

Discussion Paper

**“ Is It Worth More Dead Than Alive - Thailand Financial
Distressed Companies ? ”**

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Comment welcome.

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“Is It Worth More Dead than Alive - Financial Distressed Companies ?”

By Dr. Pongsak Hoontrakul [June 7, 97.]

EXECUTIVE SUMMARY

Using macroeconomics measures alone to solve wide-spread financially distressed companies problems in Thailand may not be effective. A balance between financial stability and financial discipline must be achieved. Policy makers should also examine the *microeconomics* aspects, in particular the incentive structure and various economic agents' reactions to *macroeconomics* policy as follows :

1. Incentive Compatibility : Incentive *incompatibility* among all economic agents (e.g. equity, debt holders and managers) causes: (1) fundamental asymmetric information problems in restructuring or bankruptcy processing; (2) inter- and intra-organizational conflicts of interests among stakeholders; (3) free rider problems.

2. Equity Holders: As *residual claimants*, they have incentives to *overestimate* the value of the firm during financial distress to keep their firm alive and to retain more of their equity or the firm's assets during restructuring or bankruptcy procedures.

3. Bond Holders: *Senior* bond holders (e.g. secured bonds, mortgage backed loans, etc.) have a *fixed claim* on the firm with incentives to *underestimate* the value of the firm to attain a large fraction of the equity or the firm's assets. But *junior* debt holders (e.g. subordinate loans, promissory notes, etc.) have a *contingent claim*. They will behave like equity holders if the insolvent firm's net worth is low, but will behave as senior bond holders if the net worth is high.

4. Managers : Since a firm's managers are generally assumed to possess *private* information about the true economic value of the firm, denied to outside investors, the managers can use this information for their own advantage to preserve their jobs, rather than maximizing shareholder value.

5. Regulatory Dilemma : Any regulatory actions in a financially distressed climate may result in two *undesirable* outcomes: either allowing inefficient firms to reorganize and survive, or maintaining an inefficient market for corporate control. The *Moral hazard problem* may occur to induce the managers and equity holders to take more risks and to gamble for resurrection, while an *adverse selection problem* will arise to outsiders if there is no device to identify good or bad quality financial firms.

6. Some Implications : First, a security design is proposed to realign the incentive compatibility problem in a merger & acquisition (M & A) case. Second, the market for corporate control must be improved by allowing tax losses to be carried forward, to reduce legal obstacles and to lessen other market rigidities. Third, privatization of the bankruptcy process may also be initiated by outside arbitrageurs to clear the market. Fourth, four types of problem loan management are later presented.

7. With regard to incentive scheme, the Property Loan Management Organization (PLMO) offers substantially more advantages than the BBC rescue plan.

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By Dr. Pongsak Hoontrakul[§]

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ABSTRACT

“The greatest difficulty with getting into the future is getting out of the past.”

by Lord John Maynard Keynes.

To resolve the current Thai financial distress situation in an environment of imperfect information and conflicts of interest is a great challenge to all economic agents and regulators. Not all financially distressed companies are alike. Different economic agents and claimants have different incentives to assert the true state of nature of the firm’s troubles. The objective of this paper is to provide an in-depth market micro-economic structure knowledge (e.g. moral hazards, adverse selection problem, incentive compatibility, etc.) to interrelate macro-economic issues for better understanding of the problems and solutions to the current Thai financial crisis. Some policy implications are presented as follows : (1) a security design is proposed to realign the incentive compatibility problem in an M & A case; (2) an efficient market for corporate control must be encouraged by allowing tax losses to be carried forward, reduce legal obstacles and lessen other market rigidities; (3) privatization of the bankruptcy process may also be initiated by outside arbitrageurs to clear the market; (4) four types of managing problem loans are discussed later.

I. Introduction

Not all financially troubled companies are alike. It is very dangerous to generalize that the current Thai financial system crisis is caused only by non-performing loans from financially distressed companies (e.g. finance, securities and property firms), resulting from liquidity crunch. The real problem is creditworthiness concern and economic prosperity confident. There is a long list of factors causing this financial distress: exogenous economic shocks, poor management decision making, fraud, cash flow mismatches, etc. To recapitalize insolvent banks, finance and property companies puts an enormous strain on the Thai national budget. While monetarists would like to use the money supply to stimulate the economy and to keep troubled financial institutions afloat, Keynesians may prefer budget cuts to reduce the Thai current deficit to avert a financial confidence crisis. But solving the current Thai financial crisis by macroeconomics measures alone may not ensure a turnaround. Indeed, the Thai financial market still remains fragile. This macroeconomics stress should create a political climate in which changes in regulatory policy extend far

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beyond the initial response to specific events. Hence, the objective of this paper is to provide an in-depth market micro-economic¹ structure knowledge to interrelate macro-economic issues for better understanding of the problems and solutions for the current Thai financial crisis.

All of a firm's collective claim holders (e.g. equity and debt holders) and some regulators like to avoid bankruptcy during financial distress. If insolvent firms are worth more alive than dead, then capital restructure is required. The next single-most important ingredient is always for *management* to turnaround the situation. If the troubled firm is worth more dead than alive, it should be allowed to file for bankruptcy or liquidate.² Liquidating the firm's assets and distribution of the proceeds must be done according to the absolute priority rule (APR)³. But the major problem is how to determine which troubled firms are worth salvaging. This is not a trivial question, because it is complicated by the agency effects as first articulated by Jensen and Meckling [1976] and by the conflicts between different classes of debt claimants as noted by Bulow and Shoven [1978]. The misalignment of *incentive compatibility*⁴ among all economic agents creates : (1) a fundamental information problem in restructuring or bankruptcy processing; (2) inter- and intra- organization conflicts of interests among stakeholders; (3) free rider problems.

A firm is financially distressed when it has insufficient free cash flow to cover its current payment obligations, regardless of whether or not the firm is profitable. There are essentially two choices for the firm: either to file for bankruptcy or to 'work out' a private agreement with its creditors. The former involves expensive legal procedures to attempt to 'privately negotiate' for out of court settlements. The *direct* costs are out-of-pocket transaction costs (such as legal fees, investment banking advice, liquidation

¹ Most of the microeconomics problems (e.g. moral hazard problem, free rider problem, lemons market, adverse selection problems, etc.) discussed here can be found in more detail in Pindyck and Rubinfeld [1992].

² Liquidation is *not* equivalent to bankruptcy in the strict sense. *Liquidation* is the process of dismantling the firm's assets and redistributing the proceeds to the claimants. It is optimal when the value of the firm's existing resources are higher for alternative uses. This is a capital budgeting problem, which is independent of the way the firm is financed. But *bankruptcy* is a legal proceeding under which the property of an insolvent debtor is taken for the benefit of his creditors. Bankruptcy laws date back centuries and England's first bankruptcy law was signed by Henry VIII in 1542. The word *bankruptcy* comes from *banca rotta*, Italian words for broken bench. See more discussion in Senbet and Seward [1995]. In Thailand, laws on liquidation of registered partnerships, limited partnership and limited companies were dated back in the Civil and Commerce Code Amendment Act, B.E. 2479.

³ The Absolute priority rule (APR) is an allocation based upon the relative seniority of the contractual entitlements held by all of the firm's claimants. For example, the senior claimants (e.g. secured bond holder) receive their full contractual entitlements before any class with a more junior claim (e.g. subordinated bond holder and equity holder) receive anything. See more discussion on the optimal design on APR in Harris and Raviv [1993] and more details in Thai laws on APR by Sandhikshetrin [1982, Title XXII, Chapter IV and Chapter V]

⁴ The Incentive Compatibility concept, first introduced by Hurwicz [1972, p. 320], is at the foundation of the modern *theory of implementation*. It characterizes those mechanisms for which participants in the process would not find it advantageous to violate the rules of the process. In this case, the process is to allocate, organize, vote and regulate the mechanism or institutions designed to resurrect the current wide spread financially distressed companies in Thailand, so that the Pareto-efficient allocation of resources or the equitable resolution of disputes is attainable.

costs, etc.).⁵ The *indirect* costs are all costs related to the firm's bankruptcy processing, e.g., debt restructuring and unobservable opportunity losses.⁶ The latter are more likely the case : (1) if the firms have relatively more debt from banks than via public debentures or bonds; (2) if most of the firm's assets are intangible (e.g., patents, licenses, brand names, human capital, etc.); (3) if the firm has a high market value/replacement cost ratio.⁷ Reducing interest and/or principal payments, extending the maturity of the debt and exchanging debt for equity are among the common practices in debt restructuring.⁸ In short, essentially, such troubled companies obtain relief from default when creditors consent to exchange their impaired claims for new securities or liquidity value in the companies.

The plan of this paper is as follows: the next section covers theoretical perspectives on various economic agents (e.g. equity holders, bond holders, managers) incentives problems and its effects; Section III gives policy makers some implications with some specific case discussion; Section IV is the conclusion

II. Asymmetric Information Problems and Agency Problems - The Theory

Asymmetric information about financially distressed firms naturally originates from the agency effects and different classes of the debt claimants apart from political influences. The information problem faced by a distressed firm's claim holders and regulators is how to obtain reliable data to determine the true value of the firm, since each economic agent or claimant has different incentives to present biased and inaccurate data to others in pursuing their own self interests as follows :

1. The equity holder : The equity or stock holder has the *least* priority for making claims equivalent to the **residual claim** on the firm's value with limited liability as first suggested by Black and Scholes [1973]. Indeed, the equity in a leveraged firm is really a *call option* on the value of the firm's assets as illustrated in Figure 1. Hence, the share holders' wealth, S, as shown in Figure 1 on the leveraged firm is theoretically

$$S = \text{Max. } [0, V - D] \text{ where } \begin{array}{l} V = \text{Expected value of the firm and} \\ D = \text{Total value of debts} \end{array}$$

Consequently, equity holders have incentives to always *overestimate* the value of the firm during financial distress to keep their firm alive-so that their options on the firm's

⁵Weiss [1990] reported that the direct cost of bankruptcy in the NYSE had a mean of 20.6% (range 2.0-3.4%) of the equity value measured just prior to declaring bankruptcy.

⁶ Common sense may lead us to believe that indirect costs should be substantially larger than direct costs. However, since the indirect costs of bankruptcy and liquidation are very difficult to measure, only firm-specific cases are covered. See more discussion by Mc Millan et al [1990].

⁷See more discussion by Gilson, John and Lang [1990]

⁸About eighty firms privately restructured their debt and about 89 firms filed for bankruptcy from selected NYSE exchanged-listed financially distressed companies during 1978-87. New equity securities were distributed to creditors in about three quarters of the cases; half of the bank debt restructuring actions provided an extension of maturity. In sharp contrast only 6.7% of the cases involve restructuring of publicly traded debt. The restructuring of publicly traded bonds almost always takes the form of an exchange offer. The new bonds, for instance, are generally more senior, and mature sooner than the old bonds. See more discussion by Gilson, John and Lang [1990].

equity do not expire. They also have incentives to always *overstate* the firm's value and to 'holdout' during the debt restructuring negotiations in order to retain a larger fraction of the residual equity or asset. It is particularly noteworthy that Cornell, Longstaff and Schwartz [1994] argue that it is not optimal for the equity holder to default on due debt payment as soon as the net cash flow of the firm starts becoming negative, because the default implies that the owner loses all of his investment. By injecting sporadically new cash into the company to meet its debt-service obligations, the equity holder will keep alive his (American call) option on the project equity. Piece wise capital increases in the Bangkok Bank of Commerce Plc.(BBC), *before* the crisis, was a good example of this point. The critical question is how long the equity holder should tolerate negative cash flow that depends *not* on the expected return of the project, but on critical cash drain value. This is because the decision to default is analogous to deciding to exercise the American option early.

2. Debt Holder : For the debt or bond holder who has a *higher* priority for claims than equity holders have a priority equivalent to fixed claims. The payoff of the debt would be similar to the short put option's payoff on the value of the leveraged firm as illustrated in Figure 1. At maturity, given no default the debt holder receives

$$B = \text{Max. } [0, V - D] \quad \text{where } B = \text{Bond or Loan value}$$

If the firm is successful (i.e. if $V \geq D$), the debt holders receive the full amount of the interest and principal. If the firm is bankrupt¹⁰, they still receive the liquidation value less bankruptcy costs paid first to the debt holders before distribution to residual claimants. In essence, this implies that debt holders ought to effectively take into account the default risk or put option premium when making loans to the firm.¹¹ Since the bond holders do not share the prosperity of firm in any event, they have incentives to *underestimate* the value of the firm throughout the difficult period, so they will be awarded a large fraction of the equity or the firm's assets. In other words, debt holders are always, as a profession, overly pessimistic about the firm's future and loan payback, especially in financially distressed times.

Furthermore, in the 'work out' or negotiation phase, debt holders would prefer less risk in terms of repayment (i.e. shorter maturity, less risky operation, etc.), though this may benefit the firm in the longer term. In a general recapitalization, bond holders will, for instance, prefer new bonds to be more senior, and to mature sooner than old bonds as found by Gilson et al [1990]. Note that the 'holdout' problem in debt restructuring will be more severe in publicly traded bonds than for bank loans, because bankers are more sophisticated lenders, while public bonds always involve many parties. The 'holdout' problem is also escalated by the fact that normally, bondholders are less informed about the future prospects of the firm than the managers and the bankers. This

¹⁰Theoretically, the firm will be bankrupt if $D \geq V$ or on the 'a *stock* basis'. Legally, creditors have no legal power over stockholders, if the firm can still cover its immediate obligations. But technically a firm in financial distress is insolvent on 'a *flow*-basis' if it is unable to meet current cash obligations, even though in the case $V \geq D$. Legally, the creditor has the right to sue the firm. See more discussion by Wruck [1990].

¹¹ Thus, the debt holders' wealth is specifically equal to $B - P = \text{Min. } [V, D]$ where P is the put option premium. See more discussion by Copeland and Weston [1992, p. 248-9]

asymmetric information, which creates a classical ‘*lemons problem market*’¹² as first discussed by Akerlof [1970], will make negotiations harder to conclude and likely to result in bankruptcy. Thus, one may hypothesize that the probability of a successful private debt restructure negotiation will be high when relatively few creditors (e.g. bankers and financiers) are allowed to participate in the restructuring plan, if bargaining deadlocks do not occur. Moreover, if only a subset of the firm’s debt is restructured *without unanimous* consent by a particular class of debt holders, adopting a restructuring plan can in principle reduce the wealth of non-participating creditors. On other hand, if *unanimous* consent is required, then some bondholders may elect to hold-out in the expectation that the post recapitalization value of their existing claims will exceed the value of participation in the exchange. This is classically called one type of ‘*free rider*’ problem.¹³

3. Senior and Junior Debt Claimants : Debt claims are more complicated when there are different classes of seniority. In the case of Thailand, bank loans are usually collateralized by the firm’s assets, namely its land mortgage and personal guarantees from major shareholders and/or managers. Common public debt issued by corporations are typically subordinated, unsecured loans.. Consequently, *junior* claimants (e.g. subordinate loans, promissory notes, etc.) may or may not have the same incentives as the *senior* claimants (e.g. senior bonds, mortgage backed guaranteed loans, etc.) depending on the expected firm’s value. Essentially, junior claimants have a *contingent claim* on the firm’s net worth as suggested by Jensen [1991]. Therefore, the senior claimant’s payoff is a short put option whose value is

$$B_S = \text{Max. } [0, \text{Min. } [V - D_S, D_S]] \quad \text{where } B_S = \text{Senior Bond value;} \\ D_S = \text{Total Senior Debt}$$

and the junior claimants’ payoff is a short put option whose value is

$$B_J = \text{Max. } [0, \text{Min. } [V - D, D_J]] \quad \text{where } B_J = \text{Junior Bond value;} \quad D = D_S + D_J ; \\ D_J = \text{total junior debt}$$

The strike price¹⁴, X for junior claimant is equivalent to the total value of senior bond, D_S . The ‘moneyness’ (i.e. $V - D_S$) for junior claimants is implicitly the level of how deep in the money or out of the money, his claim is according to his seniority for proceeds distribution in bankruptcy or liquidation cases. If the junior claimant holds a contingent claim which is deep *in* the money (i.e. the firm’s value is considerably larger than B in Figure 1), he will behave identically to a senior claimant. But if the claim is deep *out* of the money (i.e. the firm’s value is considerably smaller than A in Figure 1), he will behave more like a equity holder. Therefore, the more types of financial claims

¹²The lemons problem is a term to describe an asymmetric information environment such as a used car or lemons market, where there may be vehicles or goods which vary in quality and whose quality will be known only by the owner. Hence, some goods (with good quality) will be normally *underpriced* since the quality of goods in the market would be viewed as ‘poor’ or at best ‘average’ quality. In other words, the poor reputation has a ‘halo effect’ for all goods in the market resulting in underpricing based on the fear of ‘being stuck with a lemon’.

¹³Economic agents can act as free riders understating the value of the program, typically in ‘*public goods*’ so that they can enjoy the benefit *without* paying for it. See more discussion by Grossman and Hart [1980] and Green and Juster [1992].

¹⁴The strike price or X is equivalent to point A or at the total value of senior debt in Figure 1.

the firm has, the more complex its capital structure is, and the greater the disagreements over how to treat the various types of claimants equitably. It is worth noting that junior creditors will normally offer less resistance to any proposed restructuring plan because a going-concern firm's value will be dissipated in bankruptcy rather than from private workouts (a workout is usually thought of as exercising, so when referring to making a private deal or working out a deal or arrangement, the word "deal" or arrangement might be more clear) or debt restructure.

4. The Managers : As suggested by Gilson [1989], managers in financial distress firms face four significant personal costs : (1) loss of future income; (2) loss of firm-specific human capital; (3) loss of power, prestige, or other non-pecuniary benefits; (4) adverse reputation effects. Their job preservation will become more important than maximizing shareholder value. Since firm managers are generally assumed to possess more *private* information about the true economic value of the firm than outside investors, they can use this information for their own advantage. Often managers may lack the ability or incentive to make the best use of the information for the stakeholders. Yet, some large creditors and institutional investors may have expert analysts obtain special reports on the firm containing information not available to the public. Gilson [1989, 1990] found further that turnover of senior managers and directors is lower during financial distress because they have incentives to settle with creditors on overly generous terms to secure their consent to a plan, even though stockholders would be better off in bankruptcy. But Gilson [1990] unveiled that turnover among the *pre*-default board members is high. This is a case of managers using their inside information for their own advantage to maximize their own individual utility. This is classically known as one type of 'agency problem'.¹⁵ On the other hand, if managers and board members have a large ownership stake, capital restructuring and a reversal of corporate strategy are likely to come voluntarily without pressures from the capital or product markets.

In short, unfortunately, none of the parties mentioned herein have both information and incentives to reveal true information to others, particularly during financially distressed times. The payoff profile of both equity holder and debt holder is shown in Figure 1. The equity holder's wealth is like a long call option's payoff on a leveraged firm. The debt holder's wealth is like a short put payoff with a different strike price for each class. The potential impediments in solving financially distressed firms is asymmetric information and conflicts of interest among different claimants besides the free rider problem. Apart from direct out-of-pocket costs and indirect bankruptcy costs, one must also take into account the agency costs (e.g. monitoring expenditures by the principal, bonding costs by the agent and opportunity losses) during bankruptcy or the recapitalization process. In the next section, some regulatory policy implications will be discussed, while additional economic agents' incentives will be added.

¹⁵Agency problem is first formally defined by Jensen and Meckling [1976]. They argue that agency problems emerging from conflicts of interest are general to virtually all cooperative activity among self-interested individual (i.e. equityholders, bondholders, managers, etc.)

III. Regulatory Implications :

To relieve the current Thai financial distress in an environment of imperfect information and conflicts of interest is a great challenge to all economic agents and regulators. Different economic agents and claimants have different incentives to assert the true state of the nature of the firm's troubles. Some implications are as follows:

1. Efficient Liquidation or Efficient Reorganization Dilemma : Any regulatory actions in a financially distressed environment will result in two *undesirable* outcomes: either allowing inefficient firms to reorganize and survive, or creating an inefficient market for corporate control. The Bank of Thailand (BoT) as the 'Lender of Last Resort' policy is to be credited for preventing the collapse of the financial market, particularly during random economic shocks or a *pure* bank run for liquidity considerations.¹⁶ Indeed, severe economic crises have always preceded by bank failures, rather than by stock market crashes.¹⁷ However, the BoT should not insist on a "no-exit" for financial institutions for the ostensible sake of stability as argued by Dr. Prakorn Vichyanon [1994, p 84]. By continually injecting cash into the financial system for too long a period, the BoT essentially prolongs the life of inefficient financial institutions. This is because such institutions tend to fail because of fraud and mismanagement which permit asset quality, and hence value, to deteriorate. By requiring frequent information disclosures by individual financial institutions on their non performing loans (NPL) or asset qualities to enhance loan loss provisions and to prevent *information-based*, financial institution runs may be a virtue. Nonetheless, managers and equity holders all have incentives to hide their problems to avoid further distress and possible firm failure. At the same time, creditors and regulators will seriously doubt or even take action to undermine the quality of the information disclosed by the firm. By further announcing that the BoT will guarantee all promissory notes issued by ailing finance companies impedes the capital market forces. As a direct result of the *moral hazard problem*, managers and equity holders have incentives to take more risks or to *gamble* for company resurrection by issuing more liability at a higher interest rate to stay alive and taking on more risky projects to gain a higher return. An *adverse selection problem* will naturally arise for outside investors and lender-risk takers, because there is no mechanism for them to identify the level of quality of a given financial firm. High interest rate volatility and a widened spread (over 10%) between high quality and low quality money market rates are a good indicator of how the capital market has been vastly distorted. Depositors and lenders may appear to enjoy a high rate of return from an ailing firm's offer with the perceived comfort of the BoT's pledge. This also creates a serious misallocation of financial resources. As the situation persists, the BoT's contingency liability will extensively increase and the BoT's credibility will rapidly erode. These measures appear to create more confusion, and hence raise the systematic risk to the financial market as a whole. In other words, the BoT is translating firm-specific risks to systematic risks. Hence, the Thai financial market will remain fragile. Eventually, the financial system is accountable to reality and the accountability means there are losers and winners. The government can no longer use an ad hoc response to economic events. Financial market reform must be decisive and dedicated in order to build a more efficient and effective

¹⁶See more discussion on Bank runs and the Thai financial market by Hoontrakul [1995].

¹⁷See more discussion by Feldstein [1991] and Hoontrakul [1995].

organization. Some specific examples are presented for discussion as follows :

1.1 Force of Marriage or Marriages of Convenience : The Thai Danu Bank Plc. (TDB) and Finance Once Plc. (Fin1) M & A scheme initiated by the BoT was pronounced ‘dead’ on May 24, 1997 because of disagreement over the value of the Fin1 as predicted by the discussion above. Many doubt that any of the pending announced merges such as (1) CMIC finance & Securities, Nava Finance & Securities and five other finance companies and (2) Sitca Finance & Securities and seven other finance companies can succeed. All of these cases are likely to be failures or result in a long and perplexing negotiation process because of the conflict of inter- and intra-organization claimants. *Intergroup* conflict deriving from allocations under any given reorganization plan always increases at the expense of another claimant class. *Intragroup* conflicts can emerge because a restructuring allows members of a particular reorganization plan to decide whether to participate or not. This creates an incentive to *holdout or* to take a *free ride*, if a successful reorganization will enhance the value of the old claim. Moreover, and not surprisingly, conflicts of interest can reduce overall economic efficiency because a coalition of claimants can be formed to extract concessions (i.e. wealth transfers) from others, particularly from the BoT and creditors.¹⁸ Yet, this is only a half the problem, as the key element of post management organization has not been well thought out, since this is a matter of forced marriages or marriages of convenience. Ultimately, the solution may lie in revising the *security design*.¹⁹ to realign incentive compatibility in risk sharing for all agents including the BoT. The financial innovative design (e.g. contingent claims, continuous calls or put provisions, contractual entitlements, bond covenants, etc.) might mitigate the valuation problem in the recapitalization process and post management problem after M & A. Apart from offering a ‘maximum incentives’ rescue scheme as one senior BoT officer declared, TDB could offer, for instance, a greater proportion of the securities to exchange for the distressed Fin1’s high share price in the form of convertible bonds with a low coupon rate, long maturity and a high strike price with call provisions. The BoT may even be willing to bless this concept to salvage the acquisition plan. The long-term financial contract, convertible bond provides for risk sharing among all agents and may thus permit an irreversible increase in the commitment of capital and management. TDB would benefit from the contingent payment securities to resolve future value in post acquisition with minimal financial stress owing to low interest payment. Fin1 managers who are also major shareholders would appreciate the high price premium exchange in the new TDB’s future value and thus have sufficient incentives to make the post merger work efficiently. And the BoT will not have to ask the Financial Institutions Rehabilitation Fund (FIRF) to step in.

1.2 Market for Corporate Control²⁰: Perhaps the best solution is to allow the market for corporate control to work freely and efficiently to strengthen the Thai financial system before the BoT’s contingency liability becomes unbearable. As a prime example, ABN AMRO Hoare Govett Asia (Holdings) Limited’s tender offer on May

¹⁸See more discussion by Brown [1989] and White [1989]

¹⁹See more discussion by Heinkel and Zechner [1993] and Allen and Gale [1994].

²⁰Corporate Control is defined as the right to determine the management of corporate resources - that is, the right to employ, terminate and set the compensation scheme for managers. See more discussion by Jensen and Ruback [1983], Jarrell, Brickley and Netter [1988] and Jensen [1991].

19, 1997 for Asia Securities Trading Plc at a price of 35 baht per share was far above the current prevailing market price. The price for corporate control will definitely stimulate higher equity value apart from additional foreign experts to turn around the securities business. And these factors may revitalize the stock market as a whole. Note that a productive foreign-owned subsidiary does more for the economy than a sickly national champ. For that reason, the BoT should promptly and decisively announce a formal step-by-step policy for distressed firms to exit (i.e. liquidate, merge, acquisition, etc.). Relaxing legal impediments in mergers and acquisitions (M & A), providing tax shields or allowing tax loss to be carried forward for M & A benefits, increasing foreign ownership limits and giving clear guidelines for upgrading the status of financial institutions after reorganization are among the possible actions the BoT's implementation policy for reinforcing the financial system. These mentioned measures would increase the flexibility and transparency in the market. Assuming a positive net worth firm's value and possible positive synergy in a M & A, the equity holders will have incentives to exit or sellout; the creditors will have incentives to cooperate for stronger new claims; and the managers may receive some windfalls, since the additional incentives to exit will be greater than trying to stay alive. Overall, the surviving companies will be revitalized to compete in an ever changing international competitive world. Consequently, if a firm is worth more to be alive than dead, the conditions of an efficient market for corporate control should prevail.

1.3 'Privatize' Bankruptcy by Outside Arbitrageurs²¹ : If a firm is worth more dead than alive, to avoid all bankruptcy costs the troubled firm should be 'privatized' by outside arbitrageurs. This situation may occur when the distressed publicly listed security has a market value far *below* its asset value because the market expects significant bankruptcy costs. New risk takers or outside arbitrageurs should buy up the outstanding securities at the prevailing market value to prevent a lengthy and costly bankruptcy process or a formal reorganization. This is like going private or a reverse of going public. It is particularly noteworthy that a management buyout (i.e. insider arbitrageurs) should be seen as a strong signal of confidence in the firm's value resulting from asymmetric information. Then, the arbitrageurs may sell part or all of the firm's assets, and negotiate payment reductions for the old debt. Thus, the potential arbitrage profit will be the bankruptcy cost, net of the transaction cost of an informal reorganization. All rational claim holders will agree to this, because it is the most cost effective method to resolve financial distress, although there may be some 'holdouts' and 'free riders' in some circumstances. Again, the securities design approach should be considered. Consequently, if the government has a clear policy (e.g., corporate tax subsidies, tax shields, reduction in regulations, etc.) to 'privatize' bankruptcy outside away from the court system, then the capital market can provide a more efficient forum for the resolution of current Thai financial distress. Regulatory agencies may further encourage the 'privatization' bankruptcy by establishing a forum where particular rights are enforced and precedents are established in such a way as to avoid specifying particular outcomes or allocations.²² In short, if it is worth more to be dead than alive, it may be rational to privatize the bankruptcy.

²¹The term was first used by Haugen and Senbet [1978] and discussed further by Senbet and Seward [1991] and Jensen [1991].

²²See more discussion by Spulber [1989, pp. 25-30]

2. Current Rescue Plans and Incentive Compatibility :

2.1. The Property Loan Management Organization (PLMO) : Financial problems of property development firms are *not* the same as a glut in the property industry²³. The new PLMO funded by 100 billion baht in seven-year zero-coupon Government bonds announced on March 11, 1997 by the BoT was designed to contain the financial institution problem since the PLMO would inject liquidity into the system by buying non-performing property loans from both finance companies and banks. The loan originators or debt holders would lessen the cashflow burden on the property firm or the equity holders by providing a long grace period. Moreover, the financial institutions must provide additional liquidity to developers until projects are completed. In principle, I respect that the PLMO ensures the compatible risk sharing scheme for all claim holders. The financial institutions, for example, require a guarantee of 50% of the loan sale price, whereas the project owners and managers have the incentive to complete the project. And I admire the fast speed with which the scheme has been implemented. The first actual fund raising was done in May 1997 and the PLMO is now implementing the plan. As a whole, property sectors still have their cyclical problems, but the PLMO may serve to ease some stress from the sector by focusing on feasible projects (e.g. residential and commercial sectors). It is worth noting that Geltner and Mei [1995] claim that most of the changes in property value over time results from changes in return expectations, perhaps changes in investor risk preferences regarding the asset class rather than from changes in operating cash flow expectations from the property itself. Hence, the only real issue is how to select the criteria for the PLMO loan purchases objectively without political influence.

2.2 The IFCT's Employment Contract and Incentive Compatibility : The BBC scandal was fully unveiled to the public on May 17, 1996, in the wake of the BBC bank run, when the BoT took the control of the bank by order no. 81/2539 (B.E.) to prevent the potential collapse of the Thai financial system. The total fraud by Mr. Kirkkiat Jalichandra et. al., by some estimations was allegedly between 70 billion baht to 120 billion baht. Subsequently, after massive a capital injection into the BBC by the FIRF, on April 30, 1997 government approved the Industrial Finance Corporation of Thailand (IFCT) to take over management of the BBC. But the management contract employing the IFCT to operate the BBC was one-sided, mainly benefiting the IFCT at the expense of the BBC shareholders and Thai taxpayers. This can be summed up in one statement. 'If heads, we win. If tails, you lose; I am sorry.' The entire contract as written in the case of the BBC would be a success in the future, because the FIRF may think that by throwing large enough sums of money at the problem, it will go away. It states clearly the profit sharing scheme, fixed management fee, stock option purchase plan, net profit definition, etc.²⁴ All the incentives are for the IFCT to make more profit for the BBC with massive financial support from the FIRF. However, this '*incomplete*' financial contract²⁵ has failed to balance the *risk sharing and incentives* between the

²³The estimated over-supply currently is estimated from between 400-1,200 billion Baht. Thus, a fund of 100 billion Baht appears to be just the tip of the iceberg.

²⁴It is interesting to note that stock option management compensation such for a growth (i.e. aggressive risk taking) company will add a substantial value to shareholder wealth, but the added value will be limited if the company is only set to maintain existing assets or status quo (e.g., cash cow company). See more discussion by Kole [1994]

²⁵This is in the sense of Hart [1989].

agent - the IFCT, and the principals - the BBC shareholders,²⁶ namely the FIRF. Once the contract is effective, the *'lock-in' effect* will occur. the IFCT will have some *monopoly* power ex-post even over the newly appointed eleven board members, while the BBC shareholders can not rely on market forces to monitor the contract. This is fertile ground for a *moral hazard* problem²⁷ for a new management team to engage in either excessive or too little risk taking²⁸ to maximize their own utility to the detriment of others, in a situation where they do not bear the full consequences in the new liberalized financial world. There is no single covenant (e.g. loan limit on each sector, dividend payout, new debt issuance, etc.) in the contract to prevent improper risk taking behavior by the new BBC management. There is no way for the principal to terminate the agent or contract if the IFCT can not perform as one hopes. Actually, there are no written contract goals, like projected profits or cash flow objectives that the agent must meet for shareholders to track the IFCT's management performance. The only commitment the IFCT states in the contract is merely one page containing a vague business turnaround plan. This is an incredibly lenient management contract to run a bank with deposit well over 100 billion baht. Though the shareholders approved this one sided contract as a direct result of strong influences from the FIRF and depressed circumstances, one should never forget the risk which the shareholders and BoT are now taking. Bank failures involve large social costs. Without some preventive measures in the management and financial contracts given to the IFCT, there will be too much at risk. Moreover, the whole situation is also a reminder of the First City Investment Plc (FCI) rescue by the IFCT in recent years. Specifically, FCI has been under IFCT management with completely new capital and reorganization since March 19, 1993. That time the FCI problem only involved a few billion baht, far below the BBC losses. If the stock price reflects the investors' private information about the market value of the firm, then the FCI under the IFCT has done very poorly because its price as recently as May 24, 1997 was traded at 7.4 baht per share, far below par and its book value. Therefore, the serious issue here is that the BoT can not neglect to write complete management and financial contracts to turnaround losing financial institutions, because any mistakes are very costly. The principle is that the compensation scheme is to be structured to reward decisions that enhance shareholder wealth, and to penalize outcomes that reduce shareholder wealth. It should be remembered that this is the second time that the BBC has been rescued, and the first rescue was done not so long ago by Mr. Kirkkiat Jalichandra and his associates, including former BoT elite.

3. Non-Performing Loan (NPL) Management : In order to structure an appropriate response to financial distressed companies, one can adapt a concept from strategic management; one can classify these companies, financial as well as non-financial institutions in four groups with each types has different possible solutions. Samples of financially distressed companies in varying circumstances are illustrated in Figure 2. Each type of NPL requires a different management procedure as follows :

3.1. 'Potential Stars' : Infrastructure related firms, residential and commercial projects in good locations, automobile related industrial companies and independent power plants are some good examples of 'potential stars', as shown in box 1. These

²⁶See more discussion by Jensen and Meckling [1976]

²⁷See more discussion by Arnott and Stiglitz [1985]

²⁸See more discussion by Daltung [1994]

companies have essentially profitable operations with high potential growth, but the ‘wrong’ capital structures. These profitable firms fail to meet their current obligations because of a lack of cash flow. Fundamentally, the simple solution is to restructure its capital structure in the capital market. No information problem should arise from stakeholders, because of their *incentive compatibility* to keep the firm alive. Current managers are unlikely to be threatened to reveal the true information about the firm, and can expect to retain their control since business opportunities are available. Senior claimants, like banks, have no incentives to liquidate company assets, due to the huge bankruptcy cost and high market value/replacement cost ratio. And junior claimants and equity holders similarly prefer to keep the concern going to avoid high bankruptcy costs. Consequently, government assistance to this type of firm should ease the pressure on the financial system. In addition, deregulating and privatizing mega project operators may also indirectly ease financial distress, and thus benefit the financial system. It is interesting to note that if, in this case, management buys out or arranges a leveraged buyout, the market will generally interpret either action as a good signal for the future firm value, since agents will benefit by removing some manager-owner interest conflicts as determined by Altman and Smith [1991].

3.2 ‘Yesterday’s Stars’ : These may be large, well managed banks during recession and commodities related manufacturers during cyclical downturn. Even though the companies may be profitable with low growth prospects, they could still go under, because for reasons now beyond management’s control, their total firm present value is *below* the value of total liabilities. The absolute priority claims on the firm’s assets will result when liquidation is the approach taken. The current manager may lose his job if the truth is unveiled even though the financial stress may be caused by just ‘bad luck’ or exogenous economic shocks. Senior claimants like mortgage holders have incentives to *underestimate* the value of the firm, so they will be rewarded a large fraction of the equity. Junior claimants and equity holders will have incentives to *overestimate* the value of the firm, and their contingency payoffs will behave like out-of-the-money American call options. One way to solve this information and incentive problem is to allow any party -- outsiders as well as current claimants -- to make an all cash bid for the *controlling rights* of the company. Without a doubt, the firm’s new capital will be in the hands of the controlling group who will decide the new business strategy. Alternatively, if the firm’s total net present value is sufficiently *positive*, only a small amount of information problems are likely to emanate from stakeholders, because they have *incentive compatibility* to keep the firm alive. One possible solution is for the company to reorganize its capital structure by injecting new cash and redistributing the claims to each of the claimants, giving value equal to 100 percent to each of the claims, until the total firm value is exhausted. Another solution is to provide equity-for-debt swap agreements which will de-leverage and reduce financial distress costs and agency costs significantly.

3.3 ‘Problem Children’ : State-owned transportation companies, poor balance sheet finance and print media firms are some examples. These companies may be potentially profitable, but through poor management in the form of unsound strategy and tactics, the company has failed to generate ‘free cash flow’ to meet the firm’s total obligations.. Throwing money at the problem will only prolong the bankruptcy process. Well-intended ‘solutions’ by the government (e.g., guaranteeing the ailing finance firm’s promissory notes, buying non-performing loans from defunct banks, and standing

ready to inject cash and credit into the financial system) actually make matters worse over the long term. These can produce solutions only for the symptoms, but not solutions to the fundamental problems, and this will later result in the grave, dangerous, side effects of moral hazards and adverse selection in the market place. These firms cause the greatest stress on the financial system. As the number of bailed out firms in this category increases, the harmful effects on the economy spread like a contagious disease. This contagious effect becomes more pronounced as the financial distress situation is prolonged without a permanent solution. Shifting the burden needs to be done on a permanent basis by changing the management team for improved corporate control - M & A. If the firm's net worth is significantly positive, information will be somewhat critical. Incumbent managers may have no incentive to give away their position. Providing a 'golden parachute' is one method of giving an incentive. Junior and Senior claimants may threaten to call their claims in the wake of changes in the ownership structure. Equity holders have incentives to *overstate* the firm's value. But if market forces are operating freely, then the structural changes will definitely increase productivity for the whole. Hence, giving the current Thai financial situation, one good solution for policy makers is to promote a market for corporate control by giving tax incentives (e.g. losses carried forward, income tax exemptions, etc.), to reduce foreign ownership restrictions and slash 'red tape' on the take over code. On the other hand, if the firm's total assets are far below its total liabilities, the information problem will be enormous, particularly when many classes of debt claimants are involved. Again, all cash bids for the *control rights* to the company will solve this information and incentive problem by allowing any party - outsiders as well as current claimants to participate in the bids. Alternatively, privatizing bankruptcy as discussed above may be another solution.

3.4 'Mature Dogs': Some examples are small securities firms, labor intensive industries (e.g. textile, footwear, etc.) and mining. These firms have little future prospects and are living on their past successes. As long as such firms can generate cash flows and employment, their existence is justified. Yet many companies somehow can not meet their debt obligations, and their liquidation value exceeds their going concern value. Their business has no future. The firm is worth more to be dead than alive. The call for the liquidation of the firm's assets and distribution of the proceeds according to the absolute priority rule will be the most practical solution. The major problem is how to handle the existing management and employees since their jobs depend on the company remaining alive. The appropriate solution for the government is to allow this firm to exist or to encourage them into higher value added markets. Note that if these firms are majority controlled by a family, then agency problem would be vastly reduced. Hence, the strategic decision making on the firm's future may be resolved much easier than publicly owned company.

IV. Conclusions :

To resolve the current Thai financial distress in an environment of imperfect information and conflicts of interest is a great challenge to all economic agents and regulators. To recapitalize failed banks or finance and property companies puts an enormous strain on the Thai national budget. While monetarists would like to use the money supply to stimulate the economy and to keep troubled banks afloat, Keynesians

may prefer budget cuts to reduce the Thai current deficit and to avert a financial confidence crisis. But solving the current Thai financial crisis by macroeconomics measures alone may not ensure a turnaround. Indeed, the Thai financial market still remains fragile. Thus, macroeconomics stress should create a political climate in which changes in regulatory policy extend far beyond the initial response to specific events. Hence, the objective of this paper is to provide an in-depth market micro-economic structure knowledge (e.g., moral hazards, the adverse selection problem, incentive compatibility, the free rider problem, etc.) to interrelate macro-economic issues for a better understanding of the problems and solutions to the current Thai financial crisis.

Not all financially distressed companies are alike. Asymmetric information about financially distressed firms naturally originates from agency effects and different classes of debt claimants, apart from political influences. Different economic agents and claimants have different incentives to assert the true state of the nature of the firm's troubles. Equity holders as *residual claimants* have incentives to *overestimate* the value of the firm during financial distress to keep their firm alive and to retain their equity and/or the firm's assets as the highest possible during restructuring or the bankruptcy process. *Senior* bond holders (e.g. secured bonds, mortgage backed guaranteed loans, etc.) have a *fixed claim* on the firm with incentives to *underestimate* the value of the firm throughout the difficult period to attain a large fraction of the equity or the firm's assets. But *junior* debt holders (e.g. subordinate loans, promissory notes, etc.) have a *contingent claim*. They will behave like equity holders if the insolvent firm's net worth is low, but will behave as senior bond holders if the net worth is high. Since a firm's managers are generally assumed to possess *private* information about the true economic value of the firm than outside investors, and can use this information for their own advantage to preserve their jobs, rather than maximizing shareholder value. Incentive incompatibility among all economic agents (e.g. equity and debt holders) causes: (1) a fundamental information problem in restructuring or bankruptcy processing; (2) inter- and intra- organization conflicts of interests among stakeholders; (3) free rider problems. Although no comprehensive solution is offered to these agency and information problems, the first step is to recognize and assess the type of microeconomics problems mentioned here.

Eventually, the financial system is accountable to reality. Such accountability means there are losers and winners. Some policy implications have been presented: (1) a security design is proposed to realign the incentive compatibility problem in a M & A case; (2) an efficient market for corporate control must be encouraged by permitting tax losses to be carried forward, to lessen legal obstacles and other market rigidities; (3) privatizing the bankruptcy process may also be initiated by outside arbitrageurs to clear the market; (4) four types of problem loan management situations are later presented by using the product/market approach as a means of identifying the financially distressed firm's situation and its appropriate solution.

References :

Allen, Franklin and Douglas Gale [1994] 'Financial Innovation and Risk Sharing' London : the MIT Press.

Altman, Edward I. and Roy C. Smith [1991] 'Firm Valuation and Corporate Leveraged restructuring', the Journal of International Securities Market.

Arnott, R. and Stiglitz, J. [1985] 'Labor turnover, wage structures, and moral hazard: the inefficiency of competitive market,' Journal of Labor Economics.

Black, F. and M. Scholes [1973] 'The Valuation of Options and Corporate Liabilities', Journal of Political Economy, May-June 1973.

Brown, D. [1989] 'Claimholder incentive conflicts in reorganization: the role of bankruptcy law,' Review of Financial Studies.

Bulow, J. and J. Shoven [1978], 'The Bankruptcy Decision', The Bell Journal of Economics, (Autumn)

Copeland, T. and J. Weston [1992] Financial Theory and Corporate Policy, third edition, NY : Addison-Wesley Publishing Company.

Cornell, Bradford, Francis A. Longstaff and Eduardo S. Schwartz [1994] 'Throwing Good Money After Bad ? Cash Infusions And Distressed Real Estate', UCLA

Daltung, Sonja [1994] 'Do banks take too much risk ?', working paper, Institute for International Economic Studies, Stockholm University.

Feldstein, M [1991 ed] 'The risk of economic crisis', the University of Chicago Press.

Geltner, David and Jian Ping Mei [1995] 'The present value model with time-varying discount rates: Implications for commercial property valuation and investment decisions,' Journal of Real Estate Finance and Economics.

Gilson, Stuart [1989] 'Management turnover and financial distress', Journal of Financial Economics.

_____ [1990] 'Bankruptcy, boards, banks and blockholders', Journal of Financial Economics.

Gilson, Stuart C., Kose John and Larry H. P. Lang [1990] 'Troubled Debt Restructuring: An Empirical Study of Private Reorganization of Firm in Default,' Journal of Financial Economics.

Green, R. and A. Juster [1992] 'The structure and timing of debt renegotiations by financially distressed firm', unpublished manuscript, Carnegie-Mellon University.

Grossman, S. and O. Hart [1980] 'Takeover bids, the free-rider problem and the theory of the corporation.', Bell Journal of Economics.

Harris, M. and A. Raviv [1993] 'The design of bankruptcy procedures,' unpublished manuscript, University of Chicago.

Hart, Oliver [1989] 'Incomplete Contract', reprinted in 'Allocation, Information and Market' edited by Eatwell, Millgate and Newman, NY: The Macmillan Press Limited.

Haugen, R. and L. Senbet [1978] 'The insignificance of bankruptcy costs to the theory of optimal capital structure,' *Journal of Finance*.

Heinkel, R. and J. Zechner [1993] 'Financial distress and optimal capital structure adjustments,' unpublished manuscript, University of British Columbia.

Hoontrakul, Pongsak [1995] 'Should Thailand have a bank based or stock market based financial system?', discussion paper, Joint Doctoral Business Administration (JDBA) - Thammasat University, forthcoming *Journal of Business Administration*.

Hurwicz, L. [1972] 'On informational decentralized system. In *Decision and Organization: A Volume in Honour of Jacob Marschak*, ed. R. Radner and C.B. McGuire, Amsterdam: North-Holland, 297-336.

Kole, Stacey R. [1994] 'The bundling of compensations plan', working paper, University of Rochester.

Jarrell, G., J. Brickley and J. Netter [1988] 'The Market for Corporate Control: The empirical evidence since 1980', *the Journal of Financial Economics*.

Jensen, M. [1991] 'Corporate Control and the Politics of Finance', *the Journal of Applied Corporate Finance*.

Jensen, M. and W. Meckling [1976] 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure', *Journal of Financial Economics*.

Jensen, M. and R. Ruback [1983] 'The market for corporate control - The scientific Evidence,' *the Journal of Financial Economics*.

Mc Millan, H., R. Nachtmann and F. Philips-Patrick [1990] 'Costs of reorganizing under Chapter 11: Some evidence from the 1980's', Security Exchange Commission (U.S.) working paper.

Pindyck, R. and D. Rubinfeld [1992, 2nd edition] 'Microeconomic', NY: Maxwell Macmillan International.

Senbet, L. and J. Seward [1991] 'A market-based reform of the bankruptcy process', unpublished manuscript, University of Maryland and Dartmouth College.

Sandhikshetrin, Kamol [1982 ed.] 'The Civil and Commercial Code Book I-IV), Bangkok : Jaransanitwong Press.

Senbet, Lemma W. and James K. Seward [1995] 'Financial Distress, Bankruptcy and Reorganization', in Finance Handbook edited by Jarrow et al in OR & MS Vol. 9.

Spulber, Daniel F. [1989] 'Regulation and Markets', NY: MIT press.

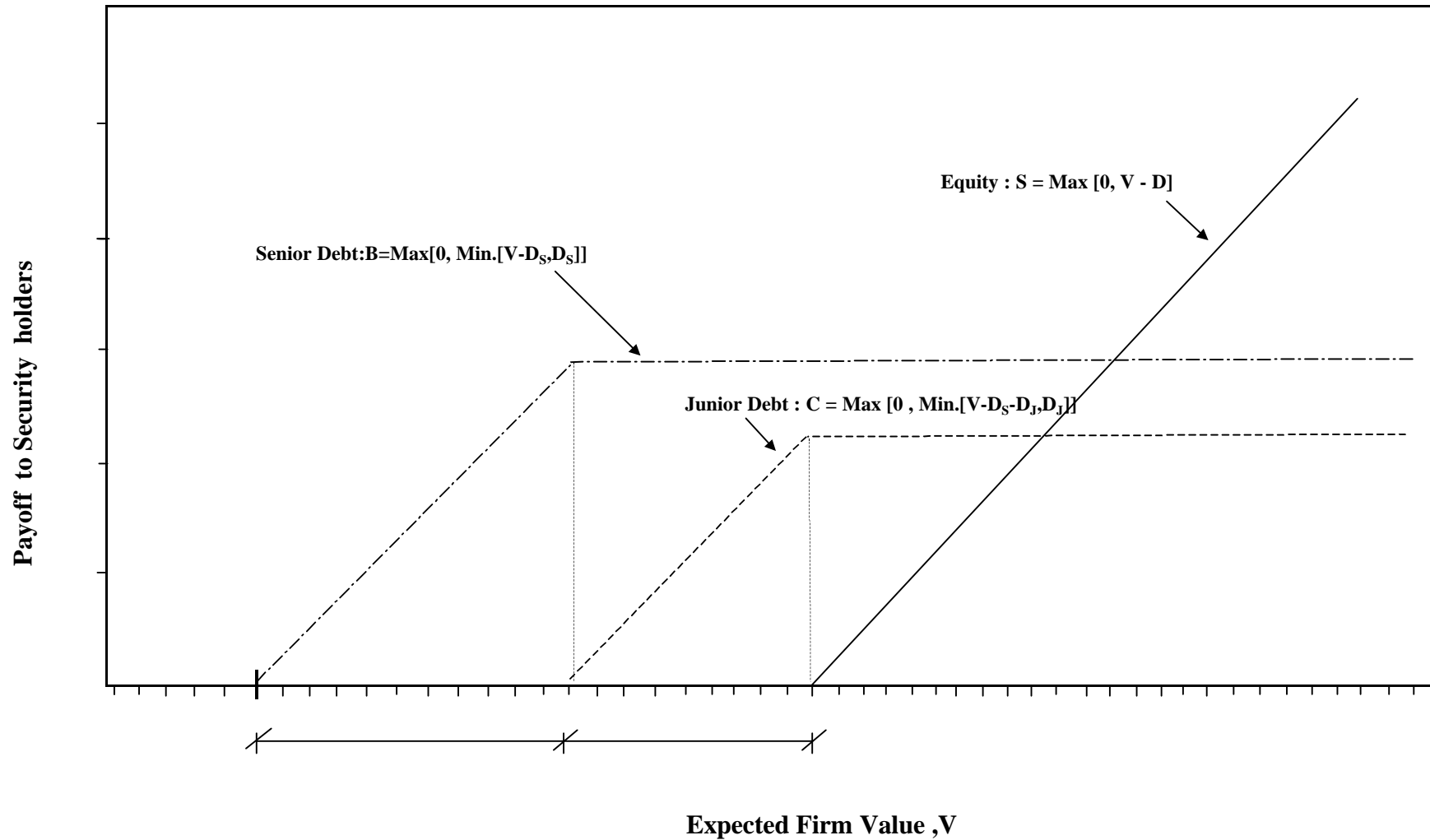
Vichyanond, Pakorn [1994] 'Thailand's Financial System: Structure and Liberalization', Thailand Development Research Institute, monograph no. 11.

Weiss, L. [1990] 'Bankruptcy resolution: direct costs and violation of priority of claims' *Journal of Finance Economics*.

White, M. [1989] 'The corporate bankruptcy decision' *Journal of Economics Perspective*.

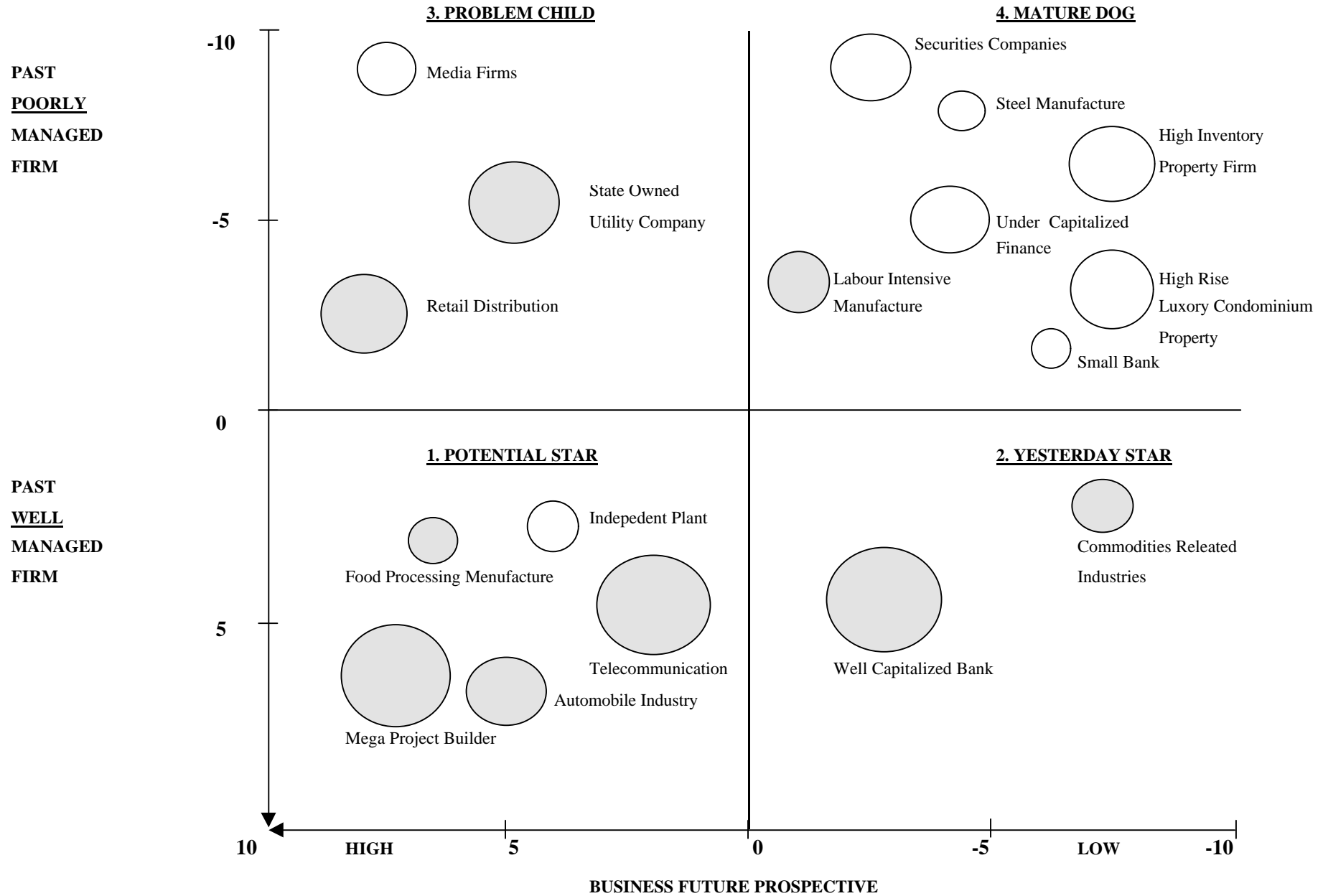
Wruck, K. H. [1990] 'Financial Distress, Reorganization, and Organizational Efficiency', *Journal of Financial Economics*

FIGURE 1 : Payoff Diagram for Equity Holder Junior Debt Holder & Senior Debt Holder.



NOTE : V = Expected Value of The Firm ; $X = D_S = A$ =The 'Strike' Price ; C = Junior Debt Value ; B = Senior Debt Value
 D_S = Total value of Senior Debt ; D_J = Total Value of Junior Debt ; $D = D_S + D_J$ = Total Value of Debt

FIGURE 2 : Sample of Financial Distressed Companies in "Boxes".



NOTE : The Size of The Circle Represents The Magnitude of Present Value of The Firm.

The Black Circle (●) Represents The Positive Net Worth Value ; The Blank Circle (○) Represents The Negative Net Worth Value.