Chapter 2

Background and Development of Thai Commercial Banks

Overview the history of the Thai commercial banking, it can be divided into four stages. The first stage is from 1906 to 1988, which has seen the gradual development and adjustment of the Thai commercial banks. The second stage is from 1989 to 1996, when financial liberalization has given greater flexibility to the Thai commercial banking industry. The third stage is from 1997 to 2000, when the Thai financial crisis has drawn the worldwide attention. The fourth stage is from 2001 to the present day onwards. Many financial reforms have been taken or are still being planned to be implemented in the near future.

First stage: 1906 – 1988, the stage of gradual development and adjustment[1]

In 1888, during the modernization period of the King Chulalongkorn, the Hong Kong and Shanghai Bank established a branch in Thailand, which was the first foreign banker that started the commercial banking business in Thailand. After eighteen years' dominance of foreign banks, on 1 April 1906, Siam Commercial Bank Co. Ltd. was established as the first Thai commercial bank, with shareholders comprising foreigners, noblemen, bureaucrats, Chinese merchants and the Office of the Privy Purse (Bank of Thailand, 1992).

---

[1] Jayapani (1997) divided this stage further into 3 stages. The focus of this paper is different. Also see Bank of Thailand (1992) for different details.

Commercial banking business in Thailand was dominated by foreigners in the period between 1888 and 1941. There were 12 banks in total operating in Thailand during that period, and only 5 of them were Thai banks. They were: 1) Siam Commercial Bank Co. Ltd., established in 1906; 2) Wang Lee Chan Bank, established in 1933; 3) Tan Peng Choon, established in 1934; 4) Bank of Asia, established in 1939; and 5) Siam City Bank, established in 1941. The Thai banks were small and lacked professionals. Some were actually managed by the European. For example, the Siam Commercial bank was under foreign management up to 1941 (Sithi-Amnuai, 1964).

Most foreign banks were closed during the World War II, and several new Thai commercial banks were established to fill the gap to facilitate the trade with Asian countries. After the war, the Thai government adjusted a protective policy to promote the growth of Thai commercial banks by limiting foreign bank to one branch office only. Since early 1960s, the Thai commercial bank branches were rapidly expanded into the provinces to support the implementation of consecutive national economic and social development plans. At the beginning of the 1970s foreign banks had only a limited role and international funds transfers were strictly controlled and monitored. As a result, Thailand's financial system was dominated by a few sizable Thai commercial banks whose activities were rather clustered and centrally administered.

The adjustment in the Thai financial system was also very gradual between early 1970s and 1987 (Vajragupta and Vichyanond, 1998). Foreign economic activities and financial conditions had limited impact on Thailand because the Thai economy by then was still relatively closed and external volatilities and disturbances were insubstantial. One change needs to be mentioned is that in November 1984 the central bank, Bank of Thailand, switched its exchange rate policy from pegging to the dollar to pegging to a basket of currencies.

Vajragupta and Vichyanond (1998) pointed out that by 1988 Thai commercial banks were required and ready to be financial liberalized from at least four points of view:

1. Strong economic development momentum

The Thai economy maintained an average annual growth rate of 6.6% from early 1970s to 1987. This strong development momentum enlarged Thailand's industrial base, which required the government to adjust the financial system to allow greater flexibility and lower costs to accommodate the industrialization and globalization.

2. Worldwide liberalization of trade and services

Thailand was required to provide access to an equal treatment of foreign financial institutions since it was a participant in negotiations in Uruguay Round and the formation of the World Trade Organization.

3. Indochina's market orientation

Since the end of the 1980s, the Indochina neighbors began moving toward a market mechanism. Thailand's financial structure needs to be upgraded in order to accommodate the increased trade and investment between the Indochina region and the rest of the world.

4. Fiscal readiness

In 1988, after years of fiscal deficits, Thailand achieved its first fiscal cash balance surplus and maintained the surplus for the succeeding nine years. Therefore, Thai financial system was financially ready to have some changes.

Second stage: 1989 – 1996, the stage of financial liberalization or pre-crisis period

This stage is the financial liberalization period, also called pre-crisis period in this paper. There were two financial reform plans during this stage. On 21 May 1990, Thailand accepted the obligations under the Article VIII of the International Monetary Fund's Articles on Agreement. This marked the beginning of the first three-year financial reform plan, which covered the period 1990-1992. The major objectives of this plan were to enhance the efficiency of the financial system and financial resource allocation, to transform the economy into a more market-oriented system, to strengthen the Thai competitiveness, and to prepare the financial industry for future challenges with more openness and integration into the global system. The second three-year financial reform plan covered period 1993-1995. The main targets were to extend financial services to rural areas, and develop Thailand into a regional financial center.

The financial liberalization during this second stage of Thai commercial banking history involved a wide range of deregulations and innovations, which can be summarized into five categories (Vajragupta and Vichyanond,1998; Okuda and Mieno, 1999; Bank of Thailand, 1995):

1. Removing interest rates ceilings

The removal of interest rates ceilings was completed during the first three-year financial reform plan. On 1 June 1989, the interest rate ceilings on commercial banks' time deposits with maturities longer than one year were removed to encourage the mobilization of domestic savings and to make the financial system more flexible.

Interest rate ceilings on savings deposits and short-term time deposits were abolished on 8 January 1992. Further, all interest rate ceilings were removed on 1 June 1992. To protect small borrowers and enhance competition, in October 1992, commercial banks were required to announce the Minimum Loan Rate (MLR), the Minimum Retail Rate (MRR), and the maximum margin to be added to MRR.

The resulting increased competition from local financial institutions and foreign funds drove down the interest rate spread at commercial banks. The spread between lending rates and one-year deposit rate declined from 7.25% in June 1992 to 5% in 1995. The competition also reduced commercial banks' share of household savings. The proportion of household savings deposited at commercial banks declined from 73.35% in 1989 to 66.95% in 1996.

2. Liberalizing foreign exchange

There were altogether three rounds of foreign exchange liberalization implemented during the first and second three-year financial reform plans. In May 1990, the first round lifted foreign exchange controls on current account transactions, which was the result of the official acceptance of obligations under the article VIII of the Articles of Agreement of the International Monetary Fund (IMF). In April 1991, the second round lifted most controls related to capital account transactions. In February 1994, the third round increased the limit on outward transfer of direct investment by residents, raised the limit on bank notes to be taken to countries bordering Thailand including Vietnam, removed the limit on travel expenses, and allowed residents to use foreign exchange proceeds that originated abroad to service their external payments without surrendering or depositing in domestic accounts.

3. Expanding scope of operations

To give commercial banks more flexibility and allow greater competition in the supply of financial service, the central authority took several steps to expand the scope of their operations. In March 1992, commercial banks were permitted to engage in investment banking activities such as debt underwriting, dealing, fund management, and financial consulting. In July 1992, commercial banks were allowed to issue Negotiable Certificate of Deposits (NCDs) with minimum maturity of 3 months and maximum maturity of 3 years and minimum face value of not less than 500,000 Baht and subsequent denomination and multiples of 100,000 Baht. In October 1992, commercial banks were allowed to operate Automatic Teller Machine (ATM) 24 hours a day. The requirement for commercial banks to hold government bonds to fulfill the branch opening requirement was lifted in May 1993. Commercial banks were further allowed to invest in equity of more than 20% of their total capital in June 1994. The ceilings of commercial banks' net position on foreign assets and liabilities to capital were reduced to 20% and 15% respectively in November 1994.

4. Establishing new facilities

Several new facilities were established during this stage as part of the financial liberalization.

The Bangkok International Banking Facilities (BIBF) was established in March 1993 as a foundation for international financial services and to mobilize capital to support regional economic growth and development. The development of BIBF is considered being one of the most important elements of all the financial liberalization measures. The scope of operations allowed to BIBF includes "out-out" activities (providing financial services for non-residents), "out-in" activities (providing foreign currency loans for residents in Thailand), and international banking activities, as well as investment banking activities such as loan syndicate arrangement. In May 1994, the BIBF was allowed to open branches in upcountry provinces. By the end of 1994, a total of forty-seven commercial banks were permitted to operate BIBF, eleven of which were Thai commercial banks. In order to make BIBF competitive with other offshore centers, BIBF were granted tax concessions, exemption and rate deduction. With the access to this alternative source of fund, the proportion of commercial banks' term loans increased from 40.6% in 1989 to 51.4% in 1994. The international orientation of Thailand's financial sector was further promoted with the establishment of the Export-Import Bank of Thailand in September 1993.

In 1992, the Securities and Exchange Commission (SEC) was established as an independent agency responsible for supervising capital market activities, including equities, bonds, and derivatives. Public companies can apply to the SEC to issue debentures or corporate bonds to the general public and file disclosure documents. The first credit rating agency The Thai Rating and Information Service (TRIS) was established in July 1993. Further in 1994, private parties organized a bond dealer's club to function as a secondary debt market adding more liquidity to debt instruments.

The payment system was also improved to facilitate the settlement of payment on trade and services as well as interbank funds transfer to sustain the optimum liquidity of the financial institutions. First, the automated cheque clearing process "THAICLEAR" was designed to expedite the clearing processes by means of electronic. Second, the Media Clearing was constructed for retail funds transfer which covers the electronic payment of utilities bills for retail customers as well as retail scale cross-banking. Third, the "BAHTNET" was put into place to facilitate the funds transfer among financial institutions.

5. Strengthening prudential regulations

Since the Thai financial system has been going through the process of rapid liberalization, the challenging task imposed on the central bank is to ensure the stability of the financial system. Hence, the Bank of Thailand has revised two major supervision measures to foster the liberalization and to maintain objectivity of prudential control at the same time.

First, the Bank of Thailand adopted the BIS (Bank for International Settlement) standard of capital adequacy for commercial banks in January 1993. The central bank took the more conservative approach by defining the narrower scope of the second tier capital than the BIS proposal. Commercial banks were required to maintain 7% of total capital to risk weighted asset ratio and 5% of first tier capital to risk weighted asset ratio, which were increased to 8% and 5.5% respectively by January 1995. Thai commercial banks were able to meet the higher ratio requirement. High profitability of most banks and the slightly downward adjustment of dividend payout ratio were prominent factors accountable for the increase of banks' first tier capitals. A number of banks also created second tier capitals through the issuance of Euro-convertible debentures.

Second, the Ministry of Finance issued the Ministry Regulation dated 11 August 1994 to separate the financial business and securities business. The undertaking of both securities business and financial business was previously allowed under the same entity: finance and securities company. This entity is subject to the supervision of the Bank of Thailand. To protect depositors' interest from the high risk securities business as well as to improve the financial institution's prudential system, the security business should be separated from the financial business through the transferring of operation to a newly established entity. In the initial stage, the separation will be done on a voluntary basis. After the separation of businesses, the newly established securities company will be supervised by the SEC, while the finance company will remain being under the supervision of the Bank of Thailand.

Impact of the financial liberalization

The immediate impact of the financial liberalization seemed to have been positive and beneficial. The deregulation helped deepen the Thai financial system. The ratio of M2[2] to GDP (Gross Domestic Product) increased from 62.2% in 1987 to 74.7% in 1992, and 79.5% in 1996. The financial system was broadened as well since the number of bank branches increased from 2016 in 1987 to 3168 in 1996. The financial deregulation also stimulated the Thai commercial banks' efficiency. The ratio of operating expenses to total assets decreased from 11.06% in 1990 to 9.52% in 1996. The net profit increased from 0.98% of total assets in 1990 to 1.28% in 1996. Fee-based income's share of total income increased from 4.16% in 1988 to 6.84% in 1996 (Vajragupta and Vichyanond, 1998).

However, the negative impacts of the financial liberalization on the financial system started to manifest itself in the mid 1990s. An influx of foreign capital fueled

[2] M2 is a measure of money which is M1 plus savings deposits, small time deposits, and money market mutual fund shares. Alternatively, M1 is the most narrow and liquid measure of money, which includes only currency, checkable deposits, and travelers' checks.

both capital market transactions and property speculation. The inflation increased from 3% in 1993 to 7% in early 1996. Total external debt outstanding exploded from 34% of GDP in 1990 to 59% of GDP in mid 1997.

The liberalization contributed to a critical deterioration in the asset quality of Thai commercial banks and finance companies. The non-performing loans of Thai commercial banks rose from 8% of total loans in June 1997 to 20% in December 1997 and 30% in June 1998. Vajragupta and Vichyanond (1998) argue that the deterioration in asset quality of Thai commercial banks can be explained by three reasons. First, the liberalization fueled, largely by the influx of foreign capital, speculative spending and investment in several bubble sectors of Thailand's economy. For instance, in 1996, commercial banks' share of all property credit outstanding is 53.7%. Therefore, commercial banks were very vulnerable to the real estate bust. The second reason was financial mismanagement by Thai businesses, such as maturity mismatching and uncovered net foreign exchange positions. The third reason was the increase in the proportion of small clients who brought about greater risks.

Third stage: 1997 – 2000, the stage of financial crisis

This stage started since 2 July 1997 when the Thai Baht was floated. The economy bubble burst. After the Baht was floated, the exchange rate dropped from 25 Baht per US$ to a low of 57 Baht per US$ in January 1998, and has been gradually stabilized around 38-40 Baht per US$. There were four major problems in this crisis (Chandler, 2001):

1. Net international reserves were depleted;

2. There were systematic problems in the financial sector;
3. The real sector faced a serious liquidity shortage, and there were an increasing number of non-performing loans; and
4. There was regional economic turmoil.

Also, Vajragupta and Vichyanond (1998) point out that the financial crisis could be largely attributed to three policy errors:

1. The foreign capital flows were liberalized whereas the exchange rates were kept rigid. The financial liberalization brought huge foreign capital inflows, which indicated that the exchange rates should have been given flexibility to let the market participants to take exchange rate risks into account.
2. Financial institutions were liberalized when they were not yet ready. The staff of Thai commercial banks tended to lack expertise and/or experience to cope with the expanded scope of activities, increased competition and increased risks.
3. The authority failed to prudently supervise the financial institution. The authority itself may also lack skills and/or experience to monitor and advise the financial institutions.

The Thai government authority took an ongoing process to recover the country quickly from the crisis. In August 1997, Thai monetary authorities obtained a rescue package, a line of credit of US$ 17.2 billion, from the International Monetary Fund (IMF). Together with the IMF program, the government restructured the financial sector. The key aspects of this restructuring package include:

1. Segregation of viable and unviable financial institutions. Two institutions were established in October 1997 to assist the financial restructuring: the Financial Restructuring Authority (FRA) and the Asset Management Corporation (AMC). The "good" and "bad" assets of the inefficient finance companies were segregated. The "good" assets will be handled by one or two new "good" banks, while "bad" assets will be sold to and managed by the newly established AMC. Additional authority was given to the Bank of Thailand to allow timely intervention into inefficient financial institutions. A total of seven commercial banks were intervened by the Bank of Thailand. Commercial banks are encouraged to set up their own asset management companies to speed up debt restructuring and reducing non-performing loans. The government committed to have the Financial Institutions Development Fund (FIDF) guarantee for depositors and credits to prevent bank runs and systematic risk and to restore public confidence.

2. Strengthening of the operations and prudential supervision. The Commercial Banking Act was amended to strength the supervisory independence, authority, procedures and technical capabilities of the Bank of Thailand. The Bank of Thailand announced new asset classification, with recognition of accrued interest income shortened to three months. New provisioning requirements are set in line with best international practices. To enlarge the financial institutions' capital base and strength their management skills, the limit on foreign ownership in financial institutions has been lifted from 25% to 100%, allowing on a case-by-case basis majority foreign ownership for up to 10 years, by then foreigners will not be permitted to acquire new shares until their ownership is reduced to 49%.

Fourth stage: 2001 – present days onwards, the stage of financial reforms after crisis or post-crisis period

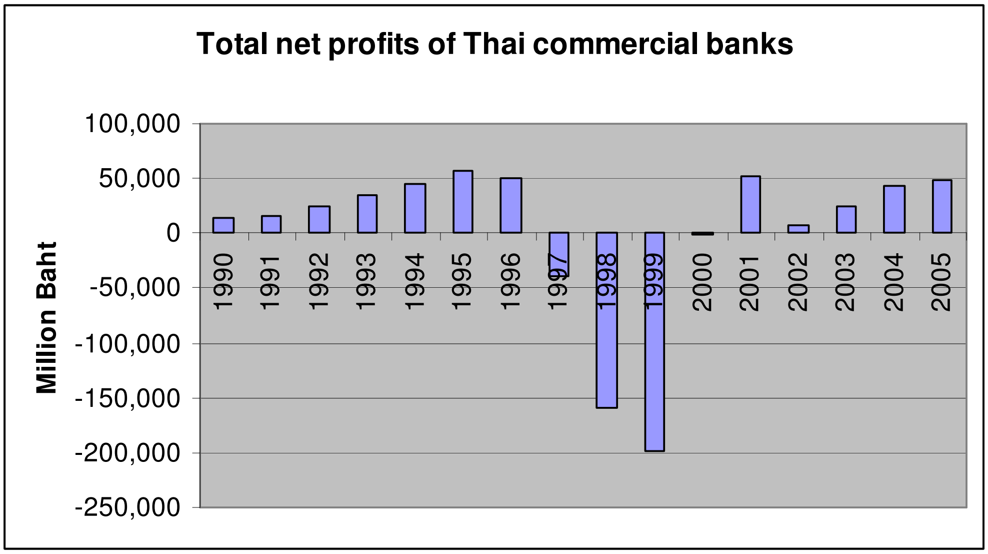
This period is called the stage of financial reforms after the financial crisis, also called the post-crisis period in this paper. The Thai economy quickly recovered during 1999 and 2000. In June 2000, Thailand exited from the IMF rescue program, leaving US$3.73 billion remaining undrawn. The banking sector has also emerged much stronger after the financial crisis with the recapitalization effort and operational improvement (Watanagase, 2004).

For instance, from the stability point of view, the banking sector's average provisions was well above the required provision by about 35 percent, and capital to risk-adjusted asset ratio remained above the regulatory requirement in 2003. And the non-performing loans continued to decline, from a NPL to total loans ratio of nearly 50 percent after the crisis to 12.8 percent in 2003. The banking sector's net profit has turned positive since 2001 (see figure 2.1). The earning assets of commercial banks incorporated in Thailand also increased steadily from 2001 to 2005 (see figure 2.2). With the great recapitalization effort, the net worth of Thai commercial banks has started to increase since 2000 (see figure 2.3).

From the risk management point of view, which has been given greater attention after the financial crisis, banks have begun to move away from collateral-based lending to risk-based approach. In the area of credit risk management, credit scoring have been used in the retail loan originating process, and internal credit rating models have been applied for significant corporate loan portfolios.

Figure 2.1

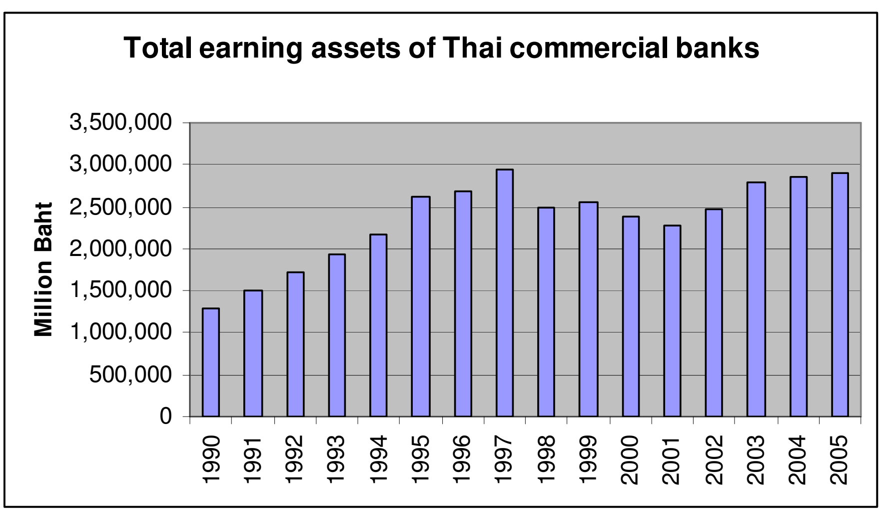
Annual total net profit of Thai commercial banks



Source: Bangkok Bank (1990-2006)

Figure 2.2

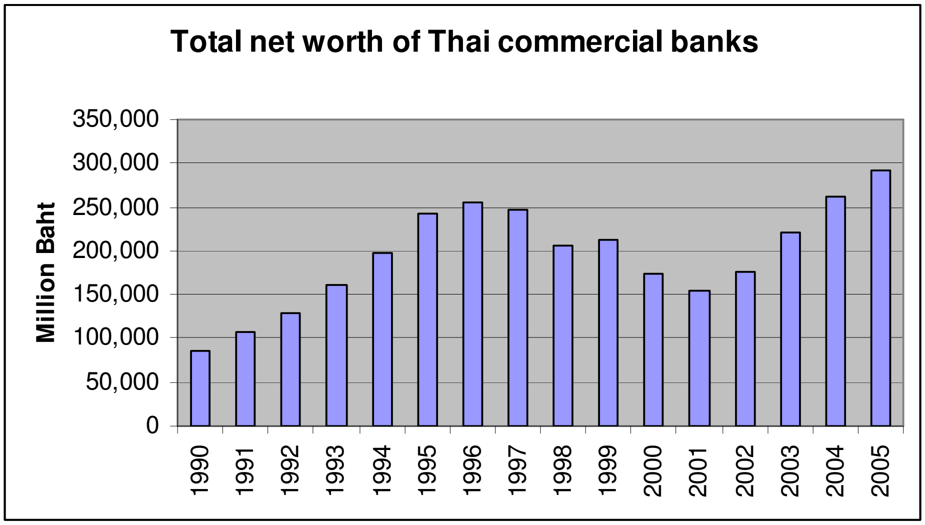
Annual total earning assets of commercial banks incorporated in Thailand



Source: Bangkok Bank (1990-2006)

Figure 2.3

Annual total net worth of Thai commercial banks



Source: Bangkok Bank (1990-2006)

In February 2002, the Bank of Thailand set up a Financial Sector Master Plan Committee to set the vision and framework for the development of Thailand's financial sector. The Financial Sector Master Plan was approved and announced by the government in January 2004. The Plan is the blueprint for the development of Thailand's financial sector during the next five to ten years. By then the Thai financial system will be more balanced and efficient. Three key features that will have significant impacts on the structure and efficiency of the banking sector are as follows:

1. The "One Presence" principle

Under the "One Presence" principle, Thai financial institutions can choose only one of the two types of licenses: full-service bank or retail bank. This principle will foster a new structure that is competitive and efficient. Also the regulator will streamline the cumbersome regulations to ensure a smooth transition and to provide adequate flexibility for banks to conduct their business efficiently.

2. Prudential supervision

The Bank of Thailand continued to pursue better prudential supervision to maintain the banking system soundness. Two issues are on the focus: non-performing loans and risk-based supervision. The BOT has set new measures to expedite the NPL resolution. For NPLs that have long been pending without proper restructuring or legal actions, financial institutions will be required to set aside provisions for the collateral at an increasing rate, depending on the overdue period. The BOT has also issued a Market Risk Supervision Policy framework for risk-based supervision. This framework will ensure that financial institutions have the proper mechanism to manage market risk commensurate with their risk-taking activities, especially in the trading book. By June 2005, banks will be required to maintain capital fund against market risk.

3. Customer protection

This section of the Plan focuses on the customer protection. Banks are required to establish customer complaint handling process and to disclose necessary information related to their services to facilitate customer’s decisions. The blanket guarantee will be replaced with a deposit insurance scheme at a proper time.

Apart from the Financial Sector Master Plan, the biggest challenge ahead for commercial banks is the Basel II implementation. Banks are required to prepare themselves for the new Basel Accord. Implementing the new Accord is for the improvement of the banking system soundness for it moves away the one-size-fits-all approach to credit risk assessment. Pillar I[3] of the new Accord provides more comprehensive and risk sensitive approaches to calculate regulatory capital. Calculated regulatory capital based on the standardized approach, which will be adopted by most banks initially, is only a proxy of the actual risk. Internal-rating-based approach can provide a true risk profile of the bank, but it requires improved data quality and risk management. The BOT and commercial banks have started working on this. For instance, on 17 August 2004, the BOT circulates a standard loss collecting template as a guidance for commercial banks to develop a system to collect information on loss event resulting from an operating risk. Pillar II[3] provides the supervisory review process. This requires the authorities to have the supervisory capability and capacity, and the right prudential rules in place. Finally, Pillar III[3] depicts the market discipline enforcement. Banks must be fair and transparent about their provision of financial services to remain competitive and maintain customer's trust.

Comparison of pre- and post-crisis periods

Based on the background review detailed above, it can be said that the Thai commercial banking changed over time especially after the financial crisis. To summarize, there are minimum five differences between the pre-crisis period and the post-crisis period. These five changes will affect the efficiency of Thai commercial

[3] There are three Pillars in the Basel framework on capital measurement and capital standards. The first Pillar is Minimum Capital Requirements, the second Pillar is Supervisory Review Process, and the third Pillar is Market Discipline (Bank for International Settlements, 2004).

banks, which is also the motivation of this study to measure and compare the pre- and post-crisis efficiencies of Thai commercial banks. The five effects are as follows:

1. *foreign ownership effect*:

After the financial crisis, the ownership structure of Thai commercial banks changed dramatically. To enlarge the financial institutions' capital base and strengthen their management skills, the limit on foreign ownership in financial institutions has been lifted from 25% to 100%, allowing on a case-by-case basis majority foreign ownership for up to 10 years, following which foreigners will not be permitted to acquire new shares until their ownership is reduced to 49%. Table 2.1 shows the changes of the annual average foreign ownership of Thai commercial banks.

It can be seen that the full sample period can be divided into three sub-periods which show the gradual increase in the percentage of foreign ownership. The first period is from 1990 to 1997 when the general foreign ownership was set at 25 percent. After the financial crisis, from 1998 to 2000, the average foreign ownership was between 34 and 45 percent. Since 2001, the average foreign ownership has been above 47 percent. The increase in foreign ownership might change the operating efficiency of Thai commercial banks. Narongtanupon (2000) concluded that foreign banks have superior efficiency relative to host country banks in Thailand during the period of 1989 to 1998, which is consistent with the Global Advantage Hypothesis. With their advanced skill and experience, the foreign banks appeared to cope better with the financial crisis, although the average efficiency ratios of both Thai and foreign banks decreased after the financial crisis.

However, Unite and Sullivan (2003) found out that the increase in the foreign ownership in Philippine domestic banks resulted in an increase in operating expenses and a decrease in non-interest income, which was possible to decrease the efficiency of banks. However, they concluded that in overall foreign competition induced domestic banks to be more efficient.

Table 2.1

Annual average foreign ownership of Thai commercial banks

Year	Number of Thai commercial banks	Average foreign ownership (%)
1990	15	25.00[1]
1991	15	25.00[1]
1992	15	25.00[1]
1993	15	25.00[1]
1994	15	25.00[1]
1995	15	25.00[1]
1996	14[2]	25.00[1]
1997	14[2]	25.00
1998	11[2, 3, 4]	34.18
1999	12[3]	42.38
2000	12[3]	45.29
2001	13	47.16
2002	13	47.16
2003	13	47.16
2004	12	47.88
2005	11[5]	47.69

Source: I-SIMS CD, www.setsmart.com

Note:
[1] The foreign ownerships for the years from 1990 to 1996 are the same because of the financial stability of the period.
[2] The Bangkok Bank of Commerce Public Company Limited is deleted from the sample of year 1996, 1997, and 1998 due to the unreliable statements before the reorganization.
[3] The Bangkok Metropolitan Bank Public Company Limited is deleted from the sample of year 1998, 1999, and 2000 due to the negative equity.
[4] The BankThai Public Company Limited is deleted from the sample of year 1998 due to the negative equity.
[5] There are three more private banks in this year: TISCO Bank Public Company Limited, Kiatnakin Bank Public Company Limited, and ACL Bank Public Company Limited. Since they were established near the end of the year, they are excluded from the sample.

2. *Governance effect*:

Bank governance has changed after the financial crisis and the subsequent substantial bank restructuring in South East Asia (William and Nguyen, 2005). Four types of governance indicator are specified in the paper: bank privatization, acquisition by foreign banks, domestic mergers and acquisitions (M&A), and bank restructuring. The study tends to support the bank privatization, but the potential benefits of foreign ownership may take longer time to be realized.

In Thailand, the governance issue has been put on the agenda seriously after the financial crisis, which should increase the efficiency of the Thai commercial banks. Table 2.1 also indicates that the number of banks is decreasing after the financial crisis. One major reason is the government intervention of troubled banks.

For Thai commercial banks during and after the financial crisis, changes in governance mainly due to the nationalization, foreign bank acquisition, and domestic M&A. Main events are summarized in Table 2.2. These events may change the operating efficiencies of Thai commercial banks.

Another observation from Table 2.2 requires more attention in that the Thai government-owned commercial banks (Krung Thai Bank, BankThai, and Siam City Bank) are absorbers of troubled commercial banks when the troubled bank is intervened by the Bank of Thailand. This may lead to the hypothesis that government-owned commercial banks will have lower cost efficiency or profit efficiency scores than private-owned banks will.

Table 2.2

Main events of changing governance in Thai commercial banks after the 1997 financial crisis

Year	Type of governance change	Event
1998	Nationalization	1. Bangkok Metropolitan Bank was taken over by the Bank of Thailand. 2. Siam City Bank was taken over by the Bank of Thailand.
	Foreign bank acquisition	1. Bank of Asia sold 75% of its shares to ABN AMRO Bank. 2. Thai Danu Bank sold 50.27% of its shares to Development Bank of Singapore.
	Domestic M&A	1. Bangkok Bank of Commerce was ordered to transfer its good assets to Krung Thai Bank. 2. First Bangkok City Bank was ordered to be fully acquired by Krung Thai Bank. 3. The Union Bank of Bangkok was ordered to merge with Krung Thai Thanakit Finance Company and 12 intervened finance companies to form a new bank: BankThai. 4. Laem Thong Bank was ordered to merge with the newly established Radanasin Bank.
1999	Foreign bank acquisition	1. Nakornthon bank sold 75% of its shares to Standard Chartered Bank, and changed its name to Standard Chartered Nakornthon Bank Public Company Limited. 2. Radanasin Bank sold 75% of its shares to United Overseas Bank of Singapore, and changed its name to UOB Radanasin Bank Public Company Limited.
2002	Domestic M&A	Bangkok Metropolitan Bank Public Company Limited merged with Siam City Bank.
2004	Domestic M&A	The DBS Thai Danu Bank merged with the Thai Military Bank Public Company Limited.
2005	M&A	1. Bank of Asia Public Company Limited merged with UOB Radanasin Bank Public Company Limited and changed its name to United Oversea Bank (Thai) Public Company Limited. 2. Standard Chartered Nakornthon Bank Public Company Limited merged with Standard Chartered Bank (Bangkok Branch) and changed its name to Standard Chartered Bank (Thai) Public Company Limited.

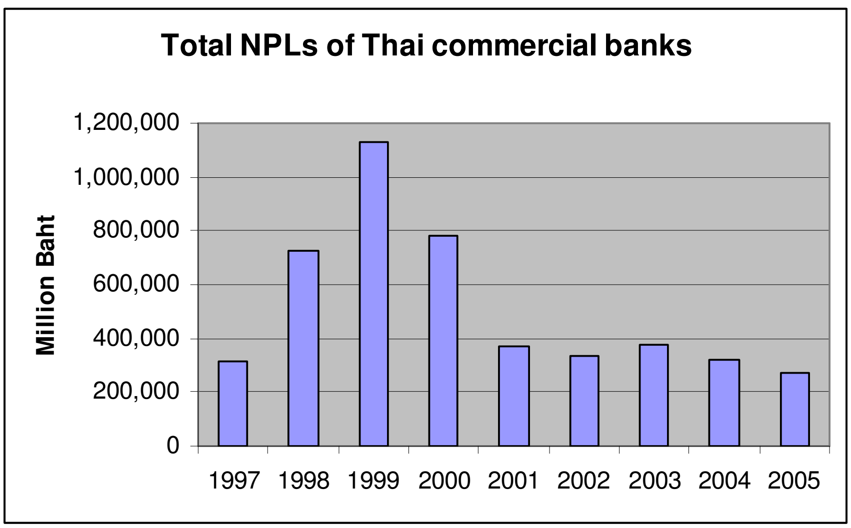
Source: Bangkok Bank (1999, 2000, 2003, 2005); Bank of Thailand Takes Over 3 Banks (1998); Choi and Clovutivat (2004)

3. *Provisions effect (or credit risk effect):*

The new concept "NPL (non-performing loan)" was introduced after the financial crisis. During the crisis period, the annual total NPLs of Thai commercial banks reached as high as 1,100 billion Baht. For the post-crisis period, the annual total NPLs is around 300 billion Baht (see Figure 2.4).

Figure 2.4

Annual total NPLs of Thai commercial banks

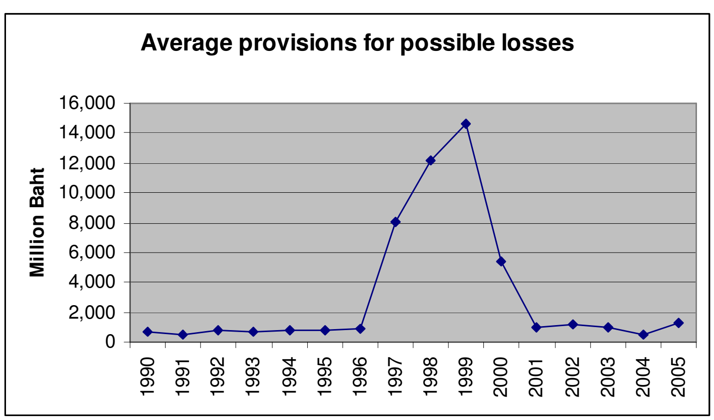


Source: Bangkok Bank (1998-2006)

Figure 2.5 shows that the annual average provisions for possible loan losses of Thai commercial banks are different for the three periods. For the pre-crisis period, the annual average provision was below 1 billion Baht, whereas the annual average provision is above 1 billion Baht for the post-crisis period. For the crisis period, the annual average provision reached above 14 billion Baht in 1999. Compared to the pre-crisis period, NPLs and average provisions increased dramatically during the crisis period and increased slightly during the post-crisis period. The ratios of the provisions to loans are 0.53, 7.46 and 0.92 percent for the pre-crisis, crisis and post-crisis periods respectively. The increase in provisions might change the efficiency of Thai commercial banks. Kwan (2006) found that the ratio of loan-loss provision to total loans was significantly positively related to the cost efficiency in Hong Kong commercial banks. Banks with more problem loans were associated with high cost efficiency. Kwan (2006) used the “skimping” hypothesis (from Berger and DeYoung, 1997) to explain it: banks spending fewer resources on credit screening and monitoring appear to be more cost efficient but later have more problem loans. Berger and DeYoung (1997) also concluded that the cost efficiency might indicate the future problem loans.

Figure 2.5

Annual average provisions for possible loan losses of Thai commercial banks



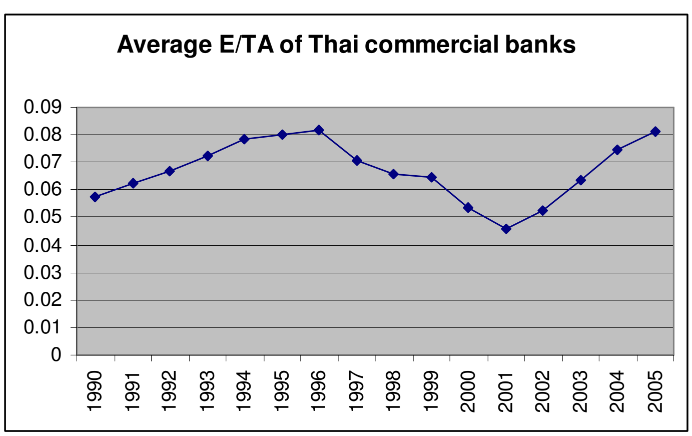
Source: Bangkok Bank (1990-2006)

4. *capital ratio effect:*

The capital requirement increased follows the BIS Basel II. Intuitively, if capital is treated as an input, and this input is from the shareholders' own pocket, then the efficiency of Thai commercial banks should increase with the increased capital requirement. The capital-asset ratio is also found to be significantly negatively related to the bank inefficiency that higher capital ratio may prevent moral hazard (Mester, 1996). Figure 2.3 presents that the annual total net worth of Thai commercial banks was increasing for the pre-crisis period, decreasing during the crisis period, and increasing again for the post-crisis period. But the total net worth level is higher for the post-crisis period. Figure 2.6 shows the similar pattern. The average capital ratios E/TA (Equity/Total assets) are 7.12%, 6.36%, and 6.36% for the pre-crisis, crisis, and post-crisis periods respectively. Based on these average ratios, the average efficiency level of Thai commercial banks of the post-crisis period is expected to be lower than that of the pre-crisis period.

Figure 2.6

Annual average E/TA of Thai commercial banks over time



Source: Bangkok Bank (1990-2006)

5. market risk effect

Table 2.3 presents the annual average interest income, dividend income and non-interest income of Thai commercial banks. The percentage of interest income to total interest and dividend income is decreasing after the financial crisis (from more than 90 percent to lower than 80 percent). On the other hand, the percentage of non-interest income to interest income is increasing significantly after the financial crisis (from about 10 percent to more than 25 percent). This can be the evidence that the Thai commercial banks are paying more attention on the dividend and other non-interest income, which could mean that the Thai commercial banks are taking more market risk. Higher market risk taking could change the bank efficiency level. Kwan (2006) found that the ratio of off-balance-sheet activities to total assets is significantly positively correlated to the cost inefficiency of commercial banks in Hong Kong.

Table 2.3

Annual average interest income, dividend income and non-interest income of Thai commercial banks

Year	Interest Income (Million Baht)	Interest + Dividend Income (Million Baht)	Non-Interest Income (Million Baht)	Interest Income/(Interest + Dividend Income) (%)	Non-Interest Income /Interest Income (%)
1990	10484.59	11314.24	1029.59	92.7	9.1
1991	13794.88	14529.13	1202.09	94.9	8.3
1992	13567.08	14240.69	1248.65	95.3	8.8
1993	14470.05	15122.52	1723.23	95.7	11.4
1994	15459.25	16213.41	2063.62	95.3	12.7
1995	21413.81	22354.73	2415.45	95.8	10.8
1996	23572.77	24538.11	2303.12	96.1	9.4
Average				**95.1**	**10.1**
1997	23326.91	26213.27	2366.30	89.0	9.0
1998	22685.01	25970.92	2261.61	87.3	8.7
1999	11533.36	14483.12	2893.36	79.6	20.0
2000	9750.88	12908.71	2491.74	75.5	19.3
Average				**82.9**	**14.3**
2001	8537.41	11360.12	2266.04	75.2	19.9
2002	8254.17	10856.11	2683.89	76.0	24.7
2003	8036.64	10125.59	3368.06	79.4	33.3
2004	8788.68	10683.12	3593.03	82.3	33.6
2005	10567.81	13278.65	3448.88	79.6	26.0
Average				**78.5**	**27.5**

Source: I-SIMS CD, www.setsmart.com, Bank of Thailand (1992 to 1995)