

**Going Bust in Bangkok:
Lessons from Bankruptcy Law Reform in Thailand***

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Abstract: This paper analyzes the impact of institutional reforms to bankruptcy law in Thailand by examining changes in equity prices and changes in levels of non-performing loans. Improvements to bankruptcy laws increased the value of the claims of both creditors and debtors. The pattern of abnormal returns suggests that the legal changes reduced the expected costs of financial distress, and the magnitude of the changes in value suggests that these costs were significant before the reforms. Affiliates of financially healthy business groups did not benefit from the legal changes to the same extent as stand alone firms. This finding is consistent with the view that financial relations among business group affiliates influence the costs of financial distress. Finally, the paper points out that despite significant legal reform, the pace of restructuring has been slow. Potential explanations include remaining weaknesses in the law and the large presence of state owned banks.

1. Introduction

In the aftermath of the July 2, 1997 devaluation of the baht and the subsequent currency crisis that spread throughout Asia, non-performing bank loans grew to extremely high levels, reaching more than 40% of total bank lending in Thailand and Indonesia. Many Asian countries had arcane bankruptcy codes. Creditors were powerless to renegotiate debt contracts in and out-of-court and therefore became reluctant to lend. To mitigate this financial gridlock and facilitate the process of economic recovery, Thailand, Indonesia, Korea, and Hong Kong made substantive changes in their bankruptcy codes. This paper examines the experience of Thailand.

Bankruptcy law specifies the legal rights of creditors and debtors that govern the process of resolving disputes when debt contracts are violated. A major change in the law like the change that occurred in Thailand provides a powerful test of the value of procedures to resolve disputes when people break debt contracts. The hypothesis that such procedures do not have much value predicts that unanticipated events in legislative progress might redistribute value between creditors and debtors but should not increase the total value of firms. However, if costs of financial distress are significant and can be reduced by improving laws, both creditors and debtors could benefit from reforms. Since business groups are prevalent in Thailand, the Thai experience also provides evidence of the value of bankruptcy procedures to organizations that coordinate activities among group members.

Existing academic evidence offers little insight about the extent to which bankruptcy law matters. There is a debate in the literature about whether the costs of financial distress are significant. Some academics assert that these costs of financial distress are negligible. The Coase Theorem implies that as long as a firm has good prospects and property rights are well

defined, debt will be renegotiated to ensure the survival of the firm when bankruptcy occurs. Haugen and Senbet (1978) and Jensen (1989) make arguments that financial distress has very little real impact and actually averts more serious agency problems in many cases. Based on their study of thirty-one highly levered transactions, Andrade and Kaplan (1997) offer some empirical evidence that bankruptcy costs are low. They assert that the only firms that experienced significant declines in market value during bankruptcy were the ones that faced economic distress as well as financial distress.

Other academic evidence indicates that the costs of financial distress are higher. Direct costs, which include things like legal and accounting fees, are estimated to be three to five percent of firm value (Warner, 1977, Weiss, 1990). Indirect costs can take a variety of forms that could be more significant. Bankruptcy procedures can distract management (Cutler and Summers, 1988) and limit a firm's ability to raise new funds to make positive net present value investments that would create value (Meyers, 1977). Theoretical and empirical work suggests that there is a private cost of illiquidity during times when bankruptcy occurs, like times of crisis (Shleifer and Vishny, 1992, Pulvino, 1998). There are also significant costs for managers (Gilson, 1989, Gilson and Vetsuypens, 1993).

Since most of the literature on the costs of financial distress draws evidence from the US, the debate fails to consider the extent to which these costs are high in environments where the law does not detail a procedure for resolving distress or where the law is not efficiently implemented. Prior to the crisis, Thai judicial procedure was a potential source of large transactions costs. Bankruptcy cases dragged on for more than two years on average, and there was no specialized court that developed an expertise in the field. The law lacked provisions for debtor in possession financing and an automatic stay on assets. These provisions intend to

minimize collective action problems among creditors. The law also did not detail how claimholders and managers would prepare and implement a restructuring plan. Without such a procedure, conflicts of interest could present significant challenges to restructuring.

My analysis of the financial reaction to reforms in Thailand illustrates that both creditors and debtors experienced immediate financial gains from the passage of new legal procedures and provisions to increase judicial efficiency. The results suggest that the gains occurred because reforms reduced the expected costs of financial distress.

The financial reaction to bankruptcy law reform in Thailand also sheds light on the role played by business groups in emerging markets and the extent to which these groups value legal procedures to resolve contract disputes. Throughout Latin America and Asia, business groups are prominent. There is some debate concerning the nature of the financial relationships between firms that are classified as being in the same group. Khanna and Palepu (forthcoming) posit that groups could play a central role in allocating capital in markets where information and agency problems are severe. On the other hand, Foley (1999) finds that financial relationships between firms within a group in Chile are closely regulated and that there is little evidence that groups align firms that need cash with firms that generate cash.

If financial relationships between affiliates are significant, group interactions could have an impact on the chances that an affiliate faces bankruptcy and on the costs after the onset of distress. Claessens, Djankov, and Klapper (1999) provide evidence that affiliation with banks and large families reduced the likelihood of filing for bankruptcy among a group of publicly traded East Asian firms. Studying a sample of Japanese firms, Hoshi, Kashyap, and Scharfstein (1990) provide evidence that after the onset of distress, costs are lower for firms that belong to

groups containing banks. I find that the business group structure dampens the financial impact of bankruptcy law reforms for affiliates of financially healthy groups.

Although the financial gains related to legislative progress were immediate, real change in the form of debt restructuring was not. The aggregate data on changes in the level of non-performing loans are consistent with the view that legal changes facilitated the resolution of financial distress, but the process of restructuring has been slow. The significant presence of government owned banks and remaining weaknesses in the law are potential explanations.

This paper proceeds as follows. In Section 2, I discuss the laws governing liquidation and restructuring in Thailand and explain how changes to these laws aimed at making the resolution of financial distress more efficient. Section 3 briefly sketches a model of the impact of bankruptcy law reform and discusses the hypotheses that I test. Section 4 details the sources of data and characterizes the group affiliates and stand alone firms that are the subjects of analysis. Section 5 identifies key events in the legislative progress of reforms and analyzes how those events impacted firm value. Section 6 examines the extent of restructuring that has taken place following the reforms, and Section 7 concludes.

2. Thai Bankruptcy Law

In July of 1997 Thailand lacked legal procedures to govern restructuring. Over the next two years, lawmakers built upon Bankruptcy Act B.E. 2483, which provides a framework for liquidation, to detail such procedures. This section details some aspects of the legal changes and analyzes how the legal changes could impact the costs of financial distress. The changes are summarized in Table 1. Additional information about the law can be found in the appendices.

A. The Legislative Background

Bankruptcy Act B.E. 2483 was written in 1940 and amended in 1968, 1983, and 1999. The law covers liquidation of both personal and corporate entities. It allows creditors to file petitions enabling a court-designated agent to seize assets, dispose of them, and distribute the proceeds. The procedure is depicted on the left-hand side of Figure 1 and works as follows.

First, a creditor must establish that a firm is insolvent. This requirement has been a contentious one. The letter of the law puts forth nine conditions that are each sufficient for proving insolvency including “(9) If the debtor receives letters of demand for debt repayment from a creditor on not less than two occasions, the interval period between these occasions shall be at least 30 days, and the debtor fails to repay the debts.”¹ However, the law has lost its bite in implementation. The Thai Supreme Court has on more than two occasions upheld the additional requirement that total liabilities exceed total assets. Therefore creditors cannot use the law to threaten bankruptcy if a solvent firm fails to make a debt payment. As seen in the 1998 Nikko Hotel Mahanakorn case, this interpretation has prevented creditors from placing into bankruptcy or reorganization a recalcitrant debtor that has significant land holdings.²

Once a creditor establishes insolvency, it can petition for liquidation. If the court grants the petition, it reviews and takes control of the property of the debtor. A court appointed Official Receiver seizes the property and sells it, usually at auction. Rules of absolute priority that recognize different classes of creditors govern how proceeds are distributed.

Since subsequent legislation attempts to develop procedures for reorganization, it is worth noting the extent to which Bankruptcy Act B.E. 2483 facilitates workouts. After a court grants a petition for liquidation but before liquidation takes place, a debtor can file a petition for compromise with the creditors. One-half of the creditors in number and three-fourths of the

creditors in value must support a petition for it to pass, and the court must approve the petition.

This compromise provision gives some room for restructuring.

However, limitations of this law could cause contract renegotiation to be costly. The law does not include provisions to minimize collective action problems among creditors.

Specifically, prior to the reforms, Thai law did not impose an automatic stay on assets, and it did not support debtor in possession financing. Without an automatic stay on assets, creditors have an incentive to race to seize the assets of the firm that act as collateral when a firm is insolvent. If the value of the firm is higher when the firm is maintained as a going concern, this racing can destroy value and make reorganization more difficult. Debtor in possession financing allows a creditor to make a senior loan to a business that faces a temporary cash shortfall when the firm has reasonable future prospects. Without debtor in possession financing, creditors fear that making new loans to insolvent debtors merely subsidizes other creditors.

Bankruptcy Act B.E. 2483 also fails to detail rules for restructuring. There are no formal procedures governing the creation and content of an acceptable rehabilitation plan. The law does not detail what role shareholders or managers of the debtor should play in the process of making or implementing a plan. Conflicts of interest between managers and claimholders and between debt holders and equity holders can therefore impede the ability of creditors to pursue liquidation or reorganization. For example, managers might try to prolong the life of a failing firm by providing limited historical and projected financial information. Hold out and free rider problems among claimholders can be significant.

Poor implementation of this law created additional costs of financial distress. Before February 1999, all liquidation cases were held in the Thai civil court system, the same system that handled all other civil cases. These courts did not have an expertise in business matters or

valuation. Cases were also not held on continual days. If one day were not sufficient to settle a case, another would need to be scheduled, frequently weeks or months later. When someone was testifying in a case, the court recorder would write down the person's testimony and then read it back in its entirety before proceeding. As a result of these procedures, cases frequently dragged on for more than five years. A 1998 study by George & Kowit P.C. Ltd., a Bangkok law firm, found that while average recovery of assets in Thai liquidation cases was 19.8% of book value, high when compared to 12.4% for Japan and 4% for the United States, cases took from 2-13 years, much longer than an estimated 2 years for Japan and 28 months for Germany.³ There was no guarantee that a judge would continue to preside over a court long enough to see a case through to completion. These shortcomings in judicial procedures increased legal expenses, distracted management, and delayed payments to claimholders.

B. Bankruptcy Act B.E. 2541

The first step in reform came in early 1998 when the Thai House and Senate passed Bankruptcy Act No. 4, B.E. 2541. This act provides a legal framework for the rehabilitation procedure displayed on the right hand side of Figure 1. To initiate a rehabilitation, a creditor must again establish insolvency as described above. A creditor, debtor, or government agency can then file a restructuring petition with the court. If the court believes that creditors and debtors will be able to revitalize the company, it grants an order for rehabilitation. This court order triggers an automatic stay on assets. The stay is triggered only if the court believes that rehabilitation will occur. Since passing a plan under B.E. 2541 required the support of one-half of the creditors in number and three-fourths of the creditors in value, rehabilitation could not take place without their support. Therefore, debtors could not easily use the stay on assets to take

advantage of creditors. The law also allows the company to raise additional capital through debtor in possession financing. Therefore, this act reduces the potential collective action problems that existed when restructuring could only take place through the compromise procedure in B.E. 2483.

B.E. 2541 also reduces the potential costs associated with conflicts of interest by detailing rights and rules to govern restructuring. The creditors' first task is to elect a planner that immediately assumes the control rights of shareholders and the managers of the debtor. Within three months the planner must deliver a plan to the creditors that details the assets and liabilities of the company, explains how rehabilitation will take place, and documents future capital needs. Although requirements were changed in a subsequent amendment that divides creditors into classes, according to B.E. 2541, if one-half of the creditors in number and three-fourths in value vote in favor of the plan, they approve it by a special resolution. The court must independently review the plan to ensure that it treats all classes of claim holders fairly. If the plan passes these hurdles, the plan executor implements the plan. If a plan does not win approval or fails in implementation, the planner can attempt to modify the plan or creditors can petition for liquidation.

C. The Act for the Establishment of and Procedure for Bankruptcy Court

In February 1999, the Senate approved The Act for the Establishment of and Procedure for Bankruptcy Court. This Act improves implementation of the law. With the establishment of this court, no other Courts of First Instance can accept and adjudicate a liquidation or rehabilitation case. In forming a specialized body, the proponents of the law hoped to create an organization better trained than the existing civil courts to handle the complicated financial and

management issues associated with bankruptcy. In addition, the Act streamlines legal proceedings. As stated in Section 15, “the Bankruptcy Court shall proceed with the trial of a case consecutively without adjournment until completion thereof unless there is unavoidable necessity.”⁴ This change is a major improvement over the existing civil court procedures that allowed bankruptcy cases to drag on for years.

D. Bankruptcy Act B.E. 2542

Bankruptcy Act No. 5, B.E. 2542, also passed in the first part of 1999, weakens the requirements for approving plans, broadens the ability of distressed firms to raise capital, limits the power of the courts, and increases the planner’s powers of avoidance. Under B.E. 2541, passing a plan requires a special resolution, or a vote in favor of the plan by one-half of the creditors in number and three-fourths of the creditors in value. No distinction is made between different classes of creditors. B.E. 2542 divides creditors into classes, including a class of secured creditors who have secured debt of no less than fifteen percent of the total debts, a class of all other secured creditors, at least one class of unsecured creditors, and a class of subordinated creditors. Passing a plan still requires the support of the majority of all creditors in number, but under B.E. 2542 only one impaired class must pass the plan by a special resolution. An impaired class is defined as any class that is not expected to be repaid in full. This change mitigates holdout problems among creditors.

B.E. 2542 extends the ability of firms that face temporary cash shortfalls to raise money. It recognizes the right of an unsecured creditor that knows that a debtor is insolvent and extends a loan prior to the approval of a petition of rehabilitation to file a claim for repayment in liquidation cases. The act also removes the Court’s ability to approve or disapprove of a plan for

a “special reason” not clearly defined in the law, a power that existed in previous versions of the law.⁵ Finally, under B.E. 2542, the planner is also given the authority to cancel contracts and has increased powers of avoidance over acts conducted with “Insiders to the debtor,” or people and firms that have close relations with the debtor.⁶ These rights give the planner the power to void contracts to make sure that assets do not leave the bankruptcy estate in an inappropriate manner.

3. Model and Hypotheses

A simple model illustrates how legal changes impact the level of total firm value and the value of debt and equity claims. This model is not intended to address questions about the role of debt or optimal capital structure, but it does help explain the potential implications of legal changes and leads to some hypotheses that I test.

A. Basic Structure of the Model

Consider a firm with some assets in place and some initial level of debt D , as illustrated in Figure 2. The firm has promised to pay its creditors P in association with this debt. At date 1, the firm earns cash flow y_1 . At date 2 the firm earns cash flow y_2 and P is due. Assume that y_1 and y_2 are positively correlated and that y_1 , but not y_2 , is observed at date 1.

In this model, I also assume that there is a manager who would like to keep the firm going rather than liquidate it. Furthermore, the firm is a large company that is owned by a number of equity holders and debt holders.

Bankruptcy law gives creditors the right to liquidate or reorganize a company if insolvency occurs. A firm is financially sound at date 0, but a creditor can file a petition for liquidation or reorganization at time 1 if the firm is expected to be insolvent, or if $y_1 + E(y_2) < P$.

If the firm is liquidated, the proceeds available for distribution among claimholders is $\theta_L L$, where L is the value claimholders would receive if liquidation procedures were perfectly efficient, and θ_L is a measure of the efficiency of liquidation procedures taking a value between zero and one. $\theta_L L$ is available for distribution at date 1, and there is no uncertainty about L at date 1. If the firm is reorganized, the proceeds available for distribution among claimholders is $\theta_R R$ where R is the value claimholders would receive if reorganization procedures were perfectly efficient and θ_R is a measure of the efficiency of reorganization procedures taking a value between zero and one. R is uncertain at date 1. I assume firms can create value through restructuring, so that it is possible that $E_1(R) > E_1(y_2)$.

θ_R and θ_L reflect the potential costs of weak laws and poor implementation of the law. If procedural inefficiencies, collective action problems, and conflicts of interest are significant in liquidation or reorganization procedures, θ_R and θ_L are small, and only a fraction of the potential value of the firm is available for distribution to claimholders.

B. The Implications of Legal Reforms

Improvements in judicial procedures, solutions to collective action problems among creditors, and measures to reduce haggling and conflicts of interest during insolvency increase θ_R and θ_L . I assume that at date $\frac{1}{2}$ some surprise legislative event changes θ_L and θ_R .

Changes to bankruptcy law only have an impact on the realized value of a firm in states of the world where insolvency occurs. Therefore, to understand the impact of changing θ_L and θ_R , consider a firm that is insolvent at $t=1$. The value of debt at this time is:

$$\max(E_1(\min(P, y_1 + y_2)), E_1(\min(P, y_1 + \theta_L L)), E_1(\min(P, y_1 + \theta_R R)))$$

As the equation above indicates, the value of debt in an insolvent firm is non-decreasing in θ_L and θ_R . Any increases in the value of debt in states of the world where insolvency takes place imply increases in the expected value of debt at $t=1/2$ for all firms that face insolvency with some positive probability. The theory therefore predicts that improvements in bankruptcy laws increase the value of debt claims and the value of creditors.

The value of equity at date 1 in an insolvent firm depends on the choice creditors make.

It can be described as:

$\max(0, E_1(y_1 + y_2 - (\min(P, y_1 + y_2))))$ if the creditors opt for continuation
 $\max(0, E_1(y_1 + \theta_L L - (\min(P, y_1 + \theta_L L))))$ if the creditors opt for liquidation
 $\max(0, E_1(y_1 + \theta_R R - (\min(P, y_1 + \theta_R R))))$ if the creditors opt for reorganization

If creditors make the same choice as they would have if no legal changes were to take place when changes do occur, then the value of equity is non-decreasing in θ_L and θ_R . However, creditors might change the choice they make in insolvency when there are improvements in the efficiency of liquidation and reorganization procedures and this change can increase or decrease equity value. Equity holders, for example, will receive some of the gains if a firm restructures at date 1 and only some of the value created through restructuring goes to meet the promised payments to creditors.

But creditors can also destroy value. As an example, consider a firm that has earned some y_1 and expects to earn a y_2 that has a distribution such that $y_1 + y_2 > P$ in some states of the world. This firm will have a positive equity value at date 1. Since creditors do not care if the firm earns more than P , they are willing to give away high realizations of y_2 to receive a lower L with certainty. If $E_1(\min(P, y_1 + y_2)) < E_1(\min(P, y_1 + \theta_L L))$, creditors will liquidate the firm even if equity holders prefer continuation, or if $\max(0, E_1(y_1 + \theta_L L - \min(P, y_1 + \theta_L L))) <$

$\max(0, E_1(y_1 + y_2 - \min(P, y_1 + y_2)))$). Therefore, liquidation can destroy value and transfer value from the equity holders to the debtors.

However, an increase in the value of both debt and equity claims in reaction to bankruptcy law reform does provide evidence that the costs of financial distress are large and that there are benefits related to introducing a more efficient set of restructuring procedures. Figure 3 depicts a numerical simulation of how the value of debt and equity change with changes in θ_L and θ_R for a particular parameterization and indicates these benefits.

Another source of change in value is not captured by the model because the model only looks at the life of a single loan and the shock to legal efficiency occurs after the debt contract is written. However, if a firm borrows additional money in the future, a bankruptcy law that lowers the costs of financial distress increases expected payments to creditors and reduces the value of the promised payment for any value of debt if rents are split between borrowers and lenders.

Additional hypotheses about the pattern of equity returns among equity holders of the debtor follow from the model and allow me to rule out the hypothesis that changes in the value of creditors and debtors are due to macroeconomic shocks or expectations that general economic policies will improve in the future. Equity holders in debtors with a low level of leverage before the legal change do not benefit from the changes very much because these firms face a very low chance of becoming insolvent. Equity holders in highly levered firms should not benefit much since creditors capture most of the value of the firm when insolvency occurs. Therefore, the model suggests that firms with a moderately high degree of leverage experience the largest changes in equity value when there are large legal improvements. This pattern of returns occurs in the parameterization of the model illustrated in Figure 3 for large shifts in θ_L and θ_R . In addition, if a firm that is associated with a healthy business group can leverage its relationships

to fend off bankruptcy, then shifts in θ_L and θ_R should not disproportionately increase the equity value of such firms with moderate leverage. Explanations of value changes based on macroeconomic shocks or policy shifts would imply no systematic relationship between abnormal returns and leverage and would not predict differential effects for affiliates of healthy business groups.

This model is a four-period stylized model, and it does not indicate how legal changes affect levels of restructuring. Since the law is supposed to help overcome collective action and hold up problems that can occur during restructurings, a reduction in levels of non-performing loans after the legal changes would indicate that the law plays an important role.

4. Data and Methodology

A. Data

To test the hypotheses implied by the model, I use event study methodology to examine three events related to the passage of the legislative reforms described in Section II. The Investor Relations & Communications Department of the Stock Exchange of Thailand collects and publishes detailed financial statement data for all of the listed companies. I use information from the audited December 31, 1998 financial statements in examining the cross section of reactions among debtors for all three events.⁷

Datastream International is the source of all information on the daily prices, returns, and trading volumes for publicly traded securities. I use historic monthly returns to obtain an estimate of beta.⁸ Information on the group affiliation of firms comes from *Thai Business Groups 1996/1997*, published by Tara Siam Business Information Ltd.

Table 2 indicates the number of firms that were active during each of the three events. Table 3 provides information about firm characteristics that I will use in subsequent analysis. I separate the sample of firms into financial and non-financial firms. Financial firms include businesses in the banking and insurance industries and finance companies. Non-financial firms are highly levered on average at the end of 1998. The ratio of the book value of debt to the book value of assets for non-financial firms has a mean of 45%. Other work indicates that this ratio is in the 20-35% range for firms in the U.S., Japan, Germany, France, Italy, the United Kingdom, and Canada (Rajan and Zingales, 1995).

Although they are not legal entities, business groups play a prominent role in the Thai economy. These groups are collections of companies that are linked through cross ownership, directorate interlockages, product market relationships, or common management. In Thailand, ownership and control of companies are highly concentrated, and most groups are centered around a single family. The largest Thai companies date back only to the 1940s and 1950s. If the founders do not hold an active management position, sons and daughters usually have a large role overseeing the company.⁹

Table 4 gives some brief statistics on groups. 233 of the 377 initially active firms are group affiliates, and groups tend to have many firms that are not publicly traded. The mean number of firms in a group is more than 50, and the largest group, the C. P. Group, has 365 members. 62% of the 87 groups covered by the sample contain a financial affiliate. This provides some initial evidence that financial relationships within groups are important.

As indicated in Table 3, Group affiliates tend to be larger than stand alones. The mean group firm has a book value of assets of 31,314 million Baht compared to 9,463 for non-group firms. Part of this difference can be explained by the fact that commercial banks and other

financial firms are substantially larger than non-financial firms in terms of total asset size and more financial firms are group affiliates. In fact, eight of the ten commercial banks in the sample are group affiliates. However, even within the financial and non-financial classifications, group affiliates tend to have larger book value of assets than non-affiliates. Group affiliates also tend to be slightly more levered than non-group affiliates. These characterizations are consistent with the description of groups in other countries. (Khanna and Palepu, forthcoming, Khanna and Rivkin, 1999)

B. Methodology

Using the data described above, I examine equity returns during event windows for key events in the legislative progress of bankruptcy law reform. Since the dates that markets incorporate reactions are not clearly defined, in my initial analysis I focus on one, three, and five-day windows centered on the dates associated with each event. Many equities in Thailand are thinly traded, and I must therefore select samples of firms whose price changes reflect reactions to the events. I include a firm in the sample for a particular event if the equity has positive trading volume on each of the two days preceding the five-day event window and on each of the five days in the five-day event window. These samples do not seem to differ from the sample of all publicly traded firms in any systematic ways.

Since Thailand does not have a well-developed market for publicly traded debt, I am limited to studying reactions in equity markets. In order to isolate the impact of the changes on debtors, I analyze non-financial firms and in order to isolate the impact on creditors, I examine changes in the equity values of commercial banks. There are 10 banks in my sample for each of the three events. In one sense these firms are both debtors and creditors. They not only make loans, but they also borrow.

The bulk of their borrowings comes from depositors, as indicated in Table 5. The ratio of deposits to total liabilities exceeds 83% for all active publicly traded banks. A group of depositors could file a petition for reorganization if they were collectively owed more than Baht 10 million, or they could file a petition for liquidation if they were collectively owed Baht 2 million.¹⁰ However, the government has guaranteed all depositors of banks and finance companies. Therefore any such filings would be highly unlikely in practice. Thus, examining the change in the equity value of commercial banks gives a strong, albeit imperfect, indication of the value of reforms for creditors.

To determine if the returns during the event window were statistically significant, for each sample I estimate a constant mean model using daily returns for a period of 120 days before the first event. This model gives an estimate of mean daily returns and an estimate of the variance of daily returns. I use these results to determine if prediction errors for each event window are statistically different from zero.

In order to rule out alternate explanations for the event returns and to study the impact of group affiliation, I conduct multivariate analysis of the cross section of abnormal returns for debtors. I calculate abnormal returns for a particular firm by subtracting beta times the returns to the portfolio of non-financial firms from that firm's returns.¹¹ This analysis also focuses on the sample that meets the liquidity constraints described in the data section.

As a measure of leverage, I use the ratio of the book value of debt to the book value of assets, or BVD/BVA. This variable is a proxy for the likelihood that costs of financial distress are incurred, and it is a reasonable choice given the laws in Thailand. Only those firms with a negative book value of equity are considered insolvent, and a creditor who wants to petition for liquidation or bankruptcy must establish insolvency first. Using the book value of debt as

opposed to the book value of liabilities is preferable because debt holders file reorganization and liquidation petitions more often than holders of other liabilities. Besides, there is not much difference between these measures; they have a correlation of 0.93, suggesting that there is very little room for misspecification.

Since the model predicts that the changes in the value of equity will be the highest in firms with moderate degrees of leverage, I use a piecewise linear specification and define leverage as follows:

$$\begin{aligned} \text{BVD/BVA} < 0.6 & \text{ is equal to } \text{BVD/BVA} \text{ if } \text{BVD/BVA} < 0.6 \\ & \text{ is equal to } 0.6 \text{ if } \text{BVD/BVA} > 0.6 \\ \text{BVD/BVA} > 0.6 & \text{ is equal to zero if } \text{BVD/BVA} < 0.6 \\ & \text{ is equal to } \text{BVD/BVA} - 0.6 \text{ if } \text{BVD/BVA} > 0.6 \end{aligned}$$

It is important to control for other firm characteristics that are often thought to impact the costs of financial distress. I include the ratio of net property, plant and equipment to total assets, or PPE/BVA, since a firm's level of tangible assets might impact the ability of a creditor to claim value through liquidation. Since the new reorganization procedures are expected to be especially valuable for firms with good future prospects, I include an estimate of Tobin's q, called q proxy, for each industry. This variable is calculated by summing up the book value of assets for all firms in an industry and dividing this figure by the sum of the book value of debt and the market value of equity.¹² The Thai stock exchange identifies firms as belonging to one of 54 different industries.

In order to examine the impact of groups, I isolate a sample of group affiliates that are related to groups that appear to be financially healthy. It is not possible to directly observe the financial health of groups since many affiliates are not public companies. I therefore define criteria of financial health related to observable factors to create the variable SAFE GROUP.

SAFE GROUP is equal to one if three conditions are met. First, the firm must belong to a group that contains no companies that have been delisted or suspended from active public trading since the start of 1997. Second, the firm must belong to a group that contains at least one other publicly traded non-financial affiliate. Finally, the ratio of the sum of book value of debt to the sum of the book value of assets for all other non-financial group affiliates must be less than 0.5, the mean value of this variable for groups with more than one non-financial affiliate.

Approximately one-third of the firms in each event meet these criteria in each of the three events. In conducting further multivariate analysis, I include the variable SAFE GROUP and interactions of SAFE GROUP with the two BVD/BVA variables.

After delving more deeply into the financial impact of legislative changes, I briefly evaluate some real effects. I examine two case studies of companies that failed to make payments to their creditors beginning in 1997, and I analyze trends in the aggregate data on non-performing loans and levels of restructuring.

5. Market Responses to Events in Legislative Progress

A. The Events and the Returns During the Event Windows

Since security prices in theory reflect public information and expectations about the future, I must focus on events in which some uncertainty was resolved in the analysis of the financial effects of reform. In order to identify key events and learn about their significance, I extensively read The Nation and The Bangkok Post, the two English language daily newspapers and interviewed 28 lawyers, judges, and bankers in the summer of 1999. I have identified three events that should provide insight about the costs of financial distress and the value of legal reforms.

Since the passage of Bankruptcy Act No. 4, B.E. 2541 was widely anticipated, I do not examine an event related to it. The Thai cabinet promised to try to reform bankruptcy law in the first three letters of commitment to obtain IMF funding after the onset of the crisis. In order to ensure passage of this initial legislation, members of the House and the Senate tabled a number of particularly contentious issues until the debate on Bankruptcy Act No. 5, B.E. 2542. However, the initial Senate opposition to the legislation was not anticipated.

i. The First Senate Challenge

The first event, which I refer to as the First Senate Challenge, occurred in late November and early December 1998. Senators announced opposition to bankruptcy law reforms for the first time by threatening to repeal Bankruptcy Act No. 4, B.E. 2541.

Members of the Thai Senate feared that reforms could reduce employment if creditors were given new powers to liquidate business or layoff employees in restructuring. Some senators voiced opposition in xenophobic terms, claiming that proposed laws would disproportionately help foreign creditors and vulture investors.¹³ Senators also feared for their own financial well being. Loans in Thailand typically have personal guarantees associated with them, and some senators guaranteed the debts of their own businesses and the businesses of their political supporters. According to Natee Thongdee, a lawyer in Bangkok, one senator committed his entire family as guarantors for bank loans.¹⁴

Lawmakers considering various proposals to deal with many of the hotly contested issues raised by B.E. 2541 began to challenge this law and how it was passed. A thirty-three member group of senators convened with the purpose of critically reviewing the amendments to bankruptcy law. On November 30 Paisarn Kumalayavisai, chairman of this committee, argued

that the IMF letters of intent written and signed by the cabinet bound the Senate to pass bankruptcy law reform. He pointed out that Article 224 of the Thai Constitution stipulated that any state contract warranting subsequent legislation must be approved by parliament and that the Senate did not approve these letters. He announced his intention to use this article to repeal Bankruptcy Act No. 4, B.E. 2541.

To study this event, I examine an event window centered on November 30, 1998. Since senators discussed the goals of this committee in the days leading up to this date and since other prominent government officials came out in support of Paisarn Kumalayavisai in the days that followed, this event is not clearly defined.

If successful, the challenge to repeal B.E. 2541, leaving only prior legislation, would have reduced the efficiency of bankruptcy procedures. As detailed in Section 2, Bankruptcy Act No. 4, B.E. 2541 makes a number of substantial improvements over Bankruptcy Act B.E. 2483. The law mitigates collective action problems among creditors and preserves the value of an insolvent firm that is worth more as a going concern by calling for an automatic stay on assets if the court accepts a petition for rehabilitation. The law allows firms to receive debtor-in-possession financing to fund expenses incurred by the planner or recognized in the reorganization plan. This form of financing overcomes another collective action problem, this one among creditors who may resist extending new credit to an insolvent debtor because they fear they will subsidize existing creditors at their own expense. The law also limits costs associated with conflicts of interest by stripping shareholders and managers of the debtor of their control rights and putting a creditor appointed planner in charge.

An examination of returns during the event window indicates how the market responded to the challenge to these reforms. Table 6 indicates that market returns were negative when

reforms faced the setback posed by the First Senate Challenge. Firms lost more than 3%, 7%, and 13% of their equity value over the one, three, and five-day event windows. The percentage changes in value during each of the events are clearly economically significant.

In the constant mean model of returns used to examine statistical significance, variances are very large. For example, the aggregate value weighted return to firms meeting the liquidity requirements all had a standard deviation of returns greater than 3.4%, nearly twice the 1.6% standard deviation of the value weighted daily returns of the NYSE/AMEX/NASDAQ CRSP composite over the last 120 days of 1998. Several factors explain this high volatility. The Thai stock market contains a small number of liquid firms that are not from a very diverse set of industries. During the period of interest, the country also went through dramatic change as it faced the challenge of rebuilding after the devaluation. The volatility of the Thai market places a high hurdle in tests of the statistical significance of event returns. Despite this issue, as seen in Table 7, the returns during the five-day event window around the first Senate challenge are significantly different than predicted.

It is interesting to note that the equity returns to debtors and creditors both have the same sign. Commercial bank equity holders, the group that indicates the returns to creditors, and non-financial firm equity holders, who indicate the change in value for debtors, both experienced losses. The set back for reforms did not have different impacts for the parties on opposite side of debt contracts.

ii. The Establishment of the Bankruptcy Court

The second event I examine took place on February 12, 1999. On this day, the Senate approved The Act for the Establishment of and Procedure for Bankruptcy Court, an act that was

intended to increase the efficiency of judicial procedures in bankruptcy cases. I refer to this event as the passage of the Bankruptcy Court Act.

On February 11, senators warned that there could be delays in the passage of key pieces of legislation, and many believed that this signaled that reforms would be slow and very conditional. However, the Senate engaged in second and third readings of the bill that established the bankruptcy court on February 12. As reported in *The Financial Times*, there was a heated debate in which some members tried to delay the establishment of the court and give it a very limited jurisdiction.

“The huge political victory scored by the Thai government in getting a new specialized bankruptcy court approved by the country’s appointed Senate is a crucial beginning to an overhaul of an antiquated legal system that has been the biggest obstacle to Thailand’s economic recovery.... Quick passage of a workable bankruptcy court bill had been in doubt after a vocal minority of senators sought to delay establishment of the new court by two years and give it jurisdiction only over loans made after the onset of the country’s economic crisis.”¹⁵

The final vote on the bill was 103 in favor, 3 against but 150 Senators did not vote. As explained in Section 2, this Act improves the implementation of bankruptcy law by moving cases out of the inefficient civil court system that allowed cases to drag on for years.

The second panel in Table 6 indicates that the market returns related to this event were positive. Firms gained more than 10% in equity value over each of the event windows examined. The equity returns to debtors and creditors again both have the same sign, and in this case they both benefit from the reform. The gains are statistically significant for the market, for commercial banks, and for non-financial firms over the one-day window at the 1% level and for the market and commercial banks over the three-day window at the 10% level.

iii. The Passage of Bankruptcy Act B.E. 2542

The third event I examine occurred on March 12, 1999, when the Senate rejected a proposal to weaken a new amendment, Bankruptcy Act No. 5, B.E. 2542, and then passed the amendment. I refer to this event as the passage of Bankruptcy Act No. 5.

In the weeks leading up to the vote, a Senate committee reviewing the changes to bankruptcy law proposed three contentious changes that would have limited the amount creditors could have obtained in bankruptcy cases and reduced the number of cases subject to the new legislation. The proposal exempted guarantors from bankruptcy suits and lifted bankruptcy status from failing businesses after one year from the date the bankruptcy court issued a verdict. Furthermore, under the proposal creditors could not petition for bankruptcy or liquidation if the value of collateral exceeded the value of loans at the time creditors made the loans.

Disagreement on the proposal and the amendment culminated Friday, March 12, when the Senate undertook the second and third readings of the amendments. Outside of parliament about 200 protesters carried banners arguing that bankruptcy measures would enable foreigners to buy up Thai companies cheaply.¹⁶ Prime Minister Chuan Leekpai himself lobbied recalcitrant Senators until moments before the vote on the proposal, and it failed by a vote of 127 to 44 with 85 abstentions.¹⁷ The amendment to the bankruptcy law was then passed in a 162 to 1 vote, with 93 abstentions. Section II explains that this amendment gives distressed firms additional ability to raise capital, increases the planner's power of avoidance, and limits the discretion of the court. It also introduces procedures similar to the cram down procedures in the U.S. that intend to mitigate holdout problems among creditors during restructuring.

Since Senators and interest groups took stances in the days leading up to the vote and the votes took place late in the day, it is important to look at the longer event windows. Over the three and five-day windows, the market value of equity moved by more than 9%. Again the

returns to commercial banks, the proxy for creditors, and non-financial firms, the proxy for debtors, both had the same sign. Commercial banks gained more than 15% in equity value and non-financial firms around 5%. Although these changes in value are economically significant, they are not statistically significant because of the high volatility of the Thai market, as described above.

When the three events are considered together, two features of Table 6 are particularly striking. The first is that market returns were consistently positive when there was progress in reforming bankruptcy law and negative when reforms suffered setbacks. The second feature of considerable interest is that the equity returns to creditors and debtors both have the same sign for all three events. This evidence on equity returns suggests that bankruptcy law reforms did not destroy or only redistribute financial value, but these reforms increased financial value.

B. Cross Sectional Results

Cross sectional examination of the sample of non-financial firms provides additional evidence that the financial market movements are related to a reduction in the costs of financial distress as modeled in Section 3. Figure 4 displays the total returns of the samples of non-financial firms meeting the liquidity requirements for each of the three events. I focus on the one-day event window for the Bankruptcy Court Act, the three-day window for the passage of Bankruptcy Act No. 5, and the five-day window for the First Senate Challenge. As predicted by the model, when legal changes increased the equity value of debtors, equity in firms with low and high leverage does not gain as much value as equity in firms with more moderate leverage. When legal changes decreased the equity value of debtors, firms with low and high leverage do not lose as much as those with more moderate leverage.

To further examine this pattern of returns, I turn to the regression analysis of abnormal returns presented in Tables 7 and 8. The results are most consistent with the theories described in Section 3 for the passage of the Bankruptcy Court Act. Abnormal returns are increasing and then decreased in BVD/BVA. Coefficients on the two sections of the variable that serves as a proxy for leverage are significant at the 5% level. Those firms with very high or very low leverage therefore tend to experience lower abnormal returns. The same pattern of abnormal returns exists for the passage of Bankruptcy Act No. 5, but the coefficients are not statistically significant. The First Senate Challenge is a set back for bankruptcy law reform, so the model predicts that firms with moderate leverage should have lower abnormal returns than firms with very low or high leverage, but there is no evidence of this pattern in this specification.

There is support of the hypothesis that efficient restructuring procedures are more valuable to firms in industries with good future prospects. The proxy for Tobin's q is positive and statistically significant in the regression for the passage of the Bankruptcy Court Act, and negative and statistically significant for the First Senate Challenge. PPE/BVA is not significant for any of the events.

The specifications in Table 8 include the dummy variable SAFE GROUP and interactions of this term with the BVD/BVA variables. For the two events in which there was progress for bankruptcy law, the coefficients on $BVD/BVA < 0.6$ and $BVD/BVA > 0.6$ indicate that the pattern of abnormal returns described in Table 7 is more pronounced for firms not affiliated with healthy business groups. The coefficient on $BVD/BVA < 0.6$ increases and remains statistically significant for the passage of the Bankruptcy Court Act. This coefficient increases for Passage of Bankruptcy Act No. 5, but it does not gain significance. The coefficient on $BVD/BVA > 0.6$

decreases and remains statistically significant for the passage of the Bankruptcy Court Act. It also declines for the passage of Bankruptcy Act No. 5 although it is not precisely estimated.

For the First Senate Challenge, including SAFE GROUP and its interactions causes the coefficient on $BVD/BVA < 0.6$ to become negative and increases the coefficient on $BVD/BVA > 0.6$ and causes it to become statistically significant at the 10% level. Once differences of affiliates of healthy groups are controlled for, the pattern of abnormal returns is consistent with the model.

The evidence in Table 8 also indicates that affiliation with a healthy business group dampens the impact of reforms. The coefficients on SAFE GROUP and the SAFE GROUP interaction terms indicate how market reactions incrementally differ for this set of firms. Wald tests of the significance of the sum of the coefficients on interaction terms and the variables on their own determine if the market reactions for safe group affiliates vary with the explanatory variables in a way that is statistically significant. The coefficient on SAFE GROUP has the opposite sign of the constant term for the passage of the Bankruptcy Court Act and the First Senate Challenge. A Wald test does not reject the hypothesis that the sum of SAFE GROUP and the constant is different from zero for the event related to the First Senate Challenge. For all three events, the coefficient on the interaction of SAFE GROUP and $BVD/BVA < 0.6$ has the opposite sign of the coefficient on $BVD/BVA < 0.6$ when it enters alone, and these coefficients are statistically significant for the passage of the Bankruptcy Court Act and for the First Senate Challenge. A Wald test of the hypothesis that the sum of these two coefficients is equal to zero does not reject this hypothesis for any of the events. The coefficient on the interaction of SAFE GROUP and $BVD/BVA > 0.6$ also has the opposite sign of the coefficient on $BVD/BVA > 0.6$ when it enters alone for all three events. A Wald test of the hypothesis that the sum of these two

coefficients equals zero does not reject this hypothesis for any of the events. These results illustrate that the abnormal returns to affiliates of healthy groups were low and did not experience any systematic relationship with leverage.

These findings rule out leading alternate explanations for the movement in equity values. If the passage of bankruptcy laws merely signaled good macroeconomic policies or conditions for the future then the abnormal returns to publicly traded firms should not systematically vary with leverage or safe group affiliation in the way predicted by the model and found in the data. Additional evidence against these alternate explanations comes from the returns to Kingdom of Thailand Yankee bonds. These are sovereign debt claims issued in the U.S., and since clean prices fluctuate on a daily basis, they appear to be fairly liquid during each of the event windows. If bankruptcy law reforms did in fact signal good macroeconomic policies or conditions, then the returns to holding these bonds should be positive when there is progress in reforms. However, as indicated in Table 9, the bonds increased in value during the First Senate Challenge and decreased in value when the Senate passed the Act for the Establishment of and Procedure for Bankruptcy Court. Although the returns around the passage of Bankruptcy Act No. 5 are positive, the magnitude of these returns is small.

Taken together, the results provide a reasonable amount of evidence that financial value can be created through reforms and that the expected costs of financial distress were significant prior to the reforms. Since there is no way of knowing exactly to what extent events were anticipated, it is difficult to make comparisons between them. These results do not indicate the extent to which the reforms actually alleviated the financial situation in Thailand. The next section discusses some preliminary evidence on this topic.

6. Some Initial Evidence on the Implementation of the New Law

In order to assess the real impact of the legal reforms on restructuring efforts, I briefly discuss two case studies and then examine aggregate data on the levels of non-performing loans. In both of the cases, the firms stopped servicing their debt in 1997 but were unable to restructure until after legal reforms improved the bankruptcy law. The cases also point out some remaining weaknesses in the law.

A. *Alphatec Electronics Pcl*

Alphatec Electronics Public Company Limited (ATEC) was the first company to file for rehabilitation under Bankruptcy Act B.E. 2541.¹⁸ Founded in 1991, ATEC provides integrated circuit packaging and testing services for semiconductor manufacturers. Prior to its restructuring, ATEC belonged to what is known as the Alphatec Group, an informal set of at least 12 companies. Each of the companies was a separate legal entity, and the group was not legally defined as a single corporate body. Most of the companies in the group competed in industries related to semiconductors, but there were a few that were in unrelated businesses. Charn Uswachoke founded the group in 1989 and served as CEO and chairman of the board of ATEC until 1997.

Financial problems at ATEC started in 1996 when profits fell roughly 35% as the semiconductor industry experienced a slow down.¹⁹ In May of 1997, the company failed to make a \$34 million debt payment to a syndicate of banks.²⁰ Problems became especially clear when a July 1997 Price Waterhouse audit, prompted by a failed attempt to raise money for several group affiliates, revealed that ATEC misrepresented key financial information concerning the value of assets and profits and that Charn had withdrawn money from ATEC without proper

authorization. “From December 1994 to July 1997,” the report stated, “amounts totaling Baht 3.95 billion [approximately \$100 million] have been paid out of the company to related persons apparently without the prior approval of the directors of the shareholders. A substantial portion of the payments have been initially recorded as being advanced to an executive director of the company, but subsequently recorded as transactions with companies under his control.”²¹ After the report was issued, Charn stepped down as CEO but maintained his position as chairman of the board. The acting CEO drew up a business plan suggesting that the company could support no more than \$35 million of the outstanding \$373 million in debt.²²

After spending more than six months trying to find terms of restructuring that were agreeable to all ATEC claimholders, in February of 1998, management circulated a restructuring plan that called for converting 95% of the outstanding debt to equity and raising \$30 million in new equity. The law at this time did not include provisions for restructuring procedures, and out-of-court restructuring required the support of 75% of the shareholders and 100% of the creditors. Charn himself controlled 15.5% of the equity and gained enough support to reject the plan from other shareholders who sought to avoid the dilution of their claims. After this attempt to reach an out-of-court settlement failed, the acting CEO of ATEC decided to try to make use of the new bankruptcy procedures once these became law in April of 1998.

In May of 1998, ATEC management and creditors filed a petition for rehabilitation under Bankruptcy Act No. 4, B.E. 2541. The court took the Price Waterhouse audit as evidence that ATEC was insolvent and allowed the creditors to appoint Price Waterhouse as planner. Charn and a number of his friends left the board of the company. By January of 1999, more than three-fourths of creditors in value and one-half of creditors in number approved a plan that reduced the debt to \$35 million through write-offs and a debt for equity swap.²³ The plan also raised \$40

million in financing from new outside investors. Under the new law, the shareholders could not stop the plan. Their interests were almost completely diluted.

Although the law was successful in allowing creditors to gain control of the assets and ATEC to raise more capital, it did not provide effective means for creditors and shareholders to pursue claims against Charn and KPMG, the former auditors. According to the Thai law, the Bankruptcy Court had the power to cancel fraudulent transfers if the transfers occurred within one year of insolvency. However, since these loans were secretly made to private companies, it would have been difficult to know if the transfers were fraudulent. ATEC creditors did not become aware of most of the transfers until it became apparent that ATEC would not be repaid, well after the one-year time limit. Therefore, ATEC creditors could not leverage the powers of the Bankruptcy Court to cancel the transfers. Although ATEC filed a Baht 14 billion lawsuit against Charn on July 17, 1998 and a Baht 20 billion lawsuit against KPMG on July 23, 1998, no rewards had been granted two years later.

B. Thai Petrochemical Industry

The case of Thai Petrochemical Industry illustrates how a recalcitrant debtor can work within the confines of Thai law to avoid paying its creditors and maintain control of the company's assets even after the reforms. In 1982, TPI began manufacturing low-density polyethylene and other petrochemicals. The company grew out of a group of companies founded by Porn Leophairatana at the end of World War II. Through direct and indirect holdings, the Leophairatana family controlled majority-voting rights in May of 1997 even though the company had become one of the largest publicly traded companies in Thailand.²⁴

Since TPI held a significant level of unhedged dollar denominated debt, the devaluation of the baht dramatically increased the debt burden of the company. Between June 31, 1997 and December 31, 1997 TPI's bank overdrafts and short term loans increased from baht 24.5 billion to baht 43.5 billion. Long term liabilities jumped from baht 46.5 billion to baht 84.8 billion.²⁵ In August of 1997, Prachai Leophairatana, CEO of TPI, ordered the company to stop making payments to all creditors claiming that Thai borrowers should not bear the costs of the depreciation of the Baht.²⁶

From August 1997 until the end of 1999, creditors were not able to push TPI into bankruptcy court because they were unable to show the book value of liabilities exceeded the book value of assets, a key requirement for establishing insolvency. In late 1998 and early 1999, TPI claimholders came close to reaching an out-of-court settlement that would have delayed loan payments by five years and converted a portion of the debt into a 30% equity stake in the company. This deal would have substantially diluted the ownership stake of the Leophairatana family, and it failed to receive sufficient shareholder support. Throughout all of 1998 and 1999, TPI continued to refuse to service its debt. Even though it recorded a 1998 EBIT of Baht 32.2 billion and a 1999 EBIT of Baht 4.2 billion.²⁷ By the first quarter of 1998, Mobil, Phillips Petroleum, and Celanese had all expressed interest in buying TPI's entire complex.²⁸ However, Prachai was reluctant to give up control and continued to disregard TPI creditors.

On March 15, 2000, the bankruptcy court finally declared TPI insolvent. The company had not filed any financial statements since the unaudited third quarter 1999 statement and creditors successfully presented evidence that TPI assets were of less value than TPI liabilities. TPI had managed to avoid servicing its debt for almost three years, and if the law did not allow

creditors to restructure without shareholder support, TPI management could have continued to fight to maintain control.

C. Aggregate Real Effects

Aggregate data on nonperforming loans (npls) are consistent with the view that the legal changes have facilitated the resolution of financial distress. As indicated in Figure 5, levels of npls as a percent of total loans grew until the end of the first quarter of 1999 and then started to decline. Some of the growth in npls was due to the economic slow down after the devaluation of the Baht. In addition, many have suggested that weak creditor rights allowed debtors that could meet their debt obligations to avoid making payments.²⁹ Reaching more than 47%, npls peaked in May, 1999, and then started to decline. As indicated in Figure 6, a lending boom did not drive this decline.

Founded under the direction of the Bank of Thailand, the Corporate Debt Restructuring Advisory Committee (CDRAC) played an important role in promoting efficient negotiation between the private sector and financial institutions. In signed agreements between creditors and debtors and among creditors, CDRAC established a framework and timeline for out-of-court restructurings that would produce rehabilitation plans in accordance with the amended bankruptcy law. These agreements also bound creditors and debtors to take legal action if they were unable to resolve disputes on their own. By targeting certain delinquent companies and setting deadlines, CDRAC provided strong incentives for companies to prepare legally acceptable rehabilitation plans and forced cases that could not be resolved outside of court into bankruptcy court. Despite the support given to restructuring by CDRAC, non-performing loans

still exceeded 20% of total loans by financial institutions more than 18 months after the legal changes.

In addition to the weakness in the law pointed out by the TPI case, another factor that explains the slow pace of restructuring is the presence of state owned banks. The pattern in the level of npls as a percent of total loans by type of bank indicates significant differences between government owned banks, private banks, and foreign full branch banks. For all of the months from June of 1998 until August of 2000, government owned banks had npls that were 20 percentage points higher than private banks. Foreign full branch banks kept npls at a low level that peaked at only 12%.

There are several possible reasons that government owned banks have higher npls than private and foreign banks. Evidence suggests that government banks have an incentive to protect employment (La Porta, Lopez-de-Silanes, and Shleifer, 2000). Therefore, they are likely to make bad loans and support failing companies. The government is especially likely to protect employment during crises. In addition, while private and foreign banks obtain tax benefits from taking write-downs, government owned banks do not place the same value on such write-downs since they merely transfer wealth within the government. As a result, these banks have not aggressively controlled non-performing loans. Although this real evidence on the impact of legal reforms only provides details for two cases and some aggregate information, the trends are consistent with other findings on the importance of the new bankruptcy law reforms in Thailand.

7. Conclusion

The findings in this paper indicate that the debates about bankruptcy law reform that are underway in a number of emerging economies are important. Getting bankruptcy law right

matters. Financial market reactions to the three events I examine provide evidence that reforming bankruptcy laws reduced the expected costs of financial distress. Since the value of the equity market moved by at least 9% in each of the event windows that are the focus of the analysis, there is good reason to believe that the costs of financial distress are high in legal environments that do not detail efficient procedures to restructure or liquidate companies.

Patterns of abnormal returns indicate that affiliates with a moderately high degree of leverage experienced the highest equity returns, as theory predicts. Affiliation with a financially healthy group dampens the financial market impact of legal reforms. This finding indicates that financial relationships between group affiliates influence the expected costs of financial distress by providing an internal source of capital when it is needed.

An evaluation of case studies and aggregate data on the levels of non-performing loans suggests that the legal reforms had a real effect, but that the pace of restructuring has been slow. The Alphatec Electronics case illustrates how the inclusion of restructuring provisions in the law gave managers and creditors power to wrestle control from shareholders who wanted to avoid dilution of their claims. Soon after the passage of The Act for the Establishment of and Procedure for Bankruptcy Court and Bankruptcy Act No. 5, B.E. 2542, the level of non-performing loans reversed its growth trend and began to decline after the legal reforms passed. However, non-performing loans remained more than 20% of total bank loans more than 18 months after the legal changes. As indicated by the TPI case, weaknesses remain in the law. The law still requires that a firm have a negative book value of equity before the court grants a petition for liquidation or rehabilitation and establishing insolvency remains a matter for civil courts, not the specialized Bankruptcy Court. State owned banks do not have strong incentives to liquidate companies or to take write-downs, and these banks have higher levels of non-

performing loans than other types of banks. Cultural constraints might also hamper implementation.³⁰

Recognizing the remaining shortcomings in the law and its implementation raises questions for further research. What aspects of the Thai environment limit the further development and implementation of bankruptcy law? Why haven't countries anywhere in the world adopted the kind of optimal bankruptcy procedures suggested by Bebchuk (1988) and Hart (1995)? Most countries that have passed reforms have moved to a set of procedures similar to those existing in the US or the UK, even though these procedures are not considered optimal. This paper illustrates that legal changes can create value and that new value can be shared by debtors and creditors, so maybe there is hope that further reforms will move in the direction of optimal procedures.

Appendix A: Summary Some Additional Aspects of Bankruptcy Act B.E. 2483

This act, written in 1940 and amended in 1968, 1983, and 1999 provides a framework for liquidation. This summary and the one in Appendix B is based on an English translation of the law from Natee International Law Office Limited, Bangkok, Thailand.

The process established by B.E. 2483 works as follows. A creditor may petition for liquidation of a debtor if the debtor owes a group of plaintiff creditors in excess of one million Baht. The petitioning creditor has some significant responsibilities. This creditor has the duty to protect all creditors and is liable for all fees, damages and expenses incurred in the suit. The Official Receiver must demand security from the petitioning creditor in the necessary amount. These expenses do, however, receive high priority in the case of liquidation as discussed below.

The first thing that petitioning creditors must establish is that a debtor is insolvent. There are nine presumptions of insolvency set forth in Section 8. These conditions appear to be consistent with the conditions of default in the United States although Thai law does not allow for the use of liquidation procedures to enforce many covenants typically found in U.S. debt contracts. The law also has lost its bite in implementation. The requirements for insolvency, as interpreted twice by the Supreme Court, include the additional condition that total liabilities exceed total assets.

If insolvency is established, the Court is given absolute control of the property of the debtor and an Official Receiver is appointed to manage and dispose of the property. The Court examines the debtor to learn what its business is and what property it has, and it issues an examination report to the Official Receiver.

While secured creditors have no obligation to file petitions for repayment, unsecured creditors must file such petitions. There is no provision for debtor-in-possession financing even

during the process of trying to reach a compromise. Unsecured creditors who allowed the debtor to create a debt when the creditor was aware of the insolvency of the debtor are not allowed to petition for the repayment of that debt. Property that can be seized and distributed includes all property except livestock, crops, tools, and personal belongings that are necessary for the sustenance of the life of the debtor, the spouse of the debtor, or the debtor's young children.

There are sections in the law that attempt to avoid preferences and contain fraudulent conveyance. The Court can cancel any transfers or acts done during the three months prior to a filing of a petition for liquidation with the intention of giving undue preference to a creditor. Transfers of property and other acts relating to the property of the debtor done three months prior to the petition for bankruptcy may also be cancelled by order of the Court on an application by the Official Receiver unless the debtor can show that the act was in good faith.

Once a business has been slated for liquidation, the Official Receiver gives notice to the debtor to deliver money or property to the debtor. If the debtor is non-cooperative, the Official Receiver can obtain a writ of execution to enforce the notice. The Official Receiver can sell off property by the most convenient means that renders the best result. The process chosen is usually an auction unless something else is approved.

Section 130 establishes the absolute priority of distribution of property to creditors. Here is the order in which payments are made:

- 1) The expense of management of the estate of the debtor.
- 2) The expense of the Official Receiver in the management of the property of the debtor
- 3) The funeral expenses of a deceased debtor
- 4) Fees incurred in gathering property
- 5) The fees of a petitioning creditor and his lawyer fees as determined by the Court or Official Receiver
- 6) Wages and tax obligations
- 7) Other debts

Thai law dictates procedures in Thailand even if a lender is from another country.

Section 177 states that control over property or bankruptcy under the laws of another country has no effect in relation to the property of the debtor in the Kingdom of Thailand.

During bankruptcy proceedings, a debtor can file a petition for compromise with creditors and this right to compromise provides some limited room to restructure companies. Such a petition requires approval of the creditors and of the court. The creditors must approve the petition by a special resolution. According to Section 6, a special resolution means, “a resolution passed by a majority of creditors and those majority are owed three-fourths of the total amount of debts owed to all creditors who have attended a creditors’ meeting, either in person or by proxy, and who have voted on that resolution.” The Court must ensure that respect is given to absolute priority of debt and that creditors within a particular class are treated similarly. The Court compels the debtor to comply with any approved petition for compromise. If a compromise is failing, a creditor can petition the Court to terminate the enterprise and declare it bankrupt.

Appendix B: Summary of Some Additional Aspects of Bankruptcy Act B.E. 2541

The legislation draws upon Chapter 11 of the U.S. Bankruptcy Code and the Administration procedure as defined under the UK Insolvency Act of 1986, both of which aim to reorganize financially troubled companies. The Act dictates that a creditor or debtor or government agency can file a petition for rehabilitation against any debtor when that debtor is insolvent and is indebted in an aggregate amount of at least ten million Baht. An Order of the Court for Rehabilitation is granted if the Court believes that there are reasonable grounds for rehabilitation. If such an order is issued, it triggers an automatic stay on assets. Not only are secured creditors prohibited from enforcing repayment against secured property, but the Bank of Thailand and other government agencies are also prohibited from revoking business licenses of the debtor.

The creditors of the company elect a plan maker, or a person who is in charge of making a business rehabilitation plan. The power and authority of the manager of the debtor to manage the business and property of the debtor is transferred to this plan maker. The manager of the debtor must turn over account books, and all documents concerning the assets, liabilities, and business of the debtor to the plan maker. Also, all of the legal rights of shareholders are terminated with the exception of their right to receive dividends.

The plan maker and the plan executor, who is in charge of implementing a plan, have some power to avoid preferences and fraudulent acts as prescribed by the Civil and Commercial Codes. If the act occurred within a year of the motion for rehabilitation or the act caused the debtor to receive unreasonable remuneration, there is an automatic presumption that the debtor and the person who did the act knew full well that the act would hurt the creditor. If a transfer of

assets was completed or agreed to by the debtor within a period of three months of filing a motion for rehabilitation and the purpose of the transfer was to favor one creditor over another, then it is subject to the cancellation of the Court.

Within three months of the announcement of the appointment of the plan maker, the plan maker must deliver a plan to the creditors and debtor for the approval of the creditors. This plan details the assets and liabilities of the company, explains how rehabilitation will take place, and notes any increase or decrease in capital required. The plan maker summons a meeting of creditors, and creditors can propose and vote on amendments to the plan. The passage of an amendment requires support of 50% of the creditors in number. Once amendments are considered, the plan is voted on, and the plan passes if the creditors approve it by special resolution as defined in Appendix A. If the plan passes, it is still subject to Court approval. The Court must independently conclude that the plan does not give any unfair advantage to any creditors. The Court can also reject the plan if it has a “special reason” for doing so. When the Court has approved the plan, the powers invested in the plan maker are transferred to the plan executor who has the responsibility of implementing the plan. Revisions to the plan during implementation phase are allowed with creditor and plan administrator approval. If the plan fails, the Court must establish a hearing to consider if the debtor should be liquidated.

This Act has a provision allowing for debtor-in-possession financing. Under section 90/77, debts incurred by the planner receive a priority in the event of the subsequent liquidation of the debtor, an event that could occur if the plan is rejected or fails in its implementation.

The plan must detail the amount of time the rehabilitation will take, and the completion date can be extended no more than two times each for no longer than a period of one year. If the plan executor does not meet the rehabilitation deadline, the Court considers if it is appropriate to

liquidate the debtor or to dismiss the company from rehabilitation status. If dismissal is granted, the power and authority to manage the assets of the firm returns to the management of the debtor and the shareholders regain their legal rights. If the case reverts to a liquidation case, claims for remuneration by the plan maker, plan executor, interim managers and official receiver will rank as preferential claims, but will not take priority over secured debts.

Footnotes

¹ Chapter 1, Part 1, Section 8, (9) of Bankruptcy Act B.E. 2483 (A.D. 1940).

² As reported in the *Bangkok Post*, September 8, 1998.

³ George & Kowit P.C. Ltd. presentation, July 1999.

⁴ The Act for the Establishment of and Procedure for Bankruptcy Court, B.E. 2542, Chapter 3, Part 1, Section 15.

⁵ Bankruptcy Act No. 5, B.E. 2542, Section 21, amendment to Part 8 Section 90/58 of Bankruptcy Act No. 4, B.E. 2541.

⁶ Bankruptcy Act No. 5, B.E. 2542, Section 28, amendment to Part 3, Section 115 of Bankruptcy Act No. 4, B.E. 2541.

⁷ Accounting practices require companies to report levels of debt in Thai Baht, and the value of any foreign currency denominated debt must reflect the exchange rate at the time the reporting occurs.

⁸ I use up to 62 months of historic returns. Working with monthly returns avoids biases that occur when estimating betas with daily returns for thinly traded stocks.

⁹ For a detailed discussion of Thai groups and the role of family management, see Tara Siam Business Information Limited, 1996.

¹⁰ Bankruptcy Act B.E. 2483, Chapter 1, Part 1, Section 9(2) and Bankruptcy Act No. 4, B.E. 2541, Chapter 3, Part 2, Section 90/3.

¹¹ I do not subtract total market returns because the model and the data indicate that financial firms experience larger increases in equity value for events in which there is progress made in bankruptcy law reform.

¹² There are some shortcomings to this approximation to Tobin's q that are specific to the Thai environment. Since there are equity cross holdings and many firms are part of business groups, equity values do not provide a precise estimate of the market value of only the assets of a firm.

¹³ Speaker Meechai Ruchuphan expressed the fear that toughening up bankruptcy laws was an economic death sentence to thousands of Thais. "Under normal circumstances, such laws may be necessary. But at a time when most of the Thai population is saddled with debts, who is going to survive? Not only have we given foreigners knives, but also machine guns." As reported in *The Nation*, March 9, 1999.

¹⁴ *Agence France Presse*, March 11, 1999.

¹⁵ *The Financial Times*, February 15, 1999.

¹⁶ *Agence France Presse*, March 12, 1999.

¹⁷ *Business Times*, March 23, 1999, p.16.

¹⁸ See Fagan, Foley, and Gilson, 2000, for a more complete discussion of this case.

¹⁹ See Fagan, Foley and Gilson, 2000, p. 4.

²⁰ See Fagan, Foley, and Gilson, 2000, p. 5.

²¹ Price Waterhouse Audit letter dated 24 July 1997, p. 2.

²² Interview with Bob Mollerstuen, ATEC CEO, July, 1999.

²³ Business Reorganization Plan, Alphatec Electronics Public Company Limited, January 7, 1999, pp. 34-42.

²⁴ *The Financial Times*, January 18, 2000, p. 15.

²⁵ Balance sheet items are from the Listed Company Info CD-ROM, The Stock Exchange of Thailand.

²⁶ *Asiaweek*, March 31, 2000, p. 50.

²⁷ Balance sheet items are from the Listed Company Info CD-ROM, The Stock Exchange of Thailand.

²⁸ *The Nation*, April 24, 1998; *Chemical Business Newsbase*, May 19, 1998.

²⁹ *Asiaweek*, March 31, 2000, p. 50.

³⁰ *Far Eastern Economic Review*, October 7, 1999, p. 87.

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Figure 1: Procedures to Resolve Distress. This figure illustrates the procedures available to resolve financial distress under Bankruptcy Act B.E. 2483 and Bankruptcy Act No. 4, 2541. Although subsequently amended, these laws governed bankruptcy proceedings from March 1998 onwards.

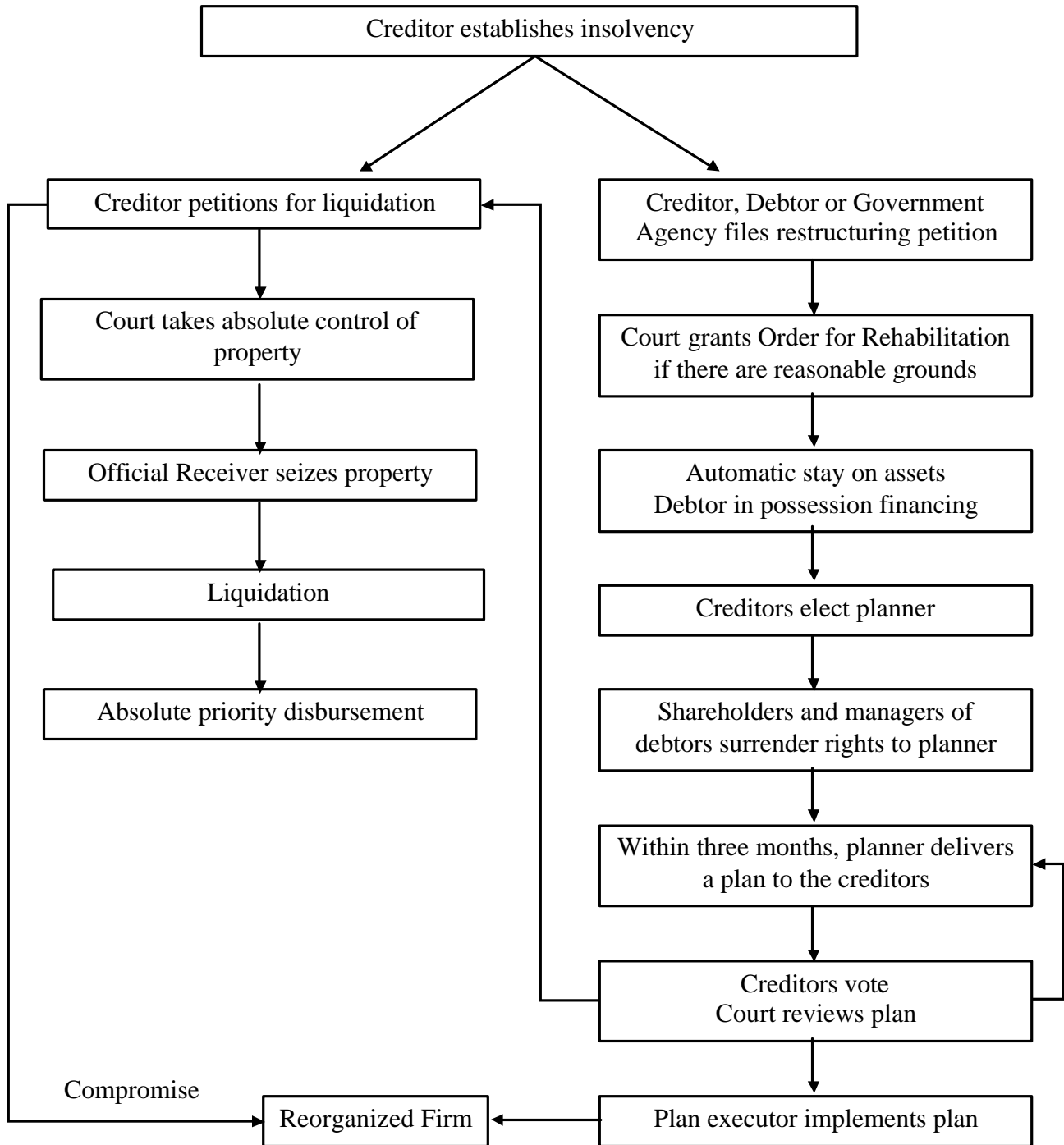


Figure 2: Model Setup. This figure depicts the timing of events in the model described in Section 3.

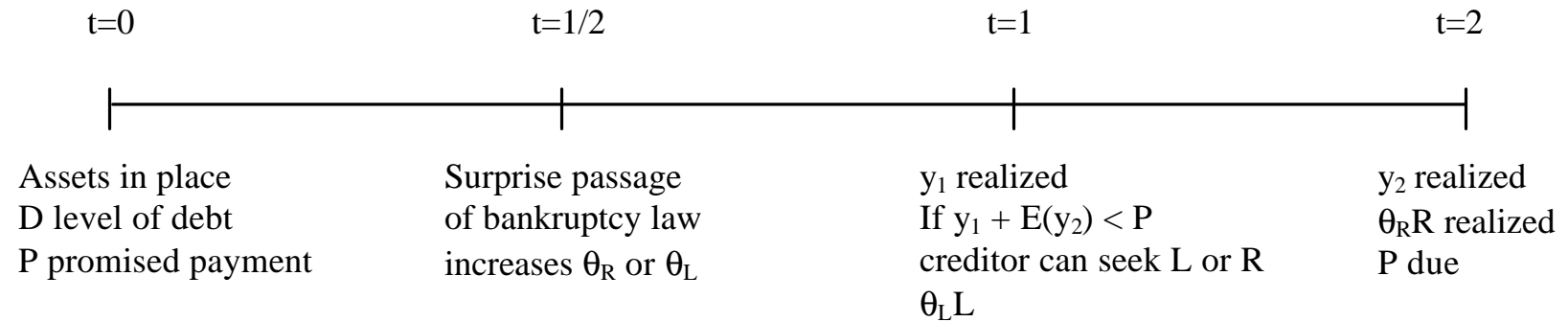
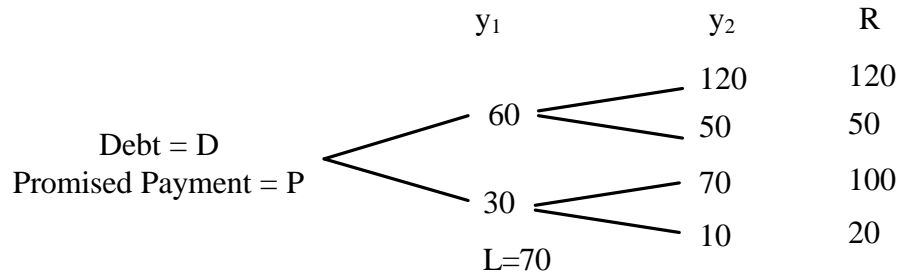


Figure 3: Numerical Example of the Model. This figure depicts results from a numerical simulation of how the value of equity and debt at $t=1/2$ vary for different parameter values of the model. The simulation assumes that the expected value of P at $t=0$ is equal to D . Looking across columns in the tables indicates the impact of legal reforms.



If θ_R and $\theta_L < 0.4$, and probabilities at each node are $(1/2, 1/2)$ then the value of the firm at time 0 is 107.5.

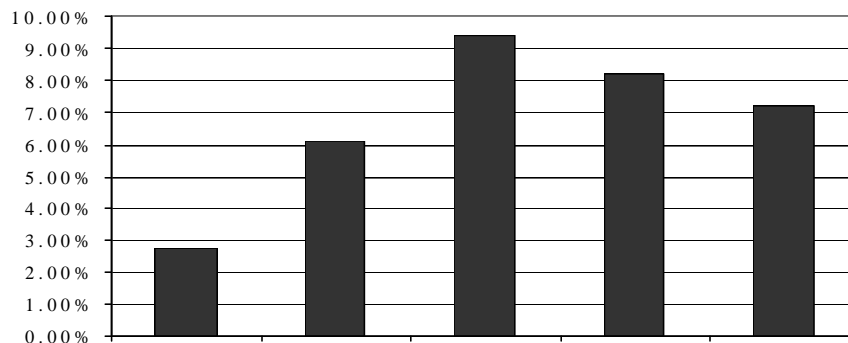
If $D = 77.5$ then the value of equity at time 0 is 30 and $P = 90$.

θ_R varies and $\theta_L=0$						θ_L varies and $\theta_R=0$					
Equity Value						Equity Value					
D	P	0.4	0.6	0.8	1	D	P	0.4	0.6	0.8	1
55	60	52.5	52.5	52.5	52.5	55	60	52.5	52.5	52.5	52.5
62.5	70	45	42.5	47.5	52.5	62.5	70	37.5	38.5	45.5	52.5
70	80	37.5	35	40	45	70	80	37.5	32.5	35.5	42.5
77.5	90	30	27.5	32.5	37.5	77.5	90	30	27.5	27.5	32.5
85	100	22.5	22.5	25	30	85	100	22.5	22.5	22.5	22.5
90	110	17.5	17.5	17.5	22.5	90	110	17.5	17.5	17.5	17.5
92.5	120	15	15	15	17.5	92.5	120	15	15	15	15
95	130	12.5	12.5	12.5	12.5	95	130	12.5	12.5	12.5	12.5

Debt Value						Debt Value					
D	P	0.4	0.6	0.8	1	D	P	0.4	0.6	0.8	1
55	60	55	55	55	55	55	60	55	55	55	55
62.5	70	62.5	63	64	65	62.5	70	64	70	70	70
70	80	70	70.5	71.5	72.5	70	80	70	76	80	80
77.5	90	77.5	78	79	80	77.5	90	77.5	81	88	90
85	100	85	85	86.5	87.5	85	100	85	86	93	100
90	110	90	90	94	95	90	110	90	91	98	105
92.5	120	92.5	92.5	96.5	100	92.5	120	92.5	93.5	100.5	107.5
95	130	95	95	99	105	95	130	95	96	103	110

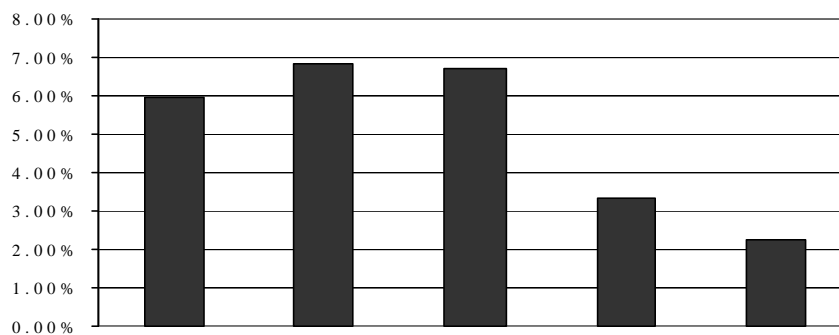
Figure 4: Total returns for Non-Financial Firms. These charts indicate the average value weighted equity returns to non-financial firms with different degrees of leverage for each of the events.

Passage of the Bankruptcy Court Act (Window: 2/12/99)



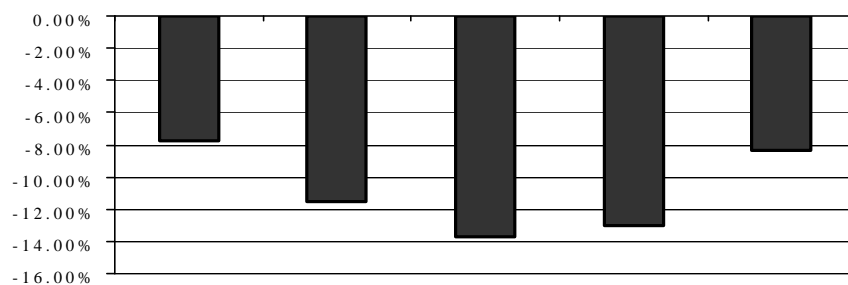
Book Value of Debt/ Book Value of Total Assets	<.20	>.20 & <.40	>.40 & <.60	>.60 & <.80	>.80
Number of Firms	16	24	33	39	11

Passage of Bankruptcy Act No. 5 (Window: 3/11, 3/12, 3/15/99)



Book Value of Debt/ Book Value of Total Assets	<.20	>.20 & <.40	>.40 & <.60	>.60 & <.80	>.80
Number of Firms	16	25	35	33	5

First Senate Challenge (Window: 11/26, 11/27, 11/30, 12/1, 12/2/98)



Book Value of Debt/ Book Value of Total Assets	<.20	>.20 & <.40	>.40 & <.60	>.60 & <.80	>.80
Number of Firms	25	29	51	44	17

Figure 5: Non-Performing Loans as a Percentage of Total Loans by Type of Financial Institution. Non-performing loans are loans that are three months past due. The Bank of Thailand is the source of the data presented.

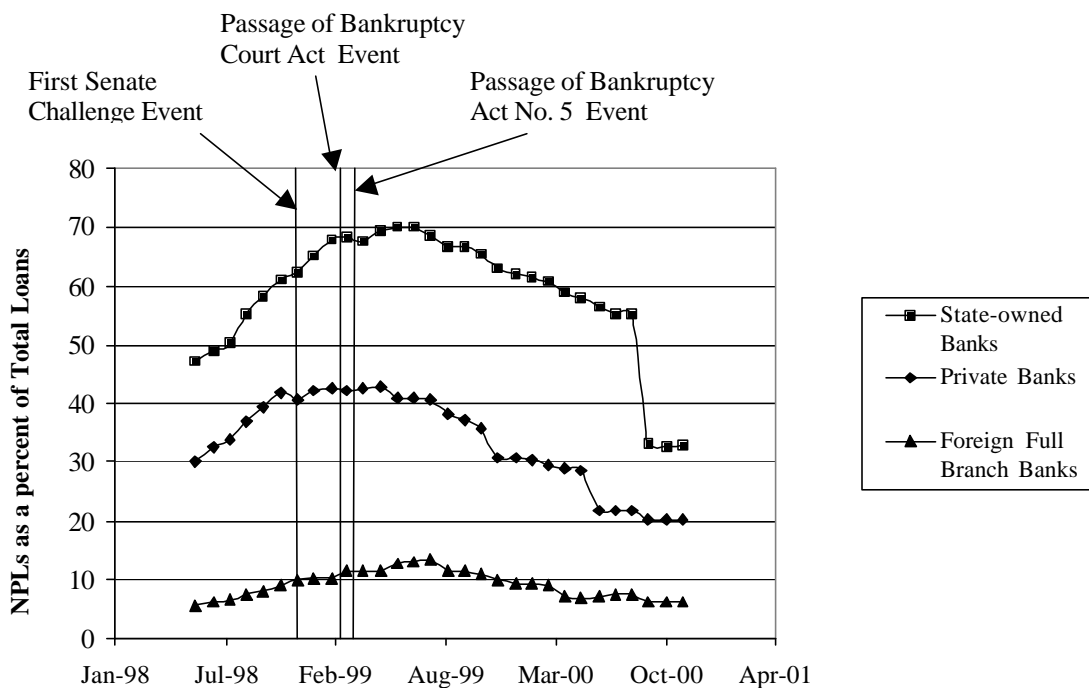


Figure 6: Total Loans by Type of Financial Institution. This figure displays the total value of loans outstanding in million of Thai Baht. The Bank of Thailand is the source of the data.

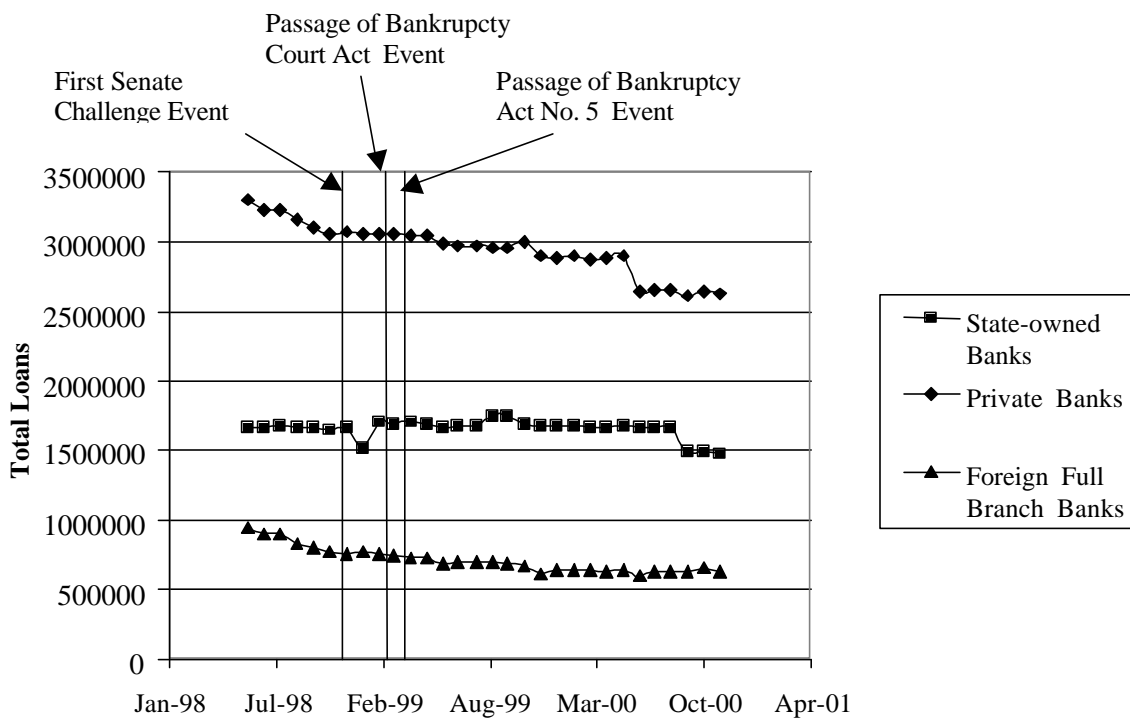


Table 1: Summary of Legal Reforms. This table summarizes the provisions included in Thai bankruptcy code after the passage of significant amendments. For additional details on the law and its amendments, see Appendices A and B.

Provision	Bankruptcy Act B.E. 2483	Bankruptcy Act No. 4, B.E. 2541 Amendments	Bankruptcy Court Act	Bankruptcy Act No. 5, B.E. 2542 Amendments
Rights of managers of debtor taken away during restructuring	No	Yes	Yes	Yes
Right of shareholders taken away during restructuring	No	Yes	Yes	Yes
Automatic stay on assets	No	Yes	Yes	Yes
Debtor in possession financing is available once a rehabilitation plan is accepted	No	Yes	Yes	Yes
Planner has powers of avoidance	No	Yes	Yes	Yes
Plans pass by a special resolution of creditors	No	Yes	Yes	No
Bankruptcy cases tried continuously in a specialized court	No	No	Yes	Yes
Debtor in possession financing is available before a rehabilitation plan is accepted	No	No	No	Yes
Plans pass with a special resolution of one class of creditors and the support of the majority of all creditors in number	No	No	No	Yes
Court can approve or disapprove of a plan for a “special reason”	No	Yes	Yes	No
Planner has extended powers of avoidance for dealings with “Insiders to the debtor”	No	No	No	Yes
Insolvency defined as book value of assets less than book value of liabilities	Yes	Yes	Yes	Yes
Insolvency must be proven to gain the approval of a liquidation or rehabilitation petition	Yes	Yes	Yes	Yes
Insolvency cases take place continuously	No	No	No	No

Table 2: Summary of number of firms in sample. This sample is based on the firms that are publicly listed on The Stock Exchange of Thailand.

Financial firms include firms in the banking and insurance industries and finance companies.

Total Sample			
	November 26, 1998	February 12, 1999	March 11, 1999
Number of Active Firms	377	373	351
Number of Active Financial Firms	54	54	54
Number of Active Commercial Banks	10	10	10
Number of Active Group Affiliates	233	229	216
Number of Active Firms with Negative Book Value of Equity	27	26	13

Table 3. Summary Statistics of Firm Data. All values are computed using data reported in 12/31/98 financial statements. All figures are in millions of Thai Bhat except for ratios. Non-financial firms exclude businesses in the banking and insurance industries and finance companies.

	Total Sample		Group Affiliated		Non-Group Affiliated	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
All Firms	377 firms		233 firms		144 firms	
Book Value of Assets	22,942	108,478	31,314	134,553	9,463	36,402
Book Value of Liabilities	19,800	100,373	27,228	124,481	7,841	34,094
Market Vale of Equity	3,767	14,897	4,539	17,432	2,519	9,382
Commercial Banks	10 firms		8 firms		2 firms	
Book Value of Assets	519,041	419,393	581,204	449,428	270,391	120,605
Book Value of Liabilities	485,362	386,735	543,014	414,097	254,755	113,085
Market Vale of Equity	46,815	66,595	55,782	72,403	10,949	1,562
Non-Financial Firms	316 firms		193 firms		123 firms	
Book Value of Assets	9,549	24,746	11,717	29,511	4,914	14,772
Book Value of Debt	4,912	15,112	6,414	17,566	2,579	9,818
Book Value of Liabilities	6,624	19,130	8,646	21,967	3,484	13,079
Market Vale of Equity	2,659	8,707	2,833	7,777	2,387	10,022
Book Value of Debt/Book Value of Assets	0.45	0.31	0.48	0.31	0.41	0.30
Book Value of Net PPE/Book Value of Total Assets	0.46	0.24	0.48	0.25	0.42	0.22
EBIT/Book Value of Total Assets	0.06	0.17	0.07	0.13	0.05	0.22
Number of Shares Outstanding	106	249	126	261	76	227

Table 4: Summary of Group Statistics. This summary is based on the 377 publicly listed firms that were active on November 27, 1998.

Number of Groups Represented	87
Total Number of Affiliates	4582
Number of Publicly Traded Affiliates	233
Mean Number of Group of Affiliates in a Group	52.6
Maximum Number of Group Affiliates in a Group	365
Minimum Number of Group Affiliates in a group	8
Percentage of Groups with a Financial Affiliate	62%

Table 5: Bank Liabilities. This table indicates the size of deposits in total bank liabilities for each of the 10 publicly traded banks that are considered in the event study analysis. Data is taken from the 12/31/98 financial statements.

Name of Bank	Deposits / Total Liabilities
Bangkok Bank	83.3%
Bank of Asia	83.0%
Bank of Ayudhya	88.5%
Industrial Finance Corporation of Thailand	97.7%
Krungthai Bank	81.9%
Nakornthon Bank	93.7%
Siam Commercial Bank	87.4%
Thai Danu Bank	87.6%
Thai Farmers Bank	89.2%
Thai Military Bank	84.0%

Table 6: Event Returns. This table displays cumulative value weighted returns. For each of the events, I examine one, three, and five-day windows centered on the dates of interest described in Section 5. A firm is included in the sample if it has positive trading volume on each of the days in the five-day window and on the two days prior to this window. Non-financial firms exclude bank firms, finance companies, and insurance firms.

t-statistics are based on a constant mean model of returns. The model computes the mean and variance of returns for portfolios of stocks using the 120 daily returns from May 12, 1998 to October 28, 1998. Prediction errors are calculated and used to test if changes in value during each event window are consistent with the model. The model is as follows:

$$R_{it} = \mu_i + \varepsilon_{it} \quad \text{where } R_{it} \text{ is the returns for each stock at time } t$$

$$R_{pt} = 1/n \sum R_{it} \quad \text{where } R_{pt} \text{ is the return for portfolio } p \text{ at time } t$$

$$R_{pt} = \mu_{pt} + \varepsilon_{pt} \quad \text{where } \mu_{pt} \text{ is the mean portfolio return over the 120 day period}$$

$$\mu_{pt} = 1/T \sum R_{pt}$$

$$\sigma_p = (1/(T-1)) \sum (R_{pt} - \mu_{pt})^2 \quad \text{where } \sigma_p \text{ is the standard deviation of the returns to portfolio } p$$

$$cpe/\sigma_p(d + (d^2/T))^{1/2} \sim t_{119} \quad \text{where } cpe \text{ is the cumulative prediction error for the event and } d \text{ is the length of the event window}$$

		Mean	t-stat	% Positive or Zero	% Negative
First Senate Challenge		<i>203 firms meeting the liquidity requirements</i>			
	11/30 Market	-3.22%	-0.96	35%	65%
	Commercial Banks	-5.72%	-1.17	0%	100%
	Non-Financial Firms	-2.08%	-0.70	38%	62%
	11/27, 11/30, 12/1 Market	-7.68%	-1.35	30%	70%
	Commercial Banks	-9.64%	-1.18	0%	100%
	Non-Financial Firms	-6.93%	-1.33	16%	84%
	11/26, 11/27, 11/30, 12/1, 12/2 Market	-13.91%	-1.94	32%	68%
	Commercial Banks	-17.79%	-1.74	10%	90%
	Non-Financial Firms	-12.09%	-1.82	16%	84%
Passage of the Bankruptcy Court Act		<i>146 firms meeting the liquidity requirements</i>			
	2/12 Market	10.67%	3.29	90%	10%
	Commercial Banks	16.25%	3.74	100%	0%
	Non-Financial Firms	7.44%	2.36	89%	11%
	2/11, 2/12, 2/15 Market	11.24%	1.64	84%	16%
	Commercial Banks	18.36%	1.95	90%	10%
	Non-Financial Firms	6.67%	1.04	82%	18%
	2/10, 2/11, 2/12, 2/15, 2/16 Market	10.92%	1.21	87%	13%
	Commercial Banks	14.67%	1.24	100%	10%
	Non-Financial Firms	8.29%	0.94	85%	15%
Passage of Bankruptcy Act No. 5		<i>142 firms meeting the liquidity requirements</i>			
	3/12 Market	0.19%	-0.01	56%	44%
	Commercial Banks	0.35%	0.03	50%	50%
	Non-Financial Firms	0.11%	-0.03	57%	43%
	3/11, 3/12, 3/15 Market	9.34%	1.27	92%	8%
	Commercial Banks	15.31%	1.52	100%	0%
	Non-Financial Firms	5.52%	0.80	90%	10%
	3/10, 3/11, 3/12, 3/15, 3/16 Market	9.01%	0.90	87%	13%
	Commercial Banks	15.43%	1.15	100%	0%
	Non-Financial Firms	4.96%	0.50	85%	15%

Table 7: Multivariate OLS Analysis of Abnormal Returns. This table exhibits results from regressing abnormal event returns for non-financial firms on measures of leverage and other explanatory variables. The passage of the Bankruptcy Court Act event examines abnormal returns on 2/12/99, the passage of Bankruptcy Act No. 5 event examines returns over the three-day event window centered on 3/12/99, and the First Senate Challenge event examines returns over the five-day window centered on 11/30/98. A firm is part of the sample if it has positive trading volume on each of the days in the five-day window around the date of interest and on the two days prior to this window. Abnormal returns for each security are calculated by taking total returns and subtracting the security's beta times the value weighted average returns of all non-financial firms. Q proxy is the ratio of the sum of the book value of debt and equity to the sum of the book value of debt and the market value of equity. Values for the book value of debt, the book value of total assets and the book value of net ppe are from 12/31/98 company balance sheets and income statements. T-statistics are calculated based on heteroskedasticity robust standard errors that allow for correlation of errors within business groups. (See Moulton, 1986)

	Passage of the Bankruptcy Court Act	Passage of Bankruptcy Act No. 5	First Senate Challenge
Book Value of Debt/Book Value of Assets < 0.60	0.0637** (0.0301)	0.0701 (0.0626)	0.00837 (0.0377)
Book Value of Debt/Book Value of Assets > 0.60	-0.115** (0.0457)	-0.0859 (0.168)	0.0576 (0.0509)
Book Value of Net PPE/Book Value of Assets	-0.00618 (0.0209)	0.0489 (0.0428)	0.0000955 (0.0345)
q Proxy	0.0307*** (0.0103)	-0.00859 (0.0218)	-0.0246* (0.0147)
Group	-0.000985 (0.0113)	-0.0213 (0.0250)	-0.0207 (0.0159)
Constant	-0.0548*** (0.0182)	0.0112 (0.0381)	0.0430 (0.0268)
N	123	114	166
R-squared	0.0904	0.0304	0.0226

*, **, *** Statistically different from zero at the 10, 5, and 1 percent significance levels, respectively

Table 8: Multivariate OLS Analysis of Abnormal Returns. This table exhibits results from regressing abnormal event returns for non-financial firms on measures of leverage and other explanatory variables. The passage of the Bankruptcy Court Act event examines abnormal returns on 2/12/99, the passage of Bankruptcy Act No. 5 event examines returns over the three-day event window centered on 3/12/99, and the First Senate Challenge event examines returns over the five-day window centered on 11/30/98. A firm is part of the sample if it has positive trading volume on each of the days in the five-day window around the date of interest and on the two days prior to this window. Abnormal returns for each security are calculated by taking total returns and subtracting the security's beta times the value weighted average returns of all non-financial firms. Q proxy is the ratio of the sum of the book value of debt and equity to the sum of the book value of debt and the market value of equity. Values for the book value of debt, the book value of total assets and the book value of net ppe are from 12/31/98 company balance sheets and income statements. T-statistics are calculated based on heteroskedasticity robust standard errors that allow for correlation of errors within business groups. (See Moulton, 1986)

Safe group is a dummy variable equal to one if three criteria are met. The firm must belong to a group that contains no publicly listed companies that have been suspended or delisted since the beginning of 1997. The firm must also belong to a group that contains at least one other non-financial affiliate. The ratio of the sum of book value of debt to the sum of the book value of assets for all other affiliates must be less than 0.50, the mean value of this variable for groups with more than one non-financial affiliate.

	Passage of the Bankruptcy Court Act	Passage of Bankruptcy Act No. 5	First Senate Challenge
Book Value of Debt/Book Value of Assets < 0.60	0.0866*** (0.0304)	0.0948 (0.0742)	-0.0430 (0.0394)
Book Value of Debt/Book Value of Assets > 0.60	-0.137*** (0.0454)	-0.225 (0.277)	0.0917* (0.0553)
Book Value of Net PPE/Book Value of Assets	-0.000376 (0.0207)	0.0593 (0.0487)	-0.130 (0.0339)
q Proxy	0.0299*** (0.00967)	-0.00602 (0.0186)	-0.0277 (0.0173)
Safe Group	0.0146 (0.0163)	-0.0154 (0.0295)	-0.0790*** (0.0280)
Safe Group*Book Value of Debt/Book Value of Assets < 0.60	-0.0641* (0.0362)	-0.0765 (0.0909)	0.146** (0.0656)
Safe Group*Book Value of Debt/Book Value of Assets > 0.60	0.0472 (0.246)	0.261 (0.326)	-0.239** (0.118)
Constant	-0.0599*** (0.0188)	-0.00373 (0.0363)	0.0553** (0.0264)
N	123	114	166
R-squared	0.1200	0.0564	0.0714

*, **, *** Statistically different from zero at the 10, 5, and 1 percent significance levels, respectively

Table 9: Kingdom of Thailand Yankee Bond Returns. This table illustrates the returns to Kingdom of Thailand Yankee bonds. \$600,000,000 of these bonds were issued in U.S. dollars on April 15, 1997. The bonds pay a fixed rate of 7.5%. Returns are measured using the clean price and are therefore stripped of accrued interest.

	Event Days	Return
First Senate Challenge		
	11/30	0.560%
	11/27, 11/30, 12/1	1.19%
	11/26, 11/27, 11/30, 12/1, 12/2	1.72%
Bankruptcy Court Act		
	2/12	-0.810%
	2/11, 2/12, 2/15	-0.443%
	2/10, 2/11, 2/12, 2/15, 2/16	-0.572%
Bankruptcy Act No. 5		
	3/12	0.302%
	3/11, 3/12, 3/15	0.470%
	3/10, 3/11, 3/12, 3/15, 3/16	0.886%