# BankThai: Death by Synthetic CDOs

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**Abstract**

Among other three banks—Krung Thai Bank, Bank of Ayudhaya and Bangkok Bank—in Thailand, BankThai had the largest exposure to and suffered the largest losses from synthetic CDO investment. Before investing in synthetic CDO, BankThai had persistently high level of loan losses and high cost of funds which led to several capital injections from the Financial Institutions Development Fund (FIDF), the major shareholder at that time. Given the bank's inability to secure good quality loan portfolio, the bank's management decided, in 2006 and 2007, to generate easy high return by investing in synthetic CDOs. The management perceived such investment as low risk because of such CDOs' high credit ratings, which later proved to misrepresent the true risk of the investment. BankThai's CDO portfolio was valued at THB 10.462 billion by the end of 2007, and was all disposed for only THB 2.6 billion in 2008. Because such huge losses totally wiped out the bank's capital base, the government had to relax foreign majority-ownership restrictions to seek for foreign buyer. In January 2009, CIMB Thai group completed its acquisition and compulsory tender offer, and emerged as the largest shareholder with 92.04% of the total issued and paid-up shares of BankThai, which is the end of BankThai by its own adventurous investment policy.

**Keywords:** Collateralized Debt Obligation (CDO), Synthetic CDO, Subprime Crisis, Moral Hazard

## I. Born as a Bad Bank

BankThai public company limited was established in 1998 by the consolidation of Union Bank of Bangkok public company limited (Sahatanakarn in Thai), twelve finance companies[1], and Krungthai Thanakit Finance public company limited. The consolidation made the Financial Institutions Development Fund (FIDF) as the major shareholder. Consolidation approach as notified by the Ministry of Finance on 22 December 1998 was to transfer all assets and liabilities of 12 finance companies to Krungthai Thanakit Finance and Securities PCL; and then, transfer all assets and liabilities of Krungthai Thanakit Finance and Securities PCL to the Union Bank of Bangkok PCL, after which Krungthai Thanakit Finance and Securities PCL and 12 intervened finance companies returned their financial business licenses to the Ministry of Finance. The Union Bank of Bangkok PCL changed its name on 21 December 1998 to BankThai Public Company Limited. For this reason, BankThai was perceived as the aftermath "bad" bank because it was born with the government effort to

[1] Twelve Finance companies consist of

1) Nava Finance and Securities Plc.
2) Vajiradhanathun Finance Co., Ltd.
3) First City Investment Plc.
4) Thai Summit Finance and Securities Co., Ltd.
5) Erawan Trust Co., Ltd.
6) Ksit Finance and Securities Plc.
7) Mahatun Finance Co., Ltd.
8) Progressive Finance Co., Ltd.
9) Union Asia Finance Plc.
10) Bangkok Asian Finance Co., Ltd.
11) Dhana Siam Finance and Securities Plc.
12) IFCT

carry out the consolidated bad loan portfolios of the intervened financial institutions due to 1997 financial crisis.

BankThai Public Company Limited is licensed by the Ministry of Finance and competent authorities to engage in retail and commercial banking, with loans and deposits constituting the primary sources of capital. The Bank's operations are organized into three business segments: 1) Commercial banking: dealing with deposits, loans, hire-purchase and leasing, acceptance, giving aval loan guarantees for loans, foreign exchange services, letters of credit, telebanking and ATM; 2) Life and non-life bancassurance, as licensed by the Department of Insurance, Ministry of Commerce; and 3) Investment banking: financial consulting and advisory services, a registrar of securities, trading services of general fixed income funds, trading services of corporate debentures and debt instruments, trading services of investment units, custodial services.

Over the first three years, the FIDF had been the sole absorber of the burden incurred from BT's financial difficulty and capital increase. In 2001, BankThai issued 10-year warrants to purchase its preferred shares, totaling THB 3,706.80 million to compensate the FIDF without cost. Following the government's privatization policy, the FIDF decreased its shareholding through disposal of 707 million of BankThai's ordinary shares held by the FIDF to public in 2002. As a result, the FIDF's shareholding declined from 96.32% to 48.98% of BankThai's total shares. In addition, the warrants issued to the FIDF earlier was bought back from the FIDF by a warrant buyback option agreement for a total of Baht 300 million to the FIDF for its reacquisition rights.

BankThai's financial performance deteriorated since 2006 from write downs and lending constraints arising from investment losses in synthetic collateralized debt obligations (CDOs). In 2006, the extraordinary shareholders' meeting approved a registered capital increase via the issuance of 940,000,000 new ordinary shares to Newbridge Asia IV L.P. (TPG Newbridge) and/or subsidiaries of TPG Newbridge and other investors. In March 2007, the board of directors' meeting approved an investment of THB 2.3 billion by TPG Newbridge in the bank for a 24.99% stake. In January 2008, the board of directors' meeting approved the sale of the remaining 1,401,760,785 shares to FIDF and TPG Newbridge in a private placement at the price of Baht 1.38 each. As of 29 January 2008, the FIDF held 2,811.86 million ordinary shares, giving it a 42.13 percent stake in BankThai while Newbridge held 2,425.25 million ordinary shares, giving it a 36.74 percent stake[2].

As at 31 March 2008, BankThai was the ninth largest commercial bank in Thailand in terms of total assets and had 147 branches across Thailand. Its total assets and shareholders' capital were THB 216.3 billion and THB 4.8 billion, respectively. In June 2008, CIMB Group won the bid for a share purchase agreement with the FIDF to acquire 42.13% stake in BankThai for a cash consideration of THB 5.905 billion. On 5 November 2008, CIMB Bank Berhad became the largest shareholder in BankThai; and on 4 May 2009, the Bank completed the registration of its new name: "CIMB Thai Bank Public Company Limited"[3], which marked an end to BankThai that eventually died by synthetic CDO investment. Given the relatively conservative business practices among commercial bank in Thailand since 1997 financial crisis, this case study discusses how and why BankThai exercised such risky investment policy.

## II. CDO Products and Market

A CDO is a multi-class passthrough asset-backed security (ABS) or paythrough ABS. The asset that backs the CDO is a pool of bonds or other assets the issuer owns. If some loans default and the cash collected by the CDO is insufficient to pay all of its investors, those in



[2] BankThai Annual Report, 2007
[3] http://www.cimbthai.com/CIMB/en/about_us/

the lowest/riskiest tranches suffer losses first. The last to lose coupon payment from default are the highest/safest tranche. Thus, coupon interests vary by tranche according to its default risk.

The banks had an incentive to securitize loans they originated in the form of CDO securities because this procedure removes the loans from their balance sheets, lowering the required capital. McLean and Nocera (2010) stated that CDO market grew from USD 69 billion in 2000 to around USD 500 billion in 2006. According to Morgenson and Rosner (2011), USD 1.4 trillion worth of CDOs were issued from 2004 through 2007. Subprime mortgage-backed CDOs were attractive to global investors because of their relatively high-yields but credit ratings as high as the US Treasury bonds.

Before 2005, CDOs were diversified, and might consist of everything from aircraft lease-equipment debt, manufactured housing loans, to student loans and credit card debts. The financial crisis inquiry report (2011) indicated that mortgage-backed securities (MBS) accounted for more than half of the collateral in CDOs by 2004. MBSs can also be structured into tranches, called collateralized mortgage obligation (CMO). However, the risker/lower tranches of CMOs are difficult to be sold. To solve this problem, the issuers sell these risker/lower tranches to the underwriters to make CDOs. Lewis (2011) found that Moody's and S&P gave triple-A ratings on roughly 80% of every CDO; even though the assets back these CDOs were mainly lower tranche CMOs, on the ground that mortgages were diversified by region and so "uncorrelated. Then, the lower/riskier tranches of the CDO were further sold to other CDOs that concentrate in the lower rated tranches. Figure 1 (Appendix) explains this recycle process of how the CDO can achieve higher credit rating while carrying riskier collaterals. Interestingly, Morgenson and Rosner (2011) mentioned that rating agency could earn as much as USD 250,000 to rate a CDO with USD 350 million in assets, which is five times larger than revenue earned when rating a municipal bond of a similar size. In 2006, Moody's structured finance division generated revenue nearly 44% of all Moody's total revenue.[4]

By 2005, subprime mortgages began to replace the diversified consumer loans as collateral. Consequently; by 2007, CDOs became dominated by high default risk tranche recycled from other ABS, whose assets were usually subprime mortgages as specified in the financial crisis inquiry report (2011). In effect, CDOs gave banks incentive to lend subprime loans that caused subprime mortgage crisis in 2008. The financial crisis inquiry report (2011) also showed that; between 2003 and 2007, Wall Street issued almost $700 billion in CDOs that included MBS and CMO as collaterals. Transparency of CDO products was very low. CDO issuers did not have to disclose collaterals contained in the CDO because the contents of the CDO were dynamically change. However, this lack of transparency did not affect demand for CDOs simply because CDO investors were paying more attention on CDO's high credit rating than on its transparency.

Moreover, synthetic CDOs appear as a virtually risk-free investment with credit default swap (CDS) that provides insurance protection for investors against mortgage default. The coupon payment of a synthetic CDO is derived not from cash assets, but from premiums paying for credit default swap on the possibility that a set of reference tranches, based on cash assets, will default. The structure of synthetic CDO is shown in figure 2 (Appendix). There are two types of synthetic CDO investors; funded and unfunded long investors. Funded long investors pay cash to purchase actual securities issued by the CDO while unfunded long investors enter into swaps with the CDO. Long investors; both funded and unfunded, would

[4] Evans, D. and Salas, C. (2009-04-29) Flawed Credit Ratings Reap Profits as Regulators Fail Investors, Bloomberg. http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a6NdKd8CfR2A

make money if the reference securities do not default, while short investors would make money if the securities default. Funded investors receive coupon interest if the reference securities do not default, but they could lose all of their investment if the reference securities default. Unfunded investors, in a super senior tranche, receive swap premium payments from the CDO as long as the reference securities do not default but would lose money if the reference securities default to the point where the CDO do not have enough funds to pay the short investors. Short investors; who are often hedge funds, buy the CDS from the CDOs and pay those premiums. Synthetic CDOs were easier and cheaper to create than cash CDOs, because there were no mortgage assets to collect and finance.

## III. Subprime Crisis and CDO Market Meltdown

From 2000 to 2006, the Case-Shiller index of house prices skyrocketed, during which time lenders practiced subprime lending; allowing for zero down payment, deferring interest and principal payments upon request, or offering a typical two-year zero interest rate. Synthetic CDOs and rating agencies were together blamed for the unprecedented scope of the crisis. Since there was no limit on how many synthetics could reference another CDO, the magnitude of the losses was amplified. Rating agencies should have kept up with such subprime lending practices or should have appropriately measured the possibility that real estate prices could plummet. Instead, rating agencies generated steep fee from CDO arrangers by transforming BBB tranches into 80% AAA synthetic CDOs.

Based on the financial crisis inquiry report (2011), more than half of the highest-rated CDOs were impaired—losing principal or downgraded to junk status—during 2005 to 2007. Figure 3 (Appendix) shows impairments of MBSs and CDOs from 2005 to 2007. It is clear that CDO value was hit harder than Alt-A MBSs and subprime MBSs. By mid-2007, AA tranches were worth only 70 percent of its par value; and by October 2007, AAA tranches started to lose value. Main CDO arrangers like Citigroup and Merrill Lynch suffered the biggest losses from this impairment. The financial crisis inquiry report (2011) indicated that 91 percent of CDOs were downgraded from July 2007 to the end of 2008, leading up to a collapse of Bear Stearns hedge funds investing mainly in MBSs and CDOs. In the first quarter of 2008 alone, credit rating agencies announced 4,485 downgrades of CDOs[5].

## IV. Death by Synthetic CDOs

By the end of 2006, BankThai has a positive shareholder equity balance with assets in excess of liabilities of THB 4,224 million. However, the Bank's capital adequacy ratio (also called BIS Ratio) was less than 8.5% the level required by law. BankThai reported losses of THB 1,691 million from uncollected yield maintenance income, losses of THB 2,213 million from settlement made under the Gain/Loss Sharing and Yield Maintenance Agreement, and THB 1,146 million cost of the warrant buyback from FIDF. BankThai indicated in its 2006 annual report that the bank awaited for a response from the Bank of Thailand and the FIDF to the bank's proposed plan to increase its share capital by obtaining a strategic partner TPG Newbridge, a leading global private investment firm, in order to raise capital adequacy ratio.

Such financial difficulties might partly drive BankThai's management to boost revenue through an adventurous investment policy. Another reason is the need to manage a large sum of money BankThai received from the FIDF as the payment for yield maintenance. In the minutes of the extraordinary meeting of Shareholders in 2007, the bank's President explained to shareholders that the bank received the first payment of THB 59 billion, out of the total approximately THB 70 billion, from the FIDF in 2005. The Bank had to manage such funds

[5] Aubin, Dena (2008-04-09). "CDO deals resurface but down 90 pct in Q1-report", Reuters. http://uk.reuters.com/article/2008/04/09/cdo-issuance-morganstanley idUKN0947372020080409

at high yields, but it would take a long time before any returns, between 2% to 3%, are made by granting high quality loans in economic condition at that time.

The bank decided to invest in investment grade synthetic CDOs in 2006 and 2007 because such CDOs offered returns of approximately 7% to 8% with the CDO arranger of A+ credit rating, which is higher than the country rating of BBB+. When a shareholder asked whether this subprime CDOs would be promptly sold, the answer was that the Bank planned to hold it to maturity so it would not be sold at that moment. The management further said that the bank had set provisions according to advice of the auditor although its CDO portfolio was still in good shape and still paying interest to the bank. The provision was made in compliance with accounting standards.

BankThai was the first Thai bank to invest in synthetic CDOs and had subprime-related exposures amounting to 21 per cent of equity, while three other major banks—Krung Thai Bank, Bank of Ayudhaya and Bangkok Bank—had exposures to CDOs amounting to, at most, 6 percent of their equity.[6] Based on BankThai's 2007 annual report; by December 2007, BankThai's portfolio of synthetic CDOs amounting to THB 10,462 million (USD 310 million), THB 1,688 million (USD 50 million) of which the reference obligations are CDS on subprime residential MBSs, and THB 8,774 million (USD 260 million) of which the reference obligations are CDS on corporate loans. To comply with the new criteria in the Band of Thailand's notification dated 16 November 2007, BankThai reclassified the CDOs from held-to-maturity investments, which are presented at acquisition cost less provision for impairment, to trading investments, which are presented at fair value, with gains or losses from revaluation being recognized as income/expenses in the income statements.

In October and December 2007, the subprime residential MBS linked CDOs were downgraded from BBB+ (investment grade) as at investment date to BB+ and BB- (below investment grade) respectively. As a result, the bank decided to dispose of this investment portion in January 2008 at a price of approximately THB 34 million. This wiped out about THB 1.6 billion from its balance sheet, or about one-third of the bank's total capital base. For the second portion of USD 260 million CDO investments, BankThai determined the fair value using a mark-to-model valuation, and declared loss from revaluation of USD 122 million in the income statements for 2007. Although profit before extraordinary items grew in 2007, BankThai and its subsidiaries declared a net loss of THB 6,929 million, compared with a net loss of THB 4,423 million in 2006, due to an additional provisions totaling THB 10,110, resulting from allowances for bad and doubtful debts in corresponding to non-performing assets guidelines for Baht 1,376 million, specific provision for President Agri Trading Group for THB 1,419 million, and losses from valuation of investment in synthetic CDOs for THB 7,315 million, exceeding its prior year's equity base. Such loss amount covered unrealized loss of THB 5,806 million and realized loss of THB 1,509 million.

By the end of 2007, the credit ratings of all remaining CDOs, with the notional value of USD 260 million, were still investment grade of BBB or BBB+. They had not been downgraded since investment date. In 2008, BankThai decided to put its entire synthetic CDO portfolio up for sale. JP Morgan is the most aggressive bidder among other banks including BNP Paribas, Calyon, Deutsche Bank and Goldman Sachs. BankThai was able to sell its synthetic CDOs for USD 77.04 million on July 29, 2008. Therefore, Bank Thai was able to write back a realized gain of about THB 970 million (USD 28 million), because this portfolio was written down to about 80% of its notional value by mark-to-model valuation in 2007.



[6] The Basel 2 Agenda for 2009: Progress So Far, United Nations Conference on Trade and Development, United Nations, New York and Geneva, 2010.

### V. Resurrection

The FIDF, the major shareholder of the ailing BankThai at that time, dissatisfied with the explanation that management gave on its investment in CDOs and ordered BankThai, in November 2007, to further explain its risk-management policy. In the end, BankThai could recover only about THB 2.6 billion out of THB 10.462 billion CDO investment, approximately 25 percent of its investment cost. In other words, BankThai eventually suffered about THB 7.8 billion or 75% loss from its synthetic CDOs investment. Given such huge losses booked in 2007 and 2008, the Thai government had to seek a buyer for the distressed BankThai. Among 13 bidders, including HSBC and Standard Chartered, the Kuala Lumpur-based CIMB Group won the bid and completed its purchase of ordinary shares of the bank from the FIDF on 5 November 2008. CIMB group then emerged as the largest shareholder of the bank with a 42.13% stake. According to BankThai's 2008 annual report, CIMB group launched a mandatory tender offer, which was completed on 6 January 2009, to the remaining shareholders. CIMB group became the largest shareholder with 92.04% of the total issued and paid-up shares of BankThai. To accommodate this purchase, the Thai authorities relaxed foreign majority-ownership restrictions to push through the deal.

The operational turnaround efforts under a transformation program, overseen by the BankThai transformation steering committee, were implemented right after the acquisition, in order to meet three main objectives—profitability, market leadership in niche products/segments; and a high performance culture. In 2009, CIMB Thai Group returned to a net profit of THB 1.7 million after three consecutive years of losses. The bank performance continued to improve over the years with registering net profit of THB 829 million and THB 1,316 million in 2010 and 2011, respectively. The BIS ratio also improved, from below 8.5% required by law during 2006-2008, to 11.9%, 14.9%, and 13.2% in 2009 to 2011, respectively.

### VI. Moral Hazard Within Synthetic CDOs

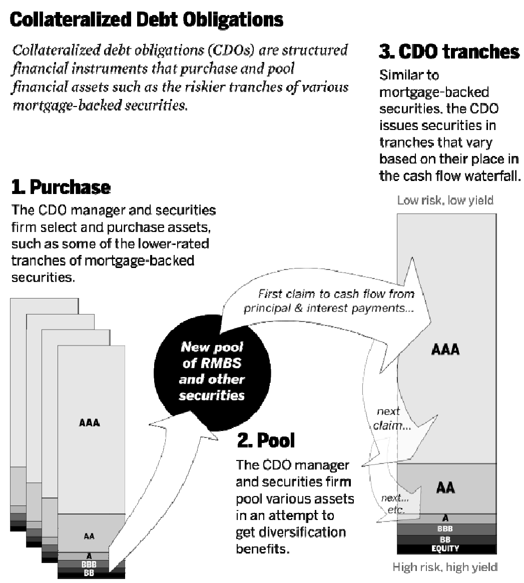
During the last quarter of 2006, BankThai purchased one "bespoke"[7] synthetic CDO (Arosa) and four "off the rack"[8] synthetic CDOs (ACES, Hunter, Elan, and Elva) from Morgan

[7] "Bespoke" CDOs are custom-made in terms of portfolio selection, CDO structure, and terms to meet one or more of its clients' investment objectives and interests.

[8] "Off the rack" CDOs are CDOs created by arrangers without a specific client in mind but rather for generalized distribution.

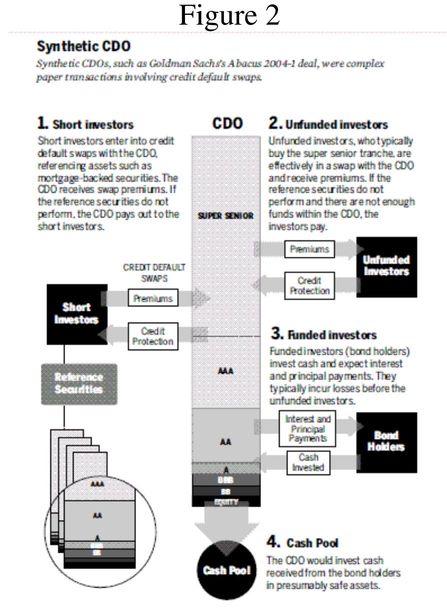
## Appendix

Figure 1




Source: Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States, p.128, figure 8.1

Figure 2



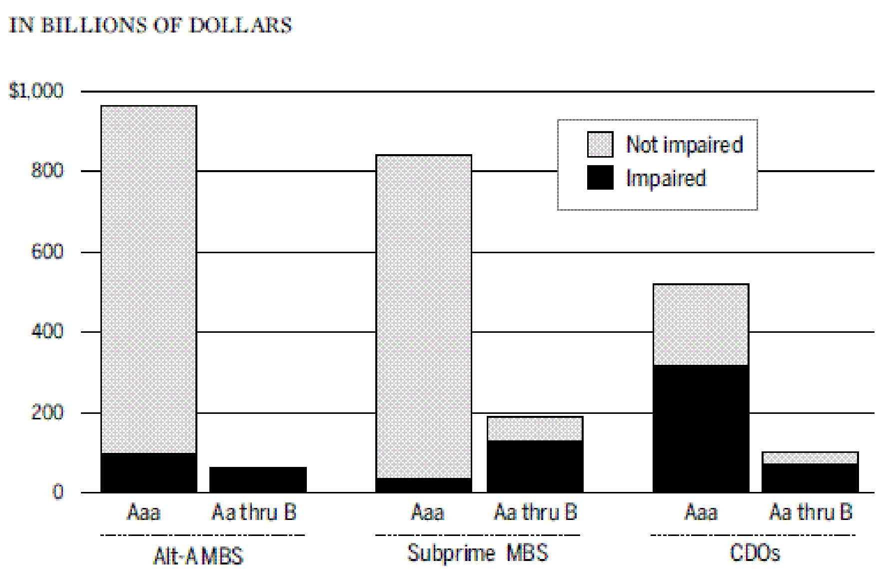

Source: Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States, p.144, figure 8.2

Stanley. The coupon payment of these synthetic CDOs depends on whether each CDO's reference entities experienced default events. Since these CDOs were arranged by Morgan Stanley, BankThai effectively took a long position with respect to the portfolios' credit risk while Morgan Stanley took a short position with Morgan Stanley capital services serving as the CDS swap counterparty. This common structure of synthetic CDO linked with CDS in such a way that the underlying CDS will swap funds from the CDO; which is BankThai's principal, to Morgan Stanley capital services if the reference portfolios experience a certain level of default losses. As a result, BankThai could lose all of its investment value because the entire principal would be swapped.

It is very important to note that the CDO's performance depends largely on the performance of the reference entities; therefore, portfolio selection is crucially important to CDO investors. If the arranging bank involved in the process of portfolio selection, a moral hazard could arise because the arranging bank could select reference portfolios to benefit from its short position on the embedded CDS. Such practices would benefit the arranging bank at the CDO investor's expense because the principal of CDO investors will be swapped to the arranging bank only when the CDS is triggered. Since the chance of triggering CDS would increase with the reference portfolio risk, the arranging bank could influence portfolio selection by favoring risk over reward. For this reason, the investors are typically reluctant to purchase "off the rack" synthetic CDOs unless an independent expert is in charge of portfolio selection.

In 2012, CIMB Thai Bank filed a lawsuit against Morgan Stanley for its aforementioned fraudulent practice due to moral hazard within its synthetic CDO structure. CIMB hoped to recover at least USD 102.8 million losses suffered from five CDOs that BankThai purchased from Morgan Stanley. According to CIMB Thai Bank's complaint, Morgan Stanley

Figure 3




Source: Moody's Investor Service, "Special Comment: Default & Loss Rates of Structured Finance Securities: 1993-2009"; Moody's SFDRS.

controlled reference portfolio selection of and used such control in all five of the Morgan Stanley CDOs to enforce adverse selection of reference entities into the reference portfolios that Morgan Stanley deemed to present elevated risks of default and loss.

## VII. Conclusion and Discussion

The enormous losses experienced by BankThai from its synthetic CDO portfolio highlights three main interesting lessons. First, top management should always recognize its vision and core business to carry out business strategies. BankThai's main strategy should focus on generating income from lending activities not from risky investment. The FIDF injected a large sum of money to BankThai because of its persistently high level of loan losses, high cost of funds and resultant inability to secure better quality clients and loan portfolio. However, the fund was misused in the synthetic CDO investment because of the bank's inability to successfully carry out its core businesses.

Second, top management should make an investment decision based on total understanding of the instruments' complexity. It appears that the management of BankThai was drawn into synthetic CDO investment because of high return and high credit rating without understanding the true risk of synthetic CDOs. BankThai realized after experiencing such a huge loss that the CDO credit ratings did not accurately reflect the risk of investing in them. In addition, it was revealed in the CIMB Thai Bank's complaint against Morgan Stanley that the BankThai's management did not realize the potential moral hazard in synthetic CDOs, mentioned in the previous section, before involving in synthetic CDO investment.

Finally, investment policy should be made clear on portfolio loss limit and diversification. By mid-2007, BankThai's portfolio of synthetic CDOs alone was nearly three times its shareholders' equity at that time. BankThai, Krung Thai Bank, Bank of Ayudhaya and Bangkok Bank all indicated exposures to CDOs, but BankThai experienced the hardest hit because of the largest exposure to CDOs of BankThai.

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