

Corporate governance and post bankruptcy reorganisation performance: Evidence from Thailand

Abstract

Purpose – This research investigates the role of key corporate governance mechanisms in determining a firm’s post-bankruptcy performance following reorganisation.

Design/ Methodology/ Approach – The study is based in agency theory and uses a unique sample of 111 filing companies whose reorganisation plans have been confirmed by the Thai Central Bankruptcy Court during the period 1999-2002.

Findings – The results indicate that monitoring and incentive mechanisms are significant determinants of a firm’s post-bankruptcy performance. The key monitoring mechanism is ownership concentration, measured by shares held by the largest shareholder, whereas the critical incentive mechanisms are cash compensation and percentage of common shares held by the plan administrator. The results indicate that these mechanisms can mitigate agency problems in previously insolvent companies and increase post-bankruptcy performance over a three year period.

Originality/ Value – The study is timely given that many organisations are facing rebuilding programs following the impact of the global financial crisis. Prior research in Thailand and elsewhere has not measured bankruptcy reorganisation outcomes in terms of the difference of actual financial performance to predicted performance and in relation to the governance factors of the reorganisation process. Neither has this aspect been considered within an agency theory framework. This provides a unique opportunity to consider these variables based on the theoretical framework of agency theory and to evaluate the importance of governance mechanisms in reorganisation proceedings.

Keywords – agency theory, bankruptcy reorganisation, corporate governance, post-bankruptcy performance, Thailand

Paper Type – Research paper

Introduction

Reorganisation is an extensive alteration of a financially distressed firm’s capital, organisational and management structure following a plan worked out during the reorganisation proceedings under the bankruptcy law. The objectives of reorganisation are to eliminate the cause of the failure, settle with creditors and allow the firm to remain in business (Ross, Westerfield & Jordan, 2000). It enables firms to improve and continue their operations by providing several mechanisms for ensuring that these firms can emerge from bankruptcy adequately (Brigham & Houston, 2001; White, 1989).

The motivation for the study is to identify the governance settings which will lead to improved outcomes for restructuring firms, based on the theoretical framework of agency theory. This theory proposes that agency costs may be reduced by identifying cost effective mechanisms to encourage managers to serve the firm owners’ interests. A number of monitoring and incentive mechanisms are proposed which are hypothesised to minimize these costs, including outside representation on the oversight board and pay incentives to the manager. The study also serves as

a useful measure of the effectiveness of the recently instituted Thai bankruptcy reorganisation process.

The remainder of the paper is divided into 4 sections. Section 2 describes the relevant literature, including that specific to the Thai bankruptcy reorganisation process and its key governance mechanisms. Section 3 develops an agency theory consistent model which outlines the governance settings which will theoretically contribute to reorganisation success. Section 4 outlines the empirical analysis and section 5 presents the conclusion and policy implications arising from the model with some suggestions for future research.

Prior Studies

Prior studies into bankruptcy reorganisation have been undertaken in both Thailand and other countries.

Studies in countries other than Thailand

An extensive review of the literature of relevance to this study in countries other than Thailand can be classified into three broad areas of research. These are: measures of success in the bankruptcy reorganisation process, the critical factors influencing successful bankruptcy reorganisation, and more specifically the critical governance factors influencing successful bankruptcy organisation.

Research into measures of success in the bankruptcy reorganisation process have been undertaken by Hotchkiss, 1995; Alderson and Betker, 1999; Daily, 1995; Platt and Platt, 2002; Kalay, Singhal and Tashjian, 2007; Jayaraman, Sabherwal and Shrikhande, 2001. These studies included the percentages of firms emerging from bankruptcy, categories of emerging firms (successful reorganisation, partially successful reorganisation, and mergers and acquisitions), accounting performance, cash flow performance compared with financial projections of the reorganisation, and stock performance. The evidence, particularly for those which filed for US Chapter 11 bankruptcy reorganisation, showed that a majority of firms either failed or continued to exhibit poor performance for some years following reorganisation.

Critical factors influencing successful bankruptcy reorganisation have been researched by Frank & Torous, 1989; Gertner & Scharfstein, 1991; Chatterjee, Dhillon & Ramirez, 2004; Chen, 2003; Fisher & Martel, 2003; Michel, Shaked & McHugh, 1998; Platt & Platt, 2002; Datta & Iskandar-Datta, 1995; Dawley, 1999; Routledge & Gadenne, 2000; White, 1994; Chen, Weston & Altman, 1995; Fayez and Meyer, 2001; Dhillon, Noe & Ramirez, 1995; John, John & Vasudevan, 2000; Triantis, 1993; Denis and Rodgers, 2007; Gilson, Hotchkiss and Ruback, 2000; Dawley, Hoffman & Lamont, 2002; Denis & Rodgers, 2002; Berkovitch and Israel, 1991. These studies included the recontracting process, debtor-in-possession (DIP) financing, management changes, a firm's profitability, financial and operational projections in the reorganisation plan, refocusing and restructuring strategy, and the efficiency of insolvent firms. Evidence confirms that some of these mechanisms (i.e. DIP financing, restructuring strategy) are helpful for renegotiating with creditors, increasing the efficiency of investment decisions and enhancing bankruptcy recovery.

Researchers concerned with the critical governance factors influencing successful bankruptcy reorganisation were Daily, 1995; Daily & Dalton, 1994a, 1994b; Gales & Kesner, 1994, Brockmann, 1997; Brockmann, Hoffman, Dawley & Fornaciari, 2004; Hotchkiss, 1995; Daily, 1996; Charitou, Lambertides & Trigeorgis, 2007; Chen, 2003. These studies included

board size, board composition, the structure of chief executive officer (CEO) - board chairperson positions, CEO and director turnover, equity ownership, and audit committee. Among them, the crucial governance factors influencing successful bankruptcy reorganisation tend to be outside directors in the board, board leadership structure and CEO power.

Studies in Thailand

To date, only three research studies about formal methods of corporate workout have been conducted. The first research was the study of Vongvipanond, Jumpa and Wichitaksorn (2002) regarding systematic analysis and empirical evidence of court - supervised corporate restructuring in Thailand in terms of economic and legal perspectives. The second study was undertaken by Pipatsitee, Kuldilouk and Ekukara (2003), at the Center for Applied Economics Research, Faculty of Economics, Kasetsart University, Thailand. They extended the first piece of research concerning the efficiency and effectiveness of the Thai bankruptcy court in terms of managing and controlling debt restructuring proceedings comparing it with the Corporate Restructuring Group, Bank of Thailand and the Thai Asset Management Corporation. The third study by Pipatsitee, Kuldilouk, Ekukara and Kuntong (2004) extended previous research by examining ways for law development and the development of the law enforcement to improve debt restructuring efficiency. It was found that only the first, the research of Vongvipanond et al. (2002) investigated the implementation of the reorganisation plan and a firm's post-bankruptcy performance, finding a 49% recovery rate during the period 1998-2002.

Summary of the Literature

The above literature review indicates that prior research in Thailand and elsewhere has not measured bankruptcy reorganisation outcomes in terms of the difference of actual financial performance to predicted performance and in relation to the governance factors of the reorganisation process. This gap in prior research provides a unique opportunity to consider these variables based on the theoretical framework of agency theory and to evaluate the importance of governance mechanisms in reorganisation proceedings. The model provided by agency theory, widely adopted in studies of governance and performance in 'going concern' companies, has also not been applied to reorganising companies. The motivation for the study is therefore to identify the governance settings which will lead to improved outcomes for restructuring firms, based on the theoretical framework of agency theory. The study also serves as a useful measure of the effectiveness of the recently instituted Thai bankruptcy reorganisation process.

The Thai bankruptcy reorganisation process

The following contains a review of the Thai bankruptcy reorganisation process to outline the administration process and key governance mechanisms included. The Bankruptcy Court in Thailand opened on June 18, 1999 after the National Assembly passed an amended 1940 Bankruptcy Act and approved the establishment of special bankruptcy courts in March 1998 (Debt Restructuring Regimes in Thailand, n.d.; Uraeepatanapong, Sethsathira & Okanurak, 1998). New reorganisation provisions were included in the Act which aimed to deal with the economic fallout from the Asian economic crisis in 1997. The new Bankruptcy Act included elements of the US bankruptcy code's Chapter 11, British insolvency law and the Singapore Companies Act regarding Judicial Management (Pornavalai, 1998; Uraeepatanapong et al.,

1998). Being similar to Chapter 11, the revised Act was targeted to provide an opportunity to economically distressed companies to restructure their assets, operations, liabilities, and other obligations. The amendment was designed to encourage creditors and debtor companies to cooperate in maintaining future viability of debtor companies.

The process commences with the filing of a petition for reorganisation to the court. The petition will be accepted if the person who petitions for reorganisation is: 1) a creditor(s) to whom the debtor owes at least 10 million Thai Baht, 2) an insolvent debtor owing creditor(s) at least 10 million Baht, 3) the Bank of Thailand, Securities and Exchange Commission, the Insurance Department and certain other government agencies being responsible for overseeing the operations of the debtor. After examining the facts, the court will decide whether to order a business reorganisation and appoint a plan preparer or dismiss the petition.

Once the court orders reorganisation, proceedings commence and an automatic stay comes into effect. The debtor may no longer manage the business but the firm can continue business operations under the governance mechanisms of the reorganisation process. Shareholders will retain only the right to dividend payments. The court will appoint an interim manager to act under the official receiver's supervision until the planner is appointed. When a planner is appointed, powers to manage the business and shareholder rights will be vested in the planner. The planner may be any person, company or committee nominated by the petitioner (the debtor or the creditor) and approved by the court.

On appointment, the planner has five months to prepare a reorganisation plan for approval by the creditors' and confirmation by the Bankruptcy Court. In the reorganisation plan, the Bankruptcy Act only specifies broad requirements of the plan (section 90/42). They comprise reasons for the reorganisation, details of the debtor's assets, guidelines and methods for reorganisation, and releases of the security of secured creditors. Moreover, the reorganisation plan must involve guidelines for the transfer of rights of claim, a period of implementation not exceeding five years, and the name and qualifications of the plan administrator including creditors' approval of the plan. The plan must be able to show to the court that reorganisation value exceeds liquidation value.

When the court issues an order accepting the reorganisation plan, it will appoint a plan administrator who has rights and duties pursuant to section 90/59 of the Bankruptcy Act. The plan administrator may be any person, company, or committee nominated by the planner, accepted by the creditors and approved by the court. Once the court appoints the administrator, the duties of the planner immediately pass to the plan administrator who must manage the debtor's business in accordance with the plan until reorganisation of the debtor's business operations is achieved.

During the implementation of the approved plan, the creditors may pass a resolution at a meeting to appoint a committee of creditors to monitor and give guidance to the plan administrator. The plan administrator must manage the debtor firm following the plan; continuously report the progress of its implementation to a creditor committee and to the official receiver. The plan administrator effectively acts as a board of directors to implement the reorganisation plan, while the existing management team of an insolvent firm continues to manage the day to day business.

If the plan administrator or the official receiver believes that reorganisation has been completed, they may request the court to order the cancellation of the business reorganisation. It should be noted that the success of the process is directly related to the reorganisation plan and its implementation. Two positions are critical to this success: firstly the Planner as the

person/committee who proposes the plan and secondly the Plan Administrator who implements the plan.

The key control mechanisms in the process

There are several control mechanisms set up by Chapter 3/1 of the Thai Bankruptcy Act to govern firms during the reorganisation process. The key mechanisms are:

The planner: The planner has the duty to prepare a firm's formal reorganisation plan within five months and manage the debtor firm during the time the plan is being proposed. The planner may be any person, company or committee nominated by the petitioner (the debtor or the creditor) and approved by the court. Their duties commence upon the court's order for business reorganisation and finish when the court approves the plan.

The reorganisation plan: The plan which is prepared by the planner must be accepted by 75% of the creditors voting at a creditors' meeting. It must contain all the information required in Section 90/42 such as reasons for the reorganisation, details of the debtor's assets, guidelines and methods for reorganisation, and name and qualifications of the plan administrator including the creditor's approval of the plan. When the court issues an order accepting the reorganisation plan, it will be used as guidelines for the plan administrator for managing the reorganised firm.

The plan administrator: The plan administrator may be any person, company, or committee nominated by the planner, accepted by the creditor voting and approved by the court. The appointment, tenure, qualifications and compensation of the plan administrator are specifically contained in the plan. Once the court approves the plan and appoints the plan administrator, their duties commence and the duties of the planner immediately pass to them. They must manage the debtor's business in accordance with the plan until reorganisation of the debtor's business operations is achieved. In addition, a remuneration package such as cash compensation and equity shareholding for the plan administrator is specified in the plan.

The next section presents agency theory consistent hypotheses to test the impact of governance settings on post-bankruptcy performance.

An agency theory based governance model for post-bankruptcy reorganisation

Jensen and Meckling (1976) define the agency relationship as a theory of the firm based upon conflicts of interest between principals (owners) and agents (managers). More broadly Hatch (1997) proposes that in a business setting, the principals are represented by owners, shareholders or other stakeholders, such as potential investors and creditors, and the agents are professional managers. Such managers are hired to act as agents for the owners, to make decisions on their behalf and to pursue organizational objectives which maximize corporate value. However, such agents are assumed to have their own interests which diverge from those of the owners and other stakeholders, leading to agency costs (Eisenhardt, 1989).

Agency costs are defined as the sum of monitoring cost, bonding cost and residual loss (Jensen and Meckling, 1976). Monitoring costs are expenditures paid by the principal/shareholders to directly monitor the behaviour of managers and may include the costs of internal and external audit and oversight by the board of directors. Bonding costs are incentives such as pay and equity holdings given to agent/managers to align their interests with those of the owners. Monitoring and bonding costs are never fully effective due to difficulties in measuring outputs and information asymmetry (i.e. managers' access to detailed information which is unavailable to the owners) giving rise to a residual loss (Godfrey & Hill, 1995).

The main objective of agency theory research is to identify cost effective mechanisms to encourage managers to serve the firm owners' interests (Keasey, Thompson and Wright, 1997). Numerous prior studies attempted to understand agency problems and seek a number of effective mechanisms to reduce these costs (Agrawal & Knoeber, 1996; Keasey et al., 1997; Fosberg & Rosenberg, 2003 and Core, Guay & Verrecchia, 2003). Monitoring methods include the use of a board of directors to provide guidelines or to directly supervise managers including evaluating their performance (Hatch, 1997) and the use of information systems such as a cost accounting systems, budget systems and other formal reporting to the owners or board of directors (Baiman, 1990). Incentive mechanisms include the use of incentive based pay, which directly links the rewards paid to managers with those of the shareholders (examples include the use of options and share rewards).

Under the Thai Bankruptcy Act, the planner and plan administrator are the key governance mechanisms of the reorganisation process. The planner and plan administrator may be a person, company or group of persons and also may be insiders (company executives) or outsiders (shareholders only). There are no regulations limiting the number of planners and plan administrators, their composition or their remuneration.

Outside directors in the Planner and Plan Administrator

Fama (1980) and Fama & Jensen (1983) suggest a board with a high proportion of outside directors is more likely to perform its duties in monitoring business management effectively. There are a number of empirical studies which have supported this conclusion. Baysinger and Butler (1985) explored the relationships between board composition and corporate financial performance for a 266-firm sample between 1970 and 1980. The measure of financial performance selected was calculated by dividing the firm's return on equity by the average return on equity for all the firms in its primary industry, including those not in the sample. A key finding was that the ratio of independent to inside directors (i.e. company executives) was higher in firms which had a performance above average than firms with a performance below average.

Westphal (1999) studied board effectiveness and firm performance and found similarly significant results in the survey data from 243 CEOs and 564 outside directors in April 1995. Westphal used two measures of firm performance: return on equity - ROE (an accounting-based measure) and the market-to-book value of equity - (a market-based measure) to investigate board involvement. The findings of this study suggested that board effectiveness may increase by encouraging collaboration between top managers and outside directors in strategic decision making. Judge and Zeithaml (1992) also found that a high proportion of inside directors on boards was associated with lower board involvement in strategic decision-making and a negative impact on firm performance.

Coles and Hesterly (2000) confirmed that there was a critical monitoring role for outside directors. They examined the independence of the chairman, board composition and shareholder value in the context of poison pill adoptions in 247 sample firms reported in the financial press during the period 1984-1986. They found that when leadership structure is not independent, the monitoring and control functions of outside directors are most important and most beneficial for shareholders. In a post bankruptcy reorganisation, Gales and Kesner (1994), Daily and Dalton (1994a, 1994b) and Daily (1995) also confirmed that outside directors on the board are more likely to be involved in improving post-bankruptcy performance.

The above studies support the effectiveness of an independent board, as represented by majority outside director membership, in guiding company management towards maximum

profitability. The application of this principle to firms undergoing reorganisation should improve their probability of success. This leads to the following hypotheses:

H_{1a}: Ceteris paribus, a majority representation of outside directors in the Planner is positively associated with firm performance

H_{1b}: Ceteris paribus, a majority representation of outside directors in the Plan Administrator is positively associated with firm performance

Ownership concentration

Significant shareholders have strong incentives to monitor managerial activities as they are likely to receive substantial benefits from such monitoring (Jensen & Meckling 1976; Shleifer & Vishny 1986). In owner-controlled firms, it would be expected that the owner's substantial investment in the company would be manifested in a greater scrutiny of the executive and a reduction in the information asymmetries associated with a dispersed shareholding.

Numerous empirical studies support the impact of concentrated ownership on reduced agency cost and improved profitability. Cubbin and Leech (1983) studied the effect of shareholder dispersion on the degree of control in British companies and found a positive relationship between ownership concentration and profitability. Shleifer and Vishny (1986) studied large shareholders and corporate control and their findings from a sample of the Fortune 500 firms confirmed that the greater the percentage of ownership, the higher expected profits. Wruck (1989) studied equity ownership concentration and firm value from private equity financings and concluded that increased concentrated ownership from private equity sales have a positive effect on a stock price. Oswald and Jahera (1991) explored the influence of ownership on performance controlling for firm size differences. Their findings show a significant effect of ownership concentration on financial performance as measured by excess stock returns. Bethel, Liebeskind and Opler (1998) investigate the consequences of block share purchases between 1980 and 1989 using a sample of U.S. firms and found that return on assets (ROA) as a proxy for a firm's operating performance improves in years two and three after the acquisition of large share blocks by activist shareholders.

In Asia, Wiwattanakantang (1999) also studied the effect of ownership structure and corporate governance on performance. He used a sample of Thai firms and found that a firms' major shareholders enhance profitability (ROA and Tobin's Q) compared to firms with no controlling shareholders. Consistent with Wiwattanakantang (1999), the study of Suehiro (2001) on ownership patterns and corporate performance in Thailand found statistically significant relationships among them as measured by ROA and ROE.

There have been some alternative findings. Lemmon and Lins (2003) studied the effect of ownership structure on changes in shareholder value during the East Asian financial crisis and found that the negative shock on the investment opportunities had raised the incentives for controlling shareholders to use corporate assets for their own interests. Furthermore, the large separation between cash flow ownership and control rights that arises from the use of a pyramidal ownership structure meant that corporate insiders have both the incentives and the abilities to engage in expropriation. Similarly, Hanazaki and Lin (2003) used data from the five East Asian crisis economies of Indonesia, Korea, Malaysia, the Philippines, and Thailand in the period 1994-2000 and studied the impact of corporate governance on the performance of firms. Their results

showed that ownership concentration had enabled controlling shareholders to expropriate other shareholders and was associated with significantly reduced performance.

Setting aside these results from the period of Asian financial crisis, the majority of the literature finds support for an effect of ownership concentration on performance being positive and significant. This leads to the following hypothesis:

H₂: Ceteris paribus, ownership concentration of the firm is positively associated with post-bankruptcy performance.

Managerial remuneration

Managerial remuneration including salary, profit-based bonus, and stock options are an efficient incentive mechanism to improve the goal alignment of shareholders and managers (Grant, 1998; Kaplan & Atkinson, 1998). Jensen and Murphy (1990) suggested that stock options, equity ownership, performance-related-pay and performance-related dismissals should be included as part of remuneration packages in order to provide financial incentives for management to make value-maximizing decisions. Numerous studies support the use of incentive mechanisms as an appropriate way to help shareholders encourage managers to pursue company goals (Baiman & Demski, 1980; Harrison, 2003).

Dyl (1988) examined listed firms in the Fortune 500 companies during 1982, and found that the levels of management compensation reduce the residual loss portion of agency costs. Jensen and Murphy (1990) investigated the pay-performance relationship for chief executive officers (CEO) by using the data of the Forbes surveys from 1974 to 1986. In their analysis, they measured a regression of change in CEO salary and bonus on changes in net accounting income and found a statistically significant and positive relationship. Albeit, this empirical relation is small for a position in which incentive pay is expected to play an important role. Goldberg and Idson (1995) also tested the performance effects of executive remuneration, using data from the listed firms of Fortune 500 companies during the period 1980-1981. Their results which are consistent with Jensen and Murphy's (1990) study and indicate that there was a significant agency effect on executive pay, though the total magnitude of the effect appears to be small, relative to company assets. Similarly, Mehran (1995) examined the executive compensation structure of randomly-selected small and large manufacturing firms 1979-1980 and found empirical evidence on the relationship between the form of compensation and firm value. The findings showed that the form, rather than the level, in particular equity-based compensation can motivate managers to increase firm value as measured by Tobin's Q and by return on assets (ROA). Fosberg and Rosenberg (2003) also investigated agency cost control mechanisms. Their results suggested that share ownership by the firm's CEO is one of the effective mechanisms in controlling a firm's agency costs.

In the Thai reorganisation process, cash compensation for the plan administrator is specified in the reorganisation plan. Evidence from empirical studies in the literature generally confirms a positive link between executive remuneration and performance of the firms. Thus, it is possible to hypothesize that managerial remuneration (particularly that portion directly linked to performance through equity holdings) for the plan administrator is likely to be related to the financial performance improvement of previously insolvent firms. This leads to the following hypotheses:

H_{3a}: Ceteris paribus, the level of cash remuneration awarded to members of the Plan Administrator will be positively associated with firm performance

H_{3b}: Ceteris paribus, the level of equity holding by the Plan Administrator will be positively associated with firm performance

Methodology

Sample used for analysis

The sample includes all companies which filed petitions for Chapter 3/1 bankruptcy under the Thai Bankruptcy Act and whose plans have been confirmed by the bankruptcy court between January 1999 and December 2002. The primary investigation found that 111 private sector companies had met the selection criteria of owing creditor(s) at least 10 million Baht and having their reorganisation plans accepted by the bankruptcy court (Table I). Missing data arising from non-disclosure of profit results reduced the final sample to 101.

Table I.

The number of sample firms each year 1999 - 2002

Year (that plans were accepted by the court)	Total No. of firms each year
1999	1 (0.9%)
2000	16 (14.4%)
2001	48 (43.2%)
2002	46 (41.4%)
Total	111 (100.0%)

Note: The bankruptcy court opened on June 18, 1999.

Model specification

The study employs ordinary least squares regression to investigate the effect of governance mechanisms on post-bankruptcy performance. The proposed research model can be expressed as follows.

$$\begin{aligned}
 \text{PFOM} = & \alpha + \beta_1(\text{OUTPLA}) + \beta_2(\text{OUTPLAD}) + \beta_3(\text{OWNER}) + \beta_4(\text{LNCAPLAD}) \\
 & + \beta_5(\text{SHPLAD}) + \beta_6(\text{ORSTR}) + \beta_7(\text{ARSTR}) + \beta_8(\text{FRSTR}) + \beta_9(\text{LNSIZE}) \\
 & + \beta_{10}(\text{INDSTR}) + \beta_{11}(\text{TYPE}) + \varepsilon
 \end{aligned}$$

Where:

PFOM = The three-year average value of the difference between actual profits before tax and predicted profits before tax as a percentage of the absolute value of predicted profits before tax in Years 1-3

OUTPLA	= The proportion of outside directors in the planner
OUTPLAD	= The proportion of outside directors in the plan administrator
OWNER	= The proportion of common shares held by the largest shareholder of the firm
LNCAPLAD	= The natural log of amounts of cash compensation for the plan administrator
SHPLAD	= The percentage of common shares held by the plan administrator
ORSTR	= Dummy variable (1,0) 1 for operational restructuring or 0 otherwise
ARSTR	= Dummy variable (1,0) 1 for asset restructuring or 0 otherwise
FRSTR	= Dummy variable (1,0) 1 for financial restructuring or 0 otherwise
LNSIZE	= The natural log of the total assets in the firm
INDSTR	= Types of industry; 1 for manufacturing, 0 for others
TYPE	= Types of company; 1 for public company, 0 for private company

Consistent with previous research this study evaluates a firm's performance in the first three years of reorganisation (Michel et al. 1998; Alderson & Betker 1999). Adapted from Hotchkiss's (1995) and Platt & Platt's (2002) study, the dependent variable (PFOM) is measured in terms of the difference of actual from projected performance. The measure is the three-year average value of the difference between actual profits before tax calculated as follows:

$$PFOM = \frac{\sum_{i=1}^n x_i}{3}$$

Where:

- n = Years 1-3 during the reorganisation time
- $X_i = \{(APBT_i - PPBT_i) / |PPBT_i|\} \times 100$
- APBT = Actual profits before tax
- PPBT = Predicted profits before tax

The three-year predicted and actual profits before tax are disclosed in the reorganisation plans of insolvent firms which were collected in bankruptcy reorganisation filings within the database of the Thai Central Bankruptcy Court. In some cases, the progress reports did not contain all the data necessary for the study and additional data was sourced from financial statements of firms from the database of the Department of Business Development, the Ministry of Commerce, Thailand, and financial information of listed firms from the database of the Stock Exchange of Thailand.

The measurement of independent variables is consistent with that adopted by previous studies. The proportion of outside directors in the planner (OUTPLA) and plan administrator (OUTPLAD) was used to measure the influence of outside directors on firm performance (Gales and Kesner, 1994; Daily & Dalton, 1994b; Daily, 1995, Florakis and Ozkan, 2009). For ownership concentration (OWNER), the study employs the proportion of common shares held by the largest shareholder of the firm (Prowse, 1992; Claessens et al., 2002). Cash compensation (LNCAPLAD) is the cash remuneration of the plan administrator (Dyl, 1988; Goldberg & Idson 1995; Evans et al., 2002). Managerial shareholding (SHPLAD) is the percentage of common shares held by the plan administrator and is applied as a proxy for equity based remuneration (Fosberg & Rosenberg, 2003; Mehran 1995).

Control variables include firm size, industry and company type as they may be related to the ability of insolvent firms to achieve successful reorganisation and improved post-bankruptcy

performance (Gales & Kesner, 1994). Firm size (LNSIZE) is commonly applied by researchers in this field (Hotchkiss, 1995; Agrawal & Knoeber, 1996; Fayez & Meyer, 2001 and Dahiya et al. 2003). In this study it is measured by the natural log of the book value of total assets, as of the date of the court issued order for reorganisation, in million Baht. Industry type (INDSTR) is represented by a dummy variable depicting manufacturing and non-manufacturing groups. Research by the Economic Indicator Section, Economic Research Department, Bank of Thailand (Siksamat, 1999) confirmed the importance of this grouping in Thailand following the economic crises of 1997. In their results, the Business Sentiment Index (BSI) - indicated that firms in the manufacturing sector performed better relative to the non-manufacturing sector. Finally, the sample contains both public and private companies which are differentiated through inclusion of a dummy variable (TYPE). Inclusion of this control variable is supported by a number of studies finding an impact of company type on firm value (Krause 1988; Kroll, Wright, Toombs & Leaveil, 1997; Poensgen & Thonet, 1979).

As part of the reorganisation process, firms must submit information on restructuring efforts undertaken to the official receiver. The three major strategies identified were operational restructuring (ORSTR), asset restructuring (ARSTR) and financial restructuring (FRSTR) and these are also included as control dummy variables for this study.

Univariate analysis and OLS regression test results

Prior to regression testing, the dependent variable (PFOM), was subject to log transformation to correct for non-normality. OUTPLAD was omitted from the final model as it was highly correlated with OUTPLA ($r=0.841$). As all companies undertook financial restructuring (FRSTR) this variable was also removed. A Pearson correlation of the variables is shown in Table II.

Table II.

Pearson correlation coefficients

Variables	1	2	3	4	5	6	7	8	9	10	11
1. LPFOM	1.00										
2. OUTPLA	-0.01	1.00									
3. OUTPLAD	-0.01	0.84**	1.00								
4. OWNER	0.05	-0.09	-0.04	1.00							
5. LNCAPLAD	0.19*	0.27**	0.34**	-0.09	1.00						
6. SHPLAD	0.07	0.06	-0.05	-0.09*	-0.19*	1.00					
7. ORSTR	-0.02	0.15	0.07	0.09	-0.08	0.20*	1.00				
8. ARSTR	0.04	0.08*	0.17*	-0.14	-0.01	0.13	-0.01	1.00			
9. LNSIZE	0.13	0.20*	0.18*	-0.33**	0.07	-0.03	0.08	0.15	1.00		
10. INDSTR	-0.24**	0.08	0.08	0.01	-0.20*	-0.06	0.17	0.13	0.14	1.00	
11. TYPE	0.12	0.03	0.03	-0.38**	0.10	-0.24**	-0.14*	0.10	0.43**	0.06	1.00

Notes: N = 101 companies. ** Correlation is significant at the 0.01 level (1-tailed). * Correlation is significant at the 0.05 level (1-tailed). LPFOM = Log of the three-year average value of the difference between actual profits before tax and predicted profits before tax as a percentage of the absolute value of predicted profits before tax in Years 1-3. OUTPLA= Outside directors in the planner. OUTPLAD = Outside directors in the plan administrator. OWNER = The proportion of common shares held by the largest shareholder of the firm. LNCAPLAD = Log of amounts of cash compensation for the plan administrator. SHPLAD = The percentage of common shares held by the plan administrator. ORSTR= Dummy variable (1,0) 1 for operational restructuring or 0 otherwise. ARSTR = Dummy variable (1,0) 1 for asset restructuring or 0 otherwise. LNSIZE= The natural log of the total assets in the firm. INDSTR= Types of industry; 1 for manufacturing, 0 for others. TYPE= Types of company; 1 for public company, 0 for private company.

In the OLS regression analysis (Table III), cases with standardized residuals above ± 3 standard deviations are omitted as research suggests that these cases may unreasonably influence

the accuracy of estimates (Field 2009), reducing the final sample size to 96. Tolerance and variance inflation factors (VIF) were tested and found no evidence of multicollinearity between the remaining independent variables. The explanatory power of the regression (adjusted $r^2=0.063$) is consistent with previous studies investigating the effect of governance mechanisms on performance (for example, the studies of Mehran,1995; Lemmon and Lins, 2003; and Peng, 2004).

The regression findings in Table III indicate that there are three governance related variables that are influential in determining post-bankruptcy performance. Ownership concentration by the largest shareholder (OWNER), the log of cash compensation for the plan administrator (LNCAPLAD), and the common shares held by the plan administrator (SHPLAD) are found as positive and significant predictors at $p < .10$. The control variable, industry type, is also significant, with manufacturing industry having a negative effect on post-bankruptcy performance as measured by LPFOM.

In contrast to the hypothesized relationship, the log of the proportion of outside directors in the planner (LNOUTPLA) is not significant. The restructuring methods adopted (ORSTR and ARSTR), firm TYPE (public or private) and size (LNSIZE) of company are also not a significant contributor to the performance of firms under reorganisation.

Table III.

Empirical results of predictors of a firm's post-bankruptcy performance as measured by the natural log of post-bankruptcy performance (LPFOM)

Model:

$$LPFOM = \alpha + \beta_1(OUTPLA) + \beta_2(OWNER) + \beta_3(LNCAPLAD) + \beta_4(SHPLAD) + \beta_5(ORSTR) + \beta_6(ARSTR) + \beta_7(LNSIZE) + \beta_8(INDSTR) + \beta_9(TYPE) + \varepsilon$$

<u>Variables</u>	<u>Hypothesis</u>	<u>Predicted sign</u>	<u>Coefficient</u>	<u>t-value</u>	<u>Significance</u>
OUTPLA	H _{1a}	+	0.000	-0.727	.235
OWNER	H ₂	+	0.002	1.713	.045**
LNCAPLAD	H _{3a}	+	0.009	1.663	.050*
SHPLAD	H _{3b}	+	0.002	1.301	.099*
ORSTR			0.013	0.199	.843
ARSTR			0.032	0.507	.614
LNSIZE			0.035	1.375	.173
INDSTR			-0.141	-2.207	.030**
TYPE			0.095	1.228	.223
Intercept			7.620	39.517	.000
F-value	1.715*				
R-square	0.151				
Adjusted R-square	0.063				

Notes: N = 96 sample companies. * is percent significance level < .10 (1-tailed). ** is percent significance level < .05 (1-tailed). LPFOM = The natural log of the three-year average value of the difference between actual profits before tax and predicted profits before tax as the percentage of absolute value of predicted profits before tax in years 1-3; OUTPLA= The proportion of outside directors in the planner; OWNER= The proportion of common shares held by the largest shareholder of the firm; LNCAPLAD = The natural log of amounts of cash compensation for the plan administrator; SHPLAD = The percentage of common shares held by the plan administrator; ORSTR = Dummy variable (1,0) 1 for operational restructuring or 0 otherwise; ARSTR = Dummy variable (1,0) 1 for asset restructuring or 0 otherwise; LNSIZE = The natural log of the book value of total assets in the firm; INDSTR = Types of industry; 1 for manufacturing, 0 for others; TYPE = Types of company; 1 for public company, 0 for others.

Conclusion

This paper reviewed previous research to develop hypotheses which outline the critical governance factors impacting on post-bankruptcy reorganisation performance in Thailand. The model is based in Agency Theory and suggests avenues for improving the performance of restructured companies by effective monitoring and incentive alignment of the managers of the restructuring process. The results indicate that monitoring and incentive mechanisms are significant determinants of a firm's post-bankruptcy performance. The key monitoring mechanism is ownership concentration of common shares held by the largest shareholder (H_2), whereas the critical incentive mechanisms are cash compensation (H_{3a}) and the percentage of common shares held by the plan administrator (H_{3b}). The results indicate that these mechanisms can mitigate agency problems in previously insolvent companies and increase post-bankruptcy performance over a three year period.

Contrary to expectations the proportion of outside directors in the planner (H_{1a}) is not significant. The restructuring methods adopted and firm type (public or private) are also not a significant contributor to the performance of Thai firms under reorganisation.

From a theoretical perspective, the results support the efficacy of Agency Theory as a basis for studying governance arrangements in restructuring companies. Both monitoring and incentive mechanisms, proposed by agency theory as measures to control agency costs, are found to be significant in this context. From a practical perspective, the results confirm the importance of empirical testing prior to the implementation of regulations in this area, to ensure that prescribed governance arrangements are accountable and efficient. They provide guidance to the ideal composition of the Planner and Plan Administrator to enhance the chances of successful reorganisation. They propose that the court approved Planner and Plan Administrator would benefit by the inclusion of significant shareholders and the provision of a competitive remuneration packages to those serving on these boards, including a significant equity linked component. This would ensure proper monitoring of the reorganizing companies management by a board who will be motivated to maximize the returns to stakeholders. It is argued that the facilitation of the above by either the enshrining in the Thai Bankruptcy Act, or less prescriptively through recommend codes of best practice, would assist in obtaining the best possible outcome for companies entering the reorganisation process. These lessons may similarly apply to other countries, although further research is necessary to confirm them in different country settings.

The research, which was restricted to the 1999-2002 period and to variables requiring disclosure by law, would also benefit by replication over a longer time period under different economic conditions and including other variables not considered. Further research into the efficacy of the various restructuring methods undertaken by firms would also provide interesting guidelines for planners, administrators and practitioners.

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