

**EARNINGS MANAGEMENT AND FIRM VALUE:
THE ROLE OF INVESTOR PROTECTION
AND CORPORATE GOVERNANCE**

Nopphon Tangjitprom

**A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
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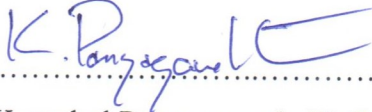
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ABSTRACT

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Earnings management usually refers to the efforts of firm managers or executives to manipulate the earning figures in financial reporting. In general, these activities can be perceived negatively, as they can stem from managerial opportunism. Managers can use earnings management to report earnings for their own benefit, e.g. to get advantage from their compensation plans. However, some may argue that managers can use earnings management techniques to communicate or convey certain information and to smooth the earnings to reduce volatility. Therefore, earnings management can be both beneficial and harmful to firm value based on how managers employ it.

Previous studies have shown evidence to support the role of investor protection and corporate governance in reducing the level of earnings management. However, if both investor protection and corporate governance can help to restrain managerial opportunism, they should reduce only the negative earnings management but not positive management. This study examines whether investor protection and corporate governance can reduce the negative effect of earnings. Using both firm-level analysis in the United States and Thailand, and country-level analysis from 31 countries, the results support the fact that the effect of earnings management is more positive, or at least less negative, for firms with a higher level of corporate governance and for countries with a higher level of investor protection.

The evidence from this study shows that managerial discretion, such as earnings management, is not actually unfavorable. Therefore, encouraging good governance or improving investor protection is as important as improving accounting rules and standards in order to restrain negative earnings management.

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CHAPTER 1

INTRODUCTION

Earnings management usually refers to the efforts of firm managers or executives to manipulate the earning figures in financial reporting. Even though these activities may not be illegal, they can arise from managerial opportunism in terms of taking advantage of compensation plans (Healy, 1985; Baker, Collins and Reitenga, 2003; Bregstresser and Philipon, 2006; Kuang, 2008). For example, managers can overstate the reported profit in order to demonstrate the firm's performance and obtain incentive payments, such as bonuses. This managerial opportunism arises with the popularity of pay-for-performance compensation plan. Another way of using earnings management is to understate the reported earnings in order to reduce the current market price of the common stock. Reporting lower earnings will suppress the stock price, which can lead to the lower exercise price of stock options (Baker, Collins, and Reitenga, 2003). For this reason, managers will get more benefits from the employee stock ownership plan (ESOP)

Even though many studies have mentioned the negative side of earnings management, some have argued that managers can use earnings management techniques in a positive way. For example, they can use earnings management as a tool to communicate or convey certain information that is not included in the reported earnings figures (Dutta and Gigler, 2002). Another example of using earnings management positively in relation to firm value is to smooth the reported earnings in order to reduce volatility (Magrath and Weld, 2002).

Therefore, earnings management can be beneficial or harmful for the firm's value based on how managers employ it. In general, earnings management consists of both positive and negative earnings management. Positive earnings management is the use of earnings management in a way that benefits firm value. Meanwhile, negative earnings management is the use of earnings management for private benefit that can be harmful to the firm's value.

There is no simplified way to determine which component of earnings management is harmful or beneficial. However, if there were a mechanism that could help to restrain managerial opportunism, the existence of such a mechanism would be helpful in reducing negative earnings management but not positive earnings management. Examples of such a controlling mechanism are corporate governance and investor protection.

Corporate governance can act as a mechanism to restrain managerial opportunism. Firms with poor corporate governance are more vulnerable to managerial opportunism. Therefore, earnings management is likely to be for private benefit and could be harmful to the firm's value. However, firms with good corporate governance can reduce their managerial opportunism and mitigate these problems. In this case, earnings management is less harmful or of more benefit regarding firm value.

Investor protection is about how well the rights of investors can be protected based on a country's law and legal system. While corporate governance is about how outside shareholders' rights (minority shareholders rights) are protected by the firm's regulation and behavior, investor protection is about how shareholders' rights are protected by the country's law. Therefore, corporate governance is measured based on firm-level analysis, while investor protection can be measured based on country-level analysis.

Based on the above discussion, if corporate governance or investor protection is effective in controlling managerial opportunism or negative earnings management, the effect of earnings management on firm value will be more positive or less negative. Therefore, the main research question for this study is whether corporate governance or investor protection can affect the relation between earnings management and firm value.

The impact of corporate governance can be examined based on firm-level analysis. In this study, firm-level analysis is performed based on the empirical evidence from two countries, the United States and Thailand. In the United States, the information about corporate governance is based on the ESG score (Environmental, Social and Governance score) provided by ASSET4, the affiliate of Thomson Reuters. The corporate governance score for ASSET4 includes board structure, compensation policy, board function, vision & strategies, and shareholders' rights.

In Thailand, corporate governance data in Thailand are provided by the Thai Institute of Directors (Thai IOD). The Thai IOD has collected data about the corporate governance of firms listed on the Stock Exchange of Thailand. Instead of reporting numerical CG scores, the Thai IOD reports CG performance in terms of number of stars. Each firm is classified as 5-star, 4-star, or 3-star based on their corporate governance performance.

The impact of investor protection is examined based on country-level analysis. Investor protection measurement is based on three dimensions, which are outside investor rights or shareholders' rights, legal enforcement, and public enforcement. Outside investor rights or minority shareholder rights are based on the anti-director rights index provided by La Porta et al. (1998). Legal enforcement is the measurement of how well the country's law is enforced, which is based on the efficiency of the judicial system, assessment of the rule of law, and the corruption index (Leuz, Nanda and Wysocki, 2003; La Porta et al., 1998). Public enforcement of security law is based on La Porta et al. (2006). The index of public enforcement includes five dimensions: the characteristics of the supervisor of the security law, the power of the supervisor to issue rules, the investigation power of the supervisor of securities markets, the order index, and the criminal index.

CHAPTER 2

REVIEW OF LITERATURE

This chapter summarizes related literatures about earnings management, corporate governance, and investor protection. The first section is literatures about earnings management. It provides an overview concept of earnings management and discusses about how to measure the level of earnings management empirically. The following sections discuss about the background of corporate governance and investor protection, which can be the good controlling mechanism to restrain managerial opportunism. Finally, the previous studies about the relation between earnings management and corporate governance or investor protection are discussed.

2.1 Earnings Management Literatures

Earnings management usually refers to the situation where managers use their own discretion in financial reporting in order to alter the reported number (Healy and Wahlen, 1999). There are numerous studies about earnings management in accounting and financial research. In those studies, the different measurements of earnings management are used in the analysis. One of the most popular measurements is known as discretionary accruals that are used to measure management discretion in earnings reporting using the accrual accounting technique. The use of accrual-based earnings management in accounting and financial literatures becomes well-known since Healy's (1985) paper. Many researchers have used this accrual-based earnings management measurement in their finance and accounting researches. Thereafter, the original total accruals has modified until it is known as modified Jones' discretionary accrual model (Jones, 1991; Dechow, Sloan and Sweeney, 1995).

Besides using managerial discretions, like accruals, to manipulate the reported earnings, firms may engage in earnings management by avoiding reporting losses or earnings decrease. Burstahler and Dichev (1997) find that there is abnormally low number of firms reporting small losses or small decreases in their earnings, whereas

there is abnormally high number of firms reporting small positive earnings or small increases in their earnings.

Another recent popular measurement of earnings management is called 'Real earnings management'. Real earnings management is when managers use their discretion to manipulate firm's real activities instead of financial reporting. One of the important examples of this real activities manipulation is about the research and development (R&D) expenses (Baber, Farefield and Haggard, 1991; Bushee, 1998). Other examples of real earnings management activities are sale manipulation, discretionary expenditure reduction, and overproduction (Sugata Roychowdhury, 2006).

For accruals-based earnings management, Healy (1985) has studied about the use of managerial accounting decision to take advantages of higher managerial compensation. Using earnings-based bonuses encourages managers or executives to report higher earnings and get more benefits in their compensation plan. He finds that there is strong association between this earnings-based bonuses scheme and the size of accounting accruals that is the proxy of earnings management. Managers use accruals to increase reported earnings when the bonuses scheme allow them to get higher benefits and managers also use accruals to decrease report earnings when their bonuses have reached the bound. The use of accounting accruals as the proxy to capture management discretion over earnings becomes popular in later research about earnings management. However, total accruals consist of discretionary and non-discretionary accruals. Using total accruals to measure earnings management implies that non-discretionary accruals are constant overtime. DeAngelo (1986) studies the use of earnings management for the benefit in management buyout. Managers may use their discretions in order to manipulate the reported earnings, which may alter a stock price. This earnings manipulation can help them to purchase common stocks with lower price. He finds that managers have understated firm's earnings and successfully achieve the management buyout at the lower price. In this study, the change in total accruals from previous period is used as the proxy of discretionary accruals. However, this implies that the past accruals are used as the normal level of total accruals. The change of total accruals from previous period will reflect the deviation from the normal level.

Jones (1991) studies about the use of earnings management during the investigation for import relief supporting. During the period of study in United States, the government has granted the import relief subsidy in order to support the local business. Firms applying for this support needs to prove that they are damaged from the imports during that period. Jones finds that firms have used the accruals to reduce their earnings during the investigation. The accrual-based earnings management is measured by discretionary accruals, which is the difference between total accruals and non-discretionary accruals (normal level of accruals). The linear regression technique is applied in order to measure the expected normal level of total accruals instead of using previous accruals. The total accruals are regressed on the factors that affect the level of accruals, which are the change in revenues and the level of property, plant, and equipment. The residual terms from this regression is the part of total accruals that cannot be explained by the above factors and will be used as the proxy for discretionary accruals. The Jones model becomes the most popular model that is commonly used in the literature about earnings management (McNichols, 2000).

DeFond and Jambalvo (1994) have proposed the use of cross-sectional regression to estimate the discretionary accruals. The cross-sectional regression is estimated for each industry. The deviation of firm's accruals from the normal level of accruals estimated by all firms within the industry is used as discretionary accruals. Dechow, Sloan, and Sweeney (1995) have proposed the modification to the original Jones model. The Jones model uses the change in revenue as one factor to determine the normal level of accruals or non-discretionary accruals. However, the modified Jones model will exclude the change in net accounts receivable from the change in revenues in order to include the effect of change in net account receivable in the discretionary accruals. In the other word, the modified Jones model uses the change in cash revenue instead of the change in total revenues as in the original Jones model. The use of Jone's discretionary accrual model. Discretionary accruals are estimated from the deviation from the normal level of accruals, which is estimated from time-series regression. This estimation implies that the accruals are stationary over time

Bartov, Gul and Tsui (2001) have evaluated various discretionary accruals model to see their ability to detect earnings management. They use both univariate test and multiple logistics regression in order to justify which model can distinguish between firms with unqualified audit report and firms with qualified audit report (that

is the sign of managerial earnings management). They find that most of time-series models, including original Jones model and modified Jones model, cannot significantly distinguish between those firms. However, cross-sectional Jones model and cross-sectional modified Jones model can successfully distinguish those firms with qualified audit report from those with unqualified audit report.

Dechow and Dechow (2002) study about the quality of accruals and earnings. They discuss that the quality of accruals is associated with the estimation error of accruals. In order to capture this estimation error, the regression model on the accruals is estimated using past, present, and future operating cash flow as explanatory variables. The residuals from this regression reflect the quality of accruals. Kothari, Leone, and Wasley (2005) introduce the performance-matched discretionary accruals. The deviations from the normal level of accruals or non-discretionary accruals based on Jones and modified Jones model may not be totally from the management discretion but from the change in firm performance. Therefore, the discretionary accruals computed from modified Jones model will be subtracted by the discretionary accruals of matching firms in order to control the effect of performance change. The matching firm is another firm in the same industry with the closest return on assets (ROA).

In the recent paper, Dechow, Hutton, Kim and Sloan (2012) have improved the accrual-based earnings management model by including the information about the reversal of accruals. Previous researches have shown that the accruals from one period will reverse in another period in another period. Accrual-based earnings management measurement usually requires the regression model to estimate the normal level of accruals. Discretionary accruals are the deviation from this normal level, which can be measured by the residual from the regression. Therefore, including these reversals in the regression can significantly improve the power of test.

Another measurement of earnings management level as the variation from accrual-based model is aggregate earnings management measurement proposed by Leuz, Nanda and Wysocki (2003) in their study about investor protection. They use aggregate earnings management to capture the earning management level of each country and they find that there is a relation between country investor protection level and aggregate earnings management. This aggregate earnings management measurement is the country measurement that combines both earnings smoothing

measures and earnings discretion measures. Aggregate earnings management is the combination of four earnings management measurement, which are the ratio of standard deviation between reported earnings and cash flow from operation, the correlation between accruals and operating cash flows, the magnitude of accruals, and the ratio of small reported profits and small reported losses. The country median level of each measurement will represent the country level and they will be ranked among countries in each measurement. The aggregate earnings management is the average of the ranks of these four measurements.

For real earnings management, Baber, Fairfield and Haggard (1991) study about managerial discretion in R&D expenditure for United States industrial firms. They find that the R&D expenditures are significantly lower when firms would like to report positive earnings or higher earnings from previous year. This evidence implies that manager tries to manipulate the reported earnings by cutting R&D expenses if they want to increase reported earnings to meet some target level of profit. Bushee (1998) has examined the effect of stock trading turnovers and the role of institutional investors on the reduction of R&D to reach higher reported earnings. If investors concerns about long-run performance of firms, it should be less incentives for managers to cut the investment in R&D in order to report higher current earnings. The results show that the likelihood of cutting R&D is lower when there are higher portion of institutional ownership. However, if those institutional investors engage more in momentum trading strategy, the probability of R&D reduction will be higher. This implies that managers have more incentive to reduce R&D investment if investors have concerned on short-term trading, like higher trading turnover or using momentum trading strategy, rather than long-term performance.

Sugata Roychowdhury (2006) has studied about manager's manipulation on real activities in order to avoid reporting negative earnings. He has used three manipulation methods to figure out the level of earnings management. First, sales manipulation can be done by extending credit term or giving high price discounts. If managers would like to manipulate the reported earnings, they can use sale manipulation to generate unsustainable sales and boost up the reported revenues. The second manipulation is the reduction of discretionary expenditures. Discretionary expenditures are expenses that can be influences by managers like R&D expenses or

advertising expenses. Managers can manipulate reported earnings by reducing these discretionary expenses. The third one is overproduction. Managers can increase the production level intentionally in order to reduce the fixed overhead costs and lower reported cost of goods sold.

Cohen and Zarowin (2010) study about the use of earnings management of firms involving with seasoned equity offerings (SEOs). The earnings management in this study includes both real earnings management and accrual-based earnings management. They find the strong evidence that SEOs firms highly involve with earnings management in both real and accrual ones. They also find that the performance of post-SEO declines for firms using earnings management during SEO. However, firms using real earnings management face severely declining in their post-SEO operating performance rather than firms using accrual-based earnings management.

Many studies about earnings management have pointed out that earnings management are from the opportunistic behavior of managers. In the other word, managers use earnings management as a tool in order to transfer wealth to themselves, for example in form of compensation plan. Healy (1985) shows that managers use earnings management to increase reported earnings in order to get more bonuses in their compensation plan. DeAngelo (1986) reports that managers use income-decreasing accruals to understate reported earnings so that they can implement the management buyout program with cheaper stock price.

Baker, Collins, and Reitenga (2003) examine and report that stock options compensation plan can creates an incentive for managers to use discretionary accruals to decrease reported earnings and stock price in order to get stock options with lower exercise price in their compensation plan. Cheng and Warfield (2005) propose that the equity incentives for managers are also the incentives for them to engage in earnings management. These managers have stock-based compensation and their wealth links to future stock performance. Therefore, they use earnings management to adjust the reported earnings to meet market expectation in order to maintain the stock price level.

Bregstresser and Philippon (2006) have discussed that pay-per-performance compensation plan provides the incentives for mangers to do earnings management. In the firm with CEO compensation is tied to the value of common stock or stock

options, there will be more use of discretionary accruals to manipulate reported earnings. Kuang (2008) also finds that performance-vested stock options (PVSOs) in United Kingdom are also the incentive for managers to manipulate reported earnings. Managers whose compensation plan is closely related to PVSOs have engaged more in earnings managements.

However, there are some studies that provide the argument to support earnings management. Sometimes, accounting reports are not effective enough to communicate information to investors (Healy and Palepu, 1995). Therefore, earnings management can be used as a tool to communicate additional information about expected future earnings. Dutta and Gigler (2002) have developed the model in order to justify the benefit of earnings management. In the model, they show that the shareholders wealth could be lower if the potential of earnings management is restricted by accounting standard and auditing process. Therefore, under the restriction, the benefit of earnings management is reduced as it is more costly for the manager to communicate trustful forecasting.

Watts and Zimmerman (1990) have discussed about how managers use their discretions in earnings reports. Managers can exercise their discretions for their own benefits but as costs for other parties. This situation is known as opportunistic behavior. However, managers can also exercise their discretions on accounting reports for benefits of firms and shareholders. For example, they use income-increasing report in order to avoid debt covenant problems and reduce cost of technical default.

Magrath and Weld (2002) discussed the benefit of earnings management to the firm value. Managers can use earning management to reduce the volatility of earning. This can help to reduce the level of firm perceived risks by investors and increase the value of the firm. Therefore, managers who have engages in earnings management have followed the value maximization principal. Ning (2006) has also argued that earnings management is not fraud because it is done within legitimate constraint. Moreover, the earnings management may create the misrepresentation of earnings reporting but it does not misrepresent the firm economic value in terms of total value of asset, liabilities, and equity. Pornsit Jiraporn, Miller, Yoon and Kim (2008) have studied about earnings management, corporate governance, and firm value in United States. They provide the empirical evidence using the data of United States firms and find that earnings management is not negative to firm value.

In summary, there are two broad measurements of earnings management activities, which are accrual-based earnings management and real earnings management. Moreover, earnings management is perceived negatively in many previous studies as it is usually from managerial opportunism. Managers can use their discretions to manipulate reported earnings for their own benefits e.g. to secure their position, or to earn more benefits from a compensation plan. However, some papers have argued that some earnings management can be informative and positive to firm value. In this perspective, managers use earnings management for a benefit of firm or to communicate some earnings forecasting to public.

2.2 Corporate Governance Literatures

Jensen and Meckling (1976) propose principal-agency relationship within a firm to understand the agency problems. Managers can take their private benefits out of firms' asset by consuming perquisites. They show that the levels of perquisites taken as private benefits by managers are related to their fraction of ownerships. If managers hold less fraction of the firm, they will take more private benefits because they have less incentive to maximize shareholders' wealth. There will be the costs incurring from this conflicts in principal-agency relationship between managers and shareholders, which is known as agency costs. These agency costs have included monitoring costs, bonding costs and residual losses.

Fama and Jensen (1983) discuss this agency problem more in the perspective of the separation between ownership and control. The firm controlling is in the hand of managers whereas ownership belongs to shareholders. When managers make decision for the firms, their decisions may be different from the goal of the firms to maximize shareholder wealth because managers do not share the wealth with shareholders. In this situation, the agency problem is arising and there is a need for the effective controlling of managerial decisions like corporate governance mechanism. La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) also discuss about the problem that the benefits of outside shareholders are expropriated by inside or controlling shareholders. Corporate governance is the mechanism for outside investors to protect themselves from this appropriation. Legal investor protections are also needed in order to make this appropriation become more difficult.

Johnson, Boone, Breach and Friedman (2000) use the period during Asian financial crisis to show that the significant decrease in asset prices and exchange rate is partly from the effect of weak corporate governance. During worse expectation about future economies, the countries with low corporate governance mechanism and shareholder rights protection are more vulnerable to the problem of managerial expropriation of private benefits. This results in decreasing of asset prices dramatically in those countries. Therefore, the corporate governance can play the important role to determine the extent of economic problems during the crisis period.

Gomper, Ishii and Metrick (2003) have developed Governance Index or G-index from each firm provision about shareholder rights. If the firm has more provision to restrict shareholder rights, the governance index will be higher. Therefore, firms with higher G-index are the firms with weaker shareholder rights and are named as Dictatorship firms. Firms with lower G-index have stronger shareholders rights and classified as Democracy firms. They find out that there are strong negative relationship between firm values and G-index. This means the firms with higher G-index (weaker shareholder rights) will have lower firm value measured by Tobin's Q ratio.

Beside shareholders rights, another important aspect about corporate governance is about the structure of board of director. In Beasley's (1996) study how the board composition helps in controlling accounting fraud, the board composition has included the presence of audit committee in board of director and the proportions of outside directors. Other board structures in the studies about corporate governance are financial expertise of outside director (Park and Shin, 2004) and frequency of board meetings (Xie, Davidson and DaDalt, 2003).

Nowadays, there are many organizations have provide the proprietary data about the corporate governance in both firm level and country level. Examples of these corporate governance score are Standard and Poor (S&P)'s GAMMA score or Environmental, Social, and Governance (ESG) score provided by ASSET4, which is an affiliate of Thomson Reuter.

Ioannou and Serafeim (2010) investigated the impact of firm factors, industry factors and institutional factors to corporate social performance by using ASSET4's environmental, social and governance or ESG scores. They find out that country institutional factors are the most important determinant of governance performance.

The corporate governance component of ASSET4's ESG scores consists of 5 aspects, which are board structure, compensation policy, board functions, vision and strategy, and shareholders rights. Eccles, Ioannou, and Serafeim (2011) have studied the impact of environmental and social policies adoption to the performance of firm based on ESG performance score. Firms who are classified as high sustainability can outperform their matched firms in low sustainability group. Therefore, adoption of these policies does not deteriorate shareholders' value.

In conclusion, corporate governance (CG) has provided the important role to reduce managerial opportunism. Therefore, corporate governance can be the good controlling mechanism to reduce the negative earnings management, which arise from managerial opportunism.

2.3 Investor Protection Literatures

La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) have studied the investor protection in the view of shareholders rights and legal enforcement. They have studied about the company laws in many countries in order to figure out the level of shareholder rights in each country. They found that the difference in the level of shareholder rights depends on the difference in law system and law origin. The law system can be classified into common and code law. The law origin in their study is classified into English-origin, German-origin, French-origin, and Scandinavian-origin. The legal enforcement can be the substitute for the protection of shareholder rights as specified by law. Although the law has not included much of shareholder rights, the strong legal enforcement will lead the active court system to help investors from management abuses. After the publication of this study, the role of investor protection becomes popular area of studying in finance and accounting research.

Furthermore, the studies about investor protection can help us to understand about the difference in corporate governance across countries (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 2000). Klapper and Love (2004) find that firms in the country with weaker investor protection will have lower average corporate governance score. Furthermore, they find the positive relationship between corporate governance and firm value and this relationship will be stronger in the country with

weaker investor protection. Therefore, the corporate governance is more important for the country that there is lower level of investor protection by law.

La Porta, Lopez-de-Silanes and Shleifer (2006) have extended their previous studies about investor protection. They studied the role of security law and investor protection in two main aspects, private enforcement and public enforcement. Private enforcement is the law that is related to the parties who are directly related to the issuance transaction. This includes the disclosure requirements that are related to which extend the issuers need to disclose the information and liability standard of issuers, distributors, and accountants. The public enforcement is related to the role of regulator or supervisor of securities market. This can be measured by the characteristics of supervisor and the power of supervisor to make a rule or perform investigation.

Leuz, Narda and Wysocki (2003) studied about the role of investor protection towards the earnings management across countries. They used country-level analysis and measure the investor protection based on outside investor's rights and legal enforcement based on La Porta et al. (1998). Country-level earnings management is measured by aggregate earnings management, which consists of smoothing reported operating earnings using accruals, the correlation between changes in accounting accruals and operating cash flows, the magnitude of accruals, and the avoidance of small losses. They find that the country with strong investor protection in either outside investor rights or legal enforcement will have lower level of aggregate earnings management measures.

Defond, Hung and Trezevant (2007) have examined the role of investor protection and information contents in earnings announcements. The earnings announcements will be more informative in the country with better investor protection. Cheng and Shiu (2007) find that firms in the country with better shareholder protection will use more equity funds. This evidence shows the effect of investor protection on the capital structure decisions.

Rossi and Volpin (2004) find that investor protection is related to merger and acquisition activities. They studied the cross-border deals and find that the target firms will be from the country with less investor protection whereas the acquirers will be in the country with better investor protection. Bris and Carbolis (2008) studied the cross-border merger to examine the effect of investor protection towards the premium in

merger activities. The result reveals that when the firms from the country with higher investor protection acquire the target firms from the country with lower investor protection, the premiums in acquisition will be higher than the acquisition of similar domestic firms. These results show indirect effect of investor protection on firm value based on the transfer of corporate governance mechanism to the target firms in merger and acquisition activities.

Francis and Wang (2008) find that the relationship of investor protection and earnings quality depends on the auditors. The positive effect of investor protection and earnings quality is prominent only for firms with Big4 auditors. The earning quality of firms with non-Big4 auditors is not related to the level of investor protection. This result implies that the accounting practices depend on the country investor protection.

Therefore, investor protection also plays the important role in restricting some opportunistic behavior. Managers can do to take private benefits from firm value and take advantages of shareholders.

2.4 Previous Studies about Earnings Management and Corporate Governance or Investor Protection

Beasley (1996) study the role of board director composition in controlling accounting fraud. The logit regression is used to distinguish between fraud and non-fraud firms. The result reveals that audit committee does not help to reduce the likelihood of accounting frauds, whereas outside directors can do. Larger proportions of outside board members can reduce the chance of accounting frauds significantly. Moreover, the likelihood of frauds is lower for firms with more tenure of outside directors. Park and Shin (2004) examine the effect of board composition on earnings management in Canada. They find that outside directors cannot help to restrain earnings management but firms whose directors are from financial institutions have the lower level of abnormal accruals. Moreover, firms with representation from institutional shareholders also have lower abnormal accruals. This evidence suggests that, in general, outside directors cannot help to reduce earnings management. However, board members from financial institution or institutional shareholders can effectively help to restrain the earnings management activities.

Peasnell, Pope and Young (2005) study the role of board monitoring on earnings management for firms in United Kingdom. They find no direct effect of the role of outside director or audit committee to the level of earnings management. However, the interaction between outside director and audit committee is statistically significant. Therefore, the effectiveness of board monitoring of outside director depends on the role of audit committee.

Xie, Davidson and DaDalt (2003) study the role of board of directors and audit committee to restrict the level of earnings management. They find that the current discretionary accruals are smaller for firms having board members with financial backgrounds and firms whose board and audit committee have meetings more frequently. This evidence supports the role of board and audit committee to constrain managerial opportunism with earnings management.

Ahmed, Hossain and Adams (2006) perform the analysis about the effect on corporate governance on annual accounting earnings informativeness using the data from New Zealand. The result reveals that the earning informativeness is inversely related to board size but is not related to outside directors.

Abdul Rahman and Ali (2006) have studied the relation between board size and earnings management for firms listed in Malaysian stock market. They use cross-sectional modified Jones model to estimate discretionary accruals as the measurement of earnings management. They find the positive association between the size of earnings management and the size of the board of directors. This evidence implies the ineffectiveness of larger-size board.

Shen and Chih (2007) study the effect of corporate governance and earnings management in Asian countries. They find that firms with good corporate governance have engaged less in earnings management activities. Moreover, firms with larger size and higher growth have engaged more in earnings management for both earnings smoothing and earnings aggressiveness. However, good corporate governance can help to mitigate these effects in earnings management.

Abed, Al-Attar and Suwaidan (2012) have studied the effect of corporate governance and earnings management in Amman Stock Exchange (Jordan). They also use modified Jones model to estimate discretionary Accruals. The result is different from other countries because there is no association between earnings management

and corporate governance mechanism. They explain this result as the unique characteristics of Jordanian firms where the majority of firms are owned by identifiable group. Therefore, the agency problem is not pronounced and the role of corporate governance mechanism is less necessary in this situation.

Mohamad, Abdul Rashid and Shawtari (2012) examine the role of corporate governance in reducing earnings management in Malaysian government-linked companies. They find that some corporate governance aspect has the impact to the level of earnings management. The duality role in the company whose CEO and Chairman are the same can lead to the opportunistic behavior and higher earnings management activities. Firms with non-duality have lower level of discretionary accruals. Moreover, more number of board meeting also help to reduce earnings management.

Wang, Sheu and Chung (2011) study the role of corporate governance to reduce earnings management as the result of Sarbanes-Oxley Act. The results reveal that the implementation of Sarbanes-Oxley Act can help to increase the integrity of reported financial statements. Cornett, McNutt, and Tehranian (2009) have shown the evidence that the corporate governance can significantly affect the level of earnings management for large U.S. banks. Some corporate governance mechanism like board independence can help to reduce the earnings management because managers have lower ability to influence over the board. However, performance pays can motivate the CEO to manage earnings to get higher compensations.

Hazarika, Karpoff and Nahata (2012) show the role of internal corporate governance to restrict managers' behavior in earnings management. They find the evidence that earnings management is positively related to CEO's forced turnover. They conclude their result as the reaction of the board of director to prevent too-aggressively earnings management before further external consequence arise.

For the role of investor protection on reported earnings, Leuz, Nanda and Wysocki (2003) studied about the role of investor protection towards the earning management across countries. They find that the country with strong investor protection in either outside investor rights or legal enforcement will have lower level of aggregate earnings management measures.

Shen and Chih (2005) have studied about earnings management activities in the banking industry based on international sample of 48 countries. They find that

two-third of sample firms have engaged in earnings management. They also find that the strong investor protection can reduce the level of earnings management within the banking industry. Moreover, the level of earnings management is low during the period of higher real GDP per capita. Defond, Hung and Trezevant (2007) also report the empirical evidences from 26 countries to support that earnings announcements are more informative in the country with better investor protection.

In conclusion, the previous studies have shown the evidence to support the role of corporate governance and investor protection in reducing managerial opportunism to manipulate reported earnings. Most of these studies use accrual-based earnings management, which is usually based on modified Jones model. Both corporate governance and investor protection have played the important role in reducing the level of earnings management based on previous researches. The general explanation is both corporate governance and investor protection can help to restrain managerial opportunism.

However, the previous studies have focused on the role of corporate governance or investor protection to reduce the level of earnings management. If there are both good earnings management and bad earnings management, both corporate governance and investor protection should help in reducing bad earnings management rather than good earnings management.

CHAPTER 3

THEORITICAL FRAMEWORK AND HYPOTHESES

From the literature review discussed earlier, earnings management can be structured into good or informative earnings management and bad or opportunistic earnings management. It is difficult to clarify which earnings management is informative or adverse. However, if there is a mechanism that can help to control the opportunistic behaviors, it should be able to reduce the bad earnings management. The earnings management will be more informative and beneficial to firm value.

Investor protection and Corporate Governance is about how the rights of investors are protected by firm commitment, law or legal enforcement. They can be the good proxy for the mechanism to reduce managerial opportunism. If corporate governance works well to reduce bad earnings management, the relation between earnings management and firm value should be more positive or less negative in firms with better corporate governance. In addition, if investor protection also works well to reduce bad earnings management, the relation between earnings management and firm value should also be more positive or less negative in the countries with higher level of investor protection.

3.1 Theoretical Framework

Conceptually, the firm value is the present value of expected future cash flow discounted by appropriate discount rate (William, 1938). Based on this viewpoint, the firm value is the function of future cash flow and discount rate. The discount rate is known as the cost of capital that reflects the risk of the firms, as follows;

$$V = \sum_{t=1}^{\infty} \frac{CF_t}{(1+r)^t} = \int_0^{\infty} CF_t e^{rt} dt \quad (1)$$
$$V = f(CF, r)$$

From the above equation, V represent the current firm value. CF_t is the cash flow at time t in the future and r is the cost of capital of the firm. Therefore, overstating or understating the current income through earnings management should have no direct effect on firm value. However, Dechow, Kothari and Watts (1998) have proposed and provided evidence to support that current earnings are a good forecast of future cash flows based on the cross-correlation and serial correlation structure between earnings and cash flows. This evidence provides the hint that managers can use their discretions in order to improve earnings in formativeness (Watt and Zimmerman, 1986). This will make earnings management become desirable and beneficial to firm value. However, it is also possible that managers use their discretions in reporting earnings so that they can take private benefits. For example, managers may overstate the earnings so that they can get more performance-based compensation like bonuses (Healy, 1985; Baker, Collins and Reitenga, 2003). In this viewpoint, earnings management will be negative to firm value.

Therefore, earnings management can be characterized by both good and bad perspective. Although earnings management is usually from opportunistic behavior of managers, it is possible that earnings management can be value-added. Earnings management is composed of good earnings management and bad earnings management.

$$EM = EM_G + EM_B \quad (2)$$

From the above equation, EM is earnings management. EM_B is bad earnings management that is usually from opportunistic behaviors of managers. Manager have involved in this kind of earnings management for their own benefit. Therefore, firms with high earnings management can be perceived as the riskier firms and risk-averse investors will require more expected return to compensate, which results in higher cost of capital for the firm and finally deteriorate firm value. EM_G is good earnings management or management that creates value for firms, which can be called informative EM or value-added EM. In this case, managers will use earnings management to communicate some private information to the public. Even though there might be a cost of signaling this information, the benefit from signaling is higher and will result in the improvement of firm value.

Then, suppose that there are controlling mechanisms that can help to reduce bad earnings management. In another word, the existence of controlling mechanism will reduce the opportunistic behavior of managers in managing the earnings. Therefore, the level of bad earnings management should be lower under this controlling mechanism as follows;

$$\begin{aligned} EM_B &= f(EM_B^*, X) \\ EM_B &= EM_B^* + \beta X \end{aligned} \quad (3)$$

EM_B^* is the level of bad earnings management in the absence of controlling mechanism. X is the controlling mechanism. β represents the relationship between controlling mechanism and bad earnings management, which β is always negative, meaning that higher controlling level will help to reduce bad earnings management. In the same way, the good earnings management can be characterized as follows;

$$\begin{aligned} EM_G &= f(EM_G^*, X) \\ EM_G &= EM_G^* + \gamma X \\ EM_G &= EM_G^* \end{aligned} \quad (4)$$

EM_G^* is the level of good earnings management in the absence of controlling mechanism. γ represents the relationship between controlling mechanism and good earnings management. Because good earnings management should not be affected by the controlling mechanism, the existence of controlling mechanism will not alter good earnings management; so γ equals to zero. Combining equation 2-4, it can be shown relationship between earnings management and controlling mechanism as follows.

$$\begin{aligned} EM &= EM_G + EM_B \\ EM &= EM_G^* + EM_B^* + \beta X \\ EM &= EM^* + \beta X \end{aligned} \quad (5)$$

EM^* is the level of earnings management in the absence of controlling mechanism. This equation shows the relationship between earnings management and

controlling mechanism, which is expected to be negative. La Porta et al. (2000) have discussed about the important of corporate governance to reduce the managerial opportunism to expropriate private benefits from firms. They also mentioned that legal investor protection is like external corporate governance mechanism. Leuz et al. (2003) have studied and provided the evidence that investor protection can reduce the earnings management aggregate. Therefore, corporate governance and investor protection should provide the important role in a firm as controlling mechanism to reduce managerial opportunism to do earnings management that deteriorate firm's value.

Based on the definition of good earnings management and bad earnings management, the relationship between firm value and the level of earnings management can be as follows.

$$\begin{aligned}
 V &= f(EM) \\
 V &= f(EM_G, EM_B) \\
 V &= \alpha_0 + \alpha_1 EM_G + \alpha_2 EM_B
 \end{aligned} \tag{6}$$

V represents firm value. α_0 is the mean level of firm value based on other factors beside earnings management. α_1 is the relationship between good earnings management and firm value, which is positive by definition. α_2 is the relationship between bad earnings management and firm value, which is negative.

In order to show the linkage between the role of controlling mechanism and firm value, the different scenarios about the level of controlling mechanism are established. The first scenario is when there is no controlling mechanism at all. Therefore, the value of firm will depend on the original level of good and bad earnings management as follows.

$$\begin{aligned}
 EM_G &= EM_G^* \\
 EM_B &= EM_B^* \\
 V_1 &= \alpha_0 + \alpha_1 EM_G^* + \alpha_2 EM_B^*
 \end{aligned} \tag{7}$$

The second scenario is the situation that the controlling mechanism has existed and helped to reduce the level of bad earnings management. The value of firm will be as follows.

$$\begin{aligned}
 EM_G &= EM_G^* \\
 EM_B &= EM_B^* + \beta X \\
 V_2 &= \alpha_0 + \alpha_1 EM_G^* + \alpha_2 (EM_B^* + \beta X)
 \end{aligned} \tag{8}$$

The third scenario has assumed that the controlling mechanism is very effective so that all bad earnings management is eliminated. The value of firm will depend solely on the good earnings management as follows.

$$\begin{aligned}
 EM_G &= EM_G^* \\
 EM_B &= 0 \\
 V_3 &= \alpha_0 + \alpha_1 EM_G^*
 \end{aligned} \tag{9}$$

From above three scenarios, they can be summarized in equation 9. The firm value in the third scenario (V_3) is highest as there is no presence of bad earnings management because it is totally eliminated by the existence of the controlling mechanism.

$$\begin{aligned}
 V_1 &= \alpha_0 + \alpha_1 EM_G^* + \alpha_2 EM_B^* \\
 V_2 &= \alpha_0 + \alpha_1 EM_G^* + \alpha_2 (EM_B^* + \beta X) \\
 V_3 &= \alpha_0 + \alpha_1 EM_G^*
 \end{aligned} \tag{10}$$

The firm value in the first scenario (V_1) is lower from the negative effect of bad earnings management ($\alpha_2 < 0$). The firm value in the second scenario (V_2) is between V_1 and V_3 because the interaction effect from corporate governance or investor protection (βX) helps to reduce the bad earnings management ($\beta < 0$) and increase firm value.

Leuz et al. (2003) have provided the evidence that investor protection can effectively reduce the level of aggregate earnings management. In the countries with

the high level of investor protection, the aggregate earnings management is relatively lower compared to the countries with lower level of investor protection. Investor protection is how investor rights are protected by law and legal enforcement and can be the good example of controlling mechanism. However, if there are both good earnings management and bad earnings management, there is no logical explanation why investor protection should reduce good earnings management. Good earnings management is informative and not from managerial opportunism. Investor protection should be help in reducing only bad earnings management because firm managers are beware of legal obligation if they decide to use earnings management for their own benefit. Therefore, investor protection should help in reducing bad earnings management that is from managerial opportunism rather than reducing good or informative earnings management.

Let illustrate the above arguments in the following figures.

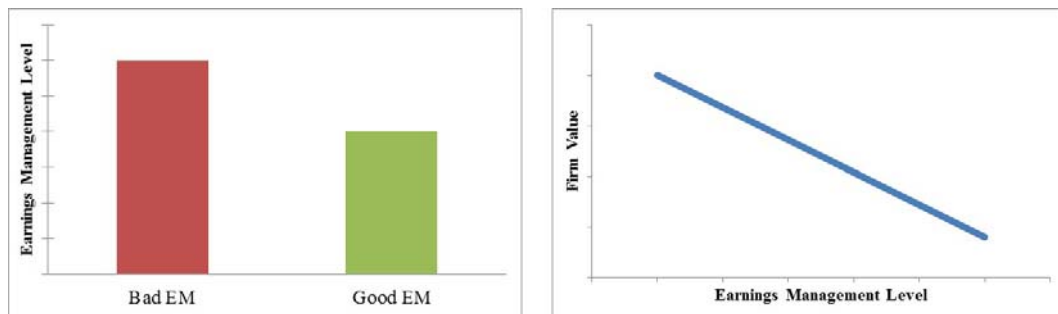


Figure 3.1 Original Level of Earnings Management and Its Effect (Bad)

In the figure 3.1, it shows the original level of earnings management and its effect on firm value. Let assume that bad earnings management is more likely than good earnings management. The effect of earnings management on firm value should be relatively negative as in the right panel of the figure 3.1.

Thereafter, the corporate governance or investor protection is introduced and it helps in reducing the level of earnings management. However, if both good earnings management and bad earnings management reduced similarly, both corporate governance and investor protection do not act as the effective controlling mechanism to reduce managerial opportunism. The result is shown as follows.

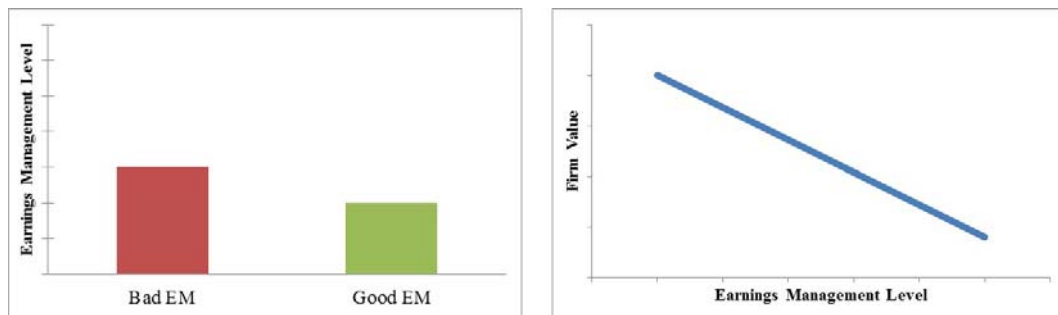


Figure 3.2 Both Good EM and Bad EM Have Reduced Similarly

In the figure 3.2, it shows that the level of both good earnings management and bad earnings management have reduced similarly. In this case the effect of earnings management on firm value should be similarly negative as shown in the right panel of the figure 3.2.

However, if corporate governance or investor protection can effectively act as the good controlling mechanism to reduce managerial opportunism in earnings management, it should help in reducing bad earnings management rather than the good one. In this case, the effect of earnings management on firm value should be less negative. This result is shown as follows.

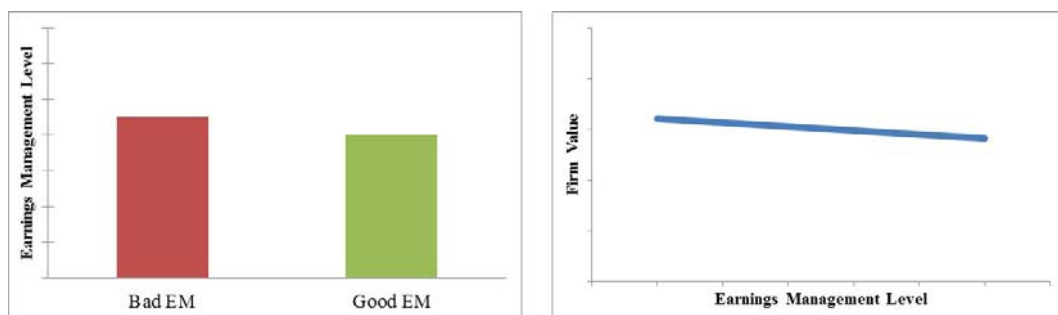


Figure 3.3 The Effect of Earnings Management is Less Negative

In the figure 3.3, it shows that only bad earnings management has reduced from the original case. In this case the effect of earnings management on firm value should be less negative as shown in the right panel of the figure 3.3.

However, the effect of earnings management can be originally positive. In this situation, the good earnings management can dominate the bad earnings management. The level of earnings management and its effect on firm value can be shown in figure 3.4

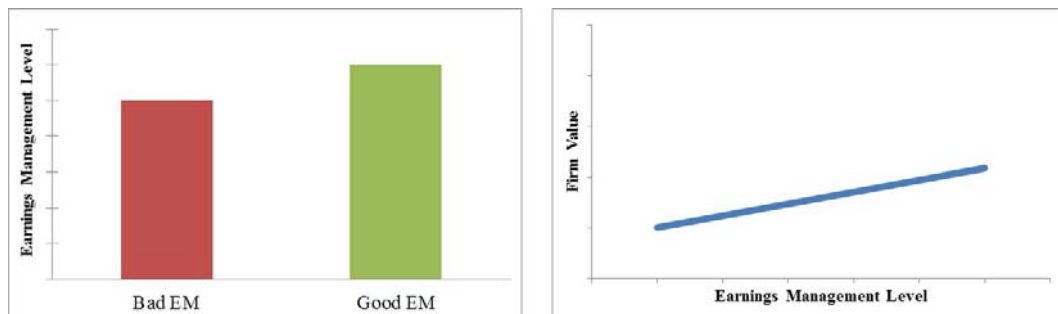


Figure 3.4 Original Level of Earnings Management and Its Effect (Good)

In the figure 3.4, it shows the situation that the level of good earnings management dominates bad earnings management and the effect of earnings management on firm value is generally positive. If corporate governance or investor protection can effectively reduce managerial opportunism in earnings management, the bad earnings management should be lower. In this case, the effect of earnings management on firm value should be more positive as follows.

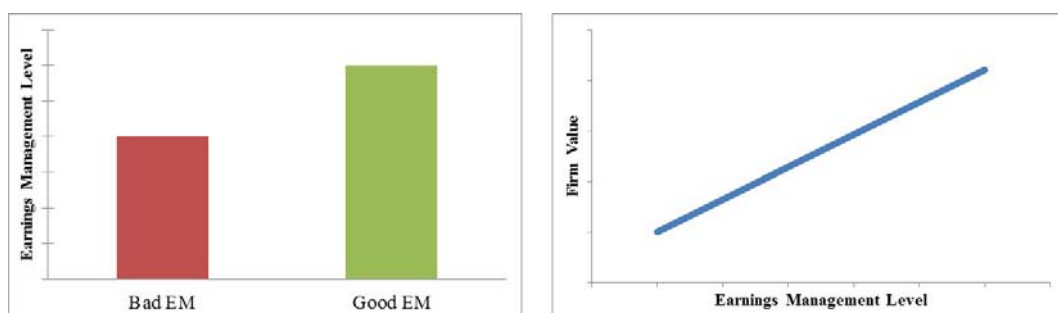


Figure 3.5 The Effect of Earnings Management is More Positive

3.2 Hypothesis Development

Some previous researches have shown the evidence that earnings management is from managerial opportunism whereas some studies have argued that it can be beneficial and managers use it to communicate some information about the future earning forecasting. Therefore, earnings management can both positively and negatively affect to the firm value. Nowadays, most firms deploy the performance-based compensation plan for firm executives and this compensation plan motivates firm executives to manipulate earnings for their own benefit (Kolb, 2006). Therefore, in general, earnings management should be negatively affect to firm value because managers tend to use it for their own private benefits rather than to communicate information.

However, if there are good controlling mechanisms, this should help to reduce managerial opportunism. Fama and Jensen (1983) proposed that firms need to have such a good controlling mechanism in order to reduce the agency problem when there is the separation between ownership and control. This controlling mechanism can be gauged internally in each firm based on the level of their corporate governance or CG. Firms with good governance give the importance to the transparency and shareholder rights. In such firms, managerial opportunism is less likely because managers are restricted by the corporate governance scheme. Therefore, the first hypothesis for this study is as follows.

Hypothesis I: The relation between earnings management and firm value should be more positive (or less negative) for the firm with higher level of corporate governance.

The above hypothesis can be examined by testing the interaction term between the effect of earnings management and the level of corporate governance. This interaction term should be positive in order to support the first research hypothesis.

Furthermore, La Porta et al. (2000) have discuss about the role of investor protection as the external corporate governance to control the firm's managers or insiders from taking private benefit from firm value. Investor protection is about how investors' rights are protected law and legal enforcement in each country. Therefore,

this investor protection can be a good controlling mechanism to reduce managerial opportunism because managers should be afraid of legal enforcement if they perform opportunistic behavior for their own benefits and harmful to the value of shareholders. The second hypothesis is constructed as follows.

Hypothesis II: The relation between earnings management and firm value should be more positive (or less negative) in the country with higher level of investor protection.

CHAPTER 4

RESEARCH DESIGN

From the theoretical model and research hypotheses discussed in previous chapter, the empirical research design is required to provide the evidence to support that model and examine the research hypotheses. In this chapter, the research design including empirical data and research methodology about how to test the research hypothesis are discussed in details.

4.1 Empirical Data

The data used in this research is mainly collected from Datastream on WorldScope database. The data is collected based on both firm level and country level according to the research hypotheses.

4.1.1 Firm-Level Analysis

For firm-level analysis, it is used to examine the first research hypothesis. The firm-level data is collected from two countries, which are United States and Thailand.

The firm value is measured by Tobin's Q (Yermack, 1996; Jiraporn Pornsit, Miller, Yoon and Kim, 2008), which is the ratio between the market value of a firm and the book value of a firm. In the other word, Tobin's Q is the market value of a firm scaled down by its book value. More of this ratio implies the firm can create more value added to its book value.

The accrual-based earnings management measurement is used in this research. The discretionary accruals are used as the measurement of earnings management in this study. First, the total accruals are calculated by

$$Accruals_i = (\Delta CA_i - \Delta Cash_i) - (\Delta CL_i - \Delta STD_i - \Delta TP_i) - DEP_i \quad (11)$$

Accrual or total accrual is computed from a change in non-cash current assets less a change in non-debt liabilities and deducted by depreciation expenses. Healy (1985) has proposed that this total accrual can be used as a proxy for earnings management level. The discretionary accruals are computed from the cross-sectional modified Jones model. Jones (1991) has introduced the way to measure discretionary accruals as the difference between expected accruals and actual accruals. Thereafter, total accrual is used to estimate the discretionary accrual based on the following regression.

$$\frac{Accrual_i}{Asset_{t-1}} = \beta_0 \frac{1}{Asset_{t-1}} + \beta_1 \frac{\Delta REV_t - \Delta REC_t}{Asset_{t-1}} + \beta_2 \frac{PPE_t}{Asset_{t-1}} + \varepsilon_{it} \quad (12)$$

From the above equation, Asset is total assets, REV is total revenue, REC is the receivables and PPE is property, plant, and equipment. Accrual is computed based on equation 11. The regression based on equation 12 is estimated based on cross-section basis for each industry to minimize the effect of time-series variation in accounting data (DeFond and Jiambalvo, 1994). The residuals from the above regression are used as discretionary accruals.

Therefore, there are two measurements of earnings management used in the firm level analysis. The first measurement is the absolute total accruals (ATA) scaled down by operating cash flow (Leuz et al., 2003) where the total accruals are based on Healy (1985). The second measurement is the absolute discretionary accruals (ADA) based on cross-sectional modified Jones model. The absolute form is used because it is only the magnitude, but not the sign, of these accruals that can measure the earnings management level.

The controlling factors that may affect the firm market value are capital structure, firm size, and firm growth. Capital structure is a factor that may affect firm value. Although there are a numerous arguments about the effect of capital structure to firm value, many theories support that the financing decisions can affect the value of firms. Those theories include agency theory (Jensen and Meckling, 1976), signaling theory (Ross, 1977), and trade-off theory (Bradley, Jarrell and Kim, 1984). The capital structure will be measured by the leverage or debt ratio, which is the ratio between total debt and total asset.

Firm size can also affect the firm value. Hirschey and Spencer (1992) have provided the evidence for the important of the size effect to market valuation of fundamental factors. The logarithm of total asset is used as the control variable for the size effect in the regression model.

Firm growth affects the market value of firm as the investors will include the growth rate into the stock value as in the constant-growth dividend discount model (Gordon, 1959). The firm growth rate is computed by the percentage change of firm total asset.

For United States, the data used in this research include all firms traded on the New York Stock Exchange (NYSE) or NASDAQ during 2002-2010. The accounting data is from the WorldScope Database. The Corporate Governance Score is provided by ASSET4, an affiliate of Thomson Reuters, that provides Environmental, Social, and Governance (ESG) data for worldwide firms. The firms whose information is not available in WorldScope or Asset4 were excluded from the analysis. Finally, there are 5,153 firm-year observations included in the analysis for the firm-level analysis of United States.

ASSET4's ESG score is composed of three pillars, which are Corporate Environmental Practice, Corporate Social Responsibility, and Corporate Governance. The score on corporate governance pillar is focused. Corporate governance score in ASSET4 has included Board Structure, Compensation Policy, Board Function, Vision & Strategies, and Shareholders Rights.

For Thailand, the data used in the research is collected from all firms listed in the Stock Exchange of Thailand during 2008-2011. The accounting data used in this study includes total asset, total equity, total debt, market value of equity or market capitalization, total revenue, property plant and equipment, total current assets, total current liabilities, cash and equivalent, short-term debts, and total depreciations. Firms in financial industries and firms with incomplete data are excluded from the analysis. Finally, there are 1,748 firm-year observations.

Corporate governance data in Thailand is provided by Thai Institute of Director (Thai IOD). Thai IOD has collected the data about the corporate governance of firms listed in the Stock Exchange of Thailand. Instead of reporting CG score, Thai IOD has reported the CG performance in term of a number of stars. The firms in the best group of corporate governance are classified as 5-star group. The following

group is reported as 4-star and 3-star respectively. None of firm is reported as 1-star or 2-star. However, there are some firms where data is reported as “Not Available”.

4.1.2 Country-Level Analysis

For the country-level analysis, the data are collected from 31 countries during the year 2002-2011, including only firms whose accounting data are available in WorldScope Database. There are finally 155,622 firm-year observations in this country-level analysis.

The firm value is measured by Tobin’s Q ratio. Tobin’s Q is the ratio between the market value of firm asset and the book value of firm asset. The country-level firm value is from the average of firm value in each country year-by-year during 2002-2011. The country-level earnings management is the average of earnings management measurement for all firms in each year. There are also two measurements of earnings management used in country-level analysis. The first earnings management is the absolute discretionary accruals (ADA). The second measurement is the absolute total accruals (ATA) scaled down by operating cash flow, which is one component of aggregate earnings management proposed by Leuz et al. (2003).

The same set of control variables as in firm-level analysis is used. Country-level debt ratio and growth is the average of debt ratio and growth rate in each country year-by-year during 2002-2011. The size effect is measured by the natural logarithm of country aggregate output or gross domestic product (GDP) in each year during 2002-2011.

Investor protection will be measured based on the outside investor rights, legal enforcement, and security law enforcement. Outside investor rights or minority shareholder rights are based on the anti-director rights index provided by La Porta et al. (1998).

The anti-director rights score is computed by adding one point if that country

- 1) has oppressed minority mechanism.
- 2) has pre-emptive rights that can be waived by shareholders’ vote only.
- 3) allows for mail proxy.

- 4) allows for cumulative voting.
- 5) does not allow firm to require shareholders to deposit their shares before general shareholders meeting.
- 6) has the minimum percentage of ownership to call for Extraordinary shareholders meeting less than or equal to ten percent.

Table 4.1 Anti-director Rights Score for Each Country

Country	Oppressed Minority	Pre-emptive	Mail Proxy	Cum. Voting	No Block	Extra-Meeting	Anti-Director
Australia	1	0	1	0	1	5%	4
Austria	0	1	0	0	0	5%	2
Belgium	0	0	0	0	0	20%	0
Canada	1	0	1	1	1	5%	5
Denmark	0	0	0	0	1	10%	2
Finland	0	1	0	0	1	10%	3
France	0	1	1	0	0	10%	3
Germany	0	0	0	0	0	5%	1
Greece	0	1	0	0	0	5%	2
Hong Kong	1	1	1	0	1	10%	5
India	1	1	0	1	1	10%	5
Indonesia	0	0	0	0	1	10%	2
Ireland	1	1	0	0	1	10%	4
Italy	0	1	0	0	0	20%	1
Japan	1	0	0	1	1	3%	4
Korea	1	0	0	0	0	5%	2
Malaysia	1	1	0	0	1	10%	4
Netherlands	0	1	0	0	0	10%	2
Norway	0	1	1	0	1	10%	4
Pakistan	1	1	0	1	1	10%	5
Philippines	1	0	0	1	1	No	3
Portugal	0	1	0	0	1	5%	3
Singapore	1	1	0	0	1	10%	4
South Africa	1	1	1	0	1	5%	5
Spain	1	1	0	1	0	5%	4
Sweden	0	1	0	0	1	10%	3

Table 4.1 (Continued)

Country	Oppressed Minority	Pre-emptive	Mail Proxy	Cum. Voting	No Block	Extra-Meeting	Anti-Director
Spain	1	1	0	1	0	5%	4
Sweden	0	1	0	0	1	10%	3
Switzerland	0	1	0	0	0	10%	2
Taiwan	1	0	0	1	0	3%	3
Thailand	0	0	0	1	1	20%	2
UK	1	1	1	0	1	10%	5
US	1	0	1	1	1	10%	5

Source: La Porta et al., 1998.

- Note:** 1) Oppressed Minority equals to one if that country grants shareholders either a judicial venue to challenge the decisions of management or the rights to step out by requiring the firm to purchase their shares when they object to the important fundamental change, and equals to zero otherwise.
- 2) Pre-emptive equals to one if that country's law grants shareholders pre-emptive rights that can be waived by only shareholders' vote, and equals to zero otherwise.
- 3) Mail Proxy equals to one if that country allows shareholders to use their rights in proxy voting my mail, and equals to zero otherwise.
- 4) Cum. Voting equals to one if that country's law allows shareholders to accumulate their voting rights for board of director election, and equals to zero otherwise.
- 5) No Block equals to one if that country's law does not allow firm to require shareholders to deposit their shares before the general shareholders meeting, and equals to zero otherwise.
- 6) Extra- Meeting specifies the minimum percentage of ownership required for shareholders to call for an Extraordinary shareholders' meeting.
- 7) Anti-Director is anti-director rights that represents minority shareholders rights.

From table 4.1, the score on anti-director rights ranges from zero to five. The low score means minority shareholders have lower rights against firm directors or controlling shareholders whereas higher score means minority shareholders' rights are protected well by law.

Legal enforcement is the measurement of how well the country's law is enforced, which is based on the efficiency of juridical system, an assessment of rule of law, and the corruption index. Table 4.2 reports the score on three dimension of legal enforcement based on La Porta et al. (1998). The legal enforcement is the mean score on efficiency of juridical system, rule of law, and corruption index (Leuz et al., 2003). The score on legal enforcement has ranged from zero to ten. Higher score on legal enforcement means the law can be enforced well and more effectively in that country.

Table 4.2 Legal Enforcement Score for Each Country

Country	Efficiency of Judicial System	Rule of Law	Corruption	Legal Enforcement
Australia	10.00	10.00	8.52	9.5
Austria	9.50	10.00	8.57	9.4
Belgium	9.50	10.00	8.82	9.4
Canada	9.25	10.00	10.00	9.8
Denmark	10.00	10.00	10.00	10.0
Finland	10.00	10.00	10.00	10.0
France	8.00	8.98	9.05	8.7
Germany	9.00	9.23	8.93	9.1
Greece	7.00	6.18	7.27	6.8
Hong Kong	10.00	8.22	8.52	8.9
India	8.00	4.17	4.58	5.6
Indonesia	2.50	3.98	2.15	2.9
Ireland	8.75	7.80	8.52	8.4
Italy	6.75	8.33	6.13	7.1
Japan	10.00	8.98	8.52	9.2
Korea	6.00	5.35	5.30	5.6
Malaysia	9.00	6.78	7.38	7.7
Netherlands	10.00	10.00	10.00	10.0
Norway	10.00	10.00	10.00	10.0

Table 4.2 (Continued)

Country	Efficiency of Judicial System	Rule of Law	Corruption	Legal Enforcement
Pakistan	5.00	3.03	2.98	3.7
Philippines	4.75	2.73	2.92	3.5
Portugal	5.50	8.68	7.38	7.2
Singapore	10.00	8.57	8.22	8.9
South Africa	6.00	4.42	8.92	6.4
Spain	6.25	7.80	7.38	7.1
Sweden	10.00	10.00	10.00	10.0
Switzerland	10.00	10.00	10.00	10.0
Taiwan	6.75	8.52	6.85	7.4
Thailand	3.25	6.25	5.18	4.9
UK	10.00	8.57	9.10	9.2
US	10.00	10.00	8.63	9.5

Source: La Porta et al., 1998.

- Note:** 1) Efficiency of Judicial System is the score based on the assessment of “efficiency and integrity of the legal environmental as it affects business, particularly foreign firms” produced by country-risk rating agency, Business International Corporation. Lower score means less efficiency in their legal system.
- 2) Rule of Law is the score based on the assessment of law and order tradition in the country, which is produced by country-risk rating agency, International Country Risk. Lower score means less tradition for law and order.
- 3) Corruption is the score based on the assessment of the corruption in government, which is produced by country-risk rating agency, International Country Risk. Lower score means higher level of corruption activities by government officers.
- 4) Legal Enforcement is the mean score on the above three dimensions.

Public enforcement of security law is based on La Porta et al. (2006). The index of public enforcement has included five dimensions, which are the characteristics of supervisor of security law, the power of supervisor to issue rules, the

investigation power of the supervisor of securities markets, the order index, and the criminal index.

Table 4.3 Public Enforcement of Securities Law

Country	Agency	Rule	Investigate	Order	Criminal	Public Enforcement
Australia	0.67	1.00	1.00	1.00	0.83	0.90
Austria	0.33	0.00	0.00	0.00	0.50	0.17
Belgium	0.00	0.00	0.25	0.00	0.50	0.15
Canada	0.67	0.50	1.00	1.00	0.83	0.80
Denmark	0.00	1.00	0.50	0.33	0.00	0.37
Finland	0.67	0.00	0.25	0.17	0.50	0.32
France	1.00	0.50	1.00	1.00	0.33	0.77
Germany	0.33	0.00	0.25	0.00	0.50	0.22
Greece	0.67	0.00	0.25	0.17	0.50	0.32
Hong Kong	0.33	1.00	1.00	1.00	1.00	0.87
India	0.33	0.50	1.00	0.67	0.83	0.67
Indonesia	0.33	1.00	1.00	0.25	0.50	0.62
Ireland	0.00	1.00	0.00	0.00	0.83	0.37
Italy	0.67	1.00	0.25	0.00	0.50	0.48
Japan	0.00	0.00	0.00	0.00	0.00	0.00
Korea	0.33	0.00	0.50	0.08	0.33	0.25
Malaysia	0.33	0.50	1.00	1.00	1.00	0.77
Netherlands	0.33	1.00	0.50	0.00	0.50	0.47
Norway	0.00	0.00	0.25	0.33	1.00	0.32
Pakistan	0.67	1.00	1.00	0.17	0.08	0.58
Philippines	0.67	1.00	1.00	1.00	0.50	0.83
Portugal	0.67	1.00	1.00	0.25	0.00	0.58
Singapore	0.33	1.00	1.00	1.00	1.00	0.87
South Africa	0.33	0.00	0.50	0.00	0.42	0.25
Spain	0.67	0.00	0.50	0.00	0.50	0.33
Sweden	0.00	1.00	0.25	0.67	0.58	0.50
Switzerland	0.33	1.00	0.00	0.00	0.33	0.33

Table 4.3 (Continued)

Country	Agency	Rule	Investigate	Order	Criminal	Public Enforcement
Taiwan	0.33	1.00	0.25	0.17	0.83	0.52
Thailand	0.67	1.00	1.00	0.33	0.58	0.72
UK	0.00	1.00	1.00	1.00	0.42	0.68
US	1.00	1.00	1.00	1.00	0.50	0.90

Source: La Porta et al., 2006.

Note: 1) Agency represents how the supervisors of securities market are characterized including how the members of supervisors is selected and the power to dismiss by appointing authority

2) Rule represents the level of supervisor power to issue regulations about securities. This power also depends on whether the prior government approval is required.

3) Investigate represents the power of supervisor to investigate the case when the securities law is violated.

4) Order represents the power of supervisor to order securities issuers, distributors, or accountants to stop or do specific activities.

5) Criminal represents the criminal sanction of securities issuers, distributors, or accountants when some important information is omitted from disclosure.

6) Public Enforcement is the overall public enforcement of securities law, which is computed from the average score of five dimensions.

Table 4.3 reports the score on each dimension of public enforcement of securities law based on La Porta et al. (2006). The score on public enforcement is the average score on five dimensions and ranges from zero to one. Higher score means that country can enforce its securities law more effectively.

In order to combine the effect of investor protection, the aggregate investor protection score is created based on the above three dimensions, which are minority shareholders rights, legal enforcement, and public enforcement of security law. However, these three measurements are based on different scale. Shareholders rights score ranges from zero to five. Legal enforcement score ranges from zero to ten. Public enforcement of securities law ranges from zero to one. Therefore, the score in

each measurement is adjusted into the same scale, which ranges from zero to ten. Then, the mean of the re-scaled score is computed and used as aggregate investor protection score.

4.2 Research Methodology

In this section, the statistical method used to test the research hypothesis is discussed in detail. The main statistical technique in this research is the multiple linear regression models. In order to test the different in the effect of earnings management on firm value for various level of corporate governance or investor protection, the regression analysis with the interaction term is used. The first research hypothesis regarding to the effect of corporate governance is examined based on firm-level analysis. This is because the corporate governance can be measured as a firm-level variable. Each firm has different corporate governance practice. The second research hypothesis about the effect of investor protection is examined based on country-level analysis. The investor protection is about law and legal system and could be measured as a country-level analysis.

4.2.1 Firm-Level Analysis

For firm-level analysis, it is used to examine the first research hypothesis about the effect of corporate governance. Due to the availability of firm-level CG data, this hypothesis can be examined based on firm-level basis.

The effect of earnings management to firm value is examined based on the following regression model.

$$FV_i = \beta_0 + \beta_1 EM_{it} + \sum_{j=1}^m \gamma_j CONTROL_{it} + \varepsilon_{it}$$

$$FV_i = \beta_0 + \beta_1 EM_{it} + \gamma_1 DR_{it} + \gamma_2 SIZE_{it} + \gamma_3 GROWTH_{it} + \varepsilon_{it} \quad (13)$$

where FV is the value of the firm i at time t , which is measured by Tobin's Q ratio or the ratio between the market value of the firm and its book value. EM is the earnings management measurement, which is measured by the absolute total accruals and the

absolute discretionary accruals. *CONTROL* is a set of control variables that can affect to the firm value, which are *DR*, *SIZE* and *GROWTH*. *DR* is the firm's debt ratio representing the leverage or capital structure of the firm. *SIZE* is the firm size measured by the natural logarithm of firm's total assets. *GROWTH* is the firm's growth rate of total assets.

In order to examine the effect of corporate governance in the relationship between earnings management and firm value, corporate governance score is included in the above equation as the interaction effect as follows.

$$FV_i = \beta_0 + \beta_1 EM_{it} + \beta_2 EM_{it} \times CG_{it} + \sum_{j=1}^m \gamma_j CONTROL_{it} + \varepsilon_{it} \quad (14)$$

CG is the Corporate Governance Score. The interaction effect between earnings management and corporate governance is expected to be positive. If, the coefficient of interaction term (β_2) is significantly positive, it means that the effect of earnings management on firm value for the firms with a higher CG score is less negative (or even become positive) than for firms with a lower CG score.

In general, investors may not concern about the level of firm's corporate governance as a continuous measurement like CG score. They may perceive firms in terms of a group based on firms' corporate governance performance like good governance or poor governance firms. Moreover, in some countries like Thailand, the CG data is not widely available in the numerical score but in the categorical data instead. Therefore, another way to examine the effect of CG on the relationship between firm value and earnings management is to categorize all firms based on the CG score in United States. Each firm is classified into two groups based on the median. Firms having a CG score above the median are named high-CG or good-governance firms, whereas firms with a CG score lower than median are classified as low-CG or poor-governance firms.

$$FV_i = \beta_0 + \beta_1 EM_{it} + \beta_2 EM_{it} \times DHIGH_{it} + \sum_{j=1}^m \gamma_j CONTROL_{it} + \varepsilon_{it} \quad (15)$$

DHIGH is the dummy variable that equals one if that firm has a CG score above the median in that fiscal year or zero otherwise. The coefficient of the interaction term (β_2) can be interpreted as the difference between high-CG firms (CG score higher than median) and low-CG firms (CG score lower than median) in the relationship between their firm value and earnings management. This coefficient is expected to be positive to show that the effect of earnings management is less negative (or even positive) for high-CG firms.

In Thailand, corporate governance data is provided by Thai IOD in form of categorical data known as CG-star. In each year, firms are classified as 5-star, 4-star, or 3-star by Thai IOD based on their criteria to score firms' corporate governance practice. Firms without CG-star are classified as another separate group and are used as base group. To examine the role of corporate governance on the effect of earnings management, the regression model with interaction techniques is used as follow.

$$FV_i = \beta_0 + \beta_1 EM_{it} + \sum_{j=1}^m \delta_j D_{ji} \times EM_{it} + \sum_{j=1}^m \gamma_j CONTROL_{it} + \varepsilon_{it} \quad (16)$$

From equation 16, the coefficient β_1 will represent the effect of earnings management for firms without CG-star. D_j is the dummy variable that equals to one if that firm is in j -star group. There are only three star groups, which are five-star, four-star, and three-star. Therefore, δ_j will represent the differential effect of earnings managements between firms without star and firms in j -star group. If corporate governance can act as the effective controlling mechanism to restrict opportunistic earnings management, the coefficient δ_j should be positive and statistically significant at convention level. This means the relationship between earnings management and firm value is more positive (or less negative) for firms in higher CG-star than those firms without CG-star.

Beside the regression analysis for the main analysis discussed earlier, some other supplement analyses are included in order to ensure the robustness of the result. First, the presence of heteroskedasticity can alter the result of hypothesis test of significance discussed earlier. Heteroskedasticity can result in overestimating or underestimating of the standard error of regression. Therefore, the robust standard

error is used instead of the normal one to mitigate the impact of the heteroskedasticity presence in the regression analysis.

Another robustness check is to use the Fama-MacBeth regression technique. The data used in this report is collected from many firms in different years. This combination of data creates a panel of data and another possible problem known as cross-sectional correlation can arise.

The last robustness check is about the measurement of earnings management. The popular measurement of accrual-based earnings management is the discretionary accruals based on modified Jones model. However, other measurements like total accruals are also used in order to see the robustness of the reported results.

4.2.2 Country-Level Analysis

For the country-level analysis, it is used to examine the second research hypothesis about the effect of investor protection. Investor protection is based on country's law and legal enforcement and available based on country-level. The same statistical method that is the multiple regression models with interaction effect is used on the country-level data. The regression model is as follows.

$$FV_i = \beta_0 + \beta_1 EM_{it} + \beta_2 EM_{it} \times IP_{it} + \sum_{j=1}^m \gamma_j CONTROL_{it} + \varepsilon_{it} \quad (17)$$

FV is the country-average firm value of country i at time t , which is measured by Tobin's Q ratio or the ratio between the market value of the firm and its book value. EM is country-average earnings management measurement. The earnings management is measured by the absolute discretionary accruals and the absolute total accruals for each country independently. The country-average is computed from the mean level of that variable for each country and each year. $CONTROL$ is a set of control variables, which are country-average debt ratio and country-average growth rate of assets, the natural logarithm of total stock market capitalization of the country.

IP is the measurement of investor protection. This includes the minority shareholders rights, legal enforcement, and public enforcement of securities law. Minority shareholders rights are based on the anti-director rights, which are supported

or included in the country's code of law. Legal enforcement represents the effectiveness of legal system in that country. Public enforcement is based on the power of supervisor to enforce the securities law.

The coefficient of the interaction term between earnings management and investor protection is expected to be positive. It will support the role of investor protection towards the relationship between earnings management and firm value. For the country with better investor protection, the relationship between earnings management and firm value is relatively more positive than the country with lower investor protection level.

In the similar way, investors may perceive the countries in terms of good or poor investor protection rather their numerical score. Therefore, each country is classified into two groups based on the median. A country having an investor protection index above the median are named high-IP country, whereas a country with an investor protection index lower than median is classified as low-IP country.

$$FV_i = \beta_0 + \beta_1 IP_{it} + \beta_2 IP_{it} \times DHIGH_{it} + \sum_{j=1}^m \gamma_j CONTROL_{it} + \varepsilon_{it} \quad (18)$$

DHIGH is the dummy variable that equals one if that country has an investor protection index above the median or zero otherwise. The coefficient of the interaction term (β_2) can be interpreted as the difference between high-IP countries and low-IP countries in the relationship between their firm value and earnings management. This coefficient is expected to be positive to show that the effect of earnings management is more positive for high-IP countries.

CHAPTER 5

ANALYSIS AND RESULTS

This section includes the empirical results provided based on the research design discusses in the previous chapter. First, the descriptive statistics are reported in order to summarize the overview of empirical data. The descriptive data for United States and Thailand are reported. These data are later used in the firm-level analysis to examine the impact of corporate governance (CG) on the relation between earnings management and firm value. In United States, CG data is available in form of continuous CG score. CG data in Thailand is available in form of categorical data, which is called CG-star group. Thereafter, the country-level descriptive data is reported for 31 countries, which is used in the country-level analysis. The summary of investor protection level for each country is also reported. In the second part, the inferential statistics are reported in order to draw the conclusion regarding to the research hypotheses.

5.1 Descriptive Statistics

5.1.1 Firm-level Analysis for United States

The data used in this research include all firms traded on the New York Stock Exchange (NYSE) or NASDAQ during 2002-2010. The accounting data were from the WorldScope Database. The firms whose information as not available in WorldScope or Asset4 were excluded from the analysis. There were 5,153 firm-year observations included in the analysis. The descriptive data of sample firms in United States during 2002-2010 is reported in table 5.1.

Table 5.1 Descriptive Statistics of Sample Firms in United States

Year	Tobin Q	Earnings Management	Debt Ratio	Asset Growth (%)
2002	2.0103	1.8145	0.5865	12.7783
2003	2.2452	1.2301	0.5793	15.3588
2004	2.3249	0.8201	0.5801	16.0270
2005	2.2649	0.9714	0.5730	16.9119
2006	2.1804	0.8518	0.5954	17.4062
2007	2.1372	1.3431	0.6040	20.9936
2008	1.4783	2.5777	0.6288	9.0601
2009	1.7590	1.0765	0.5887	8.6067
2010	1.9426	1.6249	0.5837	12.6520
Overall	1.9718	1.4189	0.5933	13.6944

The ratio between market value and book value of firm assets or Tobin Q was around 2 times during the analysis period. This market value ratio was lowest in 2008 as a result of the credit crunch from the sub-prime crisis. The earnings management measures, which are the accounting accruals scaled down by operating cash flow, varied. It is interesting that this figure was highest during 2008, which was the period when the U.S. economy most suffered from the crisis. Moreover, U.S. firms, in average, use debt at around 60% of their total assets. The average annual growth rate of their assets is 13.69%. Before 2008, the growth rates increased year-by-year and have drop dramatically to lower than 10% during 2008-2009, which is the period of sub-prime economics crisis in United States.

Table 5.2 summarizes the corporate governance performance of firms in United States. Overall CG Score is a part of ASSET4's Environmental, Social, and Environmental (ESG) score. ASSET4's CG overall CG score consists of Board Structure, Compensation Policy, Board Function, Vision & Strategies, and Shareholders Rights. Moreover, the score on Shareholders Rights is reported in a separated column.

Table 5.2 Summary of ASSET4's Corporate Governance Score in United States

Year	Overall CG Score		Only Shareholders Rights Score	
	Mean	Median	Mean	Median
2002	68.48	75.17	56.80	58.63
2003	68.67	74.79	57.07	57.79
2004	73.50	77.33	58.59	58.53
2005	74.49	77.86	58.90	58.82
2006	75.93	78.90	60.00	60.57
2007	75.18	77.88	59.84	61.03
2008	74.98	78.04	59.17	60.12
2009	71.41	74.77	57.33	58.23
2010	74.64	76.76	59.18	59.64
Overall	73.57	77.14	58.70	59.40

From table 5.2, the overall mean of CG score is 73.57 whereas the median is around 77.14 from the total score of 100. This implies that the data for ASSET4's CG score is negatively skewed. In another word, there are some firms having extremely low score in their CG performance. The negative skewness of CG score is consistent every year as it can be noticed that the median is always higher than the mean in each year. Shareholders rights is one component of ASSET4's overall CG score. Other components are board structure, compensation policy, board function, and vision & strategies. The mean score on shareholders rights component is at 58.70 whereas the median is around 59.40 from the total score of 100. This can imply that the score on shareholders rights is relatively normal. The mean and median score on shareholders rights component are also relatively equal every year during the period of analysis.

5.1.2 Firm-level Analysis for Thailand

The data for firm-level analysis in Thailand is collected from all firms listed in the Stock Exchange of Thailand during 2008-2011. Firms in financial industries and firms with incomplete data are excluded from the analysis. Finally, there are 1,748

firm-year observations. The descriptive data of sample firms in Thailand during 2008-2011 is reported in table 5.3.

The average debt ratio is around 0.44 for sample firms. The growth rate of asset is lowest at around 4% in 2009 and highest in 2011 at 21.4%. The average growth rate during the analysis period is 12.2%. The firm size measured by average total assets has increased from 12,479 million Baht in 2008 to 17,370 million Baht in 2011.

Table 5.3 Descriptive Statistics of Sample Firms in Thailand

Year	Number of Firms	Debt Ratio	Growth Rate (%)	Total Asset (Million Baht)
2008	432	0.4409	8.276	12,479.58
2009	432	0.4336	4.020	13,458.94
2010	440	0.4352	14.768	14,606.07
2011	444	0.4507	21.411	17,370.70
Overall	1,748	0.4401	12.195	14,499.26

For corporate governance data, Thai Institute of Director (Thai IOD) has collected the data about the corporate governance of firms listed in the Stock Exchange of Thailand. Instead of reporting CG score, Thai IOD has reported the CG performance in term of a number of stars. The firms in the best group of corporate governance are classified as 5-star group. Therefore, the descriptive data of sample firms in Thailand classified by CG-star group is reported in table 5.4

Table 5.4 reports the descriptive data for sample firms in Thailand classified based on CG-star. Thai IOD will report only firms getting 3-star, 4-star, or 5-star. There is no firm reported by Thai IOD as 1-star or 2-star. Therefore, No-star firms are those who got star lower than 3-star.

From the total of 1,748 firm-year observation, 796 firm-year observations are reported as No-star by Thai IOD. This group represents around 45% of total observations. The firms in no-star group are much smaller, in term of total assets, than

firms with CG-star. Among CG-star firms, firms in 5-star group are much larger than firms in other groups. 5-star firms have average asset size of 85,731 million Baht. The firms in 4-star group have an average asset size of 19,738 million Baht whereas firms in 3-star group have an average asset size of only 5,915 million Baht. In overall, firms in sample group have an average asset size around 14,499 Million Baht. Only 129 firm-year observations are reported as 5-star, which represents around only 7% of total observations.

Table 5.4 Descriptive Statistics of Sample Firms in Thailand based on CG-star

CG-star Group	Number of Firms	Debt Ratio	Growth Rate (%)	Total Asset (Million Baht)
No Star	796	0.4658	15.832	4,606.01
3 Stars	407	0.3818	7.107	5,915.79
4 Stars	416	0.4332	10.970	19,738.40
5 Stars	129	0.4884	9.756	85,731.94
Overall	1,748	0.4401	12.195	14,499.26

5.1.3 Country-level Analysis

The data for country-level analysis are collected from 31 countries during 2002-2011. Only firms with accounting data in WorldScope Database are included in this analysis. Firms from financial industries or incomplete data are excluded. There are finally 155,622 firm-year observations from 31 countries are used in the analysis. The descriptive data of sample firms during 2002-2011 is reported based on their countries in table 5.5.

Table 5.5 Descriptive Statistics of Sample Firms in 31 Countries

Country	No. of Observation	Debt Ratio (%)	Growth (%)	Tobin's Q
Australia	6,737	38.09	5.67	1.421
Austria	490	53.89	4.38	1.184
Belgium	806	59.24	3.35	1.157
Canada	8,567	42.18	6.46	1.428
Denmark	928	51.81	3.47	1.181
Finland	1,031	54.69	2.26	1.351
France	4,892	59.09	4.38	1.209
Germany	5,546	56.32	2.64	1.203
Greece	2,036	56.63	3.03	0.959
Hong Kong	8,362	37.29	10.61	1.065
India	11,680	58.85	14.16	1.077
Indonesia	2,650	50.79	7.34	1.056
Ireland	293	56.30	3.96	1.337
Italy	1,705	63.40	2.57	1.120
Japan	29,051	51.30	0.82	0.963
Malaysia	6,726	38.47	4.14	0.900
Netherlands	844	55.56	4.03	1.323
Norway	1,203	57.19	5.33	1.220
Pakistan	1,548	62.28	10.36	1.036
Philippines	1,431	39.05	3.74	1.009
Portugal	388	70.83	2.28	1.087
Singapore	4,857	42.72	6.50	1.017
South Africa	2,052	48.60	9.98	1.263
Korea	10,694	45.28	8.85	0.929
Spain	928	60.62	4.93	1.218
Sweden	2,658	48.50	4.90	1.473
Switzerland	1,549	49.07	1.57	1.268
Taiwan	12,542	42.49	5.86	1.125
Thailand	3,578	43.34	5.31	1.050
United Kingdom	8,347	48.71	6.04	1.389
United States	11,503	56.58	5.69	1.436

From table 5.5, the average leverage ratio or debt ratio varies from around 40%-70% with the overall average at 51.58%. The country with lowest debt ratio is Hong Kong with the average debt ratio of 37.29%. The country with highest debt ratio is Portugal with the average debt ratio at 70.83%. Looking at the average growth rate, the overall average growth rate is around 5.31% during the period of analysis. The country with highest firm average growth rate is India whereas the country with lowest firm average growth is Japan. Firms in Japan have the average growth rate of only 0.82% during the period of analysis. Meanwhile, firms in India have the average growth rate at 14.16% during the same period. The countries with high growth rate of firms are mostly in emerging economies like Indonesia, Pakistan, South Korea, Hong Kong, South Africa, and India. In average, firms in the above six countries have the average annual growth rate more than 7% per year.

For Tobin's Q ratio or the ratio between market value of firms and book value of firms, it ranges from 0.900 to 1.473. The overall average Tobin's Q ratio is around 1.175. The country with lowest Tobin's Q ratio is Malaysia with the average value of only 0.900. The country with highest Tobin's Q ratio is Sweden with the average value of 1.473. Furthermore, the country's investor protection performance is reported in table 5.6 based on La Porta et al. (1998), Leuz et al. (2003), and La porta et al. (2006).

Table 5.6 Investor Protection Score for 31 Countries

Country	Shareholders Rights	Legal Enforcement	Public Enforcement	Overall IP Score
Australia	4.00	9.50	0.90	8.83
Austria	2.00	9.40	0.17	5.02
Belgium	0.00	9.40	0.15	3.63
Canada	5.00	9.80	0.80	9.27
Denmark	2.00	10.00	0.37	5.89
Finland	3.00	10.00	0.32	6.39
France	3.00	8.70	0.77	7.46
Germany	1.00	9.10	0.22	4.42

Table 5.6 (Continued)

Country	Shareholders Rights	Legal Enforcement	Public Enforcement	Overall IP Score
Greece	2.00	6.80	0.32	4.66
Hong Kong	5.00	8.90	0.87	9.19
India	5.00	5.60	0.67	7.42
Indonesia	2.00	2.90	0.62	4.36
Ireland	4.00	8.40	0.37	6.69
Italy	1.00	7.10	0.48	4.64
Japan	4.00	9.20	0.00	5.73
Malaysia	4.00	7.70	0.77	7.79
Netherlands	2.00	10.00	0.47	6.22
Norway	4.00	10.00	0.32	7.06
Pakistan	5.00	3.70	0.58	6.51
Philippines	3.00	3.50	0.83	5.94
Portugal	3.00	7.20	0.58	6.34
Singapore	4.00	8.90	0.87	8.52
South Africa	5.00	6.40	0.25	6.30
Korea	2.00	5.60	0.25	4.03
Spain	4.00	7.10	0.33	6.14
Sweden	3.00	10.00	0.50	7.00
Switzerland	2.00	10.00	0.33	5.78
Taiwan	3.00	7.40	0.52	6.19
Thailand	2.00	4.90	0.72	5.36
United Kingdom	5.00	9.20	0.68	8.68
United States	5.00	9.50	0.90	9.50

Source: La Porta et al., 1998, 2006; Leuz et al., 2003.

From table 5.6, the shareholders right score is based on anti-director rights. The country having the legal to support the minority shareholders rights against controlling shareholders will get one score for each provision as reported by La Porta et al.

(1998). The score on shareholders rights ranges from zero to five. The countries with highest score on shareholders rights with the score of 5.00 are Canada, Hong Kong, India, Pakistan, South Africa, United Kingdom, and United States. All of these countries also have common law system and their legal origin is from English Law system.

For legal enforcement, the score reflects how effective the legal system can be enforced in that country. The score ranges from zero to ten. There are six countries getting the score of 10.00, which are Denmark, Finland, Netherlands, Norway, Sweden, and Switzerland. Most of these countries have the civil law or code law system with the legal origin from Scandinavian Law system. The countries with low score in legal enforcement are countries from emerging countries like Indonesia, Pakistan, Philippines, and Thailand. These countries have the score on legal enforcement less than 5.00.

The public enforcement is about the power of supervisory authorities of securities market in that country to enforce and investigate the cases. The score ranges from zero to one. Countries with highest score of 0.90 are United States and Australia. Hong Kong and Singapore have the second highest score of 0.87. The country with lowest score is Japan.

The overall investor protection score is from the average of these three investor protection components, which are shareholders rights, legal enforcement, and public enforcement. However, the score on each component is re-scaled to the same scale from zero to ten before the average score is computed. The countries with highest score on overall investor protection are United States, Canada, and Hong Kong with the overall score of 9.50, 9.27, and 9.19 respectively.

5.2 Inferential Statistics

This section reports the result of inferential statistics used in examine the research hypotheses discussed in the previous chapter. The main technique used in this research in the multiple linear regression analysis with interaction effect. The first research hypothesis about corporate governance is examined based on firm-level analysis. The data in firm-level analysis is from United States and Thailand. The second research hypothesis about investor protection is examined based on country-level analysis. The data in country-level analysis is from 30 countries around the world.

5.2.1 Firm-level Analysis for United States

In this firm-level analysis, the first research hypothesis “The relation between earnings management and firm value should be less negative (more positive) for the firm with higher level of corporate governance,” is analyzed. First, the effect of earnings management on firm value is examined. Earnings management is measured based on accrual-based earnings management. For United States sample, it is measured by the ratio between the absolute total accruals and operating cash flow. The relation between firm value and earnings management is reported in table 5.7.

Table 5.7 The Effect of Earnings Management on Firm Value in United States
(No Control Variable)

Variables	Coefficient	t-Statistics	Significance Level
Constant	1.9800	105.28	< 0.05
ATA	-0.0057	-3.64	< 0.05
F-statistics	13.27		
Significance Level	< 0.05		
Adjusted R ²	0.0024		

The effect of earning management and firm value is reported in table 5.7 without including any control variable. The coefficient of earnings management is negative and significant at 5% level. This means that the effect of earnings management on firm value, in general, is negative. This negative effect can be from investors’ bad perception about earnings management from several cases of accounting scandal. With this negative perception of investors about earnings management, the effect of earnings management to firm value is generally negative in United States.

However, in order to interpret the effect of earnings management on firm value correctly, a set of control variables is included in the regression model. These control variables are the debt ratio, the growth rate, and the firm size (measured by the natural logarithm of total asset).

Table 5.8 The Effect of Earnings Management on Firm Value in United States
(With Control Variables)

Variables	Coefficient	t-Statistics	Significance Level
Constant	6.7036	33.78	< 0.05
ATA	-0.0040	-2.74	< 0.05
Debt Ratio	-1.1306	-13.54	< 0.05
Size	-0.2550	-19.49	< 0.05
Growth	-0.0656	-2.05	< 0.05
F-statistics	217.43		
Significance Level	< 0.05		
Adjusted R ²	0.1439		

The result reported in table 5.8 after including a set of control is similar to the earlier result. The coefficient of earnings management is still negative and significant at 5% level. The adjusted R-squared of the model with control variables is quite improved from the model without control variables. The previous model without control variables has the adjusted R-squared of 0.0024 whereas the model with control variables has the adjusted R-squared of 0.1439. Moreover, all control variables are also statistically significant at 5% level.

Thereafter, the effect of corporate governance is included on the relation between firm value and earnings management. The interaction term between earnings management and corporate governance score is computed from the multiplication of earnings management variables and corporate governance score. This interaction term is included in the model and the result of regression analysis with interaction term is reported in table 5.9.

Table 5.9 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value in United States

Variables	Coefficient	t-Statistics	Significance Level
Constant	6.7079	33.15	< 0.05
ATA	-0.0258	-4.62	< 0.05
Debt Ratio	-1.1097	-13.29	< 0.05
Size	-0.2663	-19.86	< 0.05
Growth	-0.0294	-0.89	-
EM x CG	0.0312	4.05	< 0.05
CG	0.2154	2.05	< 0.05
F-statistics	178.14		
Significance Level	< 0.05		
Adjusted R ²	0.1467		

The result reported in table 5.9 has included the interaction term between earnings management and corporate governance score. All control variables, except the growth rate, are also significant at 5% level. The coefficient of the interaction term was positive and significant at 5% level. This supports the first research hypothesis that the relation between earnings management and firm value is less negative for the firm with higher level of corporate governance.

However, in general, investors may not concern about corporate governance as continuous measurement like CG score. They may think about corporate governance as a group such as high-CG group and low-CG group. Therefore, instead of using the continuous CG score to create the interaction term in the regression model, each firm will be classified into either a high-CG firm or a low-CG firm instead. In each year, firms with a CG score above the median are classified as high-CG and those with a CG score below the median are classified as low-CG. The effect of earnings management on firm value is reported separately between high-CG firms group and low-CG firms group in table 5.10.

Table 5.10 The Effect of Earnings Management on Firm Value for High-CG Firm and Low-CG Firms in United States

Variables	Low-CG Firms	High-CG Firms
Constant	7.4373	6.3110
ATA	-0.0074	-0.0009
Debt Ratio	-0.9583	-1.1634
Size	-0.3085	-0.2322
Growth	-0.2061	0.6365
Adjusted R ²	0.1527	0.1715

From table 5.10, the coefficient of earnings management is -0.0074 for low-CG firms group whereas it is only -0.0009 for high-CG firms group. Therefore, this result shows that the negative effect of earnings management on firm value is lower for high-CG firms and higher for low-CG firms. This means that investor will perceive earnings management less negative for high-CG firms. This perception arises from the role of corporate governance to restrain managerial opportunism. High-CG firms are less vulnerable to managerial opportunism and earnings management is perceived in a better way compared to low-CG firms, who are more vulnerable to managerial opportunism.

However, in order to examine the above difference, the regression analysis with interaction dummy term is employed. The dummy variable DHIGH is created. The value of DHIGH equals to one if those firms are in high-CG firms group or zero otherwise. The interaction term between earnings management and corporate governance is created from the multiplication of earnings management variable and the dummy variable representing high-CG firms. The result of the effect of corporate governance using the dummy variable is reported in table 5.11.

Table 5.11 reports the results of the regression with the interaction term between earnings management and dummy for high-CG. The overall model is significant at 5% level. The adjusted R-squared is 0.1450, which is similar to previous regression model with interaction term. The result is consistent with the results reported earlier. The coefficient of earnings management was negative

whereas the coefficient of interaction term was positive and statistically significant at 5% level. This means that the negative effect of earnings management was lower for firms in the high-CG group.

Table 5.11 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value using Dummy Variable in United States

Variables	Coefficient	t-Statistics	Significance Level
Constant	6.7269	33.89	< 0.05
ATA	-0.0087	-3.93	< 0.05
Debt Ratio	-1.1270	-13.51	< 0.05
Size	-0.2566	-19.60	< 0.05
Growth	-0.0574	-1.78	< 0.10
ATA x DHIGH	0.0083	2.81	< 0.05
F-statistics	175.76		
Significance Level	< 0.05		
Adjusted R ²	0.1450		

In United States, the effect of earning managements is negative. However, the firms with higher CG score will have a less negative effect of earnings management compared to the firms with lower CG score. In other words, for firms with a higher CG score, earnings management will deteriorate the firm value less than those with a lower CG score. This is because low-CG firms are more vulnerable to managerial opportunism. It is more likely that earnings management in such firms is used for managerial private benefits like for their own compensation benefits. However, high-CG firms are less vulnerable to managerial opportunism. Managers in such firms may not use earnings management for their own benefits, which can be negative to firm value. It is more likely that managers from such firms use earnings management in positive way like to communicate information about future earnings or to reduce earnings volatility.

Protecting the rights of shareholders, especially minority shareholders, is one component of corporate governance. Regarding the ASSET4's CG score, it has

included many perspectives of corporate governance, such as board structure, compensation policy, board functions, management vision and strategy, as well as shareholders' rights. Therefore, the previous regression model is re-estimated by using the average score on the components related to shareholders' rights instead of overall CG score.

Table 5.12 The Effect of Shareholders' Rights on the Relation between Earnings Management and Firm Value in United States

Variables	Coefficient	t-Statistics	Significance Level
Constant	6.7836	34.09	< 0.05
ATA	-0.0268	-4.83	< 0.05
Debt Ratio	-1.1193	-13.42	< 0.05
Size	-0.2607	-19.85	< 0.05
Growth	-0.0333	-1.01	-
ATA x CG2	0.0326	4.25	< 0.05
F-statistics	217.43		
Significance Level	< 0.05		
Adjusted R ²	0.1439		

Table 5.13 The Effect of Shareholders' Rights on the Relation between Earnings Management and Firm Value using Dummy Variable in United States

Variables	Coefficient	t-Statistics	Significance Level
Constant	6.7269	33.89	< 0.05
ATA	-0.0087	-3.93	< 0.05
Debt Ratio	-1.1270	-13.51	< 0.05
Size	-0.2566	-19.60	< 0.05
Growth	-0.0574	-1.78	< 0.10
ATA x DHIGH2	0.0083	2.81	< 0.05
F-statistics	175.76		
Significance Level	< 0.05		
Adjusted R ²	0.1450		

Table 5.12 and Table 5.13 show the results of the analysis using the shareholders rights instead of using the overall CG score reported earlier. The score on shareholders rights was calculated by the average score on the components related to shareholders' rights. The results of the statistical tests using shareholders rights instead of the overall CS score were quite similar.

The higher score in shareholder rights implies that such firms tend to protect the rights of their shareholders. Therefore, such firms are less vulnerable to managerial opportunism and it is less likely to use earnings management in a negative way. In such firms, investors will perceive earnings management less negatively. Therefore, the effect of earnings management is less negative for firms with higher scores on shareholders rights.

One of the important problems in regression analysis is the presence of heteroskedasticity. Heteroskedasticity can result in underestimated or overestimated regression standard error and make the statistical test of significance become invalid. White's heteroskedasticity-consistent standard error or the robust standard error is used instead of normal OLS standard error to mitigate this problem. The previous regression model in table 5.9 is re-estimated by using the robust standard error. The result is reported in table 5.14.

Table 5.14 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value in United States using the Robust Standard Error

Variables	Coefficient	t-Statistics	Significance Level
Constant	6.7836	20.98	< 0.05
ATA	-0.0268	-2.85	< 0.05
Debt Ratio	-1.1193	-6.79	< 0.05
Size	-0.2607	-11.16	< 0.05
Growth	-0.0333	-0.37	-
ATA x CG	0.0326	2.95	< 0.05
F-statistics	178.14		
Significance Level	< 0.05		
Adjusted R ²	0.1467		

The result from table 5.14 is quite similar to the result reported earlier. When the robust standard error is used instead of normal OLS standard error in order to mitigate the effect from heteroskedasticity, the t-statistics for the interaction term is slightly lower to 2.95 from 4.25 in table 5.9. However, this coefficient for interaction term is still significantly positive at 5% level.

The data used in this analysis is collected from many firms in United States during 2002-2010. This panel data can be affected by cross-sectional correlation problem. The Fama-MacBeth regression technique is used to mitigate this problem. The standard error is computed based on Fama and MacBeth (1973) to correct for the possible cross-sectional correlation problem. The result is reported in table 5.15.

Table 5.15 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value in United States using Fama-MacBeth Regression

Variables	Coefficient	t-Statistics	Significance Level
Constant	7.5001	42.24	< 0.05
ATA	-0.1147	-3.25	< 0.05
Debt Ratio	-1.3396	-13.44	< 0.05
Size	-0.2942	-36.69	< 0.05
Growth	0.2076	4.76	< 0.05
ATA x CG	0.2133	10.79	< 0.05

The result from table 5.15 uses Fama-MacBeth regression technique instead of normal OLS regression. The result shows that the coefficient of the interaction term is still positive and statistically significant at 5% level. Other coefficients are also significant at convention level. Therefore, the result is still similar to the main result as the interaction term between earnings management and corporate governance on firm value is significantly positive. In another word, the effect of earnings management on firm value is more positive for firms with higher corporate governance performance.

Another robustness check is about the time-series variation of data. Based on the descriptive data in table 5.1, the firm value has significantly changed during 2008,

which is the period of sub-prime crisis in United States. This decreasing is not surprising but it can affect to the relation between firm value and earnings management. In order to control for this result, the set of dummy variables representing each year are included in the main regression model. The result is reported in table 5.16.

Table 5.16 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value in United States using Year Dummy Variables

Variables	Coefficient	t-Statistics	Significance Level
Constant	6.9656	35.35	< 0.05
ATA	-0.0268	-4.94	< 0.05
Debt Ratio	-1.0237	-12.56	< 0.05
Size	-0.2802	-21.73	< 0.05
Growth	-0.0681	-2.12	< 0.05
ATA x CG	0.0338	4.53	< 0.05
F-statistics	93.75		
Significance Level	< 0.05		
Adjusted R ²	0.1897		

Table 5.16 reports the result of regression analysis with year dummy variables. After including year dummy variables to mitigate the effect of time-series variation, the result shows that the coefficient of interaction term is still positive and significant at 5% level.

The last robustness check is about the measurement of earnings management. In the above result, earnings management is measured based on the ratio between total absolute accruals and operating cash flows as used by Leuz et al. (2003). Another popular measurement of earnings management is the absolute discretionary accruals. The discretionary accruals can be estimated based on cross-sectional modified Jones model. The procedure of estimating the discretionary accruals has already been discussed in the previous chapter. The result of regression analysis reported previously is re-estimated. The absolute discretionary accruals are use instead of the total absolutes accruals.

Table 5.17 The Effect of Absolute Discretionary Accruals on Firm Value in United States

Variables	Coefficient	t-Statistics	Significance Level
Constant	7.3643	35.27	< 0.05
ADA	-0.0024	-1.29	-
Debt Ratio	-1.0374	-12.20	< 0.05
Size	-0.3019	-21.73	< 0.05
Growth	0.2179	5.47	< 0.05
F-statistics	247.62		
Significance Level	< 0.05		
Adjusted R ²	0.1717		

Table 5.17 reports the result of regression model similar the main analysis. However, the absolute discretionary accruals are used to measure the level of earnings management. The effect of earnings management to firm value is still negative but it is not statistically significant. The result of regression with interaction term is reported in table 5.18

Table 5.18 The Effect of Corporate Governance on the Relation between Absolute Discretionary Accruals and Firm Value in United States

Variables	Coefficient	t-Statistics	Significance Level
Constant	7.3803	35.32	< 0.05
ADA	-0.0367	-1.80	< 0.10
Debt Ratio	-1.0339	-12.16	< 0.05
Size	-0.3028	-21.78	< 0.05
Growth	0.0398	5.46	-
ADA x CG	0.0434	1.69	< 0.10
F-statistics	198.61		
Significance Level	< 0.05		
Adjusted R ²	0.1719		

The result reported in table 5.18 has included the interaction term between earnings management and corporate governance score similar to the main analysis. However, the earnings management is measured by the absolute discretionary accruals. Compared to the results reported earlier, the significant level of interaction term in the model using the discretionary accruals is weaker than the model using total accruals. However, the coefficient of interaction term is positive and marginally significant at 10% level. This result can help to confirm the positive effect of corporate governance on the relation between earnings management and firm value. Moreover, the result of regression analysis that is reported in table 5.11 is also re-estimated using the discretionary accruals instead of total accruals. The result of this re-estimation is reported in table 5.19

Table 5.19 The Effect of Corporate Governance on the Relation between Absolute Discretionary Accruals and Firm Value using Dummy Variable in United States

Variables	Coefficient	t-Statistics	Significance Level
Constant	7.3771	35.33	< 0.05
ADA	-0.0106	-2.55	< 0.05
Debt Ratio	-1.0333	12.15	< 0.05
Size	-0.3026	-21.78	< 0.05
Growth	0.2176	5.46	< 0.10
ADA x DHIGH	0.0102	2.21	< 0.05
F-statistics	199.47		
Significance Level	< 0.05		
Adjusted R ²	0.1725		

The interaction term in table 5.18 is from the multiplication of the dummy variable representing high-CG firms and earnings management measured by the absolute discretionary accruals instead of absolute total accruals. The coefficient of earnings management is negative whereas the coefficient of this interaction term is

positive. Both of them are statistically significant at 5% level. This result can help to confirm the difference in the relation between earnings management and firm value between high-CG firms and low-CG firms. The effect of earnings management to firm value is more positive for high-CG firms compared to low-CG firms.

From all results reported earlier, it is clearly seen that corporate governance has an important impact to the relation between earnings management and firm value. Based on the empirical data from United States, the effect of earnings management on firm value is generally negative. However, this negative relation is affected by the corporate governance. The relation between earnings management and firm value is less negative for firms with higher corporate governance score. If all firms are broadly classified into high-CG firms and low-CG firms, the result is also similar. Low-CG firms or poorer-governance firms have faced the negative effect of earnings management and firm value. High-CG firms or better-governance firms also face the same negative effect of earnings management but this negative effect is significantly lower for high-CG firms.

These results provide the support to the first research hypothesis as the relation between earnings management and firm value is less negative for the firm with higher level of corporate governance. This evidence also supports the role of corporate governance to restrain managerial opportunism that leads to negative earnings management. The next section will provide the empirical result in another emerging market, which is Thailand. The corporate governance in Thailand is interesting because CG data in Thailand is provided in term of categorical data instead of continuous CG scores like in United States.

5.2.2 Firm-level Analysis for Thailand

This section will provide the empirical evidence on the firm-level analysis to examine the first research hypothesis “The relation between earnings management and firm value should be less negative (more positive) for the firm with higher level of corporate governance.” However, in stead of the evidence from well-developed market like United States, the further evidence on emerging market like Thailand is examined. The effect on corporate governance in Thailand is interesting because the corporate governance in Thailand is not available in continuous score like United States but in form of categorical data.

Thai Institute of Director (Thai IOD) provides the information about corporate governance of listed firms. This corporate governance performance is reported for each firm in term of CG-star. Firms in top category are given Five CG-stars. Then, other firms are given Four CG-stars and Three CG-stars according to their corporate governance practice respectively. However, no firm is reported to be in Two CG-stars or One CG-star. Those firms are reported as “Not Available” instead.

First the effect of CG performance on the level of earnings management is determined. Earnings Management is based on the absolute discretionary accruals. The level of earnings management for each CG-star group is reported in table 5.20

Table 5.20 The Level of Earnings Management on Each CG-star Group in Thailand

CG-Star	Mean	Standard Deviation	F-Statistics	Significance Level
No Star	0.0902	0.1408	4.82	< 0.05
Three Stars	0.0889	0.2856		
Four Stars	0.0657	0.0820		
Five Stars	0.0476	0.0619		

From table 5.20, the mean level of earnings management varies for each CG-star group. The earnings management is highest for firms with no CG-star and it is lowest for firms with five CG-star. The F-test is based on one-way ANOVA in order to examine the different in mean level among different CG-star groups. The test shows that there is different in mean level of earnings management for each CG-star group at 5% significant level. Therefore, it can be concluded that firms in different CG-star group have different level of earnings managements. Higher CG-star firms tend to have lower level of earnings management.

In order to test the first research hypothesis, the effect of earnings management of firm value can be examined separately based on their CG-star group. First, the effect of earnings management on firm value is examined. Earnings management is measured based on accrual-based earnings management. The absolute discretionary accruals are estimated based on cross sectional modified Jones model. The relation between firm value and earnings management is reported in table 5.21.

Table 5.21 The Effect of Earnings Management on Firm Value in Thailand
(No Control Variable)

Variables	Coefficient	t-Statistics	Significance Level
Constant	1.1680	53.47	< 0.05
ADA	0.3227	1.99	< 0.05
F-statistics	3.95		
Significance Level	< 0.05		
Adjusted R ²	0.0017		

Table 5.21 reports the effect of earnings management on firm value based on sample firms in Thailand. The coefficient of earnings management from the regression analysis without control variable is 0.3227. The test of the coefficient reveals that this coefficient is positive and statistically significant at 5% level. This result is opposite to the empirical results from United States reported earlier. Therefore, the same set of control variables is included in the regression analysis and is reported in table 5.22.

Table 5.22 The Effect of Earnings Management on Firm Value in Thailand
(With Control Variables)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.7435	4.25	< 0.05
ADA	0.3155	1.91	< 0.10
Debt Ratio	0.0940	1.35	-
Size	0.0252	2.16	< 0.05
Growth	0.0543	2.80	< 0.05
F-statistics	5.12		
Significance Level	< 0.05		
Adjusted R ²	0.0093		

Although the effect of leverage, size, and growth is controlled in the multiple regressions, the effect of earnings management on firm value in Thailand is still positive and significant at 10% level. Although the result is not similar to the previous result from United States, it is not surprising because some previous studies also report the positive effect of earnings management (Jiraporn Pornsit, Miller, Yoon and Kim, 2008). The possible explanations of positive effect of earnings management in Thailand is there is no obvious case of accounting scandals in Thailand, which is different from United States.

Moreover, the difference in the effect of earnings management between Thailand and United States can partially support the model discussed in Chapter 3. Due to there can be both positive and negative earnings management, the effect of earnings management on firm value can be positive (if the positive earnings management dominates the negative earnings management) or negative (if the negative earnings management dominates the positive earnings management).

Now let examine the impact of corporate governance on the effect of earnings management on firm value. The corporate governance measurement in Thailand is based on the CG-star reported by Thai IOD. Each listed firm is classified as 3-Star, 4-Star, 5-Star, or no-Star. The regression analysis to examine the effect of earnings management on firm value is conducted separately between firms with CG-star and firms without CG-star and the result is reported in table 5.23.

Table 5.23 The Effect of Earnings Management on Firm Value for Firms with and without CG-Star in Thailand

Variables	No CG-Star	CG-Star
Constant	1.944	0.0410
ADA	0.0770	0.8465
Debt Ratio	0.2133	-0.1959
Size	-0.0631	0.0772
Growth	0.0554	0.1193
Adjusted R ²	0.0260	0.0251

The result reported in table 5.23 shows the difference in the effect of earnings management on firm value. The coefficient of earnings management for firm with CG-star (including 3-Star, 4-Star, and 5-Star) is 0.8465 whereas the coefficient of earnings management for firms without CG-star (possible to be 2-Star and 1-Star firms) is much lower at 0.0770. This result can partially support the role of corporate governance on the effect of earnings management. The effect of earnings management on firm value is higher (more positive) for firms with better corporate governance performance than firms with poorer corporate governance performance.

However, in order to examine whether this difference in the effect of earnings management is statistically significant, the regression analysis with dummy interaction term is used. The dummy variable for CG-star is created whereas this dummy variable equals to one for firms with CG-star (3-Star, 4-Star, or 5-Star) or zero otherwise. The interaction term is the multiplication between CG-star dummy variable and earnings management measurement. This interaction term is added in the regression model reported in table 5.22. Therefore, the coefficient of earning management represents the effect of earnings management on firm value for firms without CG-star whereas the coefficient of interaction term represents the incremental or marginal effect of earnings management on firm value of firms with CG-star compared to firms without CG-star.

Table 5.24 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value using CG-Star Dummy Variable in Thailand

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.8180	4.58	< 0.05
ADA	0.1315	0.70	-
Debt Ratio	0.1029	1.48	-
Size	0.0196	1.63	-
Growth	0.0568	2.92	< 0.05
ADA x D345	0.5855	2.05	< 0.05
F-statistics	4.95		
Significance Level	< 0.05		
Adjusted R ²	0.0112		

Table 5.24 reports the result of regression analysis with interaction term between CG-star dummy variable and earnings management. The coefficient of earnings management (EM) represents the effect of earnings management on firm value for firms without CG-star. The result is as expected. Although the effect of earnings management is still positive, it is not statistically significant at any convention level. Compared to the result of regression analysis in table 5.22 that the effect of earnings management is significantly positive, this implies that the significantly positive effect of earnings management is from only firms with CG-star.

The coefficient of interaction term represents the difference in the effect of earnings management between firms with CG-star and firms without CG-star. This coefficient is positive and statistically significant at 5% level. This means the effect of earnings management is significantly higher (or more positive) for firms with CG-star compared to firms without CG-star.

Instead of combining the group of firms with CG-star, three dummy variables are created for each CG-star group. The dummy variable representing *i*-Star (D_i) is equal to one if firms are given *i* CG-stars or zero otherwise. Three interaction terms are created as the multiplication between the dummy variable for each CG-star and earnings managements. The result of regression analysis with three interaction terms is reported in table 5.25.

Table 5.25 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value using Each CG-Star Dummy Variable in Thailand

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.9636	5.33	< 0.05
ADA	0.1491	0.80	-
Debt Ratio	0.0949	1.37	-
Size	0.0091	0.75	-
Growth	0.0563	2.91	< 0.05
ADA x D3	-0.1950	-0.58	-
ADA x D4	1.6123	3.79	< 0.05
ADA x D5	2.5782	3.24	< 0.05
F-statistics	6.48		
Significance Level	< 0.05		
Adjusted R ²	0.0254		

From table 5.25, the coefficient of interaction term for 3-Star is not statistically significant at any convention level. However, the coefficient of interaction term for 4-star is 1.6123, which is positive and significant at 5% level. This means that the effect of earnings management for firms with four CG-stars is significantly higher (more positive) than firms without CG-star. The coefficient of interaction term for 5-star is 2.5782, which is also positive and statistically significant at 5% level. Therefore, the effect of earnings management is more positive for firms with five CG-stars than firms without CG-star.

The results reported earlier have revealed that the effect of earnings management on firm value is more positive for firms with CG-star than firms without CG-star. However, there is still no comparison of the effect of earnings management among firms with different CG-star. In order to examine this difference, the regression analysis to examine the effect of earnings management on firm value is conducted separately for firms in each CG-star group. The result of three regression models is reported in table 5.26.

Table 5.26 The Effect of Earnings Management on Firm Value for Firms in Different CG-Star Group in Thailand

Variables	Three CG-Star	Four CG-Star	Five CG-Star
Constant	1.3664	-0.3420	0.9126
ADA	0.6157	1.5434	1.5144
Debt Ratio	-0.1338	-0.4927	0.0633
Size	-0.0224	0.1130	0.0232
Growth	0.5568	-0.0377	-0.0787
Adjusted R ²	0.1527	0.1527	0.1715

From table 5.26, the coefficient of earnings management on firm value for firms with three CG-stars is 0.6157. This coefficient is lower compared to the coefficient of earnings management for firms with CG-star (3-Star, 4-Star, or 5-Star) reported in table 5.23 with the value of 0.8465 (that represents the average effect of earnings management for all firms with CG-star). The coefficient of earnings

management for firms with four CG-stars is 1.5434, which is much higher than the coefficient for firms with three CG-stars or the coefficient for all firms with CG-star. This means that the effect of earnings management is more positive for firm with four CG-stars compared to firms with only three CG-stars.

The coefficient of earnings management for firms with five CG-stars is 1.5144, which is slightly different from those with four CG-stars but it is much higher than those with three CG-stars. In order to examine whether this difference is statistically significant, the regression analysis with interaction term is employed. Two dummy variables are created, which are the dummy variable for 4-star and 5-star. The interaction terms that are the multiplication between each dummy variable and earnings management measurement are included in the regression model. The result is reported in table 5.27 and only firms with CG-star are included in this result.

Table 5.27 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value using CG-Star Dummy Variable in Thailand (Only Firms with CG-Star)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.2141	0.81	-
ADA	0.1896	0.56	-
Debt Ratio	-0.2191	-1.69	< 0.10
Size	0.0654	3.67	< 0.05
Growth	0.1065	1.33	-
ADA x D4	1.6515	3.30	< 0.05
ADA x D5	2.3956	2.80	< 0.05
F-statistics	7.30		
Significance Level	< 0.05		
Adjusted R ²	0.0383		

Because of only firms with CG-star are included in table 5.27, the coefficient of earnings management (EM) represents the effect of earnings management on firm value for firms with there CG-stars. The result shows that this coefficient is, even

positive, not statistically significant at any convention level. The coefficient of interaction term for 4-star represents the incremental or marginal effect of earnings management for firms with four CG-stars compared to firms with three CG-stars. This coefficient is 1.6515, which is positive and statistically significant at 5% level. The coefficient of interaction term for 5-star is 2.3956, which is also positive and significant at 5% level. This means the effect of earnings management is more positive for firms with four or five CG-stars compared to firms with only three CG-stars. This result only supports the research hypothesis about the impact of corporate governance on the effect of earnings management.

All results reported earlier in this section can be affected by the presence of heteroskedasticity. Heteroskedasticity is the violation of the regression assumption about equal variance. The presence of heteroskedasticity can make the estimation of standard error of regression incorrect and the result of hypothesis test of significance becomes invalid. To mitigate this problem, the robust standard error is used in the regression analysis instead of normal OLS standard error. The previous regression result reported in table 5.24 is re-estimated using robust standard error and the new result is reported in table 5.28

Table 5.28 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value in Thailand using the Robust Standard Error

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.8180	4.05	< 0.05
ADA	0.1315	0.73	-
Debt Ratio	0.1029	1.40	-
Size	0.0196	1.46	-
Growth	0.0568	1.81	< 0.10
ADA x D345	0.5855	1.70	< 0.10
F-statistics	3.45		
Significance Level	< 0.05		
Adjusted R ²	0.0112		

The result using the robust standard error reported in table 5.28 is quite similar to the main result using normal OLS regression. The coefficient of earnings management is still positive but not statistically significant at any convention level. The coefficient of interaction term is positive and significant at 10% level. This means that the effect of earnings management is more positive for firms with CG-stars than those without CG-star.

Another robustness check for the results in this section is to mitigate the possible effect of cross-sectional correlation problem. The Fama-MacBeth regression technique is employed in this case. The regression model reported in table 5.23 is re-estimated based on Fama-MacBeth regression technique and the result is reported in table 5.29.

Table 5.29 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value in Thailand using Fama-MacBeth Regression

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.8593	14.09	< 0.05
ADA	0.2287	2.99	< 0.05
Debt Ratio	0.0714	1.53	-
Size	0.0175	2.96	< 0.05
Growth	0.0313	2.74	< 0.10
ADA x D345	0.5396	2.72	< 0.10

The result from table 5.29 uses Fama-MacBeth regression technique instead of normal OLS regression. the reported result is qualitatively similar to the result reported earlier, especially the impact of corporate governance on the relation between earnings management and firm value. The coefficient of the interaction term is still positive and statistically significant at 10% level. Therefore, this result does support the impact of corporate governance to the effect of earnings management on firm value.

Table 5.30 The Effect of Corporate Governance on the Relation between Earnings Management and Firm Value in Thailand using Year Dummy Variables

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.9697	5.43	< 0.05
ADA	0.1559	0.85	-
Debt Ratio	0.1043	1.53	-
Size	0.0484	2.53	< 0.05
Growth	0.0172	1.46	-
ADA x D345	0.4697	1.68	< 0.10
F-statistics	4.95		
Significance Level	< 0.05		
Adjusted R ²	0.0112		

The result from table 5.30 includes year dummy variables in order to reduce the effect of time-series variation of the variable. The result is qualitatively similar to the result reported earlier. Although the coefficient of the interaction term is lower compared to the main result, it is still significant at convention level. Therefore, this result does support the impact of corporate governance to the effect of earnings management on firm value.

The last robustness check for this section is about the measurement of earnings management. In this section, the earnings management is measured based on accrual-based earnings management. The popular model to measure this accrual-based earnings management is known as modified Jones model. The modified Jones model use the multiple regression technique to predict the level of total accruals based on a set of variables like change in cash revenue (change in total revenue minus change in receivables) or property, plant, and equipments. The regression is estimated cross-sectionally for each year based on each industry. The predicted value from this regression model is normal accruals (non-discretionary accruals) and the residuals from this regression model can be treated as abnormal accruals or commonly known as discretionary accruals.

Beside the modified Jones model, there are other measurements of accrual-based earnings management. Some studies about earnings management use total accruals scaled down by last period total asset as the measurement of earnings management, which is commonly known as Healy model (1985). Some studies uses total accruals divided by total revenue or total operating cash flow instead of total asset.

Therefore, in order to examine the robustness of the results, the total accruals scaled down by operating cash flow (ATA) are used in the regression model instead of discretionary accruals to examine the effect of earnings management on firm value and the impact of corporate governance on that effect. The results are reported in table 5.31 and 5.32.

Table 5.31 The Effect of Total Accruals on Firm Value in Thailand

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.6861	3.77	< 0.05
ATA	0.5472	3.05	< 0.05
Debt Ratio	0.045	0.62	-
Size	0.0299	2.47	< 0.05
Growth	0.0542	2.69	< 0.05
F-statistics	6.13		
Significance Level	< 0.05		
Adjusted R ²	0.0123		

Table 5.31 reports the result of regression analysis that the total accruals are used to measure the level of earnings management (ATA) instead of discretionary accruals. The result of this regression analysis is qualitative similar to the previous result. The coefficient of earnings management is 0.5472, which is positive and statistically significant at 5% level.

Table 5.32 The Effect of Corporate Governance on the Relation between Total Accruals and Firm Value in United States

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.8321	4.46	< 0.05
ATA	0.2687	1.36	-
Debt Ratio	0.0673	0.92	-
Size	0.0185	1.46	-
Growth	0.0589	2.92	< 0.05
ATA x D345	0.9736	3.26	< 0.05
F-statistics	7.06		
Significance Level	< 0.05		
Adjusted R ²	0.0180		

Table 5.32 also reports the result of regression analysis with interaction term that the total accruals are used to measure the level of earnings management (ATA) instead of discretionary accruals. The result is also qualitative similar to the previous result. The coefficient of earnings management is 0.2687, which is positive but not statistically significant at any convention level. This means the effect of earnings management for firms without CG-star is not significantly positive like the effect of earnings management for all firms.

The coefficient of interaction term is 0.9736, which is positive and significant at 5% level. This result is quite similar to other results reported earlier in this section. This means the incremental effect of earnings management for firms with CG-star compared to firms without CG-star is significantly positive. In another word, the effect of earnings management on firm value is more positive for firms with CG-star (3-star, 4-star, or 5-star) compared to firms without CG-star (possibly 2-star or 1-star).

From all results reported earlier in this section, they clear show the impact of corporate governance to the relation between earnings management and firm value. Based on the empirical data from Thailand, the effect of earnings management on firm value is generally positive and this positive relation is affected by the corporate

governance. The relation between earnings management and firm value is more positive for firms with higher CG-star or higher corporate governance performance.

Based on CG-star in Thailand, all firms can be broadly classified into firms with CG-star (3-star, 4-star, or 5-star) and firms without CG-star (possibly 2-star or 1-star). Firms without CG-star can be looked as poor-governance firms and the earnings management does not have positive effect on firm value like in general.

However, firms with CG-star can be looked as good-governance firms and the effect of earnings management on firm value is significantly positive. Moreover, the positive effect of earnings management is more obvious for firms with four CG-stars or five CG-stars.

Together with the empirical results from United States, all results provide the support to the first research hypothesis. In United States, the general relation between earning management and firm value is negative. However, the relation between earnings management and firm value is less negative for firms with higher corporate governance performance. In Thailand, the general relation between earnings management and firm value is positive. Meanwhile the relation between earnings management and firm value is more positive for firms with higher corporate governance performance.

All of these evidences in firm-level analysis for both United States and Thailand can support the role of corporate governance to restrain the negative earnings management arises from managerial opportunism. The next section will report the results for country-level analysis using investor protection instead of firm-level corporate governance.

5.2.3 Country-level Analysis

In last section, the empirical evidences have supported that corporate governance can help to reduce the negative earnings management and make earnings management becomes more positive or less negative. This result can be explained by the role of corporate governance as the effective controlling mechanism to restrain managerial opportunism in earnings reporting.

In this section, the previous results are extended to another level of controlling mechanism, which is investor protection. Investor protection is about how investors are protected based on the existence and enforcement of legal system. If managerial

opportunism can be effectively restrained by corporate governance at the firm level, it should be restrained by investor protection based on the country level, too.

This section will provide the empirical evidence on the country-level analysis to examine the second research hypothesis “The relation between earnings management and firm value should be more positive (or less negatives) in the country with higher level of investor protection.”

Investor protection is measured based on the country level. There are three main measurement of investor protection, which are outside investor rights (shareholders right), legal enforcement, and public enforcement. Outside investor rights or shareholders rights are anti-director rights that can be used by minority shareholders based on La Porta et al. (1998). Legal enforcement is the measurement of how well the country law can be enforced. The measurement of legal enforcement is based on Leuz et al. (2003) and the data is provided by La Porta et al. (1998). Public enforcement is about the power of securities market supervisor to investigate the abuse case, which is based on La Porta et al. (2006).

All other variables need to be based on country-level measurement similar to the investor protection. Earnings management is measured by discretionary accruals based on modified Jones model. The modified Jones regression models are estimated for each year and industry. The residuals from the above regression models are discretionary accruals. In each year, the country-level earnings management is the average of absolute discretionary accruals for each country.

Table 5.33 The Effect of Earnings Management on Firm Value Based on International Evidence (No Control Variable)

Variables	Coefficient	t-Statistics	Significance Level
Constant	1.5705	50.32	< 0.05
ADA	0.3864	4.77	< 0.05
F-statistics	22.76		
Significance Level	< 0.05		
Adjusted R ²	0.0658		

Table 5.33 reports the effect of earnings management on firm value based on country-level analysis of 31 countries around the world. The coefficient of earnings management is 0.3864, which is significantly positive at 5% level. This means, in general, earnings management has the positive impact to firm value. Based on the theoretical model discussed in Chapter 3, there can be both positive and negative earnings management. It cannot be generally predicted for the sign of the earnings management effect on firm value. If the positive earnings management can dominate the negative earnings management, the effect of earnings management will be positive. However, if the negative earnings management dominates the positive one, the effect of earnings management turns into negative.

Therefore, the result from table 5.33 can imply that the positive earnings management generally dominates the negative earnings management based on the evidences from 31 countries around the world. Then, a set of country-level country variables are included in the regression analysis and the result is reported in table 5.34.

Table 5.34 The Effect of Earnings Management on Firm Value Based on International Evidence (With Control Variables)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.0605	0.27	-
ADA	0.3535	4.61	< 0.05
Debt Ratio	1.0427	4.35	< 0.05
Size	0.0344	4.92	< 0.05
Growth	0.0014	0.74	-
F-statistics	18.11		
Significance Level	< 0.05		
Adjusted R ²	0.1813		

After including a set of control variables, the effect of earnings management in table 5.34 is quite similar to the previous table. The coefficient of earnings management is slightly different from the previous model but it is still positive and

statistically significant at 5%. Moreover, including a set of control variables also help to improve the adjusted r-squared from 0.0658 to 0.1813.

Then, the effect of investor protection is included in the above regression model. The first investor protection is outside investor rights or shareholder rights (SR). The result of regression analysis with interaction term for legal enforcement is reported in table 5.35.

Table 5.35 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Shareholders Rights

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.1751	0.74	-
ADA	-0.0020	-0.01	-
Debt Ratio	1.0219	4.27	< 0.05
Size	0.0304	4.16	< 0.05
Growth	0.0012	0.62	-
ADA x SR	0.1109	1.78	< 0.10
F-statistics	15.23		
Significance Level	< 0.05		
Adjusted R ²	0.1872		

Table 5.35 reports the result of regression analysis with interaction term. This interaction term is created by the multiplication between earnings management and shareholder rights. The coefficient of interaction term is 0.1109, which is positive and significant at 10% level. This means that the level of outside investor rights or shareholders rights have the positive effect on the relation between earnings management and firm value. In another word, in the country that the law can protect shareholders right well, the effect of earnings management on firm value will be more positive.

The next investor protection measurement is legal enforcement (LE). Legal enforcement is the measurement of how well the country's law is enforced, which is

based on the efficiency of juridical system, an assessment of rule of law, and the corruption index. The result of regression analysis with interaction term for legal enforcement is reported in table 5.36.

Table 5.36 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Legal Enforcement

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.0103	0.04	-
ADA	0.6424	1.72	< 0.10
Debt Ratio	1.0265	4.26	< 0.05
Size	0.3643	4.88	< 0.05
Growth	0.0014	0.73	-
ADA x LE	-0.0332	-0.79	-
F-statistics	14.60		
Significance Level	< 0.05		
Adjusted R ²	0.1803		

Table 5.36 reports the result of regression analysis with interaction term, which is created by the multiplication between earnings management and legal enforcement. However, the coefficient of interaction term is not statistically significant at any convention level. This means that the level of legal enforcement does not have the effect on the relation between earnings management and firm value. The result does not support the second research hypothesis.

The last investor protection dimension is public enforcement (PE). The result of regression analysis with interaction term for legal enforcement is reported in table 5.37.

Table 5.37 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Public Enforcement

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.1165	0.74	-
ADA	0.1185	0.80	-
Debt Ratio	1.0151	4.24	< 0.05
Size	0.0328	4.69	< 0.05
Growth	0.0014	0.76	-
ADA x PE	0.3957	1.84	< 0.10
F-statistics	15.23		
Significance Level	< 0.05		
Adjusted R ²	0.1872		

Table 5.37 reports the result of regression analysis with interaction term, which is created by the multiplication between earnings management and public enforcement measurement. The coefficient of the interaction term is positive and significant at 10% level. This means that the level of public enforcement has the effect on the relation between earnings management and firm value. This result can support the second research hypothesis.

The impact of investor protection on the effect of earnings management is varied based on the way to measure investor protection. For anti-director rights or shareholder rights and public enforcement of securities law, the impact of investor protection is statistically significant whereas it is not significant for legal enforcement. The possible explanation to this result is shareholder rights and public enforcement of securities law is more related to investors. In the country that shareholders rights are protected well by law, the opportunistic behaviors could be discourage. The earnings management for such countries should be from positive purpose and perceived more positively by investors.

In addition, the public enforcement of securities law is about the power of investigation by securities market supervisor. Therefore, the high public enforcement level means the stronger investigation system. This could also discourage the

opportunistic behaviors because these activities could be more investigated and penalized in such countries. Therefore, the earnings management in such countries are more from positive purpose.

However, the impact of legal enforcement on the effect of earnings management is not statistically significant. Compared to shareholders rights and public enforcement, legal enforcement is not measured specifically to the cases about securities market but it is for general cases. Therefore, better legal enforcement may not mean better control of securities market system. That could be the reason why the legal enforcement is not significant in this situation.

Therefore, in order to measure the overall effect of investor protection, the new measurement is created. The above three dimensions of investor protection measurement are combined into a single measurement, which is called aggregate investor protection. Shareholder rights or outside investor rights score ranges from zero to five. Legal enforcement score ranges from zero to ten. Public enforcement score ranges from zero to one. In order to combine these three dimensions, the score on each dimension is adjusted into the same scale, which is from zero to ten. Thereafter, the mean on adjusted scores are computed and called aggregate investor protection.

Table 5.38 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Aggregate Investor Protection

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.0052	0.02	-
ADA	-0.2362	-0.78	-
Debt Ratio	1.0437	4.71	< 0.05
Size	0.0096	1.30	-
Growth	0.0002	0.11	-
ADA x IP	0.0734	1.76	< 0.10
IP	0.1156	5.87	< 0.05
F-statistics	19.30		
Significance Level	< 0.05		
Adjusted R ²	0.2284		

Table 5.38 reports the result of regression analysis with interaction term, which is created by the multiplication between earnings management and aggregate investor protection measurement. The coefficient of earnings management becomes insignificant at convention level whereas the coefficient of investor protection is positive and significant at 5% level. In order to under the positive effect of investor protection and why earnings management becomes insignificant, the coefficient of the interaction term should be emphasized. That coefficient is positive and significant at 5% level. This means that the level of overall investor protection has the effect on the relation between earnings management and firm value.

Then, in order to further examine the impact of investor protection on the relation between earnings management and firm value, the regression model showing the effect of earnings management on firm value is re-estimated based on the aggregate investor protection level. Each country is classified into high investor protection (High IP) or low investor protection (Low IP) based on aggregate investor protection score of that country. The country whose aggregate investor protection is higher than median level is classified an high-IP country whereas the country who aggregate investor protection is lower than median level is classified as low-IP country. The results of the regression analysis for low-IP countries and high-IP countries are reported in table 5.39.

From table 5.39, the coefficient of earnings management is only 0.0551 for low-IP countries whereas it is 0.4661 for high-IP countries. This result clearly shows that the effect of earnings management on firm value is more positive for countries have higher score on overall investor protection compared to those with lower score on overall investor protection. In order to examine the significance of this difference, the regression analysis with dummy interaction term is used and the result is reported in table 5.40.

Table 5.39 The Effect of Earnings Management on Firm Value in Different Overall Investor Protection Group (Two Groups)

Variables	Low IP	High IP
Constant	0.6599	0.4144
ADA	0.0551	0.4661
Debt Ratio	0.8838	0.8294
Size	0.0117	0.0286
Growth	0.0214	0.0006
Adjusted R ²	0.0802	0.1715
Country (IP Score)	US (9.5)	Netherlands (6.22)
	Canada (9.27)	Taiwan (6.19)
	Hong Kong (9.19)	Spain (6.14)
	Australia (8.83)	Philippines (5.94)
	UK (8.68)	Denmark (5.89)
	Singapore (8.52)	Switzerland (5.78)
	Malaysia (7.79)	Japan (5.73)
	France (7.46)	Thailand (5.36)
	India (7.42)	Austria (5.02)
	Norway (7.06)	Greece (4.66)
	Sweden (7)	Italy (4.64)
	Ireland (6.69)	Germany (4.42)
	Pakistan (6.51)	Indonesia (4.36)
	Finland (6.39)	South Korea (4.03)
	Portugal (6.34)	Belgium (3.63)
	South Africa (6.3)	

Table 5.40 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Dummy Variable (Two Groups)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.1431	0.64	-
ADA	0.0711	0.62	-
Debt Ratio	0.9762	4.12	< 0.05
Size	0.0326	4.73	< 0.05
Growth	0.0013	0.68	-
ADA x IP_HIGH	0.4630	3.29	< 0.05
F-statistics	17.12		
Significance Level	< 0.05		
Adjusted R ²	0.2069		

The result in table 5.40 shows the result of regression analysis with dummy interaction term whereas the dummy variable (IP_HIGH) equals to one if that country has the aggregate investor protection score above the median level. The coefficient of earnings management represents the effect of earnings management on firm value for firms in the country with low investor protection score. The value of this coefficient is only 0.0711, which is not statistically significant at any convention level. However, the coefficient of interaction term is 0.4630, which is positive and significant at 5% level. This coefficient represents the incremental or marginal effect of earnings management for the country with high investor protection score against the country with low investor protection score. Therefore, the result shows the effect of earnings management is more positive for firms in the country with higher level of investor protection.

Next, the countries are classified into three groups based on their investor protection level. The group with highest level of investor protection is called top-IP. The group with lowest level of investor protection is lowest-IP. The group with the middle level of investor protection is middle-IP. The regression models to examine the effect of earnings management on each group are reported in table 5.41.

Table 5.41 The Effect of Earnings Management on Firm Value in Different Overall Investor Protection Group (Three Groups)

Variables	Lowest IP	Middle IP	Top IP
Constant	-0.4594	0.5161	0.8550
ADA	0.0151	0.3131	0.5033
Debt Ratio	1.3309	1.7509	-0.8555
Size	0.0419	0.0119	0.0425
Growth	0.0255	0.0034	-0.0009
Adjusted R ²	0.2219	0.1963	0.1334
Country (IP Score)	US (9.5)	Ireland (6.69)	Switzerland (5.78)
	Canada (9.27)	Pakistan (6.51)	Japan (5.73)
	Hong Kong (9.19)	Finland (6.39)	Thailand (5.36)
	Australia (8.83)	Portugal (6.34)	Austria (5.02)
	UK (8.68)	South Africa (6.3)	Greece (4.66)
	Singapore (8.52)	Netherlands (6.22)	Italy (4.64)
	Malaysia (7.79)	Taiwan (6.19)	Germany (4.42)
	France (7.46)	Spain (6.14)	Indonesia (4.36)
	India (7.42)	Philippines (5.94)	South Korea (4.03)
	Norway (7.06)	Denmark (5.89)	Belgium (3.63)
	Sweden (7)		

From table 5.41, the coefficient of earnings management for firms in the country with lowest investor protection is only 0.0151. This means that earnings management has a little effect in lowest-IP country. The coefficient of earnings management for firms in the country with middle investor protection is 0.3131, which is much higher compared to those in lowest investor protection. The coefficient of earnings management for firms in the country with highest investor protection is 0.5033, which is highest compared to other groups. This result shows the impact of investor protection to the relation between earnings management and firm value. The effect of earnings management is more positive in the country with higher level of investor protection. In order to examine the significance of this difference, the regression analysis with dummy interaction term is used and the result is reported in table 5.42.

Table 5.42 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Dummy Variable (Three Groups)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.1459	0.64	-
ADA	0.0123	0.10	-
Debt Ratio	0.9861	4.18	< 0.05
Size	0.0324	4.64	< 0.05
Growth	0.0014	0.75	-
ADA x IP_MID	0.2991	0.92	-
ADA x IP_TOP	0.5406	3.71	< 0.05
F-statistics	14.84		
Significance Level	< 0.05		
Adjusted R ²	0.2118		

The result of the regression analysis in table 5.42 includes the interaction term for middle investor protection (IP_MID) and highest investor protection (IP_TOP). The coefficient of earnings management is only 0.0123, which means the effect of earnings management for firms in the country with lowest investor protection is quite low. This coefficient is not significant at any convention level. The coefficient of the interaction term for middle investor protection (IP_MID) is 0.2991, which represents the incremental or marginal effect of earnings management for firms in the country with middle level of investor protection against the country with lowest investor protection. This marginal effect of earnings management is positive but not statistically significant at any convention level.

The coefficient of the interaction term for highest investor protection (IP_TOP) is 0.5406, which represents the marginal effect of earnings management for firms in the country with highest level of investor protection against those with lowest level of investor protection. This coefficient is positive and statistically significant at 5% level. This means the effect of earnings management is significant higher for firms in the country with higher level of investor protection.

Similar to the firm-level analysis, all results reported earlier in this section can be affected by the presence of heteroskedasticity. To mitigate this problem, the robust standard error is used in the regression analysis instead of normal OLS standard error. The previous regression analysis is re-estimated using robust standard error and the new result is reported in table 5.43.

Table 5.43 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using the Robust Standard Error

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.2123	0.65	-
ADA	-0.9072	-2.52	< 0.05
Debt Ratio	0.9839	2.02	< 0.05
Size	0.0302	3.57	< 0.05
Growth	0.0015	0.61	-
ADA x IP	0.1766	2.64	< 0.05
F-statistics	6.17		
Significance Level	< 0.05		
Adjusted R ²	0.1898		

The result using the robust standard error reported in table 5.43 is quite similar to the earlier result using normal OLS regression. The coefficient of interaction term is positive and significant at 5% level. This means that the effect of earnings management is more positive for firms in the country with higher level of investor protection.

The regression analysis with dummy interaction term for high investor protection (IP_HIGH) re-estimated using robust standard error and the results are reported in table 5.44. The result using the robust standard error reported is quite similar to the previous results using normal OLS regression. In table 5.44, the coefficient of interaction term for high investor protection country (IP_HIGH) is positive and significant at 5% level.

Table 5.44 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using the Robust Standard Error (Two Groups)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.1431	0.42	-
ADA	0.0710	1.56	-
Debt Ratio	0.9762	1.93	< 0.10
Size	0.0326	3.70	< 0.05
Growth	0.0013	0.52	-
ADA x IP_HIGH	0.4630	2.07	< 0.05
F-statistics	5.64		
Significance Level	< 0.05		
Adjusted R ²	0.2069		

The regression analysis with two dummy interaction terms (IP_MID and IP_TOP) is also re-estimated using robust standard error and the result is reported table 5.45.

Table 5.45 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using the Robust Standard Error (Three Groups)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.1459	0.43	-
ADA	0.0123	0.24	-
Debt Ratio	0.9861	1.97	< 0.05
Size	0.0324	3.62	< 0.05
Growth	0.0014	0.59	-
ADA x IP_MID	0.2991	1.81	< 0.10
ADA x IP_TOP	0.5406	2.26	< 0.05
F-statistics	4.99		
Significance Level	< 0.05		
Adjusted R ²	0.2118		

From table 5.45, the coefficients of both interaction terms for middle investor protection (IP_MID) and highest investor protection (IP_TOP) are positive and significant at convention level. This leads to the same conclusion that the effect of earnings management is more positive in the country with higher level of investor protection.

The next robustness check is to use Fama-MacBeth regression technique in order to reduce the cross-sectional correlation problem for panel data. The previous regression results are re-estimated with Fama-MacBeth technique. The regression model is estimated year-by-year separately. The coefficients and test statistics are computed based on Fama and MacBeth (1973).

Table 5.46 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Fama-MacBeth Regression

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.7966	3.92	< 0.05
ADA	-2.9270	-2.61	< 0.05
Debt Ratio	0.4047	1.57	-
Size	0.0634	1.20	-
Growth	0.0156	6.47	< 0.05
ADA x IP	0.6119	4.39	< 0.05

The result from table 5.46 uses Fama-MacBeth regression technique instead of normal OLS regression. The result is qualitatively similar to the result reported earlier, especially the impact of corporate governance on the relation between earnings management and firm value. The coefficient of the interaction term is still positive and statistically significant at 5% level. Therefore, this result does support the impact of investor protection to the effect of earnings management on firm value.

Table 5.47 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Fama-MacBeth Regression (Two Groups)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.7256	3.55	< 0.05
ADA	0.5890	0.92	-
Debt Ratio	0.0945	0.30	-
Size	0.0556	1.24	-
Growth	0.0233	11.09	< 0.05
ADA x IP_HIGH	1.4990	3.97	< 0.10

The result from table 5.47 uses Fama-MacBeth regression technique for the regression model with the dummy interaction term for high investor protection. The coefficient of the interaction term is still positive and statistically significant at 10% level. Therefore, this result means that the effect of earnings management is more positive for firms in the country with higher level of investor protection against the country with lower level of investor protection.

Table 5.48 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Fama-MacBeth Regression (Three Groups)

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.7956	3.95	< 0.05
ADA	-0.7235	-0.85	-
Debt Ratio	0.2255	0.89	-
Size	0.0639	1.14	-
Growth	0.0197	8.74	< 0.05
ADA x IP_MID	1.8478	5.50	< 0.05
ADA x IP_TOP	2.8662	5.46	< 0.05

The result from table 5.48 uses Fama-MacBeth regression technique instead of the normal OLS regression. The coefficients of both interaction terms are positive and statistically significant at 5% level. Therefore, this result means that the effect of earnings management is more positive for firms in the country with higher level of investor protection against the country with lower level of investor protection.

Another robustness check is to reduce the effect of time-series variation in variables. A set of dummy variables representing each year (year dummy variables) are included in the main regression analysis. The result is reported in table 5.49.

Table 5.49 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value using Year Dummy Variables

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.0286	0.13	-
ADA	-1.1306	-4.14	< 0.05
Debt Ratio	1.3089	6.08	< 0.05
Size	0.0256	4.10	< 0.05
Growth	0.0013	0.74	-
ADA x IP	0.1972	5.35	< 0.05
F-statistics	13.73		
Significance Level	< 0.05		
Adjusted R ²	0.3658		

The result from table 5.49 is qualitatively similar to the main result. After including year dummy variables, the coefficient of interaction term between earnings management and overall investor protection level is still positive and significant at 5% level.

The last robustness check for this section is about the measurement of earnings management. The earnings management is measured based on accrual-based earnings management. The popular model to measure this accrual-based earnings management is known as modified Jones model. However, there are other measurements of accrual-based earnings management. Leuz et al. (2003) have studied about the

relation between earnings management and investor protection. To measure earnings management, they have created the new measurement named aggregate earnings management. One of the components of that aggregate earnings management is the measurement of account accruals, which is measured by total absolute accruals scaled down by operating cash flows. Therefore, in order to examine the robustness of the results, the total absolute accruals scaled down by operating cash flows are used instead of discretionary accruals to examine the effect of earnings management on firm value and the impact of corporate governance on that effect.

Table 5.50 The Effect of Total Accruals on Firm Value Based on International Evidence

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.0764	0.33	-
ATA	0.0008	0.16	-
Debt Ratio	1.1256	4.54	< 0.05
Size	0.0342	4.72	< 0.05
Growth	0.0026	1.30	-
F-statistics	11.97		
Significance Level	< 0.05		
Adjusted R ²	0.1244		

Table 5.50 reports the result of regression analysis that the total absolute accruals divided by operating cash flows are used to measure the level of earnings management (ATA) instead of the absolute discretionary accruals. The result is slightly different from the previous result with discretionary accruals. The coefficient of earnings management is only 0.0008, which is still positive but not statistically significant at any convention level. The impact of investor protection to the relation between earnings management and firm value, where earnings management is measured by total absolute accruals scaled down by operating cash flows, is reported in table 5.51.

Table 5.51 The Effect of Investor Protection on the Relation between Total Accruals and Firm Value

Variables	Coefficient	t-Statistics	Significance Level
Constant	0.1098	0.49	-
ATA	0.0009	0.19	-
Debt Ratio	1.0061	4.24	< 0.05
Size	0.0330	4.79	< 0.05
Growth	0.0013	0.67	-
ATA x IP	0.0577	5.63	< 0.05
F-statistics	16.88		
Significance Level	< 0.05		
Adjusted R ²	0.2044		

Table 5.51 reports the result of regression analysis with interaction term that the absolute total accruals are used to measure the level of earnings management (ATA) instead of the absolute discretionary accruals. The result is also qualitative similar to the previous result. The coefficient of the interaction term is positive and significant at 5% level. This means the effect of earnings management is more positive for firms in the country with relatively higher level of investor protection.

Another possible way to examine the impact of investor protection on the relation between earnings management and firm value is to use a firm-level analysis. The results reported earlier in this section are based on country-level analysis. However, in order to make the results more robust and comparable to firm-level analysis in previous sections, the firm-level analysis is used by combining all firms from 31 countries. The same multiple regression analysis technique similar to the main analysis in this section is used. Moreover, the regression model is controlled by the possible time-series variation and country variation by adding the year dummy variables and country dummy variables. The result of regression analysis is reported in table

Table 5.52 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value (Firm-level)

Variables	Coefficient	t-Statistics	Significance Level
Constant	-1.7806	-2.71	< 0.05
ADA	-0.4629	-8.50	< 0.05
Debt Ratio	2.9745	534.89	< 0.05
Size	-0.1949	-36.95	< 0.05
Growth	-0.0001	-0.37	-
ADA x IP	0.0649	9.72	< 0.05
IP	0.4831	6.57	< 0.05
F-statistics	6673.37		
Significance Level	< 0.05		
Adjusted R ²	0.6410		

From table 5.52, the result from firm-level analysis is qualitatively similar to country-level analysis reported in table 5.38 but the adjusted R-squared from this firm-level analysis is 0.6410, which is much higher than the adjusted R-squared from the country-level analysis. The coefficient of earnings management is negative and statistically significant. This means the effect of earnings management is generally negative at the firm level. This negative effect can be from the negative perception by investors about earnings management from the many account scandal cases during the past decade. The coefficient of investor protection is also positive and significant. This means investor protection has the positive effect to the firm value. This positive effect of investor protection can be from its role in restraining the managerial opportunism and reducing the negative earnings management. In order to confirm this role, we need to take a look on the interaction effect between these two variables. The coefficient of interaction term is also significantly positive. This result confirms the positive impact of investor protection on the relation between earnings management and firm value.

In general, the effect of earnings management is negative at a firm-level. However, after the impact of investor protection is introduced, the effect of investor

protection is positive and the interaction effect between earnings management and investor protection is also positive. This means that investor protection can reduce the negative effect of earnings management. The possible explanation is investor protection can restrain managerial opportunism and negative earnings management. Therefore, the effect of earnings management for the firms in the country with higher level of investor protection is more positive or less negative compared to the firms in the country with lower level of investor protection.

Table 5.53 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value with the Interaction Effect of Country Dummy Variables (Firm-level)

Variables	Coefficient	t-Statistics	Significance Level
Constant	-1.5613	-2.30	< 0.05
ADA	0.6568	0.21	-
Debt Ratio	2.9319	494.22	< 0.05
Size	-0.1947	-36.79	< 0.05
Growth	-0.0001	-0.36	-
ADA x IP	-0.0805	-0.23	-
IP	0.4596	6.04	< 0.05
F-statistics	4055.49		
Significance Level	< 0.05		
Adjusted R ²	0.6429		

Table 5.53 reports the result of firm-level analysis but the interaction between earnings management, investor protection, and country dummy variables are included (ADA x IP x D_{Country}). After including the interaction effect with country dummy variables, the coefficient of interaction term between earnings management and firm value is slightly negative but not significant at convention level. Moreover, the coefficient of earnings management is slightly positive but not significant. This means the impact of investor protection on the relation between earnings management and firm value is neutralized after including the country-specific effect. However, the

effect of investor protection is still positive and significant. The possible explanation is the positive effect of investor protection is from not only its role in reducing the negative earnings management but also other possible roles. For the interaction term with country dummy variables, only some of them are statistically significant at convention level. Three countries that the interactions with country dummy variables are significant are Australia, Canada, and Singapore. It is noticeable that these three countries are in the top-IP group. Although the impact of investor protection is inconclusive for the country-specific interaction effect, its role is still significant for some countries with high level of investor protection.

Table 5.54 The Effect of Investor Protection on the Relation between Earnings Management and Firm Value between Low-IP and High-IP Group (Firm-level)

Variables	Low IP	High IP
Constant	1.7401	-2.4364
ADA	-0.1917	-0.6989
Debt Ratio	1.0056	3.0065
Size	-0.1024	-0.2214
Growth	-0.0001	-0.0001
ADA x IP	0.0603	0.0928
IP	0.0807	0.5901
Adjusted R ²	0.0751	0.6603
Country (IP Score)	US (9.5)	Netherlands (6.22)
	Canada (9.27)	Taiwan (6.19)
	Hong Kong (9.19)	Spain (6.14)
	Australia (8.83)	Philippines (5.94)
	UK (8.68)	Denmark (5.89)
	Singapore (8.52)	Switzerland (5.78)
	Malaysia (7.79)	Japan (5.73)
	France (7.46)	Thailand (5.36)
	India (7.42)	Austria (5.02)
	Norway (7.06)	Greece (4.66)
	Sweden (7)	Italy (4.64)
	Ireland (6.69)	Germany (4.42)
	Pakistan (6.51)	Indonesia (4.36)
	Finland (6.39)	South Korea (4.03)
	Portugal (6.34)	Belgium (3.63)
	South Africa (6.3)	

Table 5.54 reports the firm-level regression analysis for two different groups, high investor protection (High-IP) and low investor protection (Low-IP). The results from both groups are qualitatively similar to the main result in table 5.52. However, the impact size of investor protection to the relation between earnings management and firm value is greater for high-IP group than low-IP group. The coefficient of interaction term for low-IP group is only 0.0603 whereas it is 0.0928 for high-IP group. Both coefficients are statistically significant at convention level. Moreover, the adjusted R-squared for the regression analysis estimated for low-IP group is only 0.0751, which is much lower than the adjusted R-squared for high-IP group that is 0.6603. This result implies that the impact of investor protection reported earlier in this section is more pronounced in the countries in high investor protection group. It also supports the role of investor protection to increase the positive effect or reduce the negative effect of earnings management.

Furthermore, the multiple regression analysis showing the effect of earnings management on firm value is estimated based on each country separately. Only some countries in high investor protection group and low investor protection group are reported in order to show the difference in the effect of earnings management in those two groups.

Table 5.55 The Effect of Earnings Management on Firm Value for Some Countries with High Level of Investor Protection

Variables	Canada	Singapore	Norway	Portugal
Constant	5.0965	-2.3319	5.7068	0.9199
ADA	0.2550	0.8861	0.3424	0.2020
Debt Ratio	4.0336	3.0615	0.7945	-0.1254
Size	-0.4798	0.1181	-0.3363	0.0149
Growth	-0.0001	-0.0022	-0.0121	-0.1034
Shareholders Rights	5	4	4	3
Legal Enforcement	9.8	8.9	10	10
Public Enforcement	0.8	0.87	0.32	0.58
Overall IP Score	9.27	8.52	7.06	6.34

The result from table 5.55 reports the effect of earnings management on firm value for some countries with high level of investor protection. The effect of earnings management is positive for all of the above four countries. This is not surprising, especially for Canada and Singapore, whose overall investor protection score is quite high. Looking into each dimension, the score for both Canada and Singapore is higher than 80% in all dimensions. For Norway, the overall investor protection score is not quite high as previous two countries. When looking into each dimension, the score on shareholders rights and legal enforcement is quite high but only the score on public enforcement is low. For Portugal, the overall investor protection score is just slightly above average but the effect of earnings management is still positive. Looking into each dimension, the score for Portugal is not high but it is higher than average level for all three dimensions. This implies that the importance of investor protection on the effect of earnings management is not only from overall score investor protection score but also from each dimension, especially shareholders rights and legal enforcement.

Table 5.56 The Effect of Earnings Management on Firm Value for Some Countries with Low Level of Investor Protection

Variables	Taiwan	Denmark	Japan	Indonesia
Constant	1.2144	1.7993	1.8512	1.7453
ADA	0.3316	-0.4954	1.3554	-0.0033
Debt Ratio	-0.9801	1.2731	-0.2629	0.5107
Size	0.0232	-0.0607	-0.0466	-0.0157
Growth	-0.0008	0.0002	0.0510	0.0008
Shareholders Rights	3	2	4	2
Legal Enforcement	7.4	10	9.2	2.9
Public Enforcement	0.52	0.37	0	0.62
Overall IP Score	6.19	5.89	5.73	4.36

Table 5.56 reports the effect of earnings management on firm value for some countries with low level of investor protection. For Taiwan, the overall investor protection score is slightly lower than the median level but the effect of earnings

management is positive. Looking into each dimension, the score for Taiwan is not high but it is higher than average level in all three dimensions, which is similar to the score of Portugal mentioned previously. As mentioned before, the importance of investor protection on the effect of earnings management is not only from overall investor protection score but also from the score on each dimension. Compared to Denmark, the effect of earnings management is negative, though the overall investor protection is just slightly lower than Taiwan. Looking into each dimension of investor protection for Denmark, the score on two dimensions, which are shareholders rights and public enforcement, is lower than average level. Only the score on legal enforcement is high. This could be a possible explanation for the negative effect of earnings management in Denmark. For Japan, the overall investor protection score is lower than Denmark but the effect of earnings management is positive. When looking into each dimension, the score of two dimensions for Japan is quite high (more than 80% of the full score) but only one dimension is quite low. This means even though the overall investor protection for Japan is low, Japan can perform well for two dimensions, which are shareholders rights and legal enforcement. This high score on two dimensions could be an explanation for the positive effect of earnings management. The last country in the example is Indonesia. The overall investor protection score for Indonesia is low. Looking into each dimension, only the score of public enforcement is slightly higher than average whereas the score on other two dimensions is lower than average. This makes the effect of earnings management is negative in Indonesia.

The above examples for the effect of earnings management for each country can help to understand the importance of investor protection. It is not only overall investor protection but also the score on each dimension that are important to the effect of earnings management.

From all results reported earlier in this section, the international evidence based on empirical data from 31 countries has supported the role of investor protection to the effect of earnings management. The effect of earnings management on firm value is generally positive and this positive relation is affected by the level of investor protection. The relation between earnings management and firm value is more positive for firms in the country with higher level of investor protection.

If all countries are broadly classified into two groups, which are high-IP and low-IP, the result is also similar. The effect of earnings management is significantly positive for firms in the country with high level of investor protection but it is not significantly positive for firms in the country with low level of investor protection. Even though, all countries are classified into three groups based on their investor protection level, the results are quite similar.

These results provide the support to the second research hypothesis as the relation between earnings management and firm value is more positive for the firms in the country with higher level of investor protection. This evidence also supports the role of investor protection to restrain managerial opportunism and help to reduce negative earnings management. Therefore, in the country with better investor protection, the earnings management will have more positive effect to the firm value.

CHAPTER 6

CONCLUSION AND RECOMMENDATION

This study aims to examine the impact of corporate governance and investor protection regarding the relation between earnings management and firm value. This is because earnings management can be both positive and negative. Therefore, the effect of earnings management on firm value is unpredictable because it depends on which type of earnings management dominates the other. Negative earnings management, as stated, stems from managerial opportunism-managers can use earnings management for their own private benefit. Meanwhile, positive earnings management stems from the use of earnings management in a beneficial way, such as communicating certain information to investors.

6.1 Conclusion

The theoretical framework of this study shows that if there is an effective mechanism for controlling managerial opportunism, the negative earnings management should be eliminated. In that case, the effect of earnings management on firm value should be more positive or less negative. Therefore, two research hypotheses are established in order to examine the theoretical model. The first hypothesis is “The relation between earnings management and firm value should be more positive (or less negative) for the firm with a higher level of corporate governance.” The second research hypothesis is “The relation between earnings management and firm value should be more positive (less negative) in a country with a higher level of investor protection.”

In order to examine the first research hypothesis, firm-level analysis is employed. This is because the level of corporate governance can be measured based on firm level. The empirical data on firm level were collected from two countries: the United States and Thailand. In both countries, the results clearly show the important

impact of corporate governance on the relation between earnings management and firm value.

In the United States, corporate governance performance is based on the Environmental, Social, and Governance (ESG) score provide by ASSET4, an affiliate of Thomson Reuters. The corporate governance score in ASSET4 includes Board Structure, Compensation Policy, Board Function, Vision & Strategies, and Shareholders Rights. There are 5,153 firm-year observations included in the analysis.

The effect of earnings management on firm value is examined using the multiple linear regression technique. Firm value is represented by Tobin's Q ratio. Earnings management is measured based on discretionary accruals and total accruals. A set of control variables includes firm leverage, firm growth rate, and firm size. The results show that the effect of earnings management on firm value is generally negative. However, this negative relation is affected by corporate governance. The relation between earnings management and firm value is less negative for firms with a higher corporate governance score. If all firms are broadly classified into high-CG firms and low-CG firms, the result is also similar. Low-CG firms or poorer-governance firms have faced the negative effect of earnings management and firm value. High-CG firms or better-governance firms also face the same negative effect of earnings management but this negative effect is significantly lower for high-CG firms.

In Thailand, the corporate governance data for Thailand were provided by the Thai Institute of Directors (Thai IOD). However, instead of reporting the CG score, the Thai IOD reports on CG performance in terms of number of stars. The firms are classified into 5-star, 4-star, or 3-star group based on their corporate governance performance. The same multiple regression model is employed to examine the effect of earnings management on firm value.

The effect of earnings management on firm value is generally positive in Thailand. This result is different from the effect of earnings management in the United States, which is generally negative. However, the difference in the effect of earnings management between Thailand and United States can partially support the theoretical model because there can be both positive and negative earnings management. The effect of earnings management on firm value can be generally positive if the positive earnings management dominates the negative earnings management. If the negative earnings management dominates the positive earnings

management, the effect of earnings management on firm value will be generally negative.

The evidence from Thailand also shows the impact of corporate governance on the relation between earnings management and firm value, which is more positive for firms with a higher CG-star rating or higher corporate governance performance. Based on the CG-star rating in Thailand, all firms can be broadly classified into firms with CG-star (3-star, 4-star, or 5-star) and firms without CG-star (possibly 2-star or 1-star).

Firms without a CG-star can be looked at as poor-governance firms and the earnings management does not have a positive effect on firm value, as in general. Meanwhile, firms with a CG-star can be looked at as good-governance firms and the effect of earnings management on firm value is significantly positive. Moreover, the positive effect of earnings management is more obvious for firms with four or five CG-stars.

Together with the empirical results from the United States, all results provide support for the first research hypothesis. In the United States, the general relation between earnings management and firm value is negative. However, the relation between earnings management and firm value is less negative for firms with higher corporate governance performance. In Thailand, the general relation between earnings management and firm value is positive. Meanwhile, the relation between earnings management and firm value is more positive for firms with higher corporate governance performance. All of this evidence from the firm-level analysis for both the United States and Thailand support the role of corporate governance in restraining the negative earnings management arising from managerial opportunism.

The second research hypothesis concerns the role of investor protection. Investor protection performance is measured based on the country's laws. Therefore, country-level analysis was used in order to examine the second research hypothesis. Investor protection measurement was based on three dimensions: outside investor rights or shareholders rights, legal enforcement, and public enforcement.

In order to examine the effect of earnings management on firm value, the same multiple regression model was used. However, the country-level measurement was used instead of firm-level measurement. Country-level measurement is the average of the firm-level measurement for that country in each year.

The country-level analysis based on the empirical data from 31 countries supported the role of investor protection in terms of the effect of earnings management. The effect of earnings management on firm value is generally positive and this positive relation is affected by the level of investor protection. The relation between earnings management and firm value is more positive for firms in a country with a higher level of investor protection.

The result from international firm-level analysis based on 31 countries is similar to the country-level analysis. It supports the role of investor protection that can reduce the negative effect of earnings management. The effect of earnings management for the firms in the country with higher level of investor protection is more positive or less negative compared to the firms in the country with lower level of investor protection. Moreover, the impact of investor protection on the effect of earnings management is more pronounced in the countries in high investor protection group. It also supports the role of investor protection to reduce the negative effect of earnings management.

These results provide support for the second research hypothesis, as the relation between earnings management and firm value is more positive for the firms in a country with a higher level of investor protection compared to those in a country with lower level of investor protection. This evidence also supports the role of investor protection in restraining managerial opportunism and helping to reduce negative earnings management. Therefore, in a country with better investor protection, earnings management will have a more positive effect on firm value.

The results in this study provide evidence to support the role of corporate governance and investor protection in reducing negative earnings management rather than positive earnings management. In the firm-level analysis, the evidence shows that the effect of earnings management on firm value is more positive or less negative for firms with better corporate governance against firms with poorer corporate governance. In the country-level analysis, the evidence shows that the effect of earnings management on firm value is more positive for firms in a country with better investor protection against those in a country with lower investor protection.

6.2 Implication and Recommendation

Earnings Management or managerial discretions to manage reported earnings is generally perceived in a negative way. This is because earnings management is usually linked with managerial opportunism. Managers are perceived to use this for their own private benefits like their compensation plans. Many accounting scandals around the world make this issue more interesting for investors. However, some researches have proposed that earnings management can be positive if managers use it in a beneficial way. Managers can use earnings management as a way to communicate or convey certain information not available in reported earnings. Another way to use earnings management positively is to smooth the reported earnings to reduce their volatility. Therefore, earnings management can be beneficial or harmful for the firm's value based on how managers employ it.

From the firm level analysis for Thailand and United States, the results have revealed the different effect of earnings management on firm value. Earnings management has the negative effect on firm value in United States whereas it has the positive effect in Thailand. One possible explanation is there are many outstanding accounting frauds revealed in United States during the past decade. Moreover, investors in United States are more sophisticated and are more aware of earnings management. Therefore, in general, firms in United States are perceived more negatively in their earnings management is pronounced. However, Thailand is an emerging market. There is no outstanding accounting frauds, especially about earnings management, have been revealed in Thailand. Therefore, earnings management is not perceived negatively in Thailand.

However, it is no matter how earnings management is perceived positively or negatively, corporate governance provides an important role that helps to improve the effect of earning management in both situations. In Thailand, the effect of earnings management for firms with better corporate governance is more positive than firms with poorer corporate governance. Meanwhile, in United States, the effect of earnings management for better governance firms is less negative than poorer governance firms. This evidence clearly shows an importance of corporate governance to improve the positive effect of earnings management.

Country-level investor protection also provides an important role as firm-level corporate governance. Based on international evidence, earnings management is perceived differently among various countries. The effects of earnings management are positive for some countries and negative for some countries. However, it is no matter how earnings management is perceived, investor protection can help to improve healthy earnings management and strengthen the effect of positive earnings management.

The accounting professions have discussed and improved accounting standards to provide more meaningful accounting figures and to reduce managerial discretion in the report of earnings. The evidence from this study shows that managerial discretion, such as earnings management, is not actually unfavorable. Some earnings management is perceived positively and results in a positive effect regarding firm value. In the firms with good governance or firms in a country with good investor protection, shareholders rights should be well-protected and they will be less vulnerable to opportunistic earnings management. In this case, earnings management can be used in a favorable way, for example, to reduce earnings volatility or to convey information about future earnings by managers. Therefore, encouraging good corporate governance or improving the country's level of investor protection is as important as improving accounting rules and standards in order to restrain the negative earnings management.

Each firm can improve its corporate governance by adjusting its practices and provisions to protect the rights of minority shareholders, as well as improving their board effectiveness, for example, by having more independent directors with a financial background (including financial accounting) or meeting more frequently. For policy makers at the country level, they can improve the country's investor protection level. Investor protection in this research is based on aggregate investor protection combining shareholders rights, legal enforcement, and public enforcement. Moreover, the evidence for each country shows that the importance of investor protection on the effect of earnings management is not only from overall investor protection score but also from the score on each dimension. The score on legal enforcement can be improved by increasing the efficiency of juridical system or decreasing the corruption level in the country. The score on public enforcement can

be improved by increasing the power of stock market supervisor to investigate and punish the financial or accounting abused cases.

Shareholders rights are one of important factors in both firm level and country level. The shareholders rights protection is a component in both corporate governance and investor protection. For corporate governance, each firm can promote shareholders rights by improving the transparency in their decision and information disclosure. Shareholders should have the rights to be informed with a fair knowledge about the firm's status. Any activities having the impact to shareholders rights should be disclosed transparently. Moreover, shareholders should have the rights to be heard. They should be able to participate in shareholders meeting freely. Any mechanism that can create the obstacle for this participation should be eliminated.

If firms have better corporate governance and the investor protection by law and enforcement is good, earnings management will not be a problem because it is less likely to be used for private managerial benefits.

6.3 Future Researches

In order to extend the empirical evidence on this topic, other measurements of earnings management can be used to see whether the results are similar to this study. There are other types of accrual-based earnings management, such as performance-matching discretionary accruals or discretionary accruals with reversal. Moreover, if earnings management stems from managerial opportunism, managers will use not only accruals but also other manipulations of firm operating activities, which is known as real earnings management. The examples of these real earnings management are, for example, to manipulate discretionary expenses such as research and development or advertising expenses, to manipulate the timing of asset disposition, or to overproduce and sell.

Another possible extension of this research is to find a way to create a distinction between good and bad earnings management. Bad earnings management comes from managerial opportunism and should be negative for the firm's value. Good earnings management is expected to use other beneficial methods and should be positive for firm value. It can be started from examining the different types of

earnings management, e.g. income smoothing, income-increasing accruals, income-decreasing accruals, loss avoidance, manipulating of discretionary expenses such as R&D expenses, timing the period to sell assets, and oversell or overproduction, in order to see whether they are positive or negative in relation to the firm's value.

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