

Thai Credit Market Failures: The 1997 Aftermath

Olarn Chaipravat*
Pongsak Hoontrakul**

I. INTRODUCTION

Thailand's full-fledged financial crisis which began with the baht float on July 2, 1997 has devastated its economy. The resulting massive devaluation has directly weakened the balance sheets in both financial and non-financial sectors and led to a significant decline in household wealth. Furthermore, collateral value has declined. This has caused a worsening of the asymmetric information problem and exposed the financial system's inexperience in rehabilitating the balance sheets. Banks are cutting back on lending to preserve their capital and liquidity against future uncertainties. Once the economy is caught in a liquidity trap, banks face a serious selection problem to locate creditworthy borrowers as well as a potential moral hazard—misuse of capital. When less funding is available to the productive real sector, adverse effects on the economy inevitably follow. Unless and until the financial system overcomes its own market failures and develops ways to extend credit properly, the economy cannot recover and attain self-sustainable growth in the long run.

This article addresses the microeconomic problems surrounding the Thai credit market and is structured as follows. The next section examines shifts in the sources of funds for firms at different stages of their life cycle, motivated by risk sharing and information difficulties, with particular reference to the role of the banks as performance monitors. Issues related to non-performing loans (NPLs), financial fragility and systemic risk are presented in the third section. Small and medium sized enterprises (SMEs), which account for over a third of all NPLs, pose a particularly serious threat to Thailand's credit system, due to the lack of proprietary information, and the sharp decline in the value of their collateral. The fourth section examines problems related to the workout of existing loans, and goes on to propose means of

reviving the credit market, by employing the value chain approach, by rejuvenating SMEs, and by a pump-priming policy aimed at the housing market. Retail credit liberalization, nation-wide subsidized housing projects, a value chain system and a limited credit guarantee scheme are among the macro- and micro-economic proposals put forth in this paper to create incentive compatibility among stakeholders.

II. INFORMATION PROBLEMS, RISK SHARING AND SOURCES OF FUND FOR FIRMS

In small and open emerging economies such as Thailand, even in normal times, financial markets are far from complete and perfect. There are hardly enough market participants and depth to provide the ideal conditions for perfect competition. Asymmetric information is a common problem. There thus emerge formal and informal financial intermediaries (e.g., banks, venture capitalists, informal fund providers and mezzanine financiers) to provide delegated monitoring service to reduce risk and to overcome the information problem. Their roles differ in importance over the life cycle of firms, as will now be discussed.

1. Sources of Capital for Firms: Figure 1 illustrates the likely sources of capital for a growing firm under normal economic conditions, highlighting the correlation between firm size and information availability over the firm's life cycle. As more information about the firm is readily available and verifiable, the funding sources become more sophisticated in stages as follows:

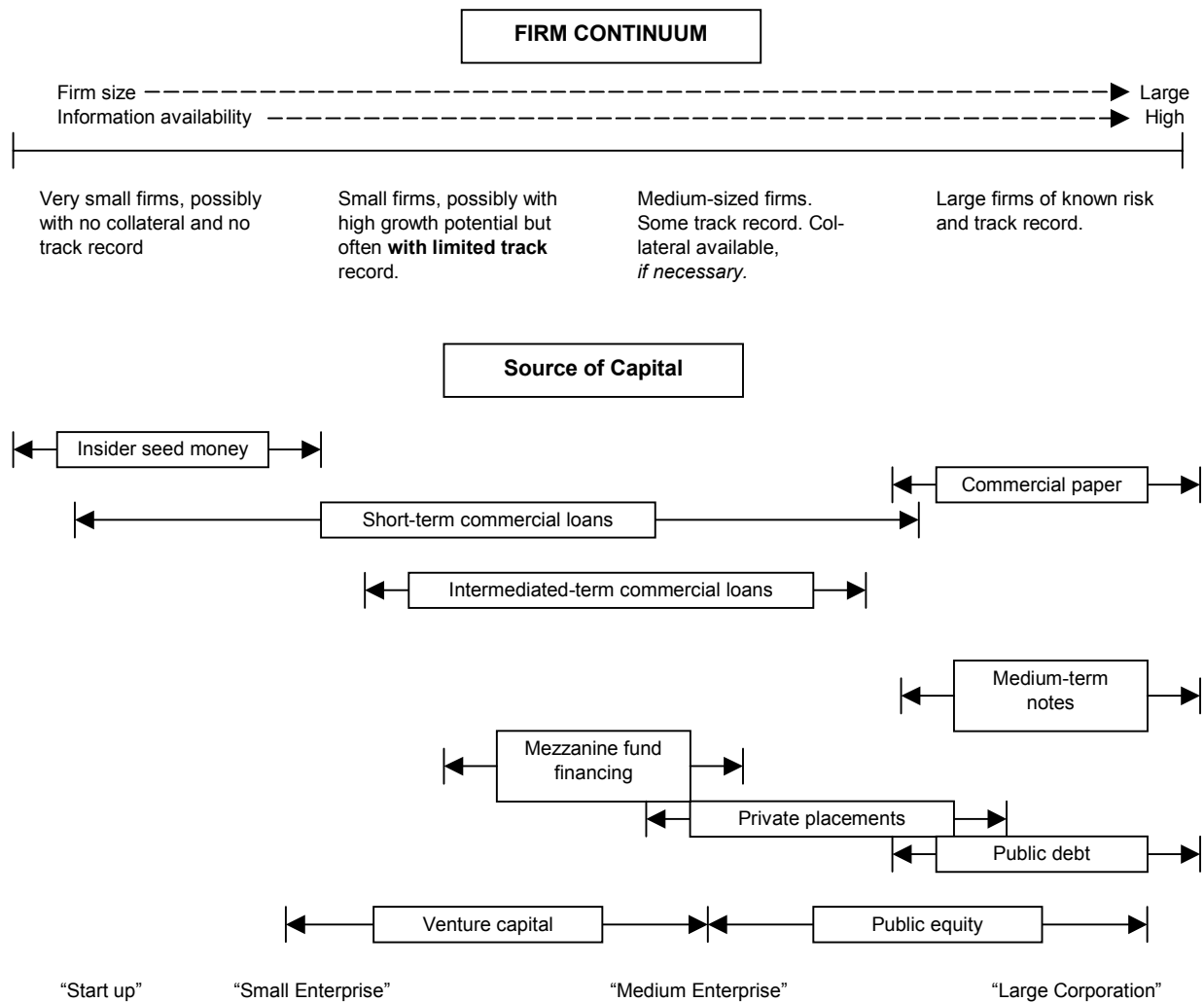
1.1 Start Up Stage (Stage 1): In the initial stage, the firm is usually very small with no track record, no collateral and no source of capital except 'angel' or seed money (e.g., start-up capital provided by the owner, insiders, peers and relatives, etc.) and human capital.

* Dr. Olarn is a director and advisor to Siam Commercial Bank Plc, Thailand.

** Dr. Pongsak is a financial economic researcher at Sasin. Comments are welcome and may be addressed to Pongsak Hoontrakul, Sasin – GIBA, Chulalongkorn University, Sasa Patasala Building, 8th Floor, Soi Chulalongkorn 12(2), Phayathai Road, Bangkok 10330, Thailand. Phone (private): (662) 954 1689, Fax: (662) 954 1690; Email: pongsak@hoontrakul.com.

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Figure 1 Sources of Capital for Firms



Source: Pongsak (1996).

Frequently information failures prevent these start-up entrepreneurs from enjoying full access to credit. Progressive lending/investment by incubators, pooling capital from friendly sources, personal credibility and sound business ideas are often the bases for the first source of capital.

1.2 Small Enterprise (Stage 2): This stage of the small enterprise (SE) is characterized by limited track record, high growth and potential. An SE will normally use external finance from trade finance, venture capitalists or other informal lenders for its short-term working capital. In the absence of collateral or institutional safeguards, informal or relationship-based finance, allows it to build up reputation, and offers a means to share a steady flow of future business (and risks) within the same network of firms.

Without conventional participatory and qualitative evaluation tools available to potential lenders, the

transition from the initial stage to this stage is very difficult in most cases. These techniques include personally monitoring the entrepreneur behavior, organizational performance and ‘set-piece’ or ‘mental model’ qualitative impact performance with no ‘optimal approach.’ ‘Social collateral,’ based on peer pressure to monitor and enforce contracts in group-based lending can sometimes replace physical collateral.

1.3 Medium Enterprise (Stage 3): At this stage, the successful firm has evolved into a medium-sized enterprise (ME) with a fine credit rating and reputation. An ME may offer collateral and have some track record for quantitative analysis to provide a safeguard for the fund providers. An arm’s length or formal contract-based finance should evolve for the intermediate and long terms from various conventional financial institutions (e.g., banks, leasing firms, finance companies, etc). During the 2nd and the 3rd stage, banks play a crucial role

in nurturing the emergence of credit-worthy or mercantile class entrepreneurs. The key idea is for the banks to establish a ‘customer relationship’ with borrowers in order to gather information about them and mitigate the effects of moral hazard.

1.4 Large Corporation (Stage 4): By now, the firm has a track record, with fewer, well-defined risks. A large corporation therefore has a lower cost of funds, needs to pledge less or no collateral and is more responsive to investment opportunity than a small firm primarily because of an abundance of information available to the lender. To achieve efficient capital structure by going public, the corporation has to maintain high accounting standards and follow international transparency procedures. Prices of the firm’s various publicly issued securities (e.g., stocks, bonds, commercial papers, etc.) in the capital markets signal critical information to fund providers and other economic agents. In a well-developed financial system, the *disintermediation* process will eventually prevail for these firms. Non-bank channels (e.g., securitized market, insurance companies, derivative issuing, etc.) will play a non-trivial role in financing such corporations.

2. Information Economics, Degree of Monitoring and Risk Sharing: Information is the lifeblood of financial markets. All fund suppliers need it to assess the net present value of the fund users’ promises. In the loan market borrowers rarely find abundance of fund providers owing to an undersupply of information

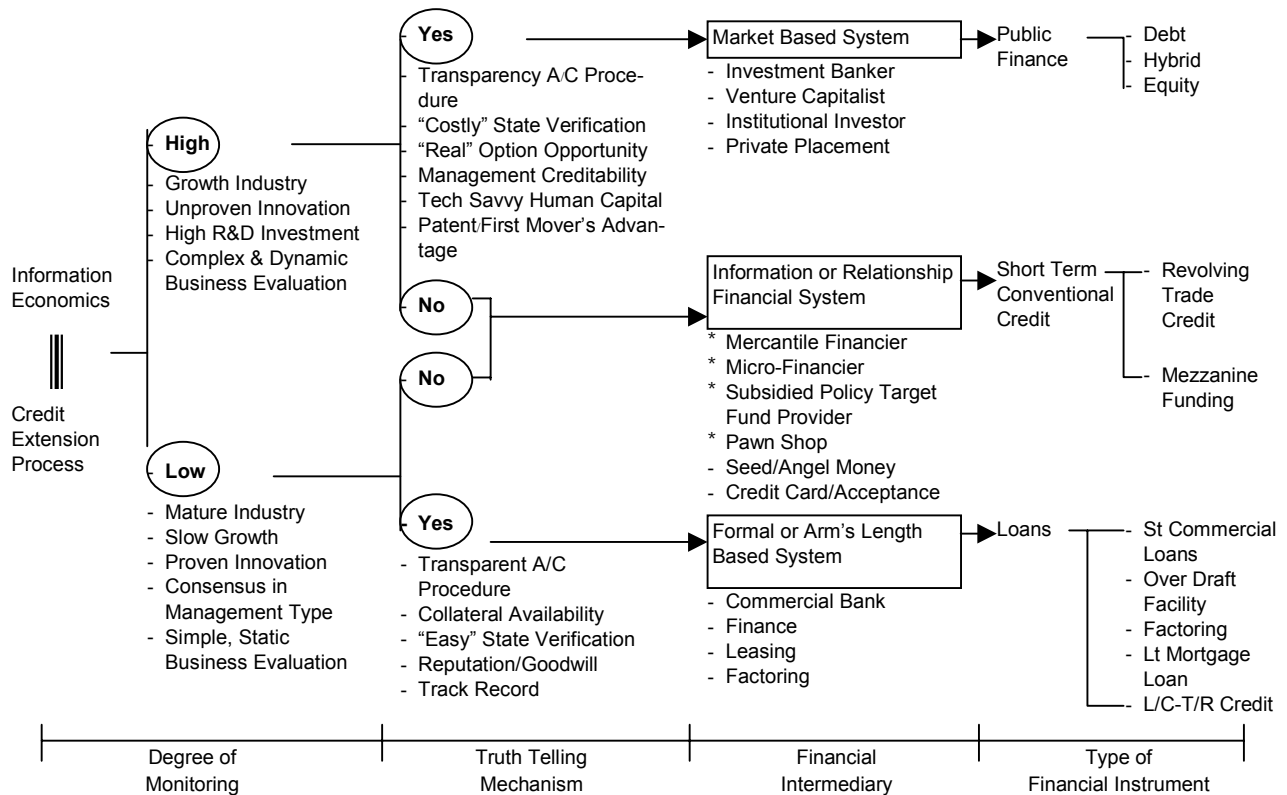
available to the latter. To gather information on each borrower’s specific attributes and data is costly. To transform such information into productive or useful knowledge requires even more expensive know-how.

The lending market is essentially different from other traded securities market. It cannot operate as a simple auction market. Price discovery or the willingness to pay interest is not an indication of creditworthiness. A typical information problem of verifying quality project or fund user, monitoring and enforcing the debt contract naturally arises.

Obtaining information on large corporations offers economies of scale and entails little cost. For retail lending with small amounts per loans but high volumes of relatively simple transactions, credit-scoring software packages to process and to monitor vast amounts of information are readily available. For SMEs, however, the undersupply of information is serious and puts them strongly at a disadvantage.

Apart from the relationship between the firm’s size and information availability discussed above, the nature of its business also matters in the credit market. Different types of industries and organizations require different degrees of performance monitoring from different sources of funding and for different patterns of risk sharing (see Figure 2). The different roles of banks and capital markets and the different types of risk-sharing arrangements may be further explained based on the country’s economic development, as follows:¹

Figure 2 Information Economics Credit Extension Process and Degree of Monitoring



2.1 Low Degree of Monitoring Intensity: An industry requiring low monitoring can be characterized as competitive and mature, with slow growth, a short business cycle, proven production technology/innovation and whose management process is fairly standard. For firms in such an industry a simple evaluation can be sufficient. Agricultural processors, textile and shoe manufacturers, foundries, wholesale and retail distributors are among those requiring a low degree of monitoring. Moreover, when reliable mechanisms (e.g., collateral, personal guarantee, transparent accounting procedures, etc.) to avoid *ex-ante* adverse selection are available, banks are in an ideal position to create incentive compatibility for all risk sharing agents. With a *comparative* advantage of economies of scale in monitoring and low costs of delegation, banks play an important role in preventing opportunistic behavior of borrowers, both interim (moral hazard) or ex-post (auditing). Thus, banks are instrumental in providing long term intertemporal risk sharing services for *depositors* and in nurturing emergent credit-worthy *entrepreneurs*.

2.2 High Degree of Monitoring Intensity: Capital markets (e.g., stocks, debentures, etc.) are adapted for risk sharing among all market participants, but are not a quick source of capital. Industries suitable for security listing would be those that require continual performance monitoring by security analysts and astute fund providers. Pricing signals in the market place also provide critical positive information externality, and therefore draws in larger supplies of capital. Firms requiring a high degree of monitoring are typically dynamic and highly idiosyncratic, innovative and experiencing ever-changing technology and high growth, thus requiring complex business evaluation. Some instances are e-commerce, internet portal sites, hardware and software industries, telecommunications, large conglomerates and state-owned enterprises. It is worth noting that firms requiring a low degree of monitoring have never been successful in the stock market in

Thailand either before or after the collapse, despite their high profitability.

III. NPLs, FINANCIAL FRAGILITY, SYSTEMIC RISK

Financial fragility prevails in virtually all Asian countries including Thailand, where the current weakness is a direct result of poor balance sheets due to massive currency devaluation. This weakness has been exacerbated by the economic downturn, interest rate hikes and the deteriorating collateral value. Indeed, Thai (or Asian) traditional collateral-based lending has amplified the economic disaster: as values fall, loans get called, forcing more real estate onto the market, which further depresses prices. The Thai financial landscape has been drastically changed and the credit extension process has been systemically impaired. By mid 1999, approximately half of Thai banks' loan portfolio consisted NPLs, which can be classified into three categories as follows (see also Table 1).

1. Large Corporate Sector: About 1,200 large corporations with head offices in Bangkok account for nearly half of the total 5.3 trillion baht bank lending with an average account of 2,166.67 million baht per firm. Approximately 35 percent of these loans, which are concentrated mostly in the six largest Thai banks and almost all foreign banks in Thailand, are NPLs. Public information on these firms is readily available. Professional corporate managers are willing to work out solutions with their fund providers to maintain their own reputation and job security. Lenders, particularly from abroad, can provide expertise in handling these NPLs, while strategic foreign direct investors (FDIs) are keen to take over corporations with good potential. Reform of bankruptcy laws and procedures has been enacted. The government is facilitating deal making between lenders and debtors with many types of tax and regulatory

Table 1 Thailand Total Estimated Banking Loans Characteristic As of December 30, 1998

Loan Type	No. of Accounts	Total Banking Loans (Trillion Bahts)	Average AC		% NPL	Method of Work out Problem Loan
			(Million Bahts)	%		
1. Large Corporates - Short to Long Term Loan - Commercial Paper - BIBF	1,200	2.6	2,166.67	49.06	35	Incentive Compatible Contract & Financial Innovation
2. Individual Loans - Consumer Loan - Credit Card - Mortgage Loan	1,000,000	0.8	1.25	15.09	50	Retail Credit Liberalization For Growth & Nation Wide Housing Project
3. Small Medium Enterprise - Trade Credit - Short Term Overdraft - Industrial Dt - Mercantile Jobber	300,000	1.9	6.33	35.85	65	Value Chain Approach
Total		5.3		100.00	Ave \cong 50	

Source: The Siam Commercial Bank Public Company Limited.

incentives. Consequently, slow but positive progress has been made in working out most problem loans in this sector. All the information and incentive compatibility issues for all stakeholders are in place. The workouts are normally done by the techniques of debt restructuring, debt-equity swap, buy-back option and other financial innovations with a possibility of foreign participation. Sahaviriya Steel Industries Plc provides a recent example of a successful 21.2 billion baht capital restructuring deal with bondholders and creditors, while the 1998 acquisition of the Thai Danu Bank Plc (which has now become DBS Thai Danu Bank Plc) was a positive indication of the benefits of such a move.

2. Personal Sector: In contrast to the experiences of other countries, personal-sector indebtedness and default is *not* a major cause of the Thai financial turmoil due to high household savings. Less than 2 percent of the 60 million Thais owe money to the banking system for consumer loans amounting to 0.8 trillion baht (15% of the total loans) with an average debt of a little over 1 million baht. Close to half of this retail borrowing is currently non-performing. More than three quarters of these loans are mortgage loans and the rest are credit card and other consumer loans. Still, the overall personal wealth loss has been significant in the aftermath of the crisis. The prospects of job loss and the bleak outlook for the economy have imposed serious major liquidity constraints on individuals, making them unable or reluctant to repay their debts. The household's propensity to consume is low at a time when domestic consumption needs a boost to counterbalance the downturn in the economy. That is, the constrained marginal propensity to consume should be less than that of unconstrained consumers. The foremost policy implication is how to provide fund or credit extension to the 'have-nots,' not the rich, to jump start the economy.

3. Small and Medium Enterprise (SME) Sector: SMEs are the backbone of the Thai economy. More than 300,000 SMEs account for close to 35 percent of all outstanding bank loans, of which more than 65 percent are hard-to-recover NPLs. Note that actual SME lending may exceed a half of GNP, possibly as a result of a growing 'black' SME market after the introduction of value added tax (VAT) in 1994, the subsequent VAT rate increase in 1997 and the credit crunch from 1996-8. Given their relatively small size with an average account of 6.33 million baht, public information on SMEs is rarely available, while SME entrepreneurs have incentives to conceal their proprietary information to avoid tax and to protect their business secrets from competitors. Thus, to solve the information problem, lending is normally based on collateral or personal guarantees.

Shrinking asset values cause a total breakdown in credit to this sector. The higher degree of monitoring required for SME accounts in a financially distressed environment becomes a deterrent to new lending or even to the refinancing of old debts. There is little or no interest from foreign or large fund providers and

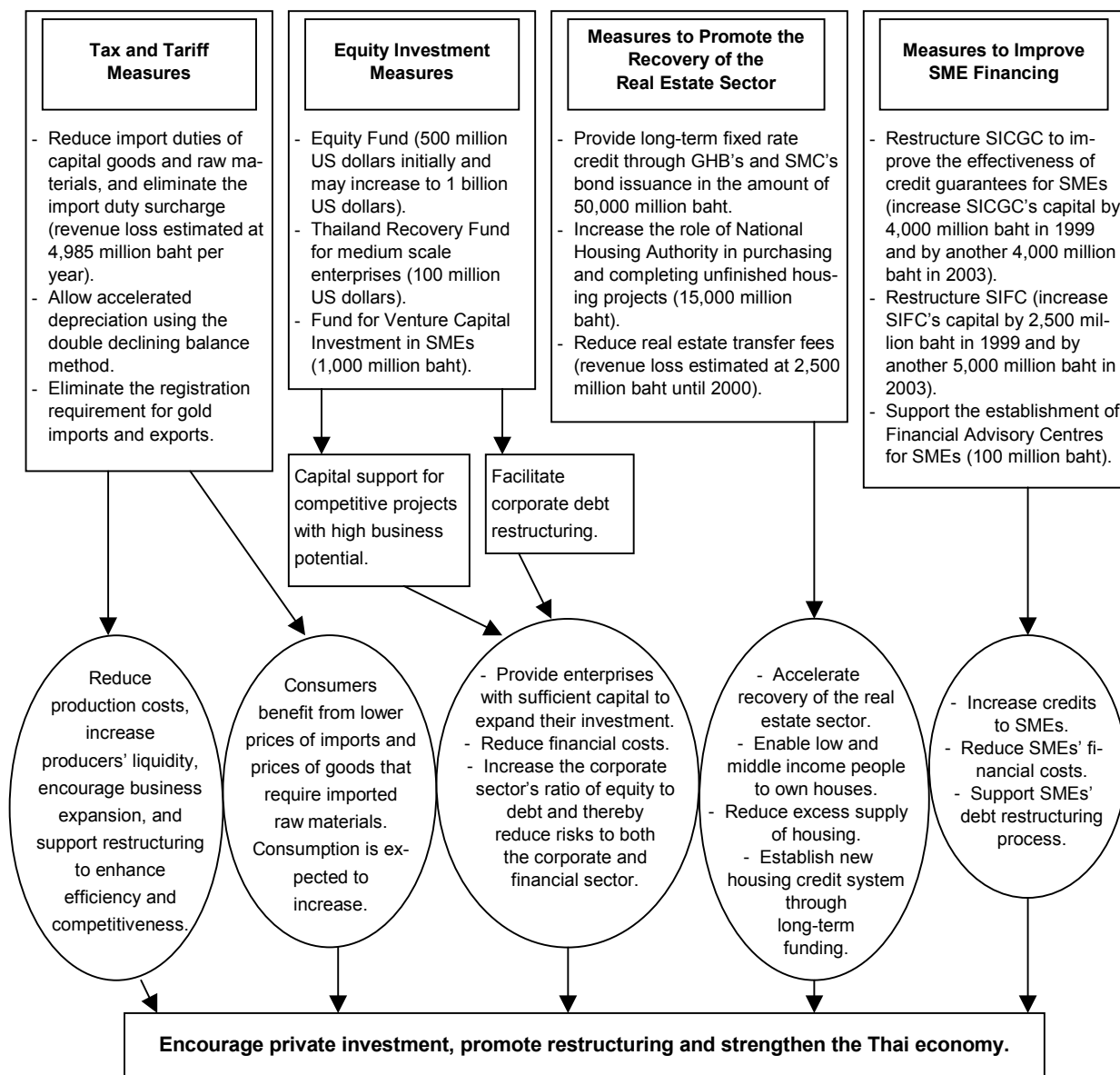
strategic FDIs because of the lack of economy of scale. Balance-sheet problems in SMEs are further complicated by an increase in a risk aversion tendency among lending officers, who have seen their earlier lending decisions fail. If there are 'fresh' loans available, the bank fears the SME will use the funds to repay someone else. And if the bank does not provide new loans, the borrowing SME has all the incentive to default on existing loans. As a result, the rational lending officer does nothing or withdraws the SME's credit line. The rational action for SME operators is to default in all cases to preserve liquidity because the survival of SME business determines their family well being and welfare. Although the latest (third) scheme of the Ministry of Finance (MoF), announced on August 10, 1999, to mitigate the impact of the current economic crisis (Figure 3) by injecting credit and funds for SMEs is very good in concept, the implementation process is not well thought out,² because the issues of information problems and the banks' inexperience in rehabilitating balance sheets as well as the incentive compatibility problem are not addressed.³

The SME sector is well known to be very flexible and a hardy survivor in a fast changing environment. Generally SMEs are quick to adapt to new technology, innovation and trends. When the credit system collapses, the SME moves to a cash basis community. Using the physical input method, Austrian Prof. Schneider says that the Thai shadow or underground economy is the world's second largest, worth of more than 70 percent of the country's official GDP.⁴ The larger the underworld SMEs become, the harder it is for the government to fine-tune its economic policy by traditional macro-economic measures (e.g., tax cut, loose monetary policy, etc). This increases the *systemic risk* in the Thai credit market. Without the SMEs back on track, it is hard to imagine how the Thai economy can return to its long-run sustainable growth of around 5-6 percent. One solution may be to give SMEs a chance to return to the formal economy by providing a tax pardon scheme and a 'fresh' start. However, the question remains: how to jump start the SME economy in the midst of the turmoil in Thailand.

IV. SOME PROPOSED MEASURES

Given the growing competition Thailand faces in the world market, it is obvious by now that the Thai economic recovery must be fueled by an increase in domestic consumption and investment, not export. Reflating asset prices will result in a medium- to long-term tragedy because it will add no productivity to the economic structure, and encourage asset speculation and increased imports of luxury goods for consumption. Because the Thai government traditionally has a small budget (accounting for roughly 15% of the GDP) and is highly bureaucratic, large fiscal spending in the Keynesian style would have a long time lag with small

Figure 3 Measures to Encourage Private Investment (10 August 1999)



Notes: GHB: Government Housing Bank
SIFC: Small Industry Finance Corporation

SMC: Secondary Mortgage Corporation
SICGC: Small Industry Credit Guarantee Corporation

Source: Ministry of Finance, Thailand.

impact on the economy. Undesirable side-effects include leakage on imported goods and high debt accumulation in the public sector. That the Thai and Asian economies bounced back in the third quarter of 1999 is predominantly due to a regionally simultaneous pump priming via fiscal and monetary expansionary policies. This bounce-back is a necessary, but *not* a sufficient condition for self-sustainable recovery. Therefore, to have a domestic consumption-led recovery, the Thai government should lubricate demand by revitalizing personal consumption and by extending credit to stimulate SME investments, simultaneously. Some policy implications and proposed measures are as follows:

1. Workout Progress: From our experience at the Siam Commercial Bank Plc (SCB) after full recapitalization in April 1999 for all NPL provisions, working out NPLs at present cannot be compared to the way it was done during normal times when NPLs accounted for less than 10 percent of all loans. When NPLs become a systemic problem, usual debt rescheduling which calls for quick loan repayment or increased collateral is not realistic.

1.1 *S-Curve and NPL Projection:* Incomplete information on troubled firms and inexperience of economic agents in rehabilitating the balance sheets pose major obstacles to restoring the financial system. Data

are often scarce and inadequate. And given the complexity of the many types of workout processes in a dynamic environment, translating data into knowledge is very difficult. Knowledge takes time to evolve, be disseminated and accepted into the decision making process, and become part of the banks' experience. Knowledge and information can also get lost. Next, the internal as well as external political process matters as much as the learning process of all economic agents in such a dysfunctional credit system.

In SCB's case, about a quarter of all NPLs had to be liquidated with about 70 percent recovery rate. Working out corporate repayment was the first priority due to its size, information availability and affordable

expertise. It proceeded with full bank guidelines to the banking officers in June 1998, and it took six months to climb the initial steep learning curve in disseminating this knowledge among SCB associates, as illustrated in Figures 4a and 4b. As it turns out, the classical S-curve applies in SCB's multi-layer loan restructuring process from the top management down to account officers. Given the comprehensive policy initiatives in January 1999 and assuming no prominent foreseeable information problem, restructuring SME and retail loans should be completed in June 2000.⁵ Taking SCB as a benchmark, one can project the percentage of individual private banks' NPLs to reach a self sustaining level within December 2000 as illustrated in Figure 5.

Figure 4a Projected SCB Loan Restructuring S-Curve

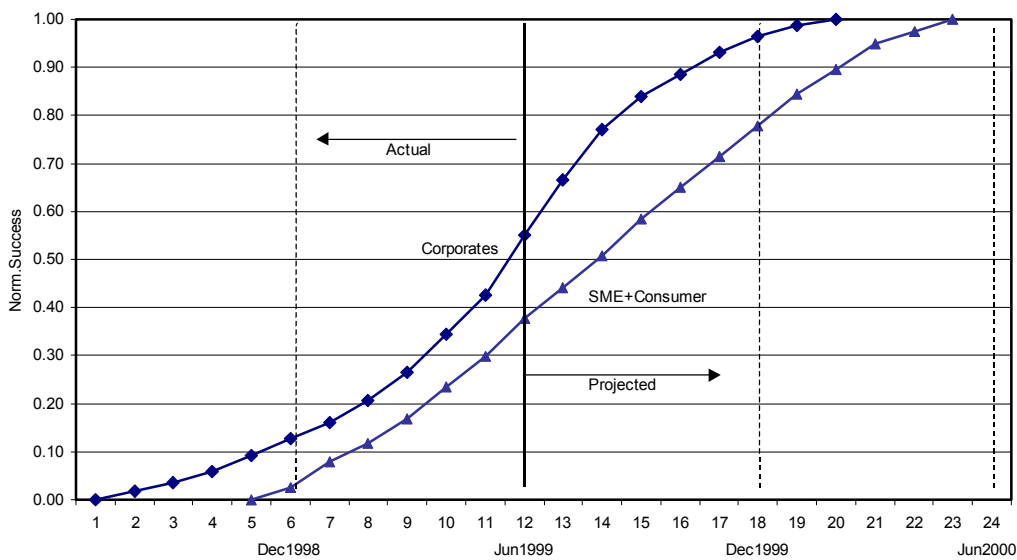
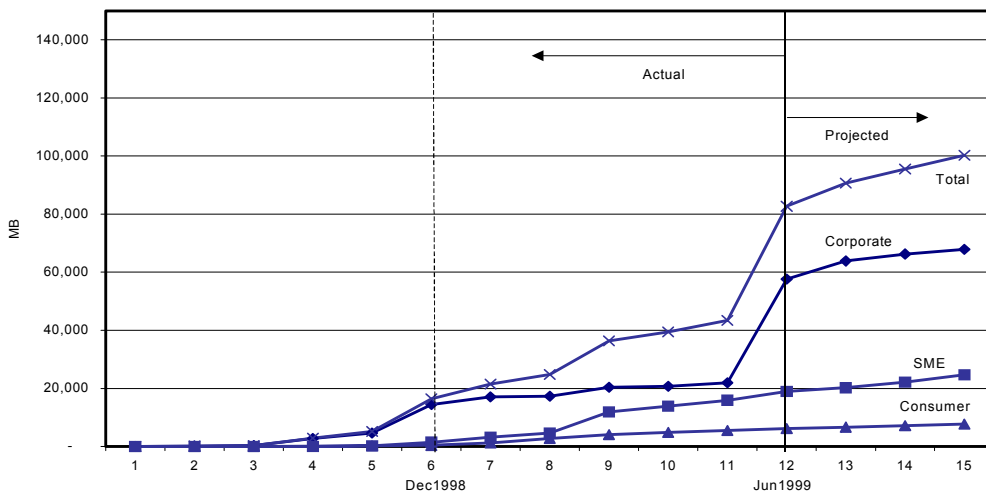
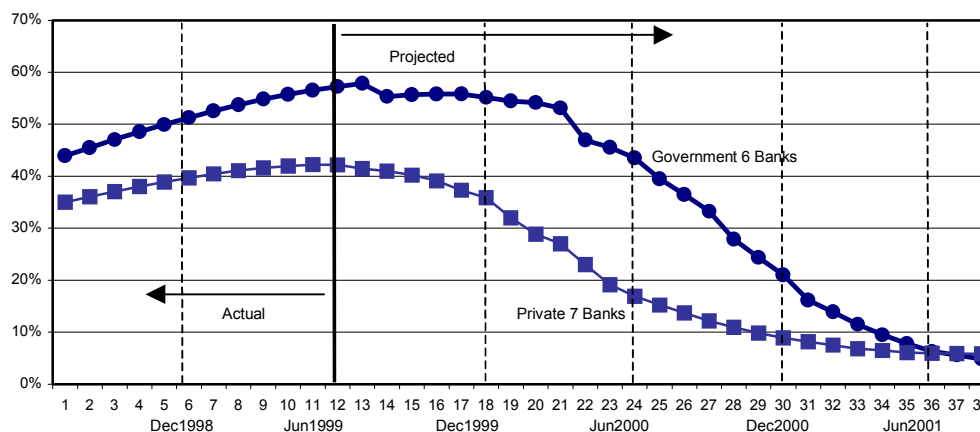


Figure 4b SCB Loan Restructuring Progress



Source: The Siam Commercial Bank Public Company Limited.

Figure 5 Percentage of NPLs of Total Loans

Note: Actual data are from the Bank of Thailand. Using the SCB learning curve as a benchmark, one can project the work out progress number.

As Table 2 shows, the NPLs of the state-owned banks are much higher than the private banks' since the informational and organizational capital of the former has not been well preserved.⁶ Because information remained with individuals who collected and managed it, departed or retired bank officials and managers cannot be perfectly substituted by others. The government's attempt to bail out ailing banks has sadly proven to be a prohibitively expensive proposition. One valuable lesson from the bail-out policy is the need to ensure that information capital residing in the bank and the flow of credit are maintained. Once more, workout know-how has to be efficiently and quickly transferred to the state-owned banks. This is an enormous task which cannot be lightly undertaken. The most optimistic forecast for the loan restructuring process for the state-owned bank to be completed is by mid-2001, unless drastic and effective measures are introduced. One such measure would be to sell one or more of these state-owned banks to foreigners and hope that they would clean up the banks more rapidly and their presence will help improve the efficiency of the local banking industry. Nonetheless, as pointed out earlier, most likely the foreign bankers are here to reap profits from their expertise in corporate and retail banking based on their knowledge of information economics and access to advanced technology. If so, it appears that the SMEs will again be left out of the picture.

1.2 Addressing Information Problems for New Loans: Heavy reliance on fixed asset collateral or personal guarantee as a mechanism in the lending process can increase the fragility and vulnerability of the economy as well as limiting the availability of credit to the borrowers. Collateral allows banks to avoid rather than address the relevant information problems. The focus of the government should be on shifting toward risk assessment and sharing the information burden. Risk

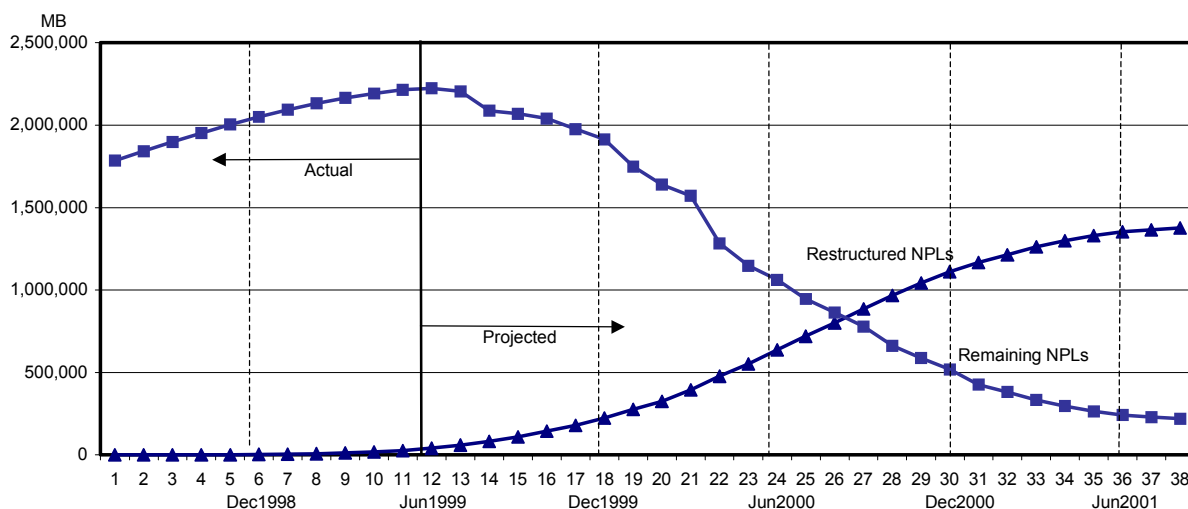
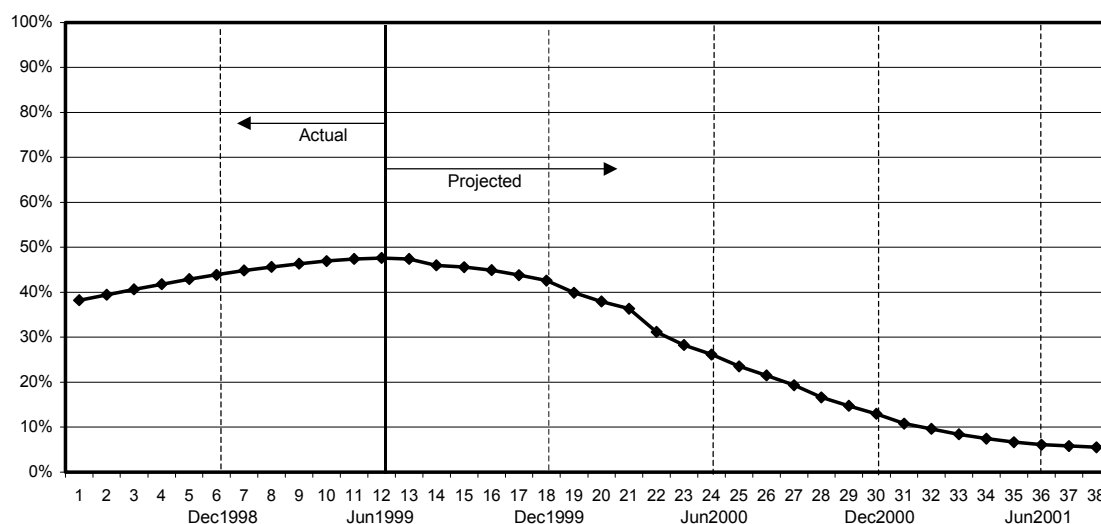
assessment involves setting policy rules to better realign the incentives of all economic agents with common social good. New lending and government support can be based on group lending with a self-selection process. Community groups, industry federations and consumer associations can exert peer pressure on members to act responsibly. Providing incentives for group borrowers and 'social collateral' to repay and help avoid *ex ante* adverse selection of borrowers will be useful in improving loan recovery rates. Group lending also provides good enforcement of loan contracts by peer pressure to avoid loan default cost. As one of the 10 August 1999 measures to support business restructuring efforts, the MoF established three new funds: 1) the US\$500 million Equity Fund, 2) the US\$100 million Thailand Recovery Fund and 3) the US\$26.5 million Fund for Venture Capital Investment in SMEs. The MoF has set up a separate committee comprising the representatives of the Federation of Thai Industries and the Thai Chamber of Commerce to select a private company to manage the fund. It would be even better if the group lending process via value chain approach (see below) is also implemented and information economic problems are addressed. It is particularly noteworthy that equity investment requires even *more* information and knowledge than normal lending activities because of its lowest priority claim risk.

Reconciling the market-based and regulatory approaches may mitigate information problems, specifically for SMEs. Well functioning market-based approaches are generally more efficient in processing information and allocating goods and services. But when information is scarce during distressed periods, the transaction costs of generating, disseminating and using information and knowledge are substantial. Thus, the market tends to malfunction during the turmoil due to this friction.

Table 2 Summary Table of Financial Instability

	Sweden 1991-2	EU Bond 1992-4	Japan 1992-9	Thailand 1997
Debt Accumulation	Yes	Yes	Yes	Very High
Asset Speculation	Yes	Yes	Yes	Very High
Concentration of Risk	Yes	-	Yes	No ?
FX Regime Shift	Yes	Yes	Yes	Yes - Fix to Float
New Entry/Competition	Yes	Yes	Yes	Yes - BIBF
Financial Innovation	-	Yes	-	Yes - Thai Baht P/N BIBF
Monetary Tightening	Yes	-	Yes	Yes - 1997-8
Credit Rationing/Run	Yes	-	Yes	Yes
Declining Capital Ratio	Yes	Yes	Yes	Yes
Contagion Between Market	-	-	-	Yes
International Transmission	-	Yes	-	Yes
Action By Authority	Yes	Yes	Yes	Yes
Disfunction of Finance: Economic Collapse	-	-	-	Yes

Sources: The Siam Commercial Bank Public Company Limited; Davis (1995).

Figure 6a NPL Value (All 13 banks except BBC & FBCB)**Figure 6b Percentage of NPL to Loan (All 13 banks except BBC & FBCB)**

Notes: BBC = Bangkok Bank of Commerce Pcl.; FBCB = First Bangkok City Bank Pcl.

Source: The Siam Commercial Bank Public Company Limited.

One way to realign risk and reward sharing and hence to narrow the information gap between fund providers and users is for the government to provide limited credit guarantees to SMEs' entire loan portfolio extension for local fund providers. A limited credit guarantee will, for instance, cover only partial losses for fund providers, with a sliding scale premium based on performance as is common in the insurance industry. This is to share the costs due to adverse selection and moral hazard and to give an incentive for the information collection process on the demand side. If unsound lending or investments are made, then the fund provider suffers some partial loan losses and premiums will increase progressively. If the loan or investment is good, then the fund provider receives most of the benefits including reduction in premium in the sliding scale fashion. A limited time guarantee on individual firms and/or entire portfolios can help avoid the 'free rider' problem. This time limitation would provide only enough time and flexibility for SME fund users to establish sound credit reputation with fund providers.

2. Pump-priming by Stimulating Housing Demand: Selling Thai real estate in an already depressed market does more harm than good as effective collateral value in the financial system shrinks. Massive selling causes a non-linear disruption in financial markets by constituting a flawed, deep-discounted asset price benchmark. For a token of foreign investor capital, the fire sale excessively adds more balance sheet problems to the entire asset-backed credit system, since the borrowers have more incentive not to repay the loan when the collateral falls far below the original loan. Selling the nationalized banks to foreign investors cheaply or fully recapitalizing existing banks does *not* solve the credit market failure problem, especially on the SMEs.

After nationalizing nearly half of the existing banks, the Thai government can easily start a nationwide subsidized housing project (NSHP) for the poor and first home buyers by using its enormous foreclosed land bank and uncompleted real estate project, on hand. Giving soft, long term and fixed rate loans as in the MoF's third scheme alone may *not* work if all economic agents in the real estate system are being denied credit. If houses cannot be built massively because of the credit system failure, there will be virtually no market for the MoF's soft loans. Asking state-run agencies such as the National Housing Authority to expedite the real estate recovery is a forbidding task. Perhaps, the Thai government can use private, instead of state, mechanism of value chain approach (see more discussion below) to create incentive compatibility for all stakeholders—the home buyer, building material supplier, construction contractor, home appliance manufacturer and real estate developer. The developer receives a bonus for an 'on budget, on time' delivery. The supplier and contractor receive growth and profitability from sales. The buyer has a home of his/her dream. And the banker has the book cleaned up with performing loans (see the 'Chantima Park' example

below). This housing project is equivalent to land reform, but it is politically more acceptable because this enhances quality of life for the entire nation, not just one particular interest group. This is truly a Social Investment Program (SIP) where community members participate in each and every multi-layer decision process from endowment to project management. The combination may prove to be a major locomotive to pull Thailand out of the recession. Housing purchases by long-term loans subsidized by the government would be a good start of a primary loan originating market. Collateral for house purchase is immediately available in the form of title-deed to the property to *minimize* credit extension problem arising from information asymmetry and incomplete contract during financial woes. The government can further help in the establishment of a strong and liquid secondary market as evidenced in Clause 3 of the 10 August 1999 measure. Note that historically, the foundation of the secondary Mortgage Backed Securities (MBS) market in the US can be traced back to the Great Depression. It was a direct result of the National Housing Act of 1934 and the creation of the Federal Housing Administration (FHA) and the Federal National Mortgage Association (Fannie Mae).⁷ To resolve liquidity problems in mortgage 'banking' and to pursue the primary objective of adequate and affordable housing, the Act did two critical things. First, it enacted FHA guarantees on all mortgage defaults to reduce credit risk to investors. Furthermore, FHA began to develop and promote a mortgage design for the borrower. Second, a government-sponsored agency, Fannie Mae, was set up to create a liquid secondary market for mortgages mainly by purchasing FHA mortgages. In short, the reduction in credit risk and liquidity in the secondary market are two key elements for success in the long run for the MBS market. Indeed, there has never been a privately led secondary market, even in the US.

A prosperous housing market also has significant multiplier effects on other markets, such as household appliances. The above policy to stimulate the housing market may be supplemented by another, namely a liberalization of the retail credit market to fuel consumer demand. The target may be the middle-aged consumer and lower-middle income family. Consumer loans, credit cards and mortgages, for instance, may be allowed to be granted by non-financial sectors (e.g., department store, life insurance companies, oil and gas firms, agencies facilitating internet cross-border e-lending, etc.).

3. Value Chain Approach and SME Rejuvenation: Most recent financial economic crises have similar origins in high debt accumulation, asset inflation and shift in the financial regime after financial liberalization. But few other small open economies have experienced a collapse of SMEs equal to Thailand during the current fiasco. How can one restore SMEs to function normally again in the Thai economy after such a massive shock? We proposed a new approach which we shall call the value chain approach, which is best understood from the examples below.

3.1 The Case of Housing Projects: The government's NSHP initiative can easily bring together all involved parties (e.g., suppliers, builders, buyers, bankers, etc.) to participate as stakeholders in each individual feasible real estate project under the nationalized banks. The type and the number of housing projects can be decided at the provincial level on the basis of the number of potential buyers and their buying power. Seed money for project partnership can be provided from government funding in the form of land, uncompleted projects and cash on hand; some may come from the local beneficiary. The project will have a limited life span with a specified beginning and end. Profit and loss will be shared among stakeholders at the end of the project. The management team will be given explicit incentives to deliver on time and within the budget.

One successful example of group lending is '**Chantima Park**,' an actual case from the SCB portfolio successfully concluded recently. The real estate developer was unable to complete this multi-million-baht single residential housing project in Nakhon Pathom (near Bangkok). SCB had basically two choices: either to foreclose on the property and liquidate as an uncompleted project or to continue the project at the request of the potential buyers who had already made down payments. Fortunately, the bank management was able to organize a group of stakeholders—builders, suppliers, buyers, developers—to agree on the common goal of the 'Chantima Park' project's completion. The project itself was transferred under the bank's full control with stakeholders' consensus in exchange for clearing most of the original shareholders' liability. The buyers continued to make their obligatory installment payments to the bank with assurance of quality and timely delivery because the bank's reputation was at stake. The suppliers delivered building material on the strength of the bank's credit. Both developers and builders were hired on a contractual basis with incentives to be on budget and on time. Essentially, the bank created an incentive compatibility among all stakeholders. In the end, the bank had its book cleaned up with performing mortgage loans; the buyers had their homes completed; and the suppliers, developers and builders got their payments. A true win-win situation.

3.2 The Case of Consumer and Industrial Goods: SMEs cannot be built overnight, and to treat SMEs as homogeneous is very dangerous. Unlike Japan, most Thai SMEs are not small and medium industries (SMI) such as car component suppliers, lathe and machine shops or tool and die makers. In fact, 60 percent of Thai SMEs are consumer and industrial goods distributors; only about 25 percent are SMIs, while the remaining include construction subcontractors and other services. To disregard these old 'brick and mortar' distributors for the fast changing virtual electronic commerce in the middle of a crisis is not practical. The government should utilize the combined marketing concept and the value chain approach for this distributive sector.

Figure 7 illustrates the bottom-up or customer-driven approach to move goods from producers to consumers. These marketing channels overcome the time, place and possession gaps that separate goods and services from those who would use them. The risk-taking and the finance or credit process for acquisition and allocation of funds required to finance inventories keep the market channels open and well-lubricated. When banks change their role from delegated monitoring of cash or payment transaction (as in 7.3) to ensure the title flow (as in 7.2) from channel levels in form of invoice factoring, the credit system becomes a group lending again for the entire sector. If the retail credit market is liberalized, acceptance, factoring and supplying credit can be performed by various fund providers at the local, national and/or international level. The entire chain can be a partnership between various economic agents along the chain. Again, profit and loss sharing will be according to their value added contribution and the chain's performance. The Miyazawa plan can perhaps be implemented to partially fund the chain instead of funding only infrastructure related projects, if Japanese components (e.g., raw and semi-finished goods, spare parts, etc.) are involved.

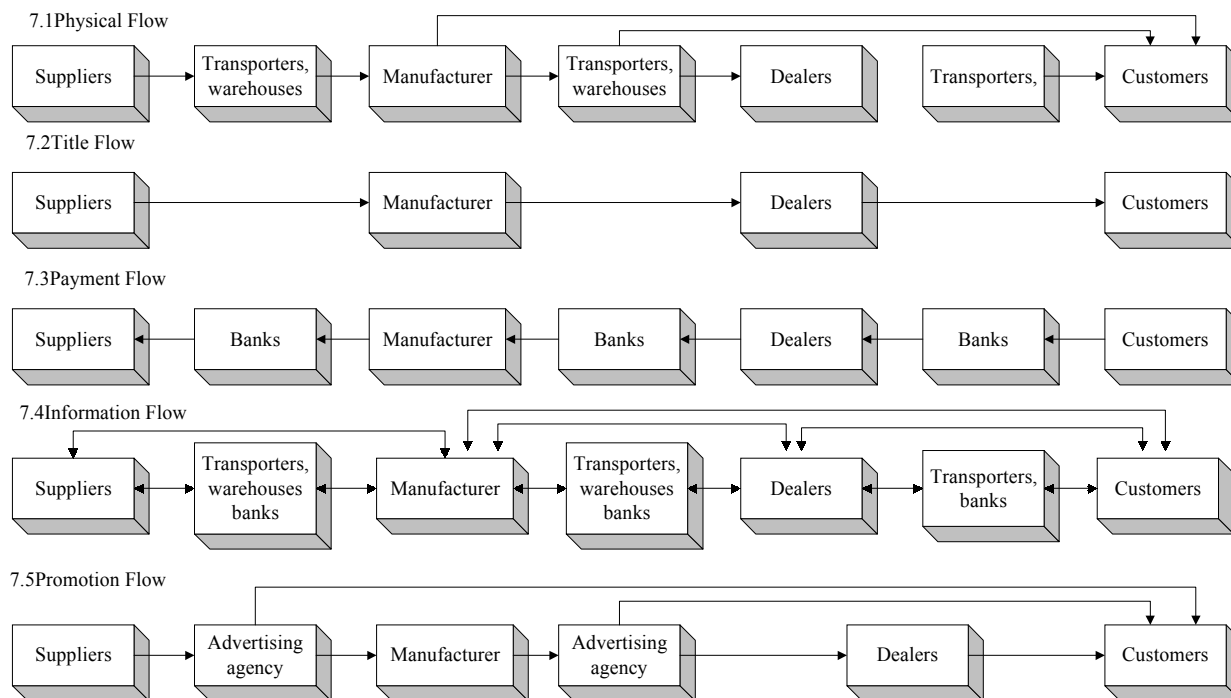
In fact, this approach has already been implemented in Thailand by global companies in the automobile sector. Strategic FDIs from the multinational parent firms (e.g., Toyota, Honda, DaimlerChrysler, etc.) have taken over the whole chains, from manufacturing the parts to financing the consumers who purchase the final product. Information gaps along the chain have been plugged up.

3.3 New Financial Paradigm and Credit Market: A new financial and economic paradigm may need a new re-intermediation process in at least three areas. First, if the secondary market for housing loans is initiated, then MBS or an asset-backed securities market is needed. Second, if the economic structure of Thailand is moving from traditional low-tech to knowledge-based industries, a Thai version of NASDAQ may be realistic. However, without providing (1) a wired infrastructure, (2) a proper legal system, (3) cheap funding to nurture knowledge-based industries, (4) liberalized telecommunications, and (5) tech-savvy human capital, merely listing traditional Thai SMEs will not work owing to their small size, low growth and low degree of monitoring. Third, a liberalized retail credit market may create the undesirable side effect of overspending. Reintroducing interest rate ceilings to prevent excessive risk-taking by the intermediary and sharing personal databases are two possible preventive measures.

V. CONCLUSION

Central to Thai credit market failures in the aftermath of the 1997 debacle are information problems, inexperience in rehabilitating the balance sheets badly affected by the massive devaluation, and the declining value of collateral.

Figure 7 Five Different and Simplified Marketing Flows in the Marketing Channel for Typical Manufacturing Goods



Source: "Marketing Management" by Kotler (1992, pp.510-511).

Incomplete information on troubled firms and inexperience among economic agents in rehabilitating balance sheets pose major obstacles to the recovery of the financial system. Data are often scarce and inadequate. And given the complexity of many types of proposed solutions in a dynamic environment, translating data into knowledge is very difficult. Knowledge takes time to evolve, be disseminated and be accepted into the decision making process, and become part of the banks' experience. Knowledge and information can also get lost. Internal as well as external political process matters as much as learning progress of all economic agents in this dysfunctional credit system. As it turns out, the classical 'S' learning curve demonstrates itself clearly in the SCB's multi-layer loan restructuring process from the top management down to account officers. Taking SCB as a benchmark, one can project the percentage of individual private banks' NPLs to reach a self sustaining level in December 2000.

Since the informational and organizational capital of state-owned financial intermediaries has not been well preserved, their state-owned bank's NPLs are much higher than private banks'. Because information is limited, departed bank officials and managers *cannot* be perfectly substituted by others. For the government to operate the nationalized banks is a *prohibitively* expensive proposition. One valuable lesson in bail-out policy responses to bank failures is the need to ensure

that information capital residing in the banks and the flow of credit are maintained. Workout know-how needs to be efficiently transferred to the state-owned banks. This is a huge task which cannot be taken lightly. The most optimistic assumption for the loan restructuring process for state-owned banks is that it will be completed by the middle of 2001 at the earliest.

Collateral simplifies, but does not address, the relevant information problem. The focus of the government should be on shifting toward risk assessment and sharing the information burden. Risk assessment involves setting up policy rules to better realign the incentives of all economic agents with the common social good. New lending and government support can be based on group lending with self selection. Sharing the information burden involves reconciling market-based and regulatory approaches which may mitigate information problems, particularly among the SMEs. One way to realign risk and incentive sharing, and hence narrow the information gap between fund providers and users, is for the government to provide partial credit guarantees to the SME loan portfolio of private fund providers (e.g., lenders, venture capitalists, equity and bond holders, etc.) for a limited time.

In summary, the primary impact of the systemic failure in the credit market has been on the SME sector, while personal consumption can be a major factor in the Thai economic recovery process. Given that 60 percent

of the Thai SMEs are consumer and industrial goods distributors, the value chain approach suggested above, together with subsidized housing projects and retail credit liberalization are among the macro- and micro-economic proposals to overcome the Thai credit market failures. With time, flexibility and growth via financial innovation it may be possible to jump-start the SMEs and put Thailand on the road to self-sustainable recovery.

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ENDNOTES

- ¹ For further discussion see Pongsak (1996).
- ² The first major measure taken by the Thai Ministry of Finance (MoF) on 14 August 1998 was principally on the 'Banking Recapitalization Assistance' program. The other important measure which the MoF pledged on 30 March 1999 was a consumption stimulus package (e.g., VAT cuts, gasoline and electricity tariff reductions, etc.).
- ³ For more discussion on the incentive compatibility problem see Pongsak (1997).
- ⁴ From an article in *The Economist*, 28 August 1999 issue, p. 63.
- ⁵ Any deviations from this estimated completion date should reflect the deviation in work out problem loan practice from our benchmark case in SCB.
- ⁶ Figures 5 and 6 are aggregated illustrations, based on the authors' judgement. However, each individual bank's NPL projection is available upon request from the authors, subject to confidentiality.
- ⁷ Fannie Mae was divided into two organizations in 1968: (1) the current Fannie Mae and 2) the Government National Mortgage Association (Ginnie Mae). Ginnie Mae's function is to support FHA only. Later on it created the Federal Home Loan Mortgage Corporation ('Freddie Mac') to further support FHA mortgage loans.

