The Relationship between Ownership Concentration and Earnings Management - Evidence from Mongolian listed firms

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Abstract: The purpose of this study is to examine the relationship between ownership concentration and earnings management of listed Mongolian firms in 2012-2018. Mongolia’s soviet era economy was dominated by state-controlled, wide-spread inefficiencies resulting in poor investor confidence. Transition to market economy brought several types of ownership in companies. Therefore, the study focuses on ownership concentration. Proxy of earnings management is defined by discretionary accruals. The ownership is measured by percentage of shareholder’s shares. A total of 122 Mongolian listed firms are chosen as a study sample and found that controlling ownership are positively and significantly related to earnings management.

Keywords: Earnings management, Controlling shareholders, Mongolia, Ownership concentration

1. Introduction

Before 1990, Mongolia had a centrally planned economy for seven decades and in 1990 it has transferred to free market economy. Mongolia has only one stock market named Mongolian Stock Exchange (MSE). The Mongolian Stock Exchange was established in 1991 to implement privatization and develop securities market.

In the beginning of 90's, citizens didn’t have any knowledge of private property, market economy and money to buy state industries. So, 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.

a) Research Purpose

This research mainly focused on to investigate relationship between ownership concentration and earnings management of Mongolian listed firms. Mongolia’s soviet era economy was dominated by state-controlled, wide-spread inefficiencies resulting in poor investor confidence. Transition to market economy brought several types of ownership in companies. Therefore, study investigates following: 1) level of ownership concentration 2) ownership concentration and earnings management’s relation.

b) Research significance

In Mongolia, study on relationship between earnings management and ownership concentration is few. Studies related to corporate governance are few and all of them are conducted in a form of a questionnaire including small number of companies. The research is conducted using six-year panel data of listed companies.

c) Research method

The study uses multiple regression analysis to test hypothesis using listed firms’ data from 2012 to 2018. It determines the relation between earnings management and ownership concentration. The research uses discretionary accruals to measure earnings management. Using sample of 122 Mongolian listed companies, the research data are processed by SAS software program.

2. Institutional Background

According to the Mongolian Company Law, companies have two main forms: a limited liability company and a joint-stock company. Mongolian company law coordinates joint stock companies, limited liability companies and state-owned companies; other types of companies are regulated by another law. According to company law (2011), open and closed company’s shares are owned by shareholders, while state-owned company’s shares are owned by the state agencies and local administrations. As the end of 2018, 59614 limited, 234 stock and 86 state owned companies that have active operation are registered. Out of these companies, 218 companies are listed on the MSE, of which 188 are open
companies, 30 - stated owned companies and partly state-owned companies.

<table>
<thead>
<tr>
<th>Form</th>
<th>Number of companies</th>
<th>Listed companies</th>
<th>TOP-100 companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock companies</td>
<td>234</td>
<td>188</td>
<td>4</td>
</tr>
<tr>
<td>State and partly state-owned companies</td>
<td>86</td>
<td>30</td>
<td>7</td>
</tr>
<tr>
<td>Limited liability companies</td>
<td>59,614</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59,934</td>
<td>218</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 1 shows that 99.4% of operating as of January, 2018 companies are limited companies. It is obvious from the table that limited liability companies dominate in Mongolia.

In case of Mongolia, ownership structure is very complicated, because shareholder’s voting rights include not only his own stock, but also stocks owned by his family members, friends and affiliated firms. Multiple ownership types and high ownership concentration is the feature of Mongolian companies. First, ownership is highly concentrated in Mongolian listed companies. The 2nd phase of Mongolian stock market development is period when this high level of ownership concentration has emerged. 94% of currently listed companies have been established as a result of privatization, and their shares are concentrated in the hands of same family members and friends. Thus, the ownership is highly concentrated. For the first time in December 2015, FRC announced shareholders owning more than 5% of company shares. Report from The Financial Regulatory Commission shows that ownership concentration was 82.2% on average whereas my research shows 81.8%. It shows that ownership concentration is similar in my research and FRC report.

Table 2 shows comparison of ownership based on the report from FRC and the research data. It shows that this research includes twice less companies with 60-90% ownership.

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Number of companies</th>
<th>Financial Regulatory Commission Board</th>
<th>Research data Board 1</th>
<th>Research data Board 2</th>
<th>Research data Board 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-60% ownership concentration</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>60-90% concentration</td>
<td>137</td>
<td>137</td>
<td>4</td>
<td>22</td>
<td>43</td>
<td>69</td>
</tr>
<tr>
<td>More than 90% concentration</td>
<td>49</td>
<td>49</td>
<td>2</td>
<td>6</td>
<td>39</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>193</td>
<td>193</td>
<td>6</td>
<td>30</td>
<td>86</td>
<td>122</td>
</tr>
</tbody>
</table>

Excessive concentration negatively affects the market development. Therefore, the Financial Regulatory Commission is taking measures to decrease concentration in companies with over 75% of it. 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. Gedajlovic et al. (2005) divided shareholders into three groups: inside investors, market investors and stable investors. The stable investors consist of insurance companies, banks and affiliated firms.

3. Literature Review

Earnings management issue receives significant attention in accounting research area. Related to previous studies, the study distinguishes following key approaches: ownership structure, institutional ownership, managerial ownership, government ownership and foreign ownership. The study shows a review of the literature on the relationship between earnings management and each aspect of the ownership concentration and in this chapter. Literature review refers to these contrasted results.

a) There aren’t many researches on corporate governance and ownership, in Mongolia. However, the existing studies are conducted based on the survey results. Anderson, Korsun and Murell (1999) argued that 20.4% of outstanding shares are held by state, 44.9% - by outsiders, 34.8% - by insiders and their families, 11.0% - by managers in Mongolia. In the beginning, insider ownership did not arise because of preferred shares. Employees had preferred shares. When employees used their vouchers on the stock exchange, the company owners bought those shares. Kanichi Iijima (2011) document that in the founder or his acquaintances engaged in the management of 69 companies (76%). They were mostly working as president, chairman of the board of directors and director.

b) Regarding the negative relationship, Sandra Alves (2012) finds that the quality of annual earnings is increased by managerial ownership and ownership concentration which decrease the earnings management. Also, it suggests that managers owning a major percentage of the equity are less likely to manipulate earnings, while large shareholders decrease managerial opportunism.

c) Prior studies show that managers engage in aggressive accounting discretion, when institutional investors are orientated on short term results and have passive monitoring. Bhide (1993) indicates that corporate governance of the firm does not involve active participation of institutional investors. Institutional investors sell their shares when it doesn’t bring desirable returns.

d) 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.

e) Bauwhede et al. (2003) analyzed the Belgian companies’ data and found that state ownership positively influences
discretionary accruals, because it incentivizes to manage earnings upward. Both state and private Belgian firms take part in income smoothing and control earnings astutely to meet the target level of previous year income.

4. Research hypothesis and methodology

a) Research Hypotheses

Shleifer & Vishny (1986) state that large shareholders are strongly incentivized to support and influence the company’s monitoring management to protect their significant investments. Dechow, Sloan & Sweeney (1996) argue that managerial behavior actions are effectively monitored by large shareholders, which decrease managerial opportunism to participate in earnings management.

Minority shareholders are not interested in a company’s monitoring because they do not influence earnings management and company’s activity. Therefore, the study suggests the following hypotheses.

H1: The percentage of ownership concentration in the firm is positively related to earnings management, other things being equal. Alternative hypothesis

H2: Controlling shareholders have stronger relation to earnings management than non-controlling shareholders, other things being equal.

b) Research Model

The study applies following regression research models to test the relationship between controlling shareholders and earnings management, with earnings management as the dependent variable and ownership concentration, controlling ownership and other control variables such as total assets, leverage and return on assets as independent variables. Earnings management is measured by proxy of discretionary accruals as suggested by modified Jones model. As suggested by previous literature (Klein, 2002; Sloan and 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), cash flows from operations (CFO), leverage (Lev).

\[
\begin{align*}
DACC_{i,t} &= \beta_0 + \beta_1(OWN) + \beta_2(SIZE) + \beta_3(LEV) + \beta_4(ROA) \\
DACC_{i,t} &= \beta_0 + \beta_1(MORE) + \beta_2(SIZE) + \beta_3(LEV) + \beta_4(ROA) \\
DACC_{i,t} &= \beta_0 + \beta_1(LESS) + \beta_2(SIZE) + \beta_3(LEV) + \beta_4(ROA)
\end{align*}
\]

Where:
DACC: discretionary accruals
OWN: percentage of shares held by shareholders, who own more than 5 of shares
MORE: percentage of shareholders, who own equal to or more than 1/3 of shares
LESS: percentage of shareholders, who own less than 1/3 of share
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. I did follow steps, to estimate discretionary accruals; the first step of this analysis will be the calculation of the total accruals (TA).

\[
TA_{i,t} = \frac{\Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STD_{i,t} - Dep_{i,t}}{A_{i,t-1}}
\]

Where:
TA_{i,t} : total accruals
\Delta CA_{i,t} : change in current assets
\Delta CL_{i,t} : change in current liabilities
\Delta Cash_{i,t} : change in cash and cash equivalents
\Delta STD_{i,t} : change in debt included in current liabilities
Dep_{i,t} : depreciation and amortization
A_{i,t} : total assets
t : year index, range from 2009 until 2015
i : firm index, range from 1 to 122.

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 a1, a2, a3 by employing a time-series model for each firm using 7 firm-year observations on the below formula.

\[
\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_1 + \frac{1}{A_{i,t-1}} + \frac{\Delta Rev_{i,t}}{A_{i,t-1}} + \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \frac{PPE_{i,t}}{A_{i,t-1}} + \epsilon_{i,t}
\]

Where:
TA_{i,t} : Total accruals
\Delta REV_{i,t} : Change in revenue
\Delta PPE_{i,t} : Gross property, plant and equipment
A_{i,t} : Total assets
\epsilon : Error term
t : Year index, range from 2009 until 2015
i : Firm index, range from 1 to 122.

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:

\[
NDA_{i,t} = \tilde{\alpha}_1 \frac{1}{A_{i,t-1}} + \tilde{\alpha}_2 \frac{\Delta Rev_{i,t} - \Delta Rev_{i-1}}{A_{i,t-1}} + \tilde{\alpha}_3 \frac{PPE_{i,t}}{A_{i,t-1}}
\]

Where:
NDA_{i,t} : Nondiscretionary accruals
\Delta REV_{i,t} : Change in revenue

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△REC_{i,t} : Change in net receivables  
△PPE_{i,t} : Gross property, plant and equipment  
A_{i,t} : Total assets  
\tilde{a}_1,\tilde{a}_2,\tilde{a}_3 : Estimated regression coefficients  
t : Year index, range from 2009 until 2015  
i : Firm index, range from 1 to 122.

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 (9) from formula (7) in order to find the discretionary accruals which are the proxy for earnings management as following.

\[ \text{DACC}_{i,t} = \text{T}\text{A}_{i,t} - \text{NDA}_{i,t} \]

Where:

- DACC_{i,t} : discretionary accruals  
- T\text{A}_{i,t} : total accruals  
- NDA_{i,t} : nondiscretionary accruals

1) **Ownership concentration and its measure**

Ownership concentration (OWN) is defined as the concentration of the company’s shares and expressed as the percentage of the investors who own more than 5% of the company’s shares. Zeskhauser & Pound (2015) studied the influence of major investors on the firm’s finance decision. Findings show that major investors do not significantly affect firm’s capital structure. Also, major investors have an important role in monitoring the management for the benefit of other investors. Large shareholders are motivated to monitor management, because the expenses of monitoring are less than the expected gains, because of their great equity assets. Ramsey & Blair (1993) suggest that high ownership concentration gives opportunity for large shareholders to incentivize screen managers.

2) **Control variables and its measure**

Size measure is transformed by taking the natural logarithm of the total assets of firm. LEV is measured by total liabilities divided by total assets. Evidence shows that leverage is concerned with accounting choice decision.

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

a) **Sample Selection**

Sample selection is based on the board firms of MSE. As of 31, December, 2017, 218 companies are listed on the MSE. 9 of those companies are listed on 1st board, 41 – on 2nd board and 168 – on 3rd board. The research data is obtained from MSE website.

The first sample comprising 1308 firm-years observation for the period between 2012 and 2017 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.

b) **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 ownership concentration (OWN) is 84.1 percent. Mean of shareholders, who own equal to or more than 1/3 of shares (MORE) is 78.0 percent, whereas mean of shareholders, who own less than 1/3 of shares (LESS) is 22.0 percent. The logarithm of total assets (SIZE) has a mean of 15.1 thousand MNT. Firm’s average leverage ratio is 29.6 percent whereas the sample firms are profitable with a mean ROA of 12.1 percent.

c) **Correlation Test**

Table 4 reports Pearson correlation coefficients for the research variables. Earnings management proxy DACC is negatively and significantly correlated with shareholders who held less than 1/3 of shares (LESS) at 1% levels with coefficient -0.1614 respectively. Moreover, DACC has significant positive relation to ownership concentration (OWN). 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. The correlation coefficients indicate that serious multicollinearity problem does not exist.
The purpose of this research is to examine the relationship between ownership concentration and earnings management in Mongolian listed companies. Using a sample of 122 listed shareholders with earnings management. The coefficient on MORE is positive (0.12987) and significant at less than the 1% level (4.00, p=0.0001). Shareholders who held equal to or more than 1/3 of shares have significant positive relation to earnings management. Moreover, the coefficient on LESS is positive (0.09289), but not significant (0.88, p=0.3787). The results support the hypothesis 2. So, controlling shareholders manage earning more intensely than non-controlling shareholders. Findings show that there is an affiliation with strategic significance between controlling and other majority shareholders or there is a conspiracy between them. In other words, controlling shareholders are interested in increasing their firm value than non-controlling shareholders. This result is compatible with the views of Claessens et al. (2002). When there is collusion of controlling shareholders with other shareholders, the controlling shareholders voting rights are further magnified through pyramid structures and cross-holdings. So, the degree of earnings is manipulated upwards.

### Table 4: Pearson Correlation coefficient

<table>
<thead>
<tr>
<th>Variables</th>
<th>DACC</th>
<th>OWN</th>
<th>LESS</th>
<th>MORE</th>
<th>SIZE</th>
<th>LEV</th>
<th>ROA</th>
</tr>
</thead>
<tbody>
<tr>
<td>DACC</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OWN</td>
<td>0.2358*</td>
<td>0.0001</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LESS</td>
<td>-0.1614***</td>
<td>0.0037</td>
<td>-0.6924***</td>
<td>0.0001</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MORE</td>
<td>0.2297***</td>
<td>0.9763***</td>
<td>-0.8322***</td>
<td>0.0001</td>
<td>0.0001</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>0.1120***</td>
<td>0.3787***</td>
<td>-0.2558***</td>
<td>0.0001</td>
<td>0.3678***</td>
<td>0.0001</td>
<td>1</td>
</tr>
<tr>
<td>LEV</td>
<td>0.0978***</td>
<td>0.0081</td>
<td>-0.0740***</td>
<td>0.0453</td>
<td>0.1766821***</td>
<td>0.0262</td>
<td>-0.1098***</td>
</tr>
<tr>
<td>ROA</td>
<td>0.0449</td>
<td>0.0750***</td>
<td>-0.1382***</td>
<td>0.0002</td>
<td>0.0991***</td>
<td>0.0625*</td>
<td>0.0911</td>
</tr>
</tbody>
</table>

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

### 6. Empirical results

#### 6.1 Regression Results

Table 5 provides regression results for equation (1) and (2) for the full sample. Model 1 shows the association between ownership concentration and the earnings management. The coefficient on ownership concentration (OWN) is positive (0.13983) and significant at less than 1% level (5.81, p=0.0001). So, the percentage of shareholders who own more than 5% of shares have significant positive association with earnings management. The result supports the hypothesis 1. It means that the greater share concentration results in higher level of earnings management. This finding matches to research results of Yeo et al. (2002), Chung et al. (2002), DeFond & Jiambalvo (1994) and Koh (2003) that block owners have significant role in monitoring earnings management activities and agency costs. Table 5, model 2 shows the association of controlling and non-controlling shareholders and earnings management. These findings show that there is an affiliation with strategic significance between controlling and other majority shareholders or there is a conspiracy between them. In other words, controlling shareholders are interested in increasing their firm value than non-controlling shareholders. This result is compatible with the views of Claessens et al. (2002). When there is collusion of controlling shareholders with other shareholders, the controlling shareholders voting rights are further magnified through pyramid structures and cross-holdings. So, the degree of earnings is manipulated upwards.

### Table 5: Model 1 and model 2 regression result

<table>
<thead>
<tr>
<th>Variables</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>t-statistic (p-value)</td>
<td>Coefficient</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.0565</td>
<td>1.26 (0.2077)</td>
<td>0.0800</td>
</tr>
<tr>
<td>OWN</td>
<td>0.1398</td>
<td>5.81*** (0.0001)</td>
<td></td>
</tr>
<tr>
<td>MORE</td>
<td></td>
<td></td>
<td>0.1299</td>
</tr>
<tr>
<td>LESS</td>
<td></td>
<td></td>
<td>0.0991***</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.0036</td>
<td>1.24 (0.2172)</td>
<td>0.0037</td>
</tr>
<tr>
<td>LEV</td>
<td>0.0693</td>
<td>3.42*** (0.0007)</td>
<td>0.0709</td>
</tr>
<tr>
<td>ROA</td>
<td>0.0648</td>
<td>0.82 (0.4131)</td>
<td>0.0604</td>
</tr>
<tr>
<td>R²</td>
<td>0.76</td>
<td>0.0719</td>
<td>0.0721</td>
</tr>
<tr>
<td>Ad R²</td>
<td>0.0668</td>
<td>0.0658</td>
<td>0.0658</td>
</tr>
<tr>
<td>N</td>
<td>732</td>
<td>732</td>
<td>732</td>
</tr>
</tbody>
</table>

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

Model:

\[ DAC_{CS} = \beta_0 + \beta_1(OWN) + \beta_2(SIZE) + \beta_3(LEV) + \beta_4(ROA) \]  
\[ DAC_{CS} = \beta_0 + \beta_1(MORE) + \beta_2(LESS) + \beta_3(SIZE) + \beta_4(LEV) + \beta_5(ROA) \]  

### 7. Conclusion

#### Research findings

The purpose of this research is to examine the relation between ownership concentration and earnings management in Mongolian listed companies. Using a sample of 122 listed companies in the period from 2012 to 2018. The study presents following conclusions.

1. Ownership concentration is very high in Mongolia, which is 84.1%. This is a result of privatization in 1990. Controlling shareholders’ ownership is 78%. Development of stock exchange is slow, which is one of the reasons of high ownership concentration.

2. There is a positive relation between controlling shareholders and earnings management. These shareholders engage in company’s operation and their decisions increase company value.
3) Non-controlling owners are not interested in the company operation, because legal environment for protecting interests of non-controlling and minority shareholders is weak.

8. Limitations

This research has been subject to several limitations, which will be discussed below.
1) Research includes only 2 companies that did IPO, so, the results suggest whether there is association between ownership and earnings management in companies which surfaced as a result of privatization. Companies that launched IPO have limited results.
2) The explanatory power of the model can be limited by the absence of other variables that can interact with earnings management, but are not included in these models.

References