional. Shareholders usually work in high positions, such as member of board of directors, CEOs, managers. So, they directly or indirectly participate in firm management, and influence management decisions. Shareholders appoint managers, however, it is common to hire his relatives or acquaintances rather than skilled capable people. Shareholders trust them. Consequently, the study suggests the following hypotheses, on the basis of the research results above:

Alternative hypothesis: There is a negative relationship between managerial ownership and earnings management, other things being equal.

## 4. Research Method and Model

The study uses multiple regression models to analyze two questions using listed firms' data from 2009 to 2015. Firstly, it determines current managerial ownership situation. Secondly, it investigates a relationship between managerial ownership and earnings management. The research uses discretionary accruals to measure earnings management. In general, hypotheses state that managerial ownership is related to earnings management. Using sample of 122 Mongolian listed companies, the research data are processed by SAS software program.

The study applies following regression research model to test the relationship between managerial ownership and earnings management, with earnings management as the dependent variable and managerial ownership and other control variables such as total assets, leverage and return on assets as independent variables. As suggested by previous literature (Klein, 2002; Sloan & Sweeney, 1995; Dechow, 1995), a group of control variables will be introduced to the estimation to control for other parameters that might influence the relation between earnings management and ownership types. To this extent we will include: size ($SIZE$), leverage ($LEV$).

$$DACC_{i,t} = \beta_0 + \beta_1(MAN) + \beta_2(SIZE) + \beta_3(LEV) + \beta_4(ROA) \qquad (1)$$

Where: $DACC$ – discretionary accruals; $MAN$ – managerial ownership measured as the percentage of shares directly or indirectly held by the manager; $SIZE$ – the natural logarithm of total assets; $LEV$ – total liabilities divided by total assets; $ROA$ – net income divided by total assets.

The study used the Modified Jones model introduced by Bartov *et al.* (2001) and Dechow *et al.* (1995) in order to test the association between ownership types and earnings management. We did following steps, to estimate discretionary accruals, the first step of this analysis will be the calculation of the total accruals ($TA$).

$$TA_{i,t} = \frac{\Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STD_{i,t} - Dep_{i,t}}{A_{i,t}} \qquad (2)$$

Where: $TA$ – total accruals; $\Delta CA$ – change in current assets; $\Delta CL$ – change in current liabilities; $\Delta Cash$ – change in cash and cash equivalents; $\Delta STD$ – change in debt included in current liabilities; $Dep$ – depreciation and amortization; $A$ – total assets; $t$ – year index, range from 2009 until 2015; $i$ – firm index, range from 1 to 22.

Following the calculation of the total accruals, the second step of the research methodology will be commented, which is the estimation of the industry-specific regression parameters $\alpha_1$, $\alpha_2$, $\alpha_3$ by employing a time-series model for each firm using seven firm-year observations on the below formula.

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta Rev_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{\Delta PPE_{i,t}}{A_{i,t-1}} + \varepsilon_t \qquad (3)$$

Where: $\Delta REV$ – change in revenue; $\Delta PPE$ – change in gross property, plant, and equipment; $\varepsilon$ – error term.

The third step of the research methodology is calculating nondiscretionary accruals, after estimating the regression coefficients. According to the adjustment of Dechow *et al.* (1995), the nondiscretionary accruals will be estimated as follows:

$$NDA_{i,t} = \widehat{\alpha_1} \frac{1}{A_{i,t-1}} + \widehat{\alpha_2} \frac{(\Delta Rev_{i,t} - \Delta Rec_{i,t})}{A_{i,t-1}} + \widehat{\alpha_3} \frac{PPE_{i,t}}{A_{i,t-1}} \qquad (4)$$

Where: $NDA$ – nondiscretionary accruals; $\Delta REC$ – change in net receivable; $\widehat{\alpha_1}$, $\widehat{\alpha_2}$, $\widehat{\alpha_3}$ – estimated regression coefficients from formula (3).

The fourth step of the research design will be performed following the calculation of the non-discretionary accruals. The fourth step is to subtract formula (4) from formula (2) in order to find the discretionary accruals which are the proxy for earnings management as following.

$$DACC_{i,t} = TA_{i,t} - NDA_{i,t} \qquad (5)$$

Managerial ownership ($MAN$) is defined as the percentage of shares owned by the management. Prior studies show a significant association between earnings management and managerial ownership. Warfield *et al.* (1995) found a non-linear association between earnings management and managerial ownership. The managers' and the individual investors' interests become more coincide, when the managerial ownership increases. This leads managers to reduce the earnings management and to be contingent on long term investments.

Prior researches reported that there are some variables that influence firm's accounting

decisions: leverage ($LEV$), firm size ($SIZE$) and cash flows from operations ($CFO$).

$SIZE$ - measure is transformed by taking the natural logarithm of the total assets of firm. Watts & Zimmerman indicate that managers of large corporations, who are politically sensitive, presumably exploit accounting discretion in order to reduce political costs. Fama & Jensen report that agency costs are more likely to grow with firm size. Need for monitoring and other control mechanisms are enlarged with increased agency costs. Dechow & Divhev note that larger firms have move predictable and stable operations; therefore, their amount of discretionary accruals is smaller. Owens-Jackson *et al.* state that managers of large or fast growing companies are under pressure to meet high expectations from the market and investors, thus, the probability of fraudulence financial reporting is high for these companies.

$LEV$ - measured by total liabilities divided by total assets. Evidence shows that leverage is concerned with accounting choice decision. Highly indebted firms are under scrutiny of creditors, so, they are less able to practice earnings management. Park & Shin (2003) discover that financial leverage is negatively and significantly associated with earnings management. In opposing, DeFond & Jiambalvo (1994) and DeAngelo *et al.* (1994) reveal empirical evidence of abnormal accruals when firms face binding debt covenants. Debt covenant violation argument would forecast a positive relation between abnormal accruals and financial leverage. Bartov *et al.* (2000) note that levered companies are more motivated to manipulate earnings.

$ROA$ is measured by net income divided by total assets as suggested by Kasznik (1999) and Dechow *et al.* (1995). $ROA$ is included to control firm's long term development forecasting error on manager's incentive for earnings management. Consistent with Kasznik (1999), $ROA$ is expected to be positively related to $DA$. $ROA$ is measured as changes in net profits before tax over previous year total assets.

## 5. Data

### 5.1. Sample Selection

Sample selection is based on the board firms of MSE. As of 31 December, 2017, 218 companies are listed on the MSE. Nine of those companies are listed on 1st board, 41 – on 2nd board and 168 – on 3rd board.

The study selects 2009 as the starting period because data is not available before 2009. The research data is obtained from various resources. First, General information of companies is received from MSE web sites. Second, financial data from 2009-2011 is downloaded from e-balance of Finance Ministry of Mongolia and financial data between 2012 and 2015 is obtained from MSE web sites. Third, share concentration information is collected from Financial Regulatory Commission. All data is collected by hand.

The first sample comprising 1,308 firm-year observations for the period between 2009 and 2015 is used to investigate the relation of earnings management and ownership structure. Firms with missing data will be excluded from the sample (80 firms). Ownership concentration data of some firms were not available, so those firms were eliminated from the sample (12 firms). The financial firms (4 firms) such as commercial banks, insurance, investment brokerage, etc. are excluded from the sample, as the

nature of accruals for financial firms differs from other firms (Klein, 2002; Park & Shin, 2003; Chung *et al.,* 2002). Thus, the study has the initial sample composed of 122 firms. Finally, in order to control the influence of extreme value, dependent variable ($DACC$) and independent variable ($SIZE$, $LEV$, $ROA$) are 95% winsorized in the empirical analysis. The final sample consists of 732 firm-year observations used to test the hypothesis. The sample selection procedure is shown in Table 2.

### 5.2. Descriptive Statistics

Table 3 provides descriptive statistics of dependent and independent variables. Table 3 presents the mean, standard deviation, minimums and maximums of variables.

The mean of earnings management proxy $DACC$ is 0.1928, with a minimum 0.0006 and maximum of 0.4587. The positive mean indicated that $DACC$ is income–increasing. The average of managerial ownership ($MAN$) is 51.8%. The logarithm of total assets ($SIZE$) has a mean of 15.1. Firm's average leverage ratio is 29.6 percent whereas the sample firms are profitable with a mean $ROA$ of 12.1 percent.

### 5.3. Correlation Test

Table 4 reports Pearson correlation coefficients for the research variables. Earnings management proxy $DACC$ is negatively and significantly correlated with managerial ownership ($MAN$). Control variables $LEV$ and $SIZE$ are positively and significantly related to earnings management at 1% levels. Control variable $ROA$ is positively, but insignificantly related to $DACC$.

Table 2. Sample selection

| Sample selection procedure | 1st board | 2nd board | 3rd board | Number of firms |
|---|---|---|---|---|
| Firms listed on the MSE | 9 | 41 | 168 | 218 |
| Less: continuous data unavailable | 2 | 6 | 68 | 76 |
| Owner concentration data unavailable | | 3 | 12 | 15 |
| Financial firms | 1 | 2 | 2 | 5 |
| Initial sample | 6 | 30 | 86 | 122 |

Table 3. Descriptive statistics

| Variables | N | Mean | Std Dev | Min | Max |
|---|---|---|---|---|---|
| DACC | 732 | 0.1928 | 0.1783 | 0.0006 | 0.4587 |
| MAN | 732 | 0.5178 | 0.2277 | 0.0000 | 0.9984 |
| SIZE | 732 | 15.1427 | 2.3675 | 9.1951 | 21.2472 |
| LEV | 732 | 0.2961 | 0.3204 | 0.0004 | 1.7575 |
| ROA | 732 | 0.1214 | 0.0808 | 0.0000 | 0.3110 |

Table 4. Pearson correlation coefficients

| | DACC | MAN | SIZE | LEV |
|---|---|---|---|---|
| MAN | -0.2323 *** | | | |
| SIZE | 0.1120 *** | -0.2724 *** | | |
| LEV | 0.0978 *** | -0.0363 | -0.1866 *** | |
| ROA | 0.0449 | -0.1048 *** | 0.0625 * | -0.0349 |

*Note: *, ** and *** indicate significance at 10%, 5% and 1% level, respectively*

The correlation coefficients indicate that serious multicollinearity problem do not exist.

## 6. Regression Results

Table 5, model presents the result of association between managerial shareholder's percentage and earnings management $DACC$. The variable ($MAN$) is measured as the percentage of shares directly and indirectly held by the manager within the companies. Coefficient on managerial ownership ($MAN$) is negatively (-0.16118) and significantly associated with $DACC$ at 1% levels (-5.49, p=0.0001). Therefore, the higher the managerial ownership the lower the probability of management to deal with the earnings manipulation. Thus, the result supports the hypothesis H3, which means that high managerial ownership decreases probability of management to deal with the earnings manipulation. This is same as results of Banderlipe (2009), Klein (2002) and Warfield *et al.* (1995). These studies found significant negative association between managerial ownership and the level of absolute discretionary accruals, which indicates the association of low value of discretionary accruals with high proportion of shares held by managers.

Table 5. Model regression results

| Variables | Model | |
|---|---|---|
| | Coefficient | t-statistic (p-value) |
| Intercept | 0.12019 | 2.48** (0.0135) |
| MAN | -0.16118 | -5.49*** (0.0001) |
| SIZE | 0.00558 | 1.95* (0.0518) |
| LEV | 0.05842 | 2.87*** (0.0043) |
| ROA | 0.04920 | 0.62 (0.5361) |
| F Test: | 13.15*** (0.0001) | |
| $R^2$: | 0.0675 | |
| Adj.$R^2$: | 0.0623 | |
| N: | 732 | |

*Note: *, ** and *** indicate significance at 10%, 5% and 1% level, respectively*

It is important that the model is significant in a whole, since the F-statistic is 0.0001 which is lower than the overall significance level of 1%. The Adjusted $R^2$ for all models are 6.2. It is similar to previous studies, such as: Yeo *et al.,* 2002 (3.85%-7.7%), Lang *et al.,* 2000 (3.0%-8.0%) and Warfield *et al.,* 1995 (8.34%-12.48%).

## 7. Conclusion

The purpose of this research is to examine the relation between managerial ownership and earnings management in Mongolian listed companies. The study presents following findings that the study finds that managerial ownership has significant negative relation to earnings management, which shows that higher level of management ownership decreases incentives for managers to manage earnings. Currently, managerial ownership concentration is relatively high and managerial positions are usually inherited, so, not every manager is skilled and capable. Thus, study finds that earnings are usually managed negatively.

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