THESES OF

DOCTORAL DISSERTATION

Ninjin Bolortsogoo

PÉCS, 2019

Agency Relationship and Financial Disclosure Effect on Information Asymmetry: Evidence from Mongolia

Theses of Doctoral Dissertation

In partial fulfillment of Doctorate of Philosophy

Ninjin Bolortsogoo

Supervisors

Dr.Iván Bélyácz

Dr.Battuya Demberel

Faculty of Business and Economics

University of Pécs

May 2019

Abstract

The corporate financial disclosure is vital for effective functioning of capital market; contributes to national productivity; and enables companies to mitigate information asymmetry among the stakeholders followed by the reduction of cost of capital. The financial disclosure's ability to effectively fulfill these roles depends upon several factors. Among which the agency relationship linked to the company's ownership structure receives growing attention by the scholars. The ownership structure of company tends to rule the information asymmetry among the stakeholders. The information asymmetry perspective emerges from the role of financial disclosure enables to revealing the economic motivations behind the disclosure decisions. This study aims to investigating the relationship between these three evidently intertwined concepts of financial disclosure, agency relationship and information asymmetry in the context of Mongolian Stock Exchange listed companies. It has found that ownership structure in terms of one largest shareholder do have significant effect over the both of mandatory and voluntary disclosures. The interaction between financial disclosure and information asymmetry is partially explained as there is a significant negative relationship has found between voluntary disclosure and information asymmetry. The research fills gap in corporate governance, finance, and accounting literature in terms of discovering the tripartite relationship in developing country context and contributes to the economics of information in explaining the importance of corporate governance, finance and accounting.

Keywords: Agency relationship, Ownership structure, Financial disclosure, Information asymmetry

Contents

I. Introduction

1.1. Research background, motivation and objective

Research background - Corporate financial disclosure is crucial for management communication with outside investors about the company performance (Healy & Palepu, 2001), essential for capital market effective functioning (Low, 1996; Black, 2000; Bushman & Smith, 2003) and in turn forges national productivity through capital accumulation (Lin, et al., 2014). Stiglitz (2017) and Bushman, et al. (2004) note that financial sector is all about collecting and re-producing information which forms the basis of efficient capital resource allocation. Financial disclosure effects on firm cost of capital through affecting on investors' actions and decision making (Beuselinck, et al., 2013) and plays a vital role in reducing information asymmetry between the management, insider shareholders and outside shareholders, potential investors (Healy & Palepu, 2001, Verrecchia, 2001). Lowenstein (1996) asserts that corporate disclosure enables accountability in the market as power without accountability appeals abuse.

Financial disclosure is the reflection of the company's economic performance, and a product of a management's decision on financial reporting choices within the framework of regulating financial reporting standards, rules and regulations (Bushman & Smith, 2003). Financial disclosure is provided on the basis of mandatory requirements set by jurisdiction rules and regulations and also firms provide additional information on a voluntary basis (Holland, 2005; Beyer, et al., 2010). Scholars find that both of the mandatory and voluntary disclosures of the firms are varied depending on the country and firm specific characteristics (Dye, 1986; Wallace & Naser, 1995; Salter, 1998; Jaggi & Low, 2000). Financial disclosure literature is generally divided into three broad groups, including: how the disclosure effects on investors' decision making, how management discretions or firm economics effect on disclosure practice, and what is the optimal disclosure practice (Verrecchia, 2001). In financial disclosure research, it is crucial to examine influential factors which shape disclosure practice and the economic consequences from the disclosure while exploring the current practice. Referring to the determinants of corporate financial disclosure, there is vast literature in relation to the effect of institutional and legal system (Christensen, et al., 2013; Cascino & Gassen, 2015). Leuz & Wysocki (2008) note that advantages from the strong legal system are overridden as the system ignores the effect of ownership structure on management decision makings. In line with Jiang, et al. (2011), and Beuselinck, et al. (2013) ownership structure demonstrates the underlying rationale for power of the management, and management decisions on financing and investment as well as the information disclosure. There is an interaction between ownership structure and information asymmetry concepts (Morris, 1987). Also, information asymmetry is vital to determining the disclosure policy (Armstrong, et al., 2016) and financial disclosures are important to reducing the information asymmetry (Healy & Palepu, 2001; Verrecchia, 2001). Authors comprehend that information asymmetry perspective in financial disclosure provides the basis of integrating this broad and previously loosely connected streams of disclosure literature (Healy & Palepu, 2001; Verrecchia, 2001).

Research motivation - Globally, the integrated research on capital market, corporate governance and accounting are still growing and the mutual benefit for each of the research fields are becoming more evident. Bartov & Bodnar (1996) and Verrecchia (2001) outline the importance of information asymmetry perspective in accounting, and the authors mention information asymmetry perspective has received the least attention by researchers. Verrecchia (2001) further alludes it is the rigor way to contribute towards comprehensive theory in disclosure, specifically the examination of less developed country is better at showing economic consequences from the disclosure level.

In consideration of the special context of Mongolia, it has passed more than a decade since Mongolian former Corporate Governance Code was adopted in 2007, 25 years has lasted since that IFRS adherence is regulated Accounting Law of Mongolia in 1993, and 26 years has taken to develop the capital market since the establishment of Mongolian Stock Exchange. However, the capital market of Mongolia has not yet effectively functioned, which is evidenced by the status on liquidity followed by lack of governance and financial information transparency (Bolortsogoo, 2017a; Bolortsogoo, 2017b). The weaknesses in information transparency among Mongolian public listed companies has been noted by international organizations (The World Bank, 2009; International Financial Corporation, 2013; OECD, 2016) and domestic organizations (National Corporate Governance Council, 2015), foreign researchers (Yener, 2008; Iijima, 2011; Cigna et al., 2017) and domestic researchers (Sanaser, 2011; Tuvshintur, 2012) as part of the assessment initiatives and research works on corporate governance. Despite the efforts taken by Mongolian regulatory bodies, the weaknesses in corporate governance and accounting practice are still noticed in the aforementioned studies which find that the sufficiency of the financial disclosures and transparency in the governance are still not satisfied even before and after the decades.

In addition to the globally growing research interest in the integrated research on corporate governance and accounting disclosure, so far, there is no prior academic study has found on the intensity of accounting disclosure and its relevance to corporate governance mechanisms in Mongolian context. It is necessary to study the relevance between governance mechanisms and accounting disclosure and their combined effect on reducing information asymmetry which will contribute to the economics of information in filling the literature gap by developing country case.

Research objective - The main objective of this thesis is to investigate whether company's financial disclosure level is affected by the agency relationship of the company and how the two constructs effect on information asymmetry between the affected parties. To fulfil the objective, following goals are set:

a. Exploring the methodologies to evaluate financial disclosure
b. Evaluating current financial disclosure level among MSE listed companies
c. Exploring the methodologies to determine the main agency relationship
d. Determining the agency relationship constructs among the MSE listed companies
e. Analyzing the effect of agency relationship on financial disclosure
f. Exploring the methods to evaluate information asymmetry
g. Evaluating the information asymmetry level in Mongolian capital market
h. Analyzing the effect of agency relationship on information asymmetry
i. Analyzing the effect of financial disclosure on information asymmetry

1.2. Overview of Mongolia

Mongolia is landlocked country with 3,2 million populations, approximately 1,6 million square km territory and 2227 years history since Mongolian Statehood establishment (Office of the President, 2018). The country is rich in mineral resources including: gold, copper, coal, iron ore (MRPAM, 2017) and the mining sector consists of the 21,7 percent of GDP which is the largest sector followed by the wholesale and retail sector, and agricultural sector with 11,3 and 10,7 percent of GDP, respectively as of 2017 (NSO, 2017). The local currency of Mongolia is Tugrik, which is abbreviated as MNT and 1 United Stated Dollar is equivalent to 2.643,69 MNT as per December 31, 2018 rate announced by Mongolian Central Bank statistics (Mongol Bank, 2019).

The modern Mongolian economic, political and societal developments were emerged since peaceful Democratic Revolution in 1990 after the exit from socialist regime which was continued for 70 years. The country's growing money demand is mostly generated through the monetary market with dominant role from the commercial banks (NSO, 2017; 2018). According to the Bank of Mongolia (2017) Annual Report, 95 percent of the total financial system assets are possessed merely by the banking sector, specifically by the 14 commercial banks and the rest of the assets are held by non- banking financial institutions, insurance companies, saving and credit cooperatives, and securities participants. Capital market of the country plays insignificant role for the country's financial system, but it indicates there is a great importance of development (Danaasuren, 2015).

Highlights on the capital market regulatory framework - The capital market of the country is regulated by the Company Law (2011), Securities Market Law (2013), and Investment Fund Law (2013). The market is governed by Mongolian Financial Regulatory Commission (FRC). The commission monitors the implementation of rules and regulations, acts as protecting the rights of investors, and sets control over the financial system. Mongolian Stock Exchange is the only institution for capital market which was established in 1991 under the Mongolian Government resolution No.22 for the purpose of implementing state owned enterprises' privatization after economic transition of the country. The primary market trading was started in 1992 through the equal allocation of 475 state owned enterprises' vouchers to the every citizen of Mongolia. According to FRC 2017 report, there are 300 public companies are listed at MSE. From the brokerage firms' record, there are 219 listed companies are registered. Of which, 250 and 188 companies have private ownership, respectively and for the rest of companies state ownership is involved.

Financial reporting and disclosure in Mongolia - Accounting development of Mongolia refers to three main phases: pre-revolutionary, centrally planned economy, and market economy era (Sainjargal, et al., 2017). Referring to Sainjargal, et al. (2017) the pre-revolutionary phase dates back XIV-XV centuries and continued up until the People's Revolution in 1921. After the revolution, Government of Mongolia faced a challenge to establishing economic, educational and health systems and as part of the system development, single and double-entry has been introduced (Dorj, et al., 2010). During the centrally planned economy between 1921 and 1990, accounting system has developed through three differing phases: single and double entry bookkeeping; memorial order; and journal order era (Dambadorj, 2011). After 70 years of socialism, contemporary accounting development has commenced since the Constitution of Mongolia is enacted in 1992 (Sainjargal, et al., 2017).

In relation to the current accounting practice and development in public listed companies, the main sources of legislations include: Accounting Law (2015), Audit Law (2015), Company Law (2001), Income Tax Law (2006). In conjunction to financial Transparency and Disclosure initiatives, main legislations include: Securities Market Law (2013), FRC Regulation on Security issuers' information transparency (2015), Corporate Governance Code (2014), and MSE Listing rules (2018).Formerly, Accounting Law was enacted in 1993 which requires entities to adhere International Financial Reporting Standards (IFRS). Thereafter, the law was revised in 2001 and at the latest the law was revised in 2015 which requires public listed companies – joint stock companies – to adhere full IFRS. The other companies which qualify for small and medium entities (SME) criteria as stated in the law on SME of Mongolia is required to adhere IFRS for SMEs.

Financial reporting quality research in Mongolia has been received less attention by the scholars. However, the deficiencies in Mongolia registered companies' quality of financial reporting and disclosure have been evidenced by the implementation of Law on Supporting Economic Transparency which was enacted in 2015. As part of the law implementation, 34,7 trillion tugriks of income and assets are revealed – which is 1,6 times greater than the Mongolian GDP.

Corporate governance in Mongolia - As part of the improving capital market and business environment initiatives, formerly in 2007 Mongolian Corporate

Governance Code was issued which was generally based on the OECD prescribed good Corporate Governance (CG) principles. Later, in 2014 the code was revised and avoided overly regulation for the listed companies. The CG practice and regulatory framework efficiency and capacity have been studied by number of international and domestic researchers as well organizations. The general findings from the researchers (Yener, 2008;The World Bank, 2009; Iijima, 2011; Sodnomdorj, 2011; International Financial Corporation, 2013; National Corporate Governance Council, 2015; Cigna, Kobel and Sigheartau, 2016) are in governance issues that there is lack of transparency and disclosure among the listed companies to provide deeper analysis as well as to provide information to the investors which effect on protecting the investors' right.

II. Literature review and hypotheses development

Stiglitz (2017) denotes that financial sector is all about collecting and re-producing information which forms the basis of efficient capital resource allocation. The quality information about the company is crucial for macro and micro settings. This research is focused on the capital market effectiveness from the perspective of financial information disclosure by the public listed companies (plc). Precisely, the thesis aims to investigate the relationship between agency relationship and financial disclosure and their effect on information asymmetry as shown in below *Figure 1*.

Figure 1. Theoretical framework of the thesis

Source: Own construction

2.1. Financial disclosure literature

The financial disclosure is defined in line with Gibbins, et al. (1990) as financial information disclosed to the public which can be disseminated through any form of information channel; with mandatory or voluntary motive; either in a form of numerical or qualitative. Among the different classification around the financial disclosure, in line with Holland (2005), Holm & Scholer (2010), Beyer, et al. (2010), Beuselinck, et al. (2013) the financial disclosure is broadly classified into mandatory and voluntary disclosure.

Regarding the financial disclosure determinants, two broad categorizations are applied, which are country and firm-level factors (Jaggi & Low, 2000). The thesis focuses on the firm-level determinant of corporate governance. Corporate governance mechanisms' effect on the financial disclosure is further studied for the reason that it explains the rationale behind the disclosure decisions in relation to management disclosure incentive (Jiang, et al., 2011; Beuselinck, et al., 2013). In parallel to country and firm level determinants, the explicit and implicit cost and benefit of the disclosure also influence management decision to public disclosure. The proprietary cost is one of the main reasons that make the management to be reluctant for disclosure (Low, 1996; Verrecchia, 2001; Cohen, 2003). Additionally, the processing cost of the disclosure is weighted against benefits out of the disclosure. Beyond the potential costs, Verrecchia (2001) and Healy & Palepu (2001) propose that financial disclosure enables to reduce the information asymmetry among the insider shareholders and outsider investors. The reduction of information asymmetry is not only beneficial for the company. Further it helps to attract more equity and debt finance for the emerging countries, hence the macro economic advantages are received (Rajan & Zingales, 1998). Also, it helps the capital market to function efficiently (Healy & Palepu, 2001; Bushman & Smith, 2003; Bushman, et al., 2004; Singhvi & Desai, 1971). Therefore, it is presumed that appropriate level of financial disclosure is good for the both of company and the capital market. In other words the benefits associated with disclosure are expected to outweigh the costs.

The financial disclosure research is one of the strands of accounting research. The positive and normative theories in accounting are equitably applied in disclosure literature. As the financial disclosure is classified into mandatory and voluntary disclosure, the majority of literature focuses on one of the classes. In voluntary disclosure literature, the determinants of disclosure theories were prevailed (Urquiza, et al., 2010). In mandatory disclosure literature, the normative approaches were greatly involved. However, no one of the approach is preferred than other. Therefore, it is presumed that considering the both approaches in disclosure research is applicable.

2.2. Corporate governance research in financial disclosure

In this thesis, CG is discussed in relation to finance and accounting research. Hence, CG is referred as the company's direction and control system and that system shall be designed to issue true and fair return for the investors while providing equitable information for the both of majority and minority shareholders. The accounting and CG research is endogenously related. According to the literature, the effect of CG mechanisms on accounting phenomena is stronger (Kachouri & Jarboui, 2017). Focusing on the disclosure research of accounting, the ownership structure concords with agency problem of the firm (Jensen & Meckling, 1976; Shleifer & Vishny, 1997; Armstrong, et al., 2016) and which effects on management disclosure decisions (Brown, et al., 2011). Due to the idiosyncrasy of country settings, Brown, et al. (2011) recommends the corporate governance in accounting researches to be designed for local conditions.

There are three main types of agency relationship exist and in relation to three agency problems are incurred which are: 1) principle and agent problem; 2) principle and principle problem; and 3) principle and other stakeholder's problem (Armour, et al., 2009). In Mongolian context family ownership concentration is dominant and the majority owners are involved in management, hence principle-principle agency problem is presumed (Tuvshintur, 2012; Iijima, 2011; Sodnomdorj, 2011) in which the conflicts of interest lies in between majority and minority shareholders.

Ownership structure of the company is one of the key factors influencing on CG effectiveness (Jiang, et al., 2011) which also drives the agency relationship (Ang, et al., 2009; Singh & Davidson III, 2003). Therefore, the agency relationship of the company can be captured through ownership structure and which can be the starting point for further studies in CG and accounting.

In this sub-section, the key synthesis were: i) CG mechanisms greatly effect on company's disclosure policies (either mandatory disclosure extent and voluntary disclosure policies); ii) Among the CG mechanisms the agency relationship captured in ownership structure of the company is the core mechanism which effects on disclosure decisions; iii) Afterwards the company's disclosure level effect on information asymmetry conditional on ownership structure needs to be studied in relation to the role of financial disclosure. The literature on information asymmetry will be reviewed in next sub-section.

2.3. Information asymmetry perspective in disclosure research

Agency relationship and information asymmetry (IA) concepts are inseparable as they have an interacting theoretical root (Morris, 1987). There are plenty of works studied the relationship between agency relationship and financial disclosure at certain extent. However, the IA perspective in accounting and disclosure has received the least attention by scholars (Bartov & Bodnar, 1996). IA perspective in accounting refers to the study of understanding how accounting choices are affected by the unequal information between the key stakeholders. IA is defined as where the one party possess certain information that the other party does not have the information due to limited or no access and as a consequence the party cannot verify the information (McGuigan, et al., 2014).

The accounting information has two crucial roles of valuation and stewardship role and which are essential for reducing the adverse selection and moral hazard problems of IA, respectively. Vice versa, the extent of the two problems (valuation and stewardship problems) determines the accounting information environment (Beyer, et al., 2010). The IA perspective in disclosure research provides the commencing point for building comprehensive disclosure theory (Verrecchia, 2001). Healy & Palepu (2001) and Lambert (2001) suggest that the integrated research in agency and information frameworks raise crucial questions on the ways to reduce information and agency problems through financial reporting regulations and disclosures.

2.4. Hypotheses development

According to the agency theory predictions, differences in ownership structure effects on the management decision making on disclosure decisions (Jensen & Meckling, 1976; Watts & Zimmerman, 1986; Shleifer & Vishny; 1997), the first hypothesis is formulated as:

H1: Agency relationship of the firm effects on the financial disclosure.

The agency relationship is explained by ownership structure in this thesis. The ownership structure is variously explained and applied by the authors, which necessitates clear definition of the construct. For this purpose, the mostly studied forms of ownership structure are taken into account, which are ownership concentration and ownership type. The financial disclosure is classified into mandatory and voluntary disclosures. Therefore, the Hypothesis 1 (H1) is split into 4 sub-hypotheses. Those are shown in below:

H1-a-i: Ownership concentration is negatively associated with mandatory disclosure level.

H1-a-ii: Different types of ownership structure have varying impact over the mandatory disclosure level.

H1-b-i: The ownership concentration is negatively associated with voluntary disclosure level.

H1-b-ii: The voluntary disclosure varies upon the different types of ownership structure.

In line with Morris (1987) and Armstrong, et al. (2016), the agency and information asymmetry problems are consistent terms that agency relationship may result to asymmetric information between affected parties. In other words, scholars predict that ownership structure of the companies tend to shape the level of information asymmetry. The second hypothesis is formulated as:

H2: Agency relationship of the company effects on the level of information asymmetry.

Similar to H1, the agency relationship is referred to ownership structure which is further classified into ownership concentration and ownership type. Therefore, the H2 is divided into H2-i and H2-ii, respectively. Referring to Beyer, et al. (2010), higher the ownership concentration leads to higher information asymmetry between block holders and minority shareholders. Also, the differences in ownership types show differences in the level information asymmetry (Jamalinesari & Soheili, 2015). Therefore, the sub-hypotheses are formulated as follows:

H2-i: There is positive relationship exists between ownership concentration and information asymmetry.

H2-ii: Different types of ownership structure effects the information asymmetry in varying degree.

According to Stiglitz (2017), improvement in company's information disclosure facilitate to reducing the information asymmetry. The third hypothesis is formed as:

H3: Financial disclosure facilitates to reducing the information asymmetry.

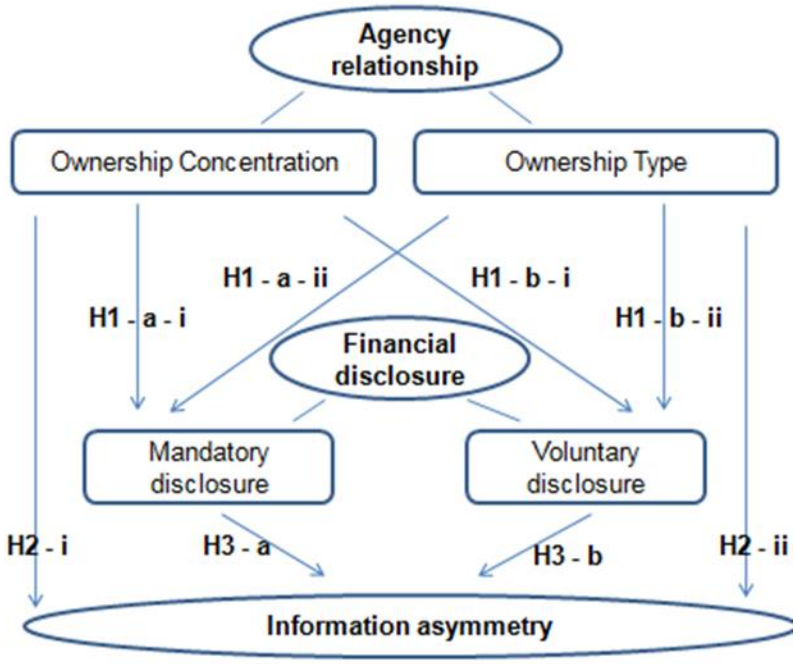
Referring to the prior literature, the firm mandatory disclosure compliance has found to be contributing to reducing information asymmetry (Hodgdon, et al., 2008). Healy & Palepu (2001) and Verrecchia (2001) assert that the increase in voluntary disclosure reduces information asymmetry. Therefore, the sub-hypotheses are formed as follows:

H3-a: Mandatory disclosure is negatively related to information asymmetry.

H3-b: Voluntary disclosure is negatively related to information asymmetry.

The interactions between the hypotheses are shown as a summary in below *Figure 2*.

Figure 2. Summary of hypotheses



Source: Own construction

III. Research methodology

3.1. Sample design and data sources

Sample design: The current thesis is focused on capital market participants, more specifically the listed companies at Mongolian Stock Exchange (MSE) are studied. Primarily the research is focused on entire companies listed at MSE under I and II tier category for the year end of 2017. Listed companies at the MSE are categorized into three levels: I, II, and III on the basis of the firms' market capitalization, and percentage of free float shares. As at the end of 2017, 10 and 39 companies were classified under Tier I and II, respectively. Out of the entire 49 companies, additional selection is made on the basis of following criteria:

- Operated under listed company status throughout the year 2017
- Not operating in the industry sector of financial and insurance activities as per International Standard Industrial Classification
- Availability of necessary data

On the above basis, 46 firms (totalling 2056,8 billion tugrik market capitalization) have met the selection criteria and included in the sample and those companies form 84 percent of the entire MSE market capitalization as per 31st of December 2017.

Data sources - In the thesis, there are three broad groups of data are required in relation to the three core issues. Those are:

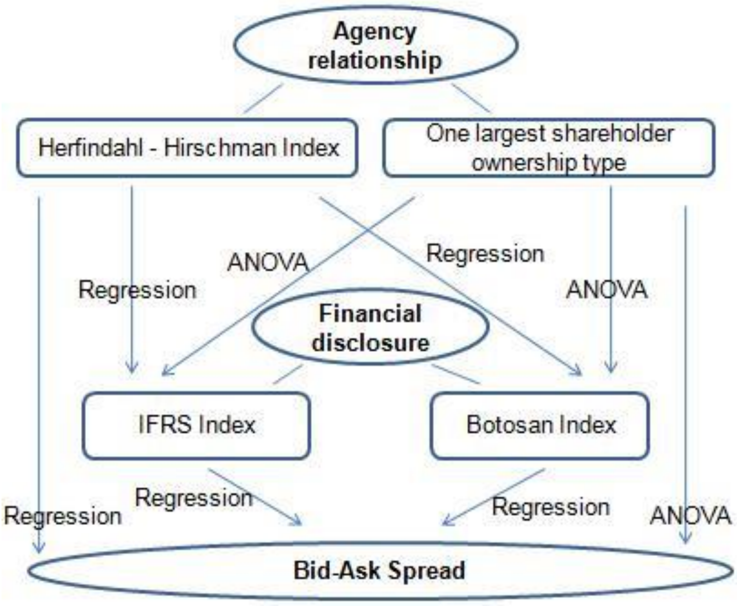
- The data necessary for the agency relationship is collected in connection to ownership concentration and ownership structure and the data is collected from independent research group's website called "marketinfo.mn".
- Regarding to the financial disclosure, it is classified into mandatory and voluntary disclosure. For the mandatory disclosure, annual financial statements and annual reports are vital. The financial statements are collected from MSE website and Mongolian Ministry of Finance website called "e-balance.mof.gov.mn". For the voluntary disclosure, the primary source of information is annual report (Healy & Palepu, 2001). However, in the absence of company's annual report at the MSE website, then other information officially disclosed at the company's own website is used.
- In information asymmetry (IA) studies, main data components include the bid-ask price, shares' opening and closing prices, market capitalization, and shares trading volume for the specific periods (Cademartori-Rosso,et al., 2017). The

data is collected from aforementioned websites of "mse.mn" and "marketinfo.mn" and received support from MSE archival office where necessary.

3.2. Measuring the variables and methodology to test the hypotheses

The variables' measurement and the methodology to test the hypotheses are shown in below *Figure 3*. The figure associates with the *Figure 3 – Summary of hypotheses.*

Figure 3. Summary of variables and techniques applied



Source: Own construction

Three main constructs of the hypotheses are illustrated in ellipses; lines which connect the ellipses into the squares express the connection between the main construct and related variables; the measurements of the variables for each of the construct are illustrated in squares; the arrows indicate the measurement methodologies.

Regression models:

H1-a-i: MDISC$_{it}$ = β$_0$ + β$_1$OC$_{it}$+ error$_{it}$; ***i***=*1,2,3…46;* ***t***=*1*

H2-b-i: VDISC $_{it}$ = β$_0$ + β$_1$OC$_{it}$ + error$_{it}$; ***i***=*1,2,3…46;* ***t***=*1*

H2: BAS$_{jit}$ = β$_0$ + β$_1$OC$_{it}$ + error$_{it}$

j= BAS1; BAS2 … BAS5; ***i*** =1,2…46; ***t***= 1

H3-a: BAS_MD$_{jit}$ = β$_0$ + β$_1$MDISC$_{it}$ + error$_{it}$

j= BAS1; BAS2 … BAS5; ***i*** =1,2…46; ***t***= 1

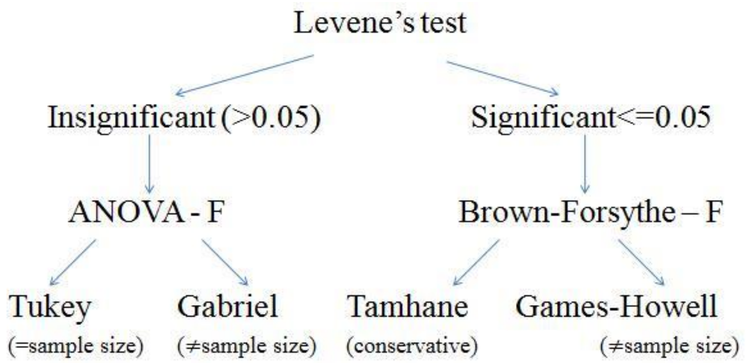
H3-b: $BAS_{jit} = \beta_0 + \beta_1 VDISC_{it} + error_{it}$

j= BAS1; BAS2 … BAS5; i =1,2…46; t= 1

For ANOVA test:

The potential steps to conduct ANOVA test, the below *Figure 4* is drawn.

Figure 4. Steps to perform and interpret the ANOVA test



Source: Own source based on Field (2013) and Burns & Burns (2008)

IV. Empirical results and discussion

The empirical results and discussion's chapter is designed in line with the three main hypotheses. The first section discusses the results in association with Hypothesis 1 (H1) which contains four separate operations to prove two sub-hypotheses. Second section covers the statistical findings for two sub-hypotheses involving two statistical techniques for Hypothesis 2 (H2). Third section relates to the discussion on statistical results for Hypothesis 3 (H3), also which contains two sub-sections.

4.1. Analysis on the test of Hypothesis 1

The test of Hypothesis 1 (H1) is split into H1-a and H1-b on the basis of mandatory disclosure (MDISC) and voluntary disclosure (VDISC), respectively. The H1-a and H1-b is further split with regards the different measures of agency relationship. H1-a-i and H1-b-i indicate that ownership concentration effect on MDISC and VDISC, respectively. The sub-hypotheses are tested through simple linear regression analysis. The outputs from the regression analysis are shown in below *Table 1.*

Table 1. Regression analysis results for H1

	H1-a-i: DV –MDISC			**H1-b-i**: DV - VDISC		
	Coefficient	**t-test**	**p-value**	**Coefficient**	**t-test**	**p-value**
Constant	0,271	7,820	0,000	0,419	9,714	0,000
Independent variable						
Ownership concentration	-0,088	-0,962	0,341	-0,055	-0,482	0,632
R square	0,021			0,005		
F-statistics	0,926			0,233		
p-value	0,341b			0,632b		

(*Source: SPSS V.21 output file)*

As shown in the above *Table 1*, H1-a-i is rejected as the regression analysis results do not show any statistically significant (p-value = 0,341; t-test = -0,962) relationship between ownership concentration (OC) and mandatory disclosure (MDISC). The results from the regression analysis is shown in *Table 1*, referring to the columns H1-b-i the relationship is not proved as the p-value is insignificant at 0,632 (F-statistics = 0,233). Therefore H1-b-i is rejected.

H1-a-ii and H1-b-ii indicate that ownership types' effect on MDISC and VDISC, respectively. The sub-hypotheses are tested through ANOVA. The outputs from the ANOVA are shown in below *Table 2*.

Table 2. ANOVA results for H1

	H1-a-ii	**H1-b-ii**
Dependent variable	MDISC	VDISC
Independent variable	OWN_type	OWN_type
Levene's test F	9,542	0,251
Levene Statistic p-value	0,000	0,779
ANOVA - F / *Brown-Forsythe F*	*5,611*	2,461
p-value	*0,013*	0,097

(*Source: SPSS V.21 output file)*

The analysis follows the ANOVA methodology depicted in *Figure 4- Steps to perform and interpret the ANOVA test.* Referring to H1-a-ii, the Levene's test p-value shows significant F-value of 9,542 at 1% significance level. The result indicates the group variances are equal, hence to rectify the situation Brown-Forsythe F test is conducted instead of relying on normal ANOVA F test. The figures highlighted in italic format refer to the outcomes processed from Brown-Forsythe F test. The result shows that different groups of ownership structure effects on mandatory disclosure level as the Brown-Forsythe F value of 5,611 is statistically significant at 5% level. To find more specified information about which group effects the more on the mandatory disclosure, *post-hoc* analysis is performed as shown in below *Table 3*.

Referring to H1-b-ii, Levene's test results show F-value of 0,251 with p-value of 0,779 which indicate that equal variances are assumed among the groups. The ANOVA-F value shows 2,461 at 10% significance. Therefore, it is presumed that differences in groups of ownership structure have some effect on the voluntary disclosure. To determine the specific differences among the groups, Gabriel test was conducted as shown in below *Table 3*.

Table 31. Post-hoc test results

	Ownership types		**Mean Difference**	**Std. Error**	**Sig. (p-value)**
H1-a-ii Games-Howell	Individual	Company	-,108	,0463	,079
		State	,013	,0138	,620
	Company	Individual	,108	,0463	,079
		State	,121	,0468	,048
	State	Company	,121	,0468	,048
		Individual	,013	,0138	,620
H1-b-ii Gabriel	Individual	Company	-,102	,0474	,100
		State	-,072	,0629	,558
	Company	Individual	,102	,0474	,100
		State	,031	,0660	,950
	State	Company	,031	,0660	,950
		Individual	-,072	,0629	,558

(*Source: SPSS V.21 output file)*

Referring to the H1-a-ii rows, Games-Howell test results show the following:

a) Individuals owned companies have higher mandatory disclosure than state owned companies as the group effect shows, however, this difference is not statistically significant at 5%.
b) Legal entities (company) owned companies have higher mandatory disclosure than state and individual owned companies as the group effect shows, where the company-individual relationship is significant at 10%, the company-state relationship is significant at 5% level.

Referring to the H1-b-ii rows as indicated in Gabriel's test, the company (legal entity) ownership shows higher voluntary disclosure than the individual's ownership at 10%

significance. However, there is no statistical significance has found in relation to the state ownership. Therefore, H1-b-ii is accepted in terms of differences in ownership structure groups have varying effect over the voluntary disclosure.

4.2. Analysis on the test of Hypothesis 2

The Hypothesis 2 (H2) aims to test the agency relationship effect on the information asymmetry. The measurements of agency relationship are same as applied in H1. The information asymmetry is measured by bid-ask spread. There are 5 different formulas to measure bid-ask spread have tested and the results from preliminary examination of Pearson correlation, two metrics (BAS1 and BAS 5) show similar statistical significance and the both of metrics are decided to be tested further. The results from the regression analysis are shown below *Table 4.*

Table 4. Regression analysis results

	H2-i: DV – BAS1			**H2-i**: DV – BAS5		
	Coefficient	**t-test**	**p-value**	**Coefficient**	**t-test**	**p-value**
Constant	9,137	6,239	0,000	0,099	5,799	0,000
IV						
OC	2,536	0,660	0,513	0,032	0,709	0,482
R square	0,010			0,011		
F-statistics	0,435			0,503		
p-value	0,513[b]			0,482[b]		

(Source: SPSS V.21 output file)

As shown in *Table 4*, the relationship between ownership concentration and bid-ask spread is not proved as any of the bid-ask spread metrics fail show statistical significance.

The second proxy to measure the agency relationship is ownership structure which refers to sub-hypothesis H2-ii. For the analysis ANOVA test is conducted. The results from the ANOVA tests are illustrated in below *Table 5*. The two potential BAS metrics are separately tested which are referred as BAS 1 and BAS 5.

Table 5. ANOVA test for H2

	H2-ii	H2-ii
Dependent variable	BAS 1	BAS 5
Independent variable	OWN_type	OWN_type
Levene's test F	0,827	0,790
Levene Statistic p-value	0,444	0,460
ANOVA - F / *Brown-Forsythe F*	0,167	0,123
p-value	0,847	0,885

(Source: SPSS V.21 output file)

Referring to the table, result columns for 'H2-ii-BAS 1' show Levene's F value of 0,827 (p-value = 0,444) indicates there is no problem with homogeneity of variance assumption. However, the ANOVA – F value shows 0,167 (p-value = 0,847) indicates there is no effect from ownership structure on information asymmetry measured by BAS 1.

Referring to the results for BAS 5 columns, Levene's statistic show insignificant result of p-value at 0,460 which means the Homogeneity of Variance assumption is not violated. However the main result regarding the ANOVA - F value shows 0,123 with p-value of 0,885. Therefore the effect from the ownership structure on bid-ask spread is not proved.

4.3. Analysis on the test of Hypothesis 3

Hypothesis 3 (H3) consists of two sub-hypotheses. H3-a refers to the relationship between MDISC and bid-ask spread. H3-b refers to VDISC and bid-ask spread. The both relationships are tested through regression analysis. The findings from the analysis are shown in below *Table 6*. The information asymmetry in the sub-hypothesis H3-a is measured by the bid-ask spread around the mandatory disclosure release dates, hence it is abbreviated as BAS_MD. Regarding the H3-b, bid-ask spread is calculated using the yearly average data. Similar to H2, two formulas of bid-ask spread are considered in regression analysis which are abbreviated as BAS 1 and BAS 5 in below *Table 6.*

Table 6. Regression results for H3

	H3-a: DV – BAS_MD			**H3-b**: DV – BAS 1			**H3-b**: DV – BAS 5		
	Coef.	**t-test**	**p-value**	**Coef.**	**t-test**	**p-value**	**Coef.**	**t-test**	**p-value**
Constant	0,179	3,068	0,004	0,167	6,957	0,000	14,965	7,328	0,000
IV									
MDISC	-0,098	-0,457	0,650						
VDISC				-0,142	-2,542	0,015	-12,468	-2,612	0,012
R square	0,005			0,128			0,134		
F-statistics	0,209			6,461			6,823		
p-value	$0{,}650^{b}$			$0{,}015^{b}$			$0{,}012^{b}$		

(*Source: SPSS V.21 output file)*

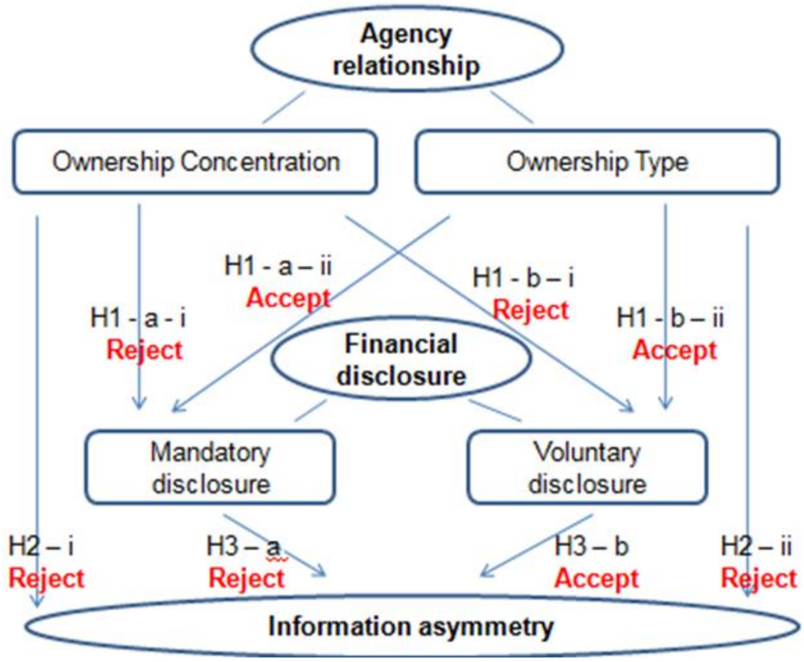
Referring to the columns for 'H3-a: DV-BAS_MD', the relationship is not proved due to statistical insignificance. The R square for the test is less than 1%. And the F-value is 0,209 at p-value of 0,650. And the relationship is not explained by the regression analysis.

Referring to 'H3-b: DV - BAS 1', the relationship is proved at 5% statistical significance (F statistics = 6,461; R square = 0,128). Similarly regarding the BAS 5, 'H3-b: DV – BAS 5' columns show that there is a statistically significant relationship exists in between voluntary disclosure and bid-ask spread. The results show R-square of 12,8%, F-value 0,503 at 5% significance level. The both tests have negative coefficients indicate that higher the voluntary disclosure, lower the information asymmetry. According to the results referring to both of the metrics, it is proved that the H3-b is validated through the regression analysis.

4.4. Discussion of the results

The summary of the hypotheses test results are shown in *Figure 5* format in below. The Figure is connected to *Figure 1 - theoretical framework of the thesis*; *Figure 2 - summary of hypotheses;* and *Figure 4 - summary of variables and techniques applied* drawn in previous chapters.

Figure 5. Summary of results



Source: Own construction

<u>Discussion on H1-a-i</u> - From the findings of H1-a-i, the ownership concentration fails to show an effect over the mandatory disclosure. According to predictions set by Jensen & Meckling (1976), Watts & Zimmerman (1986), Shleifer & Vishny (1997), and Jiang, et al. (2011), ownership structure influences on the disclosure level. There is limited number of prior studies which specifically focus on ownership concentration and mandatory disclosure. Albeit, the findings show mixed result. Owusu-Ansah (1998) finds positive relationship in Zimbabwean listed companies. Wallace & Naser (1995) find no relationship in Hong Kong capital market. The finding from Wallace & Naser (1995) is consistent with this study outcome. The reason for the irrelevance between the ownership concentration and mandatory disclosure can be connected to generally accepted public perception about the low level of mandatory disclosure among MSE listed companies and low sanction of the law and regulations breach. In this case, the large owners might not take the mandatory disclosure seriously. Previously, Cigna, et al. (2016) mention that the sanction against breach of law and regulations is very small and that can be one of the reasons for lack of transparency in Mongolia.

Discussion on H1-a-ii – The hypothesis result shows legal entity owned listed companies have higher mandatory disclosure than the individuals and state owned listed companies. The finding is consistent with results prepared by Alfraih (2016) in terms of group of individual owners reduce the mandatory disclosure level. In Mongolian context the similar study has conducted by Bolortsogoo (2017b) who examines the value relevance of financial statements' restatement. Bolortsogoo (2017b) finding is identical to this study finding that mandatory IFRS disclosure is not satisfactory and poor disclosure does not attract the market participants' use of the information.

Discussion on Hypothesis 1-b, the interaction between agency relationship and voluntary disclosure is partially proved through the relationship between ownership structure groups effect on voluntary disclosure.

Discussion on H1-b-i- In this study the relationship between ownership concentration and voluntary disclosure is not statistically proved. At my best of knowledge, there is no prior study either on the voluntary disclosure or the entire relationship conducted in Mongolian context. Therefore it is the first study which examines the voluntary disclosure and its determinant in Mongolia. In the global pan, prior literature shows mixed results on the relationship. In Malaysian capital market, Ho & Taylor (2013) and Ho & Tower (2011) find positively relationship. Lakhal (2015) and Khlif, et al. (2016) study results show negative relationship between the two constructs. But in this study, the relationship is not proved. The reason for the variety may depend on the country level factors, such as capital market development and information demand in capital market.

Discussion on H1-b-ii- The result shows legal entities owned listed companies have higher voluntary disclosure than the individuals owned listed companies. This finding is consistent with the outcomes from Han (2004), Khlif, et al. (2016), Chau & Gray (2002) and Alhazaimeh, et al. (2014). In Chau & Gray (2002), Alhazaimeh, et al. (2014) the individuals ownership type is further detailed into family ownership and foreign ownership which is not the classifications applied in this study. Therefore, in the future researches focusing on the legal entities and individual's ownership type need to be further classified in line with the improvement of data availability.

<u>Discussion on H2 findings -</u> H2 is rejected as the both of H2-i and H2-ii have not proved that agency relationship proxies have an influence over the information asymmetry.

Regarding H2-i, it is the first study which investigates the relationship in Mongolian context. In the global research, the relationship is tested by many scholars (Jiang, et al., 2011; Byun, et al., 2011; Omari, et al., 2014; Jamalinesari & Soheili, 2015; Shiri, et al., 2016). The scholars' findings agree that the ownership concentration exacerbates information asymmetry. The reason for mismatch with prior findings may relate to the lack of capital market liquidity of Mongolia.

H2-ii, the second agency relationship proxy is the type of one largest shareholder referred as ownership type. The study fails to show effect on the information asymmetry. In the prior literature, Jiang, et al. (2011) and Omari, et al. (2014) find that managerial ownership positively effect on reducing information asymmetry in the context of New Zealand and Iran, respectively. In Jamalinesari & Soheili (2015) and Shiri, et al. (2016), institutional ownership is negatively related to information asymmetry. In contrast, Byun, et al. (2011) find no relationship between institutional ownership and information asymmetry in Korean capital market which is identical to this study results. These findings indicate that the selection of ownership type as a measure of agency relationship is crucial. In the future, as the data availability increases on the ownership type, it is recommended to extend the ownership type selection for greater.

<u>Discussion on H3 findings</u> <u>-</u> H3 is partially supported as the H3-a is rejected and H3-b is validated.

Regarding H3-a, the test of regression fails to prove the relationship between mandatory disclosure and information asymmetry. The hypothesis tests the relationship on the basis of signalling theory that information disclosure may effect on the information asymmetry. The study result may relate to the low level of current mandatory disclosure among the MSE listed companies and in this case the market may opt not to use the information as it does not satisfy the information need. The finding is at certain extent consistent with Bolortsogoo (2017b), who identifies restatement disclosure is weak in Mongolian capital market and the stock prices do not reflect the restatement news.

In H3-b, the relationship between voluntary disclosure and information asymmetry is validated which shows that there is a negative relationship between voluntary disclosure and information asymmetry. It is synthesized that the increase in voluntary disclosure reduces the information asymmetry. The result matches with the prior results reported in (Jamalenisari & Soheili, 2015; Jiang, et al., 2011; Omari, et al., 2015; Shiri, et al., 2016). The successful validation of the hypothesis may relate to several factors, among which the information source that market participants use in their decision making can have significant impact. In the measurement of voluntary disclosure, various sources of data has used. It means that information sources applied in voluntary disclosure potentially match with the information sources used by the market participants. In contrast, the mandatory disclosure only used the annual financial statements and annual reports and those may not satisfy the market participants' information need.

In other words, the finding partially explains that the market participants appear more to use the voluntary disclosure in their investment decision making rather than the mandatory disclosure information. And the voluntary disclosure has more power on influencing the information asymmetry among the market participants rather than the mandatory disclosure.

V. Conclusion

In this study, the interaction between the agency relationship, financial disclosure and information asymmetry are examined. The number of studies covered these three folded relationship is limited (Jiang, et al., 2011; Omari, et al., 2014; Shiri, et al., 2016). The research findings on the relationship between ownership concentration and effect on financial disclosure show mixed results. Also, the majority of these studies focus on the voluntary disclosure of the company and there is a research gap in mandatory disclosure studies. The mandatory disclosure level is varied among the developing (Wallace & Naser, 1995; Hassan, et al., 2009) as well as developed countries (Ashbaugh & Pincus, 2001; Hodgdon, et al., 2008), which calls the necessity of examining the determinants of mandatory disclosure and its effect on the information asymmetry.

This study primarily aims to investigate the financial disclosure measurements and evaluating the level of financial disclosure in Mongolian context. From the studies (Holland, 2005; Holm & Scholer, 2010; Beyer, et al., 2010; Beuselinck, et al., 2013), it has decided to evaluate the financial disclosure on the basis of two broad classifications of mandatory and financial disclosures. Based on this classification, mandatory and voluntary disclosures are separately evaluated. In relation to the nature of financial disclosure, the both disclosures are measured by the index methodology. The mandatory disclosure is measured by the self-constructed 318 items index which is purely referred to the IFRS disclosure requirements. These methodology has been applied by many scholars previously (e.g. in Wallace & Naser, 1995; Street & Gray, 2001; Askary & Jackling, 2005; Abd-Elsalam & Weetman, 2003; Hodgdon, et al., 2008; Bolortsogoo, 2017b; Alfraih, 2016). Applying the IFRS based index methodology, it has found that the level of mandatory disclosure among MSE listed companies is in average of only 24,2% which is a very weak performance. The voluntary disclosure is measured by self-constructed 64 points index based on the Botosan (1997) disclosure index. The Botosan Index is one of the popular methodologies in measuring the voluntary index (applied in e.g. Hassan, et al., 2009; Jiang et al., 2011; Omari et al., 2014, Lakhal, 2015; Ho & Taylor, 2013; Kachouri & Jarboui, 2017; Lakhal, 2015; Hassan, et al., 2010; Cademartori-Rosso, et al., 2017). Applying the Botosan based index, it has found that the level of voluntary disclosure among MSE listed companies is in average of 40,1%, which is higher than the mandatory disclosure level, but still unsatisfactory level of disclosure.

At the second, the study examined the methodologies to measure agency relationship and determined the nature of agency relationship in Mongolian capital market. Based on the prior literature, the agency relationship is measured by ownership structure of the company. And the ownership structure is measured by two proxies of ownership concentration and ownership type. Regarding the ownership concentration Herfindahl-Hirschman Index has applied in line with Overland, et al. (2012), Jiang, et al., (2011), Omari, et al. (2014). It is presumed that over the 18% HHI outcome indicates high share concentration (Jiang, et al; 2011; Brown & Warren-Boulton, 1988). In Mongolian case, it has found that the ownership concentration is 32,6% which proves there is high ownership concentration. After this measurement, the ownership effect on financial disclosures are tested. However, for the both of mandatory and voluntary disclosure, there is no effect from the ownership concentration has found. Regarding the ownership type, one largest shareholder type determines the variable (Byun, et al., 2011; Jiang, et al., 2011). Considering the special case of Mongolia and data availability, sample of firms' ownership type is classified into three groups of individuals owned, legal entity owned and state owned. The association between ownership type and financial disclosures shows same results for the both of mandatory and voluntary disclosure. The legal entities owned companies tend to have higher mandatory and voluntary disclosure than the individuals and state owned companies which proves that different types of ownership structure effect on financial disclosure in differing ways. Overall, in Mongolia as a developing country case, the agency relationship impact on financial disclosure is supported in the situation where the agency relationship is measured by the ownership type. The finding supports Jensen & Meckling (1976), Watts & Zimmerman (1986), Shleifer & Vishny (1997), Armstrong, et al. (2010), Armstrong, et al. (2016) that the ownership structure of the company is presumed to effect on management's decision of information disclosure.

At the third, the study explores the methodologies to measure the information asymmetry. The bid-ask spread proxy has applied as a measure of information asymmetry in relation to its higher validation power in common stock portfolios (Abdul-Baki, 2013; Cademartoti-Rosso, et al., 2017). There are 5 formulas found to measure bid-ask spread which are applied in (Neungwan, et al., 2013; Jiang, et al., 2011; Omari, et al., 2014; Cademartoti-Rosso, et al., 2017; Bolortsogoo, 2017c).Various formulas have differing effect on the model goodness. The best fit measure is selected on the basis of its explanatory power in relation to the selected independent variable. Information asymmetry construct is relevant to H2 and H3. In test of H2, agency relationship proxies' effect on the information asymmetry is tested. However, there is no statistical significance has found between the ownership concentration and any of the bid-ask spread measures; also there is no effect has found between the ownership types and any of the bid-ask spread measures. Therefore, the hypothesis on the interaction between agency relationship and information asymmetry is not validated. In test of H3, financial disclosures effect on information asymmetry is examined. The information asymmetry is expected to be reduced with increasing in financial disclosure (Verrechhia, 2001; Healy & Palepu, 2001). And the financial disclosure impact on information asymmetry is supported that the voluntary disclosure has found to be influential on information asymmetry between the capital market participants. However, the mandatory disclosure shows no effect over the information asymmetry. The findings indicates voluntary disclosure made by the MSE listed companies have higher role on reducing information asymmetry than the mandatory disclosure. Referring to voluntary disclosure, the finding supports the signalling theory predictions.

VI. References

Alfraih, M. M., 2016. 2016. *Journal of financial regulation and compliance,* 24(2), pp. 154-176.

Armstrong, C. S., Guay, W. R., Mehran, H. & Weber, J. P., 2016. The role of financial reporting and transparency in corporate governance. *Economic policy review,* Volume August, pp. 107-128.

Bartov, E. & Bodnar, G. M., 1996. Alternative accounting method, information asymmetry and liquidity: Theory and evidence. *The accounting review,* 71(3), pp. 397-418.

Beyer, A., Cohen, D. A., Lys, T. Z. & Walther, B. R., 2010. The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics,* Volume 50, pp. 296-343.

Beuselinck, C., Deloof, M. & Manigart, S., 2013. Financial reporting, disclosure, and corporate governance. In: *The Oxford Handbook of Corporate Governance.* s.l.:Oxford University Press, pp. 1-22.

Black, B., 2000. The core institutions that support strong securities markets. *Journal of Business Lawyer,* Vol.55, pp.1565-1607.

Bolortsogoo, N., 2017a. *Review on listed companies' transparency at Mongolian Stock Exchange*, Online: http://eworkcapital.com/review-on-listed-companies-transparency-at-mongolian-stock-exchange/. [Accessed on 15 January 2018].

Bolortsogoo, N., 2017b. Examination of financial reporting quality through financial restatement: In the context of Mongolian public listed companies. *The accounting theory and practice,* pp. 21-31.

Botosan, C. A., 1997. Disclosure level and the cost of equity capital. *The accounting review,* 72(3), pp. 323-349.

Brown, P., Beekes, W. & Verhoeven, P., 2011. Corporate governance, accounting and finance: A review. *Accounting and Finance,* Volume 51, pp. 96-172.

Bushman, R., Chen , Q., Engel, E. & Smith, A., 2004. Financial accounting information, organizational complexity and corporate governance system. *Journal of Accounting and Economics,* Volume 37, pp. 167-201.

Bushman, R.M., and Smith,A.J., 2003. Transparency, financial accounting information, and corporate governance. *Economic policy review*, Issue Apr, pp.65-87.

Byun, H.-Y., Hwang, L.-S. & Lee, W.-J., 2011. How does ownership concentration exacerbate information asymmetry among equity investors. *Pacific-Basin finance journal*, Volume 19, pp. 511-534.

Cademartori-Rosso, D., Silva-Palavecinos, B., Campos-Espinoza, R. & Fuente-Mella, H. d. l., 2017. An econometric analysis for the bid-ask spread in emerging Chilean capital market. *Journal of banking and financial economics,* 1(7), pp. 90-101.

Cascino, S. & Gassen, J., 2015. What drives the comparability effect of mandatory IFRS adoption. *Review of accounting studies,* 20(1), pp. 242-282.

Chau, G. K. & Gray, S. J., 2002. Ownership structure and corporate voluntary disclosure in Hong and Singapore. *The international journal of accounting, Vol.37,* pp. 247-265.

Christensen, H. B., Hail, L. & Leuz, C., 2013. Mandatory IFRS reporting and changes in enforcement. *Journal of accounting and economics,* Volume 56, pp. 147-177.

Cigna, P., Kobel, Y. & Sigheartau, A., 2017. *Corporate Governance in Transition Economies: Mongolia country report.,* s.l.: European Bank for Reconstruction and Development.

Cohen, D. A., 2003. Quality of financial reporting choice. *SSRN Electronic journal.*

Danaasuren, V., 2015. Capital market development in Mongolia. *The northeast Asian economic review, Vol.3, No.2,* pp. 17-27.

Dye, R. A., 1986. Proprietary and non-proprietary disclosures. *The journal of business,* 59(2), pp. 331-366.

Elbadry, A., Gounopoulos, D. & Skinner, F., 2015. Governance quality and information asymmetry. *Financial Markets, Institutions & Instruments, Vol. 24, No.2-3,* pp. 127-157.

Gantulga, G., 2018. *Evaluating financial reporting quality,* Ulaanbaatar: University of Finance and Economics.

Gaynor, L. M., Kelton, A. S., Mercer, M. & Yohn, T. L., 2016. Understanding the relation between financial reporting quality and audit quality. *A journal of practice & theory, Vol.35, No.4,* pp. 1-22.

Gibbins, M., Richardson, A. & Waterhouse, J., 1990. The management of corporate financial disclosure: Opportunism, ritualism, policies, and processes. *Journal of accounting research,* 28(1), pp. 121-143.

Healy, P.M. and Palepu, K.G., 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of accounting and economics*, Vol.31, No.1-3, pp.405-440.

Hermalin, B. E. & Weisbach, M. S., 2012. Information disclosure and corporate governance. *The journal of finance,* LXVII(1), pp. 195-233.

Hodgdon, C., Tondkar, R. H., Harless, D. W. & Adhikari, A., 2008. Compliance with IFRS disclosure requirements and individual analysts' forecast errors. *Journal of international accounting, auditing and taxation,* Volume 17, pp. 1-13.

Holland, J., 2005. A grounded theory of corporate disclosure. *Accounting and business research, Vol.35, No.3,* pp. 249-267.

Iijima, K., 2011. Actual corporate conditions in Mongolia: An investigation into corporate governance of Ulaanbaatar's listed companies. *Journal of social system review* , Volume 3, pp. 11-36.

Jaggi, B. & Low, P. Y., 2000. Impact of culture, market forces, and legal system on financial disclosures. *The international journal of accounting,* 35(4), pp. 495-519.

Jensen, M. C. & Meckling, W. H., 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of financial economics,* pp. 305-360.

Jiang, H., Habib, A. & Hu, B., 2011. Ownership concentration, voluntary disclosures and infromation asymmetry in New Zealand. *The British accounting review,* Volume 43, pp. 39-53.

Kachouri, M. & Jarboui, A., 2017. Exploring the relationship between corporate reporting and corporate governance effectiveness. *Journal of financial reporting and accounting,* 15(3), pp. 347-366.

Khlif, H., Ahmed, K. & Souissi, M., 2016. Ownership structure and voluntary disclosure: A synthesis of empirical results. *Australian journal of management, ,* pp. 1-28.

Kothari, S. P., 2001. Capital market research in accounting. *Journal of accounting and economics,* Volume 31, pp. 105-231.

Lakhal, N., 2015. Corporate disclosure, ownership structure, and earnings management: The case of French listed firms. *The journal of applied business research,* 31(4), pp. 1493-1514.

Lambert, R. A., 2001. Contracting theory and accounting. *Journal of accounting and economics, Vol.3,* pp. 2-87.

LaPorta, R., Lopez-de-Silanes, F. & Shleifer, A., 1999. Corporate ownership around the world. *The journal of finance, Vol.54, No.2,* pp. 471-517.

Leuz, C. & Wysocki, P. D., 2008. *Economic consequences of financial reporting and disclosure regulation: A review and suggestions for future research,* Online: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1105398. [Accessed on 15 May 2017],

Lin, Y.-C., Chang, H., Chen , J. & Wu, G.-S., 2014. Accounting disclosure quality, capital market intensity and national productivity. *Ann oper res,* Volume 221, pp. 239-254.

Low, P.L., 1996. The effects of agency and proprietary costs on corporate financial disclosures. PhD. University of Nebraska, Lincoln.

Lowenstein, L., 1996. Financial transparency and corporate governance: You manage what you measure. *Columbia law review,* 96(5), pp. 1335-1362.

Morris, R. D., 1987. Signalling, agency theory and accounting policy choice. *Accounting and business research, Vol18, No.69,* pp. 47-56.

Overland, C., Mavruk, T. & Sjiigren, S., 2012. Keeping it real or keeping it simple.

Owusu-Ansah, S., 1998. The impact of corporate attributes on the extent of mandatory disclosure and reporting by listed companies in Zimbabwe. *The international journal of accounting, Vol.33, No.5,* pp. 605-631.

Rajan, R. G. & Zingales, L., 1998. Financial dependence and growth. *American economic review,* 88(3), pp. 559-586.

Rothschild, M. & Stiglitz, J., 1978. Equilibrium in competitive insurance markets: An essay on the economics of imperfect information.. *In Uncertainty in economics*, pp. 257-280.

Sainjargal, B., Naranchimeg, L. & Battuya, D., 2017. Development of accounting practices in Mongolia. In: *The Routledge handbook of accounting in Asia.* s.l.:s.n., pp. 297-307.

Salter, S. B., 1998. Corporate financial disclosure in emerging markets: Does economic development matter?. *The international journal of accounting,* 33(2), pp. 211-234.

Verrecchia, R. E., 2001. Essays on Disclosure. *Journal of accounting and economics,* Volume 32, pp. 97-180.

Shleifer, A. & Vishny, R. W., 1997. A survey of corporate governance. *The journal of finance*, 52(2), pp. 737-783.

Singhvi, S. S. & Desai, H. B., 1971. An empirical analysis of the quality of corporate financial disclosure. *The accounting review,* 46(1), pp. 129-138.

Stiglitz, J. E., 2017. *The revolution of information economics: The past and the future. Working paper 23780.,* Cambridge : NBER Working Paper Series.

Urquiza, F. B., Navarro, M. C. A. & Trombetta, M., 2010. Disclosure theories and disclosure measures. *Revista Espanola de financiacion y contabilidad ,* XXXIX(147), pp. 393-415.

Wallace, R. O. & Naser, K., 1995. Firm-specific determinants of the comprehensiveness of mandatory disclosure in the corporate annual reports of firms listed on the Stock Exchange of Hong Kong. *Journal of accounting and public policy,* Volume 14, pp. 311-368.

VII. List of publications

Bolortsogoo, N., 2017. Review on listed companies' transparency at Mongolian Stock exchange. Journal of economics and working capital. [Online] Available at: http://eworkcapital.com/review-on-listed-companies-transparency-at-mongolian-stock-exchange/.

Bolortsogoo, N., 2017. Examination of financial reporting quality and informativeness from the perspective of accounting restatement: Evidence of Mongolian Stock Exchange listed companies. Journal of the accounting theory and practice, Vol.1, No.3, pp.59-71. Also available at: <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3164846>.

Bolortsogoo, N., 2018. The role of financial reporting in reducing information asymmetry. Tax & Business, Vol.III, No.1, pp.19-27. ISSN 2519-1918.

Bolortsogoo, N., 2018. The role of financial reporting in reducing information asymmetry. In: Accounting department of Business School, National University of Mongolia, *International conference on accounting, auditing, and valuation (ICAAV)*. Ulaanbaatar, Mongolia 11 May 2018.

Bolortsogoo, N., 2018. Financial reporting quality: Review on factors and measurements. In: University of Pecs, *Ferenc Farkas International Scientific Conference (FFISC)*. Pecs, Hungary 7-8 June 2018.

Bolortsogoo, N., 2018. Firm-level variables and mandatory disclosure on information asymmetry. In: Bandirma Onyedi Eylul University, II International Symposium on Economics, Finance and Econometrics *(ISEFE)*. Istanbul, Turkey 6-7 December, 2018.

Bolortsogoo, N., and Battuya.D., (2019). Financial reporting quality measurements: A review paper. Journal of accounting theory and practice, June, Vol.3, No.1, pp.1-9.

Bolortsogoo, N., and Battuya.D., (in press). Firm-level variables' impact on voluntary disclosure: Mongolian stock exchange case. Asia-Pacific Journal of Business & Commerce.

Conferences presentations

Bolortsogoo, N., 2018. Financial reporting quality: Review on factors and measurements. In: University of Pecs, *Ferenc Farkas International Scientific Conference (FFISC)*. Pecs, Hungary 7-8 June 2018.

Bolortsogoo, N., 2018. Firm-level variables and mandatory disclosure on information asymmetry. In: Bandirma Onyedi Eylul University, II International Symposium on Economics, Finance and Econometrics *(ISEFE)*. Istanbul, Turkey 6-7 December, 2018.