CHAPTER 2

LITERATURE REVIEW

2.1 Accounting Principles and Regulations on Related Party Transactions

Since they are transactions with insiders, related party transactions provide opportunities to manipulate the financial information for the personal benefits of those who control the firms. Standard setters and regulators are concerned that transactions between parties may contain irregularities. Some may not be arm's length transactions, some may not occur with an unrelated party, and some may occur on different terms between unrelated and related parties.

2.1.1 Thai Accounting Standards (TAS)

TAS greatly improved during 1999-2000. The accounting conceptual framework and many new accounting standards were issued. These new TAS are based on the *International Accounting Standards* (IAS) with only a few exceptions.

TAS 47 is based on IAS 24, *Related Party Disclosures*, without major differences. TAS 47 supersedes TAS 13, which was issued in 1989. TAS 47 became effective for financial statements beginning on or after January 1, 2000. It does not apply to non-listed companies. The content of this standard can be summarized under two main topics.

Firstly, TAS 47 shows the categories of related party relationships that fall within this standard. TAS 47 applies only to the following related party relationships: [1]

(1) entities that control or are controlled by, or are under common control with the reporting entity,

(2) associated entities,

(3) individuals and close family members who by having an interest in the voting power, have significant influence over the entity,

(4) key management personnel, and their close family members, and

(5) entities in which a substantial interest in the voting power is owned directly or indirectly by any person described in (3) or (4), or over which such an individual is able to exercise significant influence.

Secondly, TAS 47 explains the accounting and reporting requirements of related party transactions between the reporting entity and its related parties as follows: [2]

(1) related party relationships where control exists, disclosure of the relationship is required even if there have been no transactions between the related parties,

(2) if there have been transactions between related parties, the reporting entity should disclose the nature of the related party relationships, the types of transactions and the elements of the transactions necessary for an understanding of the financial statements, and

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[1] Ibid.
[2] Ibid., p. 132.

(3) items of similar nature may be disclosed in aggregate except when separate disclosure is necessary for an understanding of the effects of related party transactions on the financial statements of the reporting entity.

In conclusion, TAS 47 indicates the characteristics and the disclosure requirements of related party transactions.

2.1.2 Stock Exchange of Thailand (SET) Regulations

New SET regulations on the disclosure of information of listed companies concerning the connected transactions, Bor. Jor./ Por. 22-01, came into force on December 15, 2003. This notification repealed the previous regulation dated May 23, 2001.

Notification of the Board of Governors of the Stock Exchange of Thailand: Re: Disclosure of Information and Other Acts of Listed Companies Concerning the Connected Transactions, 2003 (Bor. Jor./ Phor. 22-01) covers three main issues.

Firstly, it identifies connected transactions and relationships. Connected transaction is defined as "…any transaction between a listed company or a subsidiary company and the listed company's connected persons; or any transaction between a subsidiary company and its connected persons" (The Stock Exchange of Thailand, 2003b, Bor. Jor./ Por. 22-01 Clause 3, p.170).

"Connected person" means the following: [3]

(1) the management, major shareholders, controlling persons or persons to be nominated as the management or controlling persons of a listed company or a subsidiary company including related persons and close relatives of such persons,

(2) any juristic person having a major shareholder or a controlling person as the following persons of a listed company or a subsidiary:

(a) the management

(b) major shareholder

(c) controlling person

(d) person to be nominated as the management or a controlling person

(e) related persons and close relatives of persons from (a) to (d)

(3) any person whose behavior can be indicated as an acting person or under a major influence of persons from (1) to (2) when making decision, determining policy, handling management or operation; or other persons the Exchange deems as having the same manner.

Secondly, it classifies the type of connected transactions into six categories:

(1) normal business transactions,

(2) supporting normal business transactions,

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[3] The Stock Exchange of Thailand, Notification of the Board of Governors of the Stock Exchange of Thailand: Re: Disclosure of Information and Other Acts of Listed Companies Concerning the Connected Transactions, 2003. (Bangkok: The Stock Exchange of Thailand, 2003), Bor. Jor./ Por. 22-01 Clause 3 (1) (2) (3), p. 170.

(3) transactions regarding rental or lease of immovable property not exceeding 3 years,

(4) transactions relating to assets or service,

(5) transactions regarding offers or receipts of financial assistance, and

(6) other connected transactions other than transaction in (1) to (5) above.

Thirdly, this notification describes the procedures concerning connected transactions. These procedures are: providing disclosure to the Exchange, seeking the board of directors' approval, or seeking an approval from the shareholders' meeting. These procedures are applied differently depending on the type of connected transactions and its value. This notification also provides instructions on how to calculate the value of connected transactions. The disclosure required by this notification covers: [4]

(1) Date, month, year when a decision to enter into a transaction is made and relevant parties.

(2) General explanation regarding nature of an asset, service and an offer or receipt of financial assistance relating to the decision to enter into a transaction. In case the asset under the transaction in whole or in part is the securities, name, type of business, nature of business, summary of financial status and operating result as well as financial statement of company which issues such securities must be identified.

(3) A total value and criteria used in determining a transaction's total value, a total return value, mode of payment either in cash or exchange

[4] Ibid., Bor. Jor./ Por. 22-01 Section 5 Part 1 Clause 16 (1) (2) (3) (4) (5) (6) (7) (8) (9), p. 176.

of asset, conditions, interest rates, period of return payment, interest and collateral (if any).

(4) Name of connected persons, who are contractual parties, including titles of such connected persons in a listed company or their shareholding ratio in the listed company, circumstances which may indicate that they are controlling persons, as the case may be, including nature of relationship between connected persons who are corporate entity and the management, major shareholders, controlling persons, persons nominated as the management or controlling person in such corporate entity, as well as related persons or close relatives of persons having relationship with such corporate entity and name of such persons.

(5) Characteristics and scope of interests of connected persons when agreeing to enter into such connected transaction.

(6) In case of asset purchase and offer of financial assistance, financial sources and adequacy of capital flow shall be identified. In case of loan, conditions that may affect shareholders' right such as restriction of dividend payment shall be indicated.

(7) Statements which show that directors who have interests and/or directors who are connected persons will not attend the meeting and have no right to vote in the meeting, in case where the listed company

has duty to seek approval to enter into a connected transaction from the Board of Directors.

(8) Opinions of the Board of Director concerning a decision to enter into a connected transaction, specifying the reasonableness and the highest benefit to the company comparing with a decision to enter into a transaction with an independent third party, in case where the listed company has duty to seek approval to enter into a connected transaction from the Board of Directors.

(9) Opinions of the company's Audit Committee and/or directors which are different from the opinions of the Board of Directors under (8).

In summary, this notification identifies the connected relationships, the types of connected transactions and the procedures following each of them. This announcement assists listed companies to identify, approve, and disclose the connected transactions by providing the criteria in detail.

The definition of related party transactions used in this study follows TAS 47 with emphasis the disclosures of related party transactions in the notes to financial statements of listed companies. When compared with connected transactions, related party transactions are almost the same as connected transactions. The differences are that related party transactions covers transactions with associated entities but does not consider transactions with persons whose behavior can be indicated as an acting person or under a major influence of persons or juristic persons who have a major influence over the listed companies.

2.2 Theoretical Concepts

This study on the application of related party transactions in earnings management is based on two theoretical concepts. These are Agency Theory and Positive Accounting Theory. They are described in the following sections.

2.2.1 Agency Theory

Agency theory includes three issues: agency relationship, agency problem, and agency costs.

Agency relationship is "…a contract under which one or more person (the principal (s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent…" (Jensen and Meckling, 1976, p. 308).

Agency problem is "…the problem of inducing an "agent" to behave as if he were maximizing the principal's welfare" (Jensen and Meckling, 1976, p. 309). Both principal and agent are assumed to be utility maximizers. Therefore, the agent may not always act in the best interests of the principal. "The agent is striving to maximize his contractual fee he receives subject to the necessary effort levels. The principal is striving to maximize the returns for the use of his resources subject to the fee payable to the agent" (Belkaoui, 2004, p. 445).

From the corporation's perspective, the agent is the manager and the principal is the shareholder. The divergence of interest between manager and shareholders can be explained by the moral hazard problem and adverse selection.

The moral hazard problem is "…an ex-post information problem, [that] arises when there are motivational problems and conflicts as a result of basing contracts on imperfect surrogates of behavior…" (Belkaoui, 2004, p. 445). Agency conflict between the manager and outside shareholders derives "…from the manager's tendency to appropriate perquisites out of the firm's resources for his own consumption…" (Jensen and Meckling, 1976, p. 313).

The adverse selection problem is "…an information problem, [that] arises when the agent uses private information that cannot be verified by the principal to implement successfully an input-action rule different from that desired by the principal and thereby rendering the principal incapable of determining if the agent made the appropriate choice…" (Belkaoui, 2004, p.445).

The divergence of interest between principal and agent can be diminished by monitoring and bonding. The summation of the monitoring expenditures by the principal, the bonding expenditures by the agent, and the residual loss is known as the agency costs.

Monitoring expenditures are the costs by the principal to establish appropriate supervision of the agent to limit activities of the latter to be in accordance with their contract. Bonding expenditures are the costs by the agent to guarantee that they will limit their activities in accordance with their contract. Residual loss is the reduction in the principal's welfare due to some remaining divergence, between the agent's decisions and those decisions which would maximize the welfare of the principal, after monitoring and bonding. In other words, the residual loss is the costs that remain after monitoring and bonding expenditures (Jensen and Meckling, 1976).

The implication from agency theory is that in any corporation, there is an agency problem caused by the divergence between manager's and shareholder's interests. The divergence arises from the conflicts of interest and the information asymmetry between outside shareholders and corporate managers. The conflicts of interest and the information asymmetry imply that there is an incentive and opportunity for managers to manage the reported earnings for their self-interest.

2.2.2 Positive Accounting Theory

There are three hypotheses most frequently tested as incentives for managers to choose accounting methods. They are the bonus plan hypothesis, the debt/ equity hypothesis, and the political cost hypothesis.

The bonus plan hypothesis states that where bonus plans exist, managers are more likely to choose accountings procedures that increase current period reported income. This is because under the bonus plans, the manager's compensation will increase as reported earnings increase. Hence, managers in firms with bonus plans are more likely to boost reported income to increase their bonus.

The debt/ equity hypothesis states that the higher the firm's debt/ equity ratio, the more likely the firm's manager will select accounting procedures that increase reported income. This is because the higher the firm's debt/ equity ratio means the closer (i.e. "tighter") the firms is to the constraints in the debt covenants. Therefore, firms with a higher debt/ equity ratio are more likely to boost reported earnings to reduce the debt covenants' constraints.

The political costs (size) hypothesis states that the larger the firm, the more likely the manager is to choose accounting procedures that reduce reported earnings. This is because larger firms are more politically sensitive than smaller firms, so they are more likely to reduce reported income to evade political attention.

The literature generally supports these three hypotheses. Management chooses accounting methods based on the incentives in the bonus plan, debt covenant and political costs (Watts and Zimmerman, 1986; 1990).

Positive accounting theory suggests that there is the opportunistic behavior by managers so that they choose the optimal accounting procedures for a given purpose. Current literature also supports that management behaves opportunistically. Besides bonus plan, debt covenant and political cost, academic research reports other incentives for earnings management, which will be presented in the section on prior research on earnings management (Section 2.3.3).

In conclusion, based on agency theory, the conflicts of interest and the information asymmetry problems between outside shareholders and corporate managers imply an incentive and opportunity for managers to manipulate the reported income for their self-interest. Positive accounting theory further explains that managers will choose the optimal accounting procedures to alter the reported earnings for a number of incentives.

2.3 Prior Research

The importance of related party transactions is shown through the existing evidence on the corporate structure in East Asian countries. This will be described in Section 2.3.1. After that the evidence from studies on related party transactions, earnings management and methodology to detect earnings management are discussed in Sections 2.3.2 to 2.3.4.

2.3.1 Corporate Structure in East Asian Countries

East Asian corporations are extensively family-controlled by pyramid structures, cross-holdings structures and the close connections between the controlling families and the management. The family-controlled firms are more likely to have a separation of ownership (cash flow rights) and control (voting rights). Generally, the separation of cash flow and voting rights occurs when there are deviations from one-share-one-vote, pyramiding schemes, and cross-holdings. However, the pyramid structures and cross-holding structures are the ones most frequently observable in East Asian companies. Through pyramid structures and cross-holdings structures, control rights in most East Asian countries exceed cash flow rights. Furthermore, management and ownership are not separate. Most managers are from the family of the controlling shareholder (Claessens, Djankov and Lang, 2000).

Pyramid structures exist through "…owning a majority of the stock of one corporation which in turn holds a majority of the stock of another, a process that can be repeated a number of times…" (Claessens et al., 2000, p. 93). Cross-holding patterns exist when "…a company further down the chain of control has some shares in another company in the same business group…" (Claessens et al., 2000, p. 93).

The separation of ownership (cash flow rights) and control (voting rights) in pyramid and cross-holdings structures can be explained in the following diagrams.

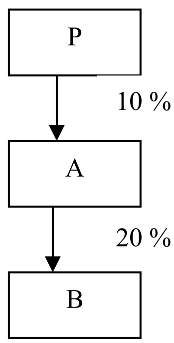

Diagram 1: Pyramid Structures
Cash flow rights = 10% x 20% = 2%
Voting rights = 10%

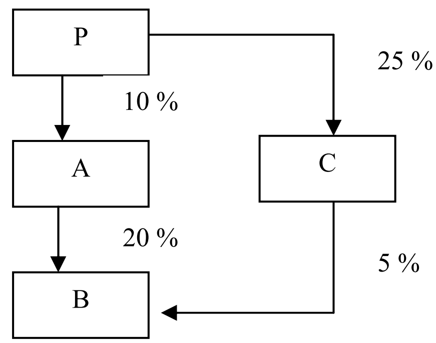

Diagram 2: Cross-holdings Structures
Cash flow rights = (10% x 20%) + (25% x 5%) = 3.25%
Voting rights = 10% + 5% = 15%

In pyramid structures, Diagram 1, the Parent Firm P owns 2% of the cash flow rights of Firm B, or the product of the two ownership stakes along the chain (ownership stake of Parent Firm P to Firm A, and ownership stake of Firm A to Firm B). Whereas Parent Firm P controls 10% of Firms B, or the weakest link in the chain of voting rights (compare within the chain, voting rights of Parent Firm P to Firm A is 10% and voting rights of Firm A to Firm B is 20%, so the weakest link is 10%).

In cross-holdings structures, Diagram 2, there are more chains to trace the cash flow rights and voting rights. Regarding cash flow rights, Parent Firm P owns 3.25% of the cash flow rights of Firm B or the sum of the cash flow rights from two chains. Cash flow rights of the chain P, A, B are the product of the two ownership stakes of Parent Firm P to Firm A, and Firm A to Firm B. Cash flow rights of the chain P, C, B are the product of the two ownership stakes of Parent Firm P to Firm C, and Firm C to Firm B.

Regarding voting rights, Parent Firm P controls 15% of Firm B, or the sum of the weakest link of the chains. Within the chain P, A, B, voting rights of Parent Firm P to Firm A is 10%, and voting rights of Firm A to Firm B is 20%, so the weakest link of the first chain is 10%. Within the chain P, C, B, voting rights of Parent Firm P to Firm C is 25%, and voting rights of Firm C to Firm B is 5%, so the weakest link of the second chain is 5%.

Concentrated ownership in the hands of the largest controlling shareholder and the pyramid and cross-holding structures create agency conflicts between controlling shareholders and outside investors. Such ownership structures are found to have a negative effect on the quality of reported earnings of listed companies in East Asian countries regarding earnings informative value and timely loss recognition.

Ownership concentration is perceived to report accounting information in favor of controlling shareholder interests and to prevent outflow of information. Hence, reported earnings of East Asian corporations lose credibility for outside investors and thus have low informative value (Fan and Wong, 2002). Loss recognition is also less timely in East Asian countries.[5] The family ownership structures in these countries reduce the demand for public disclosure, and therefore the demand for timely loss recognition (Ball, Robin, and Wu, 2003).

[5] Comparing Hong Kong, Malaysia, Singapore, and Thailand (standards derive from common law sources, such as UK, US, and IAS) with non-East Asian countries (code law standards).

Among East Asian countries, Thai firms have the highest concentration of both ownership and control in the hands of the largest controlling holder.[6] The separation of ownership and control is lowest in Thai corporations. Even though Thai companies show the least evidence of pyramid and cross-holding structures, informal alliances among a small number of families control most Thai corporations. Several families jointly possess a large share of a corporation, with one family in the alliance taking the role of principal controlling shareholder. The top 10 and top 15 business families in Thailand respectively controlled 46.2% and 53.3% of listed corporate assets (Claessens et al., 2000).

Moreover, among four East Asian countries, Thailand is the only country with explicit linkages between tax and financial reporting. Earnings of Thai companies have very low timeliness consistent with the strong influence of the income taxation on Thai financial reporting. The reported earnings in Thailand conform more closely to firms' tax policies and are less timely to incorporate gains and losses (Ball et al., 2003).

To summarize, most East Asian corporations including Thai firms are family-controlled. Controlling shareholders have almost full control over managers and frequently possess controlling power in excess of their cash flow rights. The smaller portion of cash flow rights relative to controlling power fails to align the interests of controlling shareholders with those of outside shareholders. Controlling shareholders possess both incentives and ability to alter financial information for their own purposes.

[6] Among Hong Kong, Indonesia, Japan, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand (Claessens et al., 2000), and Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan and Thailand (Fan and Wong, 2002). Both studies have the same conclusion.

The reported earnings of East Asian countries then are found to have low quality for decision making.

In Thailand, corporations are not widely held and are generally controlled by a small number of families. Almost half of Thai listed corporate assets are controlled by the largest ten business families. Due to these characteristic of family business groups, related party transactions, which are transactions with insiders, can be chosen as an accounting procedure to alter the financial reporting. However, studies of related party transactions are very few. These studies were only recently carried out. They provide evidence on related party transactions as discussed in the following section.

2.3.2 Studies of Related Party Transactions

Research on related party transactions has been conducted recently and provides evidence on the nature, the determination and the effect of related party transactions. These are presented below.

The Nature of Related Party Transactions

The investigation on the nature of related party transactions has been motivated by the Sarbanes-Oxley Act. Triggered by a number of corporate and accounting scandals, regulators have recently paid attention to related party transactions.[7] The Sarbanes-Oxley Act was passed in 2002 and caused huge changes in the accounting professions, and capital market rules and regulations around the world.

[7] The outstanding example is Enron's collapse. The use of Special Purpose Entities controlled by its CFO enabled Enron to manipulate financial figures.

In Section 402 of the Sarbanes-Oxley Act, personal loans to executives are prohibited.[8] Researchers show both supporting and conflicting evidence on the ban on executive loans. Kohlbeck and Mayhew (2004a) find that most common related party transactions are loans. On the other hand, Gordon, Henry and Palia (2004) find that the proportion of loans transactions with related parties is smaller than other non-loan related party transactions.[9] Furthermore, types of related party transactions are widespread and involve equally executive and non-executive board members.

The Determination of Related Party Transactions

The differences in the occurrence of related party transactions are explained by the monitoring mechanisms, the compensation-based incentives and the ownership structure. Weaker corporate governance is associated with higher dollar amounts of related party transactions (Gordon et al., 2004). Weaker corporate governance also increases the likelihood of related party transactions occurring, as indicated by logistic regression (Kohlbeck and Mayhew, 2004b). In addition, CEO stock options are positively related to the probability of related party transactions occurring (Kohlbeck and Mayhew, 2004b). Moreover, firms that are controlled by a corporate group[10] engage in more

[8] This section exempts some types of loans that are made or provided in the ordinary course of the consumer credit business of such issuer; that is generally made available by such issuer to the public; and made by such issuer on market terms, or terms that are no more favorable than those offered by the issuer to the general public for such extensions of credit (The Sarbanes-Oxley Act, Section 402).

[9] The opposite conclusion may arise from the difference in sample set. Kohlbeck and Mayhew (2004a) examined 1,261 samples included in the Standard and Poor's (S&P) 1500 in 2001 while Gordon et al. (2004) studied 112 firms (224 firm-years) in 2000 and 2001 based on COMPUSTAT database.

[10] Corporate groups in China are formed by the government by assembling firms in similar industries or closely related industries (Jian and Wong, 2003).

related party transactions than firms that are state-enterprises and private businesses (Jian and Wong, 2003).

The Effect of Related Party Transactions

Related party transactions damage the firm's valuation. Current returns are negatively associated with a number of related party transactions (scaled by the number of named executives and board members) and their dollar amounts (Gordon et al., 2004). Related party lending also has a negative correlation with a firm's value, as measured by Tobin's Q and market-to-book equity (Jian and Wong, 2003).

Regarding future firm value, the type of related party transactions is significantly associated with future returns. Related party transactions involving directors, officers and major shareholders are associated with lower future returns. While related party transactions relating to investments are associated with higher future returns (Kohlbeck and Mayhew, 2004b).

In addition, the study on connected transactions reports its negative relationship with excess returns around the connected transactions announcement and with abnormal returns during the 12-month period following the connected transactions announcement. Such returns are significantly lower than that of firms announcing similar arm's length transactions (Cheung, Rau and Stouraitis, 2004).[11]

[11] Arm's length transactions are ones in similar categories to connected transactions but which do not involve connected parties (Cheung et al., 2004).

Besides discussing the nature, the determination and the impact, some studies point out that related party transactions are an earnings management technique. This will be covered in Section 2.3.3.

2.3.3 Earnings Management

In accordance with General Accepted Accounting Principles (GAAP), financial accounting information is prepared based on the accrual basis. In the accrual basis, the effects of transactions and events are reported in the financial statements of the period to which they occur, rather than when cash or cash equivalent is received or paid.

Accruals play an important role in financial reporting. Studies of the role of accruals reported in two aspects. In the first aspect, accruals play a role in producing a reliable and more timely measure of firm performance, so earnings are able to reflect firm performance better than cash flows (Dechow, 1994) and the discretionary component of accruals helps improve such ability (Subramanyam, 1996). By contrast, in the second aspect, some studies find that accruals play a role in obscuring true underlying firm performance (Healy, 1985; Dechow and Sloan, 1991; Jones, 1991; Cahan, 1992; DeFond and Jiambalvo, 1994; Teoh, Welch, and Wong, 1998b; Teoh, Wong and Rao, 1998; Kasznik, 1999; Kanogporn Narktabtee, 2000; Matsumoto, 2002; Waeowan Prangthawat, 2002).

Definition of Earnings Management

The second aspect of accruals in the previous section is known as earnings management.[12] The definitions of earnings management in the literature are as follows.

> … a purposeful intervention in the external reporting process, with the intent of obtaining some private gain ... (Schipper, 1989, p. 92)

> Flexibility in accounting allows it to keep pace with business innovations. Abuses such as earnings management occur when people exploit this pliancy. Trickery is employed to obscure actual financial volatility. (Levitt, Speech on "The Number Game", 1998, p. 5)

> Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reporting to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. (Healy and Wahlen, 1999, p. 368)

> The active manipulation of earnings toward a predetermined target, which may be set by management, a forecast made by analysts, or an amount that is consistent with a smoother, more sustainable earnings stream. (Mulford and Comisky, 2002, p. 3)

[12] Earnings management is also called by many terms, such as earnings manipulation, accrual manipulation, accrual management, window-dressing, and financial shenanigans.

Overall, earnings management involves the intentions by managers to alter financial reports for their purposes through choices in the accounting procedures. The incentives and accounting practices of earnings management are discussed below.

Motives for and Accounting Practice of Earnings Management

The existing literature supports three hypotheses from positive accounting theory. Other literature also extends investigation to the capital market motives.

Three Hypotheses from Positive Accounting Theory

The three hypotheses in positive accounting theory are bonus plan, debt/ equity and political costs. Academic research suggests they have an impact on the accounting methods used and reported earnings.

Regarding bonus plan: managers attempt to maximize their earnings-based compensation. Managers manipulate accruals upward and downward depending on their threshold relating to the value of bonus awards. Companies that adopt or modify bonus plans also have greater changes in accounting procedures (Healy, 1985). In addition, managers reduce discretionary investment expenditures to improve short-term earnings performance in their final year of employment (Dechow and Sloan, 1991).

Regarding debt/ equity: managers seek to loosen their debt constraints and avoid costs from debt covenant violation. There is evidence of huge positive abnormal accruals in firms that violate debt covenants (DeFond and Jiambalvo, 1994).

Regarding political costs: managers try to evade political attention. Firms have significantly negative discretionary accruals during their investigation for import relief (Jones, 1991) and antitrust laws (Cahan, 1992). Since both regulations rely on accounting profits. By lowering income during the period of investigation, firms increase the likelihood of obtaining import relief and / or the amount of relief grant, and decrease the possibility to be accused of being monopoly under antitrust laws.

Capital Market Motives

The capital market incentive is motivated by the widespread use of accounting information in share price valuation. Concerning the share price effect, financial numbers are managed for the purposes of the equity offering [initial public offering (IPO) and seasoned equity offerings (SEO)] and to meet the analyst's expectations.

In the equity offering perspective, managers aim to meet the requirements for approval of the securities issued and boost prices when the shares are sold. IPO and SEO firms have unusually high levels of earnings and discretionary accruals in the year of issuing their securities and lower levels of net income after that (Teoh, Wong and Rao, 1998; Teoh, Welch, and Wong, 1998b). Consistent with the above, Thai corporations have income increasing accruals in the years before and during the year of IPO (Kanogporn Narktabtee, 2000) and in the offering year of SEO (Waeowan Prangthawat, 2002).

Furthermore, IPO firms apply more income-increasing depreciation policies and have significant lower uncollectible accounts receivables than their matched non-issuer industry peers (Teoh, Wong and Rao, 1998). Related party sales are also abnormally high in firms that will have a rights issue in the next year and that aim to inflate earnings to avoid reporting losses (Jian and Wong, 2003).

In the beating of analyst's expectation perspective, managers attempt to meet consensus earnings forecasts. This is because the market will reward firms that meet analysts' expectations and punish firms that do not.[13] Firms that are more likely to meet or exceed the analysts' expectation are found to have considerable positive discretionary accruals (Kasznik, 1999; Matsumoto, 2002).

The literature shows that incentives for opportunistic behavior besides bonus plan, debt/ equity and political costs are the capital market motives that are concerned with share price value in the equity offerings and the analyst's expectation. To fulfill these purposes, various accounting practices are applied, such as changes to alternative accounting methods and some discretionary transactions.

In summary, earnings management literature suggests that managers are driven by several incentives both inside and outside the firm to manipulate the financial reporting through accounting choices and discretionary transactions. The methodology to detect such opportunistic behavior is discussed in Section 2.3.4.

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[13] Firms that meet analysts' earnings expectations obtain higher returns, abnormal returns, and earnings forecast than firms that fail to meet such expectation (Bartov, Givoly, and Hayn, 2002; Kasznik and McNichols, 2002).

2.3.4 Methodology to Detect Earnings Management

The tests for earnings management can be classified into three main approaches: frequency distribution, specific accruals, and aggregate accruals (McNichols, 2000).

Frequency Distribution Approach

The frequency distribution approach examines the statistical properties of earnings to investigate the distribution of earnings around a specified benchmark. This approach identifies whether the frequency of amounts above and below the benchmark is distributed smoothly, or reflects discontinuities due to the exercise of discretion.

The unusually low frequencies of small decreases in earnings and a small loss, along with the unusually high frequencies of small increases in earnings and a small positive income indicate that firms manage reported earnings to avoid earnings decreases and losses (Burgstahler and Dichev, 1997).

However, the frequency distribution approach measures discretionary control over reported earnings as the behavior of earnings after management. Such earnings also include discretionary and nondiscretionary components. Hence, this approach does not encourage researchers to examine what managers do to manipulate earnings and what are their incentives to manage earnings.

Specific Accruals Approach

The specific accruals approach is based on the knowledge of the specific industry settings to model the nature of industry-specific accruals in order to identify its discretionary and nondiscretionary components. The specific accruals model allows researchers to investigate the relationship between the single conjecture accruals and the explanatory factors directly.

Institutional knowledge is crucial for this approach. If the specific accruals that might be used to manipulate earnings are not clear, the power of the test for earnings management is reduced. In addition, the number of firms for which a specific accrual is managed may be relatively small. This may limit generalization of the findings.

Aggregate Accruals Approach

The aggregate accruals approach specifies discretionary accruals based on the association between total accruals and hypothesized explanatory factors. This approach is the most frequent methodology used in published articles.

However, similar to the specific accruals approach, a major issue with the aggregate accruals approach is the power of the test. The power of this approach depends on the ability to identify proxies or conditioning variables that reflect the discretionary and nondiscretionary components of the accruals.

Although some academics question the validity of this discretionary accruals proxy, it is widely used as a measure for earnings management in the large number of published studies (McNichols, 2000). The models of the aggregate accruals approach to estimate discretionary accruals that are widely applied in the literature are explained below.

Healy Model

DAC_{it} = Mean (TAC_{it} / TA_{it-1})

Where:

DAC_{it} = Estimated discretionary accruals of firm i in year t

TAC_{it} = Total accruals of firm i in year t

TA_{it-1} = Total assets of firm i in year t-1

Among the model in the aggregate accruals approach, Healy's study is the earliest. This approach uses mean total accruals from the estimation period as a proxy for discretionary accruals. Total accruals are defined as the difference between reported earnings and operating cash flows. This method uses cash flows as a proxy for earnings before discretionary accruals because nondiscretionary accruals are unobservable (Healy, 1985). However, in the *Healy Model*, total accruals are composed of both discretionary and nondiscretionary components, so it may not be an appropriate proxy.

DeAngelo Model

$$DAC_{it} = (TAC_{it} - TAC_{it-1}) / TA_{it-1}$$

Where:

DAC_{it} = Estimated discretionary accruals of firm i in year t

TAC_{it} = Total accruals of firm i in year t

TAC_{it-1} = Total accruals of firm i in year t-1

TA_{it-1} = Total assets of firm i in year t-1

Based on evidence of the negative value of average total accruals from prior studies, this approach assumes that the nondiscretionary component might be both large and systematically negative. This causes total accruals to be a poor proxy to examine earnings management because total accruals are composed of both discretionary and nondiscretionary parts.

The *DeAngelo Model* thus uses the total accruals in the immediately prior period as a benchmark for the normal or expected total accruals. The test focuses on the change in total accruals from the last period as an earnings management identification. This explanation relies on the assumption that the average change in nondiscretionary accruals is approximately zero, so a significant average change in total accruals reflects a significant average change in discretionary accruals. Total accruals are calculated as net income minus operating cash flows (DeAngelo, 1986).

Even though this approach attempts to improve the discretionary accruals measurement, it can not separate the nondiscretionary accruals. Discretionary accruals are defined as changes in total accruals, which also contain a nondiscretionary component.

Both the *Healy* and the *DeAngelo Models* assume that nondiscretionary accruals are constant, so the total accruals can represent the discretionary accruals part. However, if nondiscretionary accruals change from period to period, then both models will tend to misspecify discretionary accruals and misinterpret the opportunistic behavior.

The models below attempt to improve the accuracy of discretionary accruals measurement by relaxing the assumption that nondiscretionary accruals are constant over time. The following models measure discretionary component separated from total accruals.

Industry Model

$TAC_{it} / TA_{it-1} = \alpha_1 + \alpha_2$ [industry median of $(TAC_{it} / TA_{it-1})] + \varepsilon_{it}$

The firm specific parameters, α_1 and α_2, are estimated using *Ordinary Least Squares* (OLS) on the observations in the estimation period. These estimated values, a_1 and a_2, are used to estimate nondiscretionary accruals (NDAC) in the event period.

$NDAC_{it} = a_1 + a_2$ [industry median of (TAC_{it} / TA_{it-1})]

After that, discretionary accruals (DAC) are computed as the difference between total accruals and nondiscretionary accruals.

$DAC_{it} = (TAC_{it} / TA_{it-1}) - NDAC_{it}$

Where:

TAC_{it} = Total accruals of firm i in year t

$NDAC_{it}$ = Estimated nondiscretionary accruals of firm i in year t

DAC_{it} = Estimated discretionary accruals of firm i in year t

TA_{it-1} = Total assets of firm i in year t-1

The above approach is based on the study by Dechow and Sloan (1991). This model assumes that variation in the determinants of nondiscretionary accruals is common across firms in the same industry (Dechow, Sloan, Sweeney, 1995). The industry median of total accruals is from all non-sample firms in the same 2-digit SIC code.

Time-Series Jones Model

$$TAC_{it} / TA_{it-1} = \alpha_1 (1/ TA_{it-1}) + \alpha_2 (\Delta REV_{it} / TA_{it-1}) + \alpha_3 (PPE_{it} / TA_{it-1}) + \varepsilon_{it}$$

The firm-specific parameters, α_1, α_2 and α_3, are estimated using OLS on the observations in the estimation period. The estimated values, a_1, a_2 and a_3, are used to estimate nondiscretionary accruals (NDAC) in the event period.

$$\mathbf{NDAC_{it} = a_1 (1/ TA_{it-1}) + a_2 (\Delta REV_{it} / TA_{it-1}) + a_3 (PPE_{it} / TA_{it-1})}$$

After that, discretionary accruals (DAC) are computed as the difference between total accruals and nondiscretionary accruals.

$$DAC_{it} = (TAC_{it} / TA_{it-1}) - NDAC_{it}$$

Where:

TAC_{it} = Total accruals of firm i in year t

= (ΔCurrent assets$_{it}$ – ΔCash$_{it}$) – (ΔCurrent liabilities$_{it}$ – ΔCurrent maturities of long-term debt$_{it}$ – ΔIncome taxes payable$_{it}$) - Depreciation and Amortization expense$_{it}$, where the change (Δ) is computed between time t and time t-1

ΔREV_{it} = Revenues of firm i in year t less revenues of firm i in year t-1

PPE_{it} = Gross property, plant, and equipment of firm i in year t

$NDAC_{it}$ = Estimated nondiscretionary accruals of firm i in year t

DAC_{it} = Estimated discretionary accruals of firm i in year t

TA_{it-1} = Total assets of firm i in year t-1

This method assumes that total accruals include changes in working capital requirements that depend on changes in revenues, and depreciation accruals that depend on the level of gross property, plant, and equipment. The level of gross property, plant and equipment, rather than the change, is applied since the total depreciation expense, rather than the change in depreciation expense, is included in the total accruals measure (Jones, 1991).

<u>Time-Series Modified Jones Model</u>

$$TAC_{it} / TA_{it-1} = \alpha_1 (1/ TA_{it-1}) + \alpha_2 (\Delta REV_{it} / TA_{it-1}) + \alpha_3 (PPE_{it} / TA_{it-1}) + \varepsilon_{it}$$

The firm-specific parameters, α_1, α_2 and α_3, are estimated using OLS on the observations in the estimation period. The estimated values, a_1, a_2 and a_3, are used to estimate nondiscretionary accruals (NDAC) in the event period.

$$\mathbf{NDAC_{it} = a_1 (1/ TA_{it-1}) + a_2 [(\Delta REV_{it} - \Delta REC_{it})/ TA_{it-1}] + a_3 (PPE_{it} / TA_{it-1})}$$

After that, discretionary accruals (DAC) are computed as the difference between total accruals and nondiscretionary accruals.

$$DAC_{it} = (TAC_{it} / TA_{it-1}) - NDAC_{it}$$

Where:

ΔREC_{it} = Accounts receivable of firm i in year t less accounts receivable of firm i in year t-1

Definitions of other variables are the same as the *Time-Series Jones Model*.

The modified version of the *Jones Model* is designed to eliminate the conjectured bias of the *Jones Model* that measures discretionary accruals with error when discretion is exercised over revenues. The implicit assumption in the original *Jones Model* is that discretion is not exercised over revenues in either the estimation period or the event period. The *Modified Jones Model* implicitly assumes that the changes in credit sales in the event period result from earnings management. Therefore, changes in receivables (discretion assumption) are extracted from changes in revenues (nondiscretion assumption) in the event period (Dechow et al., 1995).

Cross-Sectional Jones Model

The formation of the *Cross-Sectional Jones Model* is the same as the *Time-Series Jones Model*, but the parameters, α_1, α_2 and α_3, are estimated separately for each combination of data from firms matched by year and industry. This approach is introduced due to its capability to generate a larger sample when compared to time-series models. Also, it increases the accuracy of the estimation because the number of observations per model is considerably higher (DeFond and Jiambalvo, 1994; Subramanyam, 1996).

<u>Cross-Sectional Term-Adjusted Jones Model</u>

$TCAC_{it} / TA_{it-1} = \alpha_1 (1/ TA_{it-1}) + \alpha_2 (\Delta REV_{it} / TA_{it-1}) + \varepsilon_{it}$

The parameters, α_1 and α_2, are estimated using OLS on all estimation samples in the same year and industry as the sample, but excludes the sample itself. This model is estimated separately for each combination of data from firms matched by year and industry. The estimated values, a_1 and a_2, are used to estimate nondiscretionary current accruals (NDCAC) of the interested sample.

$$\mathbf{NDCAC_{it} = a_1 (1/ TA_{it-1}) + a_2 [(\Delta REV_{it} - \Delta REC_{it}) / TA_{it-1}]}$$

After that, discretionary current accruals (DCAC) are computed as the difference between total current accruals and nondiscretionary current accruals.

$$DCAC_{it} = (TCAC_{it} / TA_{it-1}) - NDCAC_{it}$$

Where:

$TCAC_{it}$ = Total current accruals of firm i in year t

= Δ (Accounts receivables$_{it}$ + Inventory$_{it}$ + Other current assets$_{it}$) - Δ (Accounts payable$_{it}$ + Taxes payable$_{it}$ + Other current liabilities$_{it}$), where the change (Δ) is computed between time t and time t-1

ΔREV_{it} = Revenues of firm i in year t less revenues of firm i in year t-1

ΔREC_{it} = Accounts receivable of firm i in year t less accounts receivable of firm i in year t-1

$NDCAC_{it}$ = Estimated nondiscretionary current accruals of firm i in year t

$DCAC_{it}$ = Estimated discretionary current accruals of firm i in year t

TA_{it-1} = Total assets of firm i in year t-1

This approach relies on the *Modified Jones Model*, but also considers the findings from prior studies that managers have more discretion over short-term accruals rather than over long-term ones. This method thus distinguishes between current and long-term accruals and uses discretionary current accruals as the key proxy for earnings management. This cross-sectional approach is introduced since the time-series approach is impossible for samples with data limitation, such as IPO firms (Teoh, Wong and Rao, 1998; Teoh, Welch and Wong, 1998a; 1998b).

In conclusion, methodologies to detect earnings management are being continuously and widely developed. Not only using total accruals as a proxy for earnings management, the earnings management studies also apply statistical methods to separate the discretionary component of accruals so as to provide more precise conclusions. Furthermore, the literature uses the cross-sectional approach in order to overcome the data limitation problem of the time-series approach.