

NT dollar exchange rate volatility remained relatively stable compared to other currencies

The volatility in the NT dollar exchange rate against the US dollar fluctuated between 2% and 4% in 2010 Q1, but then increased to an annual high in the middle of May. In the second half of 2010, however, volatility turned to a decrease as the NT dollar exchange rate appreciated at a more modest pace. Annual average volatility stood at 3.74% for the year as a whole. In 2011 Q1, the average volatility in the NT dollar exchange rate against the US dollar increased moderately to 4.42%, though it was relatively mild when compared to other currencies (Chart 4.14).

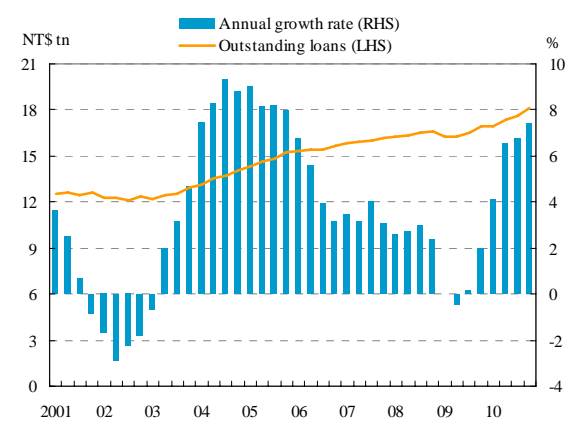
The CBC adopts a managed floating exchange rate regime and may step into the market to stabilize the exchange rate when seasonal or irregular disruptions cause disorderly conditions in the market. Though the volatility in the NT dollar exchange rate against the US dollar temporarily increased in 2010, the NT dollar exchange rate was relatively stable compared to the volatility in the exchange rates of major currencies such as the Japanese yen, euro, Korean won and Singapore dollar against the US dollar (Chart 4.14).

4.2 Financial institutions

4.2.1 Domestic banks

In 2010, the growth in loans increased notably, and asset quality remained satisfactory. However, credit risk concentration was still high and the concentration risk in the real estate market was increasing gradually. The estimated Value at Risk (VaR) for market risk exposures of domestic banks had limited influence on their capital adequacy. Liquidity risk was moderate too as the banking system benefited from ample liquidity. The profitability of domestic banks rose substantially and the capital adequacy continued to improve in 2010, strengthening the capability of domestic banks to bear risks.

Chart 4.15 Outstanding loans and annual loan growth rate in domestic banks



Note: Outstanding loans are end-of-period figures.

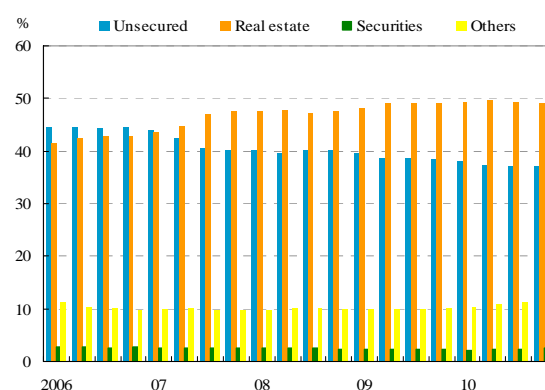
Source: CBC.

Credit risk

Customer loan growth increased significantly

Customer loans⁵⁶ were the major source of credit risks for domestic banks. The outstanding loans of the local business units of domestic banks at the end of 2010 stood at NT\$18.2 trillion and accounted for 54.27% of total assets. In 2010, due to the economic recovery and increasing funding needs, the annual loan growth rate increased significantly and reached 7.42% in December (Chart 4.15). To analyze the borrowers specifically, the annual growth rate of individual loans and corporate loans both ascended markedly and registered 8.02% and 8.40%, respectively, at the end of 2010.

Chart 4.16 Credit by type of collateral in domestic banks



Note: End-of-period figures.
Source: CBC.

Credit exposure significantly concentrated in the real estate market, thus the relevant risk gradually climbed

The concentration of credit exposure in real estate-related loans continued growing from the previous year. Outstanding real estate-related loans of domestic banks reached NT\$7.74 trillion and accounted for 42.62% of total loans as of the end of 2010. In addition, real estate-secured credit granted by domestic banks was also large, which amounted to NT\$10.37 trillion, or 49.13% of total credit,⁵⁷ at the end of 2010 (Chart 4.16). Among individual banks, thirteen had ratios of real estate-secured credit to total credit of over 60%, reflecting a high concentration of credit risk.

The NPL ratio of real estate-related loans remained relatively low. However, since the CBC and the FSC introduced several measures to enhance risk management for real estate-related loans, and the MOF will soon start to impose the Specifically Selected Goods and Services Tax, real estate market conditions are expected to turn less buoyant. The buyer bargaining power became larger in some areas with ample housing supply. Therefore, it would be advisable for banks with credit exposure highly concentrated in real estate-related loans to review their credit policies, such as loan-to-value, concentration and real estate appraisal, to cope with the potentially higher credit risks.

⁵⁶ The term "customer loans" herein refers to lending by local business units of domestic banks to their customers. It excludes interbank lending.

⁵⁷ The term "credit" herein includes loans, guarantee payments receivable and acceptances receivable.

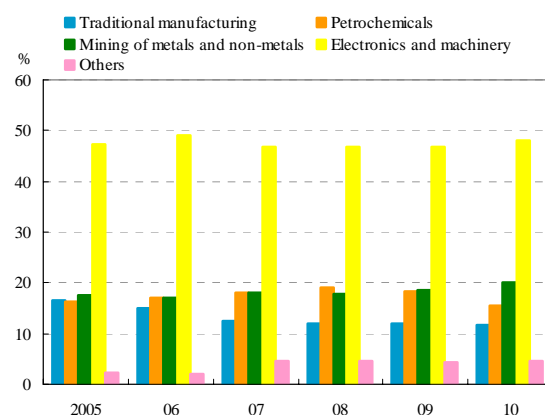
Industrial credit concentration of corporate loans gradually increased

Outstanding corporate loans of the local business units of domestic banks stood at NT\$7.92 trillion at the end of 2010, while loans to the manufacturing sector stood at NT\$3.58 trillion and accounted for the largest share of 45.15% of the total.

Within the manufacturing category,⁵⁸ the largest proportion of loans were for electronics, electric machinery and machinery-related industries, which stood at NT\$1.72 trillion and accounted for 48.09% of the total loans to the whole manufacturing sector⁵⁹ (Chart 4.17). The ratio gradually increased in the past three years, reflecting an ascending industrial credit concentration.

As the funding demand of SMEs increased from 2010 on due to the recovery of the global economy and strong growth in Asian emerging economies, outstanding corporate loans to SMEs by domestic banks grew markedly and registered NT\$3.66 trillion⁶⁰ at the end of 2010, which accounted for 46.19% of total corporate loans, with an annual growth rate of 14.79% (Chart 4.18). Furthermore, in line with the government's Economic Vitalization Package and measures to promote employment, the Small and Medium Enterprise Credit Guarantee Fund of Taiwan (SMEG) also implemented several projects to encourage financial institutions to lend to SMEs. As a result, the outstanding loans guaranteed by the SMEG rose significantly to NT\$597.3 billion at the end of 2010 with an

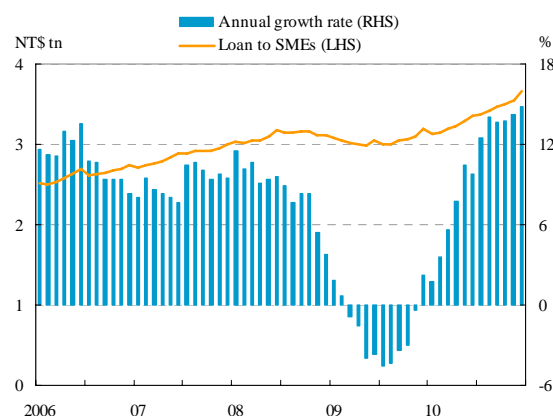
Chart 4.17 Weight of loans to the manufacturing sector by domestic banks



Notes: 1. End-of-period figures.
2. Weight of each sector = loans to each sector / loans to the whole manufacturing sector.
3. See note 58 for the definition of manufacturing sector.

Source: CBC.

Chart 4.18 Loans to SMEs by domestic banks



Source: FSC.

⁵⁸ Loans to the manufacturing sector are divided into four categories by industry, including (1) electronics, electric machinery and machinery-related industries, (2) mining of metals and non-metals related industries, (3) petrochemicals related industries and (4) traditional manufacturing industries. The remainders are classified as "others."

⁵⁹ The production value of electronics, electric machinery and machinery-related industries accounted for 42.18% of total manufacturing production value at the end of 2010, which was less than loans to electronics, electric machinery and machinery-related industries as a percentage of total loans to the manufacturing sector.

⁶⁰ Outstanding corporate loans to SMEs of domestic banks are the FSC data.

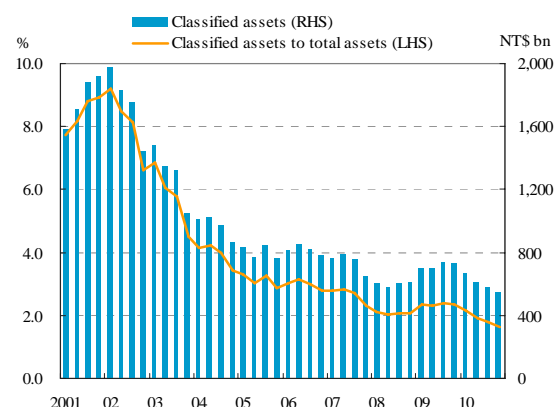
18.11% year-on-year increase and accounted for 16.32% of total SME loans. The guarantee coverage percentage also increased to 78.09% from 73.72% a year earlier. These statistics point to the favorable conditions for SMEs to acquire necessary funds.

As the profitability in the corporate sector rebounded and its interest servicing ability improved due to global economic recovery, the credit risk of domestic banks related to corporate loans is expected to drop. However, as Taiwan's electronics and information industry, an important borrower from domestic banks, heavily relies on components and equipment made in Japan, the potential impact on their future production and operation following the Japan's earthquake in March 2011 could further elevate the credit risk of domestic banks and thus warrants close monitoring.

Asset quality remained satisfactory

As a result of massive write-offs of NPLs, the outstanding classified assets⁶¹ and average classified asset ratio of domestic banks stood at NT\$548.5 billion and 1.64% at the end of 2010, dropping considerably by 25.04% and 0.70 percentage points, respectively, over the previous year, with both registering ten-year record lows (Chart 4.19). At the same time, expected losses of classified assets⁶² also significantly declined by 33.68% year on year to NT\$64.4 billion and the ratio of expected losses to loan loss provisions stood at 26.00%, indicating sufficient provisions of domestic banks to cover expected losses.

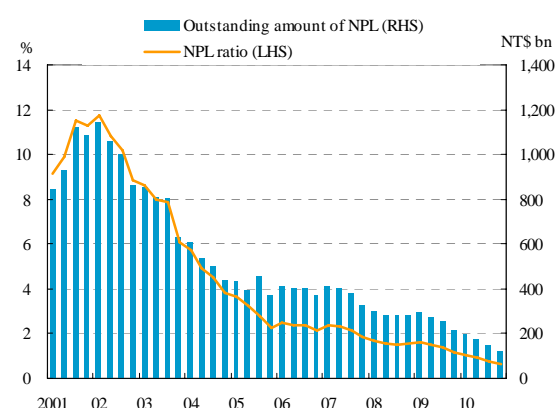
Chart 4.19 Classified assets of domestic banks



Notes: 1. End-of-period figures.
2. Excludes interbank loans.

Source: CBC.

Chart 4.20 Average NPL ratio of domestic banks



Notes: 1. End-of-period figures.
2. Excludes interbank loans.

Source: CBC.

⁶¹ The Regulations Governing the Procedures for Banking Institutions to Evaluate Assets and Deal with Non-performing/Non-accrual Loans break down all assets into five different categories, including: category one – normal credit assets; category two – credit assets requiring special mention; category three – substandard credit assets; category four – doubtful credit assets; and category five – loss assets. The term “classified assets” herein includes all assets classified as categories two to five.

⁶² Loss herein refers to the losses from loans, acceptances, guarantees, credit card revolving balances, and factoring without recourse.

The outstanding NPLs of domestic banks stood at NT\$123.0 billion at the end of 2010, contracting dramatically by 43.00% year on year. Meanwhile, the average NPL ratio fell to a ten-year low of 0.61% (Chart 4.20), while all banks had NPL ratios of less than 2%. Compared to the US and neighboring Asian countries, the average NPL ratio of domestic banks in Taiwan was similar to that of Hong Kong and much lower than most of the other countries (Chart 4.21), reflecting the good loan quality in Taiwan's banking industry.

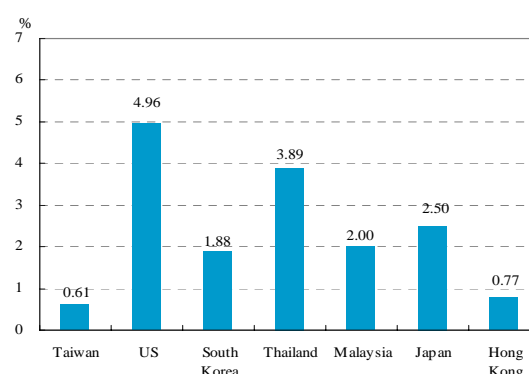
Owing to the substantial decrease in NPLs, the NPL coverage ratio at the end of 2010 rose dramatically to 157.32%, hitting a ten-year record high. However, the loan loss reserve ratio slightly dropped to 0.96% as a result of the marginal contraction of loan loss provisions (Chart 4.22).

Market risk

Estimated Value-at-Risk for market exposures rose

Using market data as of the end of February 2011, the estimated total VaR⁶³ calculated by the CBC's market risk model for foreign exchange, interest rate and equity exposures of domestic banks at the end of 2010 stood at NT\$128.4 billion. The figure expanded significantly by 32.51% year on year (Table 4.1), mainly resulting from the increase in both the volatility and the position of interest rate risk.

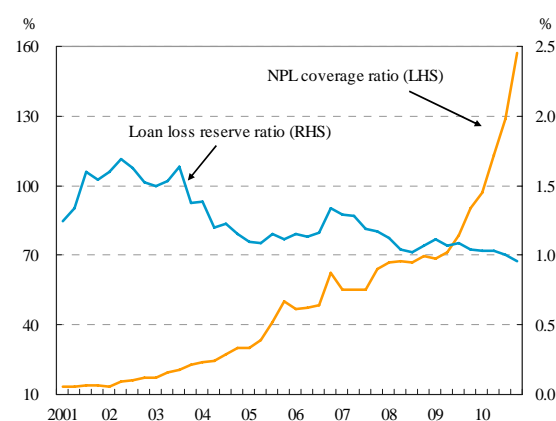
Chart 4.21 NPL ratios of banks in selected countries



Note: Figure for Japan is end-September 2010 data, while the others are end-December 2010.

Sources: CBC, FDIC, FSS, BOT, BNM, BOJ and HKMA.

Chart 4.22 NPL coverage ratio and loan loss reserve ratio of domestic banks



Notes: 1. NPL coverage ratio = loan loss provisions / non-performing loans.

2. Loan loss reserve ratio = loan loss provisions / total loans.

3. Excludes interbank loans.

Source: CBC.

⁶³ The market risk model describes dependencies among foreign exchange, interest rate and equity positions returns series, and provides a correlation structure between returns series. By means of a semi-parametric method, the new model constructs the sample distribution function of each asset return series using a Gaussian Kernel estimate for the interior and a generalized Pareto distribution (GPD) estimate for the upper and lower tails. The confidence level of the model is 99%, a holding period of ten trading days is used and exposure positions are assumed unchanged. The models are estimated using 1,000 foreign exchange rate, interest rate, and equity price samples.

The effects of market risk on capital adequacy ratios were limited

According to the estimated results mentioned above, market risk would cause a decrease of 0.67 percentage points in the average capital adequacy ratio and induce the current ratio of 11.94%⁶⁴ to fall to 11.27%. Nevertheless, the effects may be considered as limited.

Table 4.1 Market risk in domestic banks

Unit: NT\$ bn

Types of risk	Items	End-Dec. 2009	End-Dec. 2010	Changes	
				Amount	%
Foreign exchange	Net position	47.6	57.4	9.8	20.59
	VaR	1.4	2.2	0.8	57.14
	VaR / net position (%)	2.94	3.83		0.89
Interest rate	Net position	3,755.50	5,649.40	1,893.90	50.43
	VaR	50.1	115.8	65.7	131.14
	VaR / net position (%)	1.33	2.05		0.72
Equities	Net position	502.9	516.8	13.9	2.76
	VaR	50.9	34.1	-16.8	-33.01
	VaR / net position (%)	10.12	6.6		-3.52
Total VaR		96.9	128.4	31.5	32.51

Note: The total VaR was estimated by a revised model in 2009, and the model takes the correlation among three risk categories into consideration; therefore, the sum of individual VaRs of the three types of risks is not equal to the total VaR.

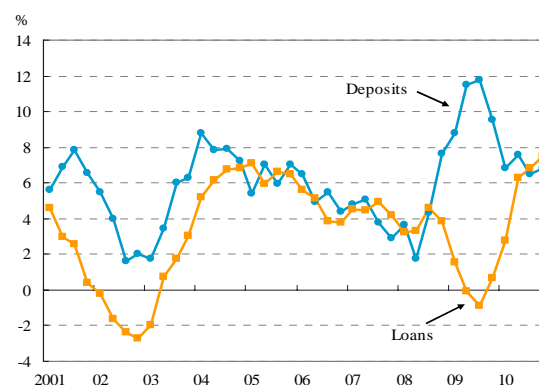
Source: CBC.

Liquidity risk

Banking system liquidity remained ample

Deposits in domestic banks continued to increase in 2010; however, the year on year growth rate of deposits declined to 6.80% in December due to a higher base. As for loans, the annual growth rate climbed markedly to 7.49% as a result of the warming up of economic activity and increasing financing demand from the corporate sector (Chart 4.23).

Chart 4.23 Annual growth rate of deposits and loans of domestic banks



Source: CBC.

⁶⁴ The term "capital adequacy ratio" used herein is based on regulatory capital which has deducted unamortized deferred losses on the sale of NPLs.

The increase in loans exceeded that in deposits, hence the average deposit-to-loan ratio of domestic banks slightly decreased to 132.28% at the end of 2010. The funding surplus (i.e., deposits exceeding loans) registered NT\$6.50 trillion, reflecting abundant liquidity in domestic banks (Chart 4.24).

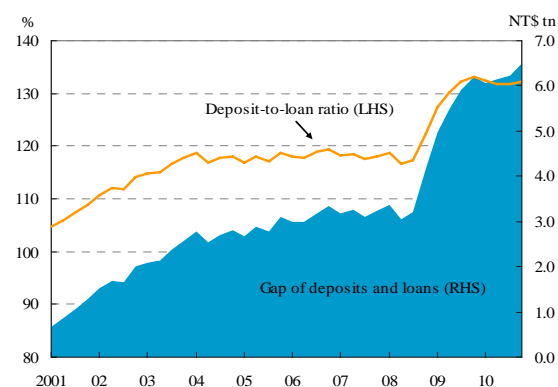
As for the sources of funds, relatively stable customer deposits accounted for the largest share of 77% of the total, which remained unchanged from the previous year, followed by interbank deposits and borrowings at 8%, while debt securities issues contributed a mere 3% at the end of 2010. Regarding the uses of funds, on account of better market conditions, customer loans accounted for the biggest share of 60% with a year on year increase of 1 percentage point, and investment reached 19%, while cash and due from banks declined from 15% at the end of the previous year to 9% of the total at the end of 2010 (Chart 4.25).

Overall liquidity risk was moderate

The average NT dollar liquid reserve ratio of domestic banks was 29.64% in December 2010, well above the statutory minimum of 7% (Chart 4.26), and the ratio of each domestic bank was higher than 13%. In the same period, Tier 1 liquid reserves, mainly consisting of certificates of deposit issued by the CBC, accounted for 96.46% of total liquid reserves,⁶⁵ while Tier 2 and Tier 3 reserves accounted for 3.30% and 0.24%, respectively. This reveals that the quality of liquid assets held by domestic banks remained satisfactory and overall liquidity risk was moderate.

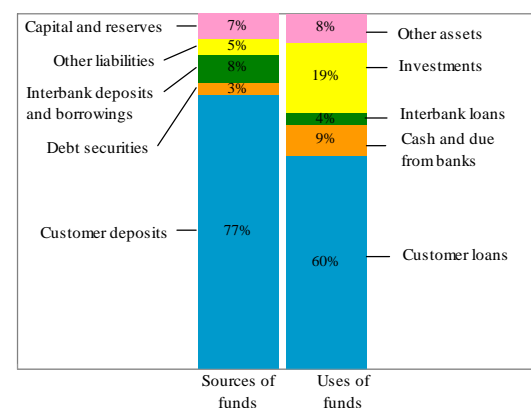
⁶⁵ Tier 1 liquid reserves include excess reserves, net due from banks in the call-loan market, re-deposits at designated banks with terms to maturity of no more than one year, certificates of deposit issued by the CBC, government bonds and treasury bills. Tier 2 liquid reserves include NT dollar-denominated bonds issued in Taiwan by international financial organizations, negotiable certificates of deposit, bank debentures, banker's acceptances, trade acceptances, commercial paper and corporate bonds. Tier 3 liquid reserves include beneficial securities issued in accordance with the asset securitization plan and other liquid assets as approved by the CBC.

Chart 4.24 Deposit-to-loan ratio in domestic banks



Notes: 1. Deposit-to-loan ratio = total deposits / total loans.
2. Gap of deposits and loans = total deposits - total loans.
Source: CBC.

Chart 4.25 Sources and uses of funds in domestic banks



Notes: 1. Figures are end-December 2010.
2. Interbank deposits include deposits with the CBC.
Source: CBC.

Profitability

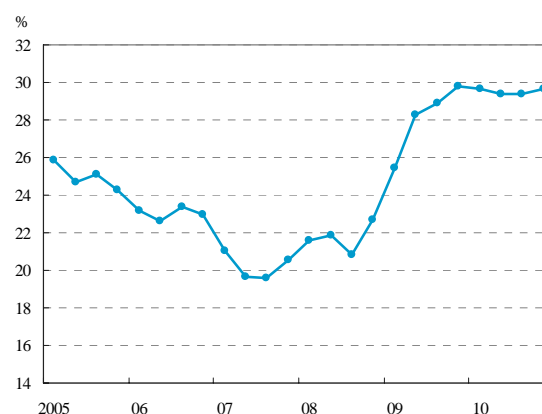
The highest profitability was recorded

Owing to the rebound of net interest income and the significant reduction in bad debt expenses, the combined net income before tax for domestic banks reached a historical high of NT\$184.8 billion in 2010, which increased dramatically by NT\$99.7 billion, or 117.08%, year on year (Chart 4.27). The average return on equity (ROE) and return on assets (ROA) rose from 4.52% and 0.28% in 2009 to 9.08% and 0.57%, respectively (Chart 4.28). However, compared to Asia-Pacific neighboring countries, the profitability of domestic banks was relatively low, and even lower than that of the US, where the recent global financial turmoil originated from (Chart 4.29).

Among the total thirty-eight domestic banks, only one reported a loss due to amortization of deferred losses on the sale of classified assets, while the others all posted profits, among which six banks had full-year profits of more than NT\$10 billion. Eleven banks achieved a profitable ROE of 10% or more, increasing substantially from two in 2009 (Chart 4.30).

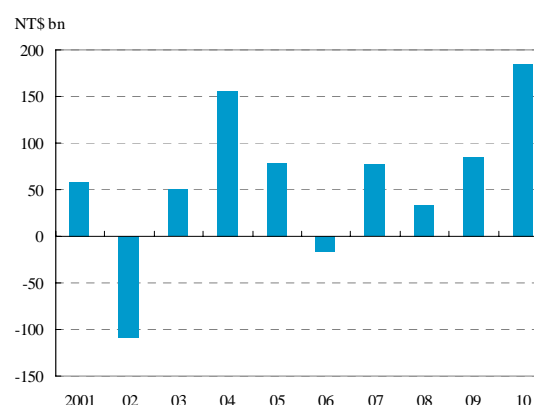
As for operating revenues and costs, total operating revenues of domestic banks stood at NT\$529.6 billion in 2010, rising by NT\$75.2 billion, or 16.55% year on year. Of which, net interest income, accounting for 59.52% of the total revenues, increased by NT\$44.6 billion

Chart 4.26 Liquid reserve ratio of domestic banks



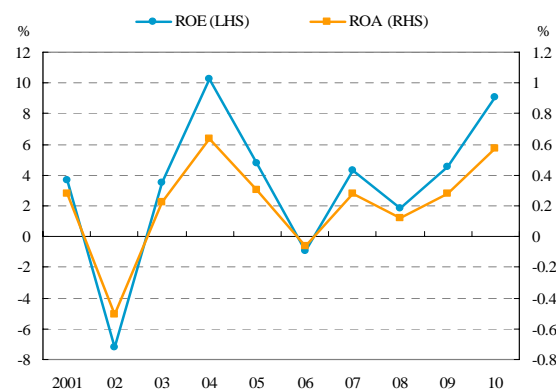
Note: Figures are the average daily data in the last month of a quarter.
Source: CBC.

Chart 4.27 Net income before tax in domestic banks



Source: CBC.

Chart 4.28 ROE & ROA of domestic banks



Notes: 1. ROE (return on equity) = net income before tax / average equity.
2. ROA (return on assets) = net income before tax / average total assets.

Source: CBC.

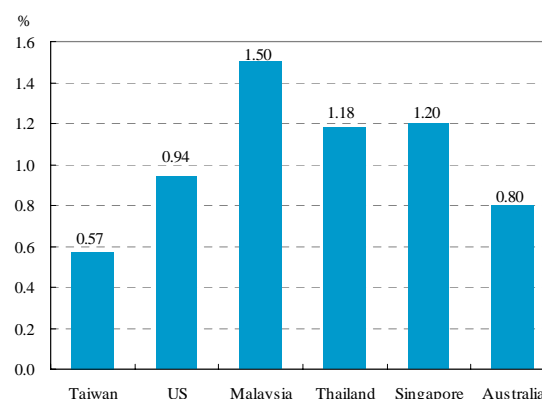
year on year as a result of the rebound of interest rate spreads between deposits and loans. Benefiting from the growth of the asset management business, net fee and commission income climbed to the highest level recorded, increasing by NT\$30.1 billion and accounting for 23.56% of the total revenues. Because valuation profit and gain on the sale of financial assets and liabilities at fair value declined, net gains on financial instruments contracted dramatically by NT\$22.1 billion, only accounting for 9.93% of total revenues.

On the cost side, operation expenses increased due to the strong growth of new hires, while provisions decreased sharply to a record low level as a result of declining loan losses. Consequently, operating costs in 2010 declined to NT\$345.0 billion, falling by NT\$25.2 billion, or 6.80% year on year, the lowest level recorded since 1999 (Chart 4.31).

Factors that might undermine future profitability

After shrinking to 1.11 percentage points in 2009 Q2, the interest rate spread between deposits and loans gradually increased from its lowest and then gradually expanded to 1.40 percentage points in 2010 Q4, owing to the rising weighted average rates on loans and deposits caused by three policy rate hikes by the CBC in 2010 (Chart 4.32). The gradual rebound of interest rate spread will likely prove helpful to boost domestic banks'

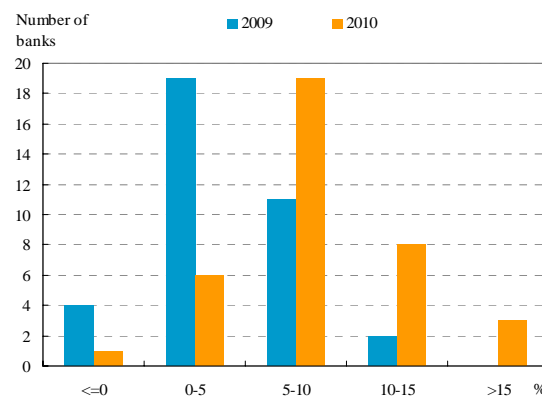
Chart 4.29 Comparison of ROA of banks in selected countries



Note: Data for Singapore is for the first three quarters of 2010, while the others are for the whole year of 2010.

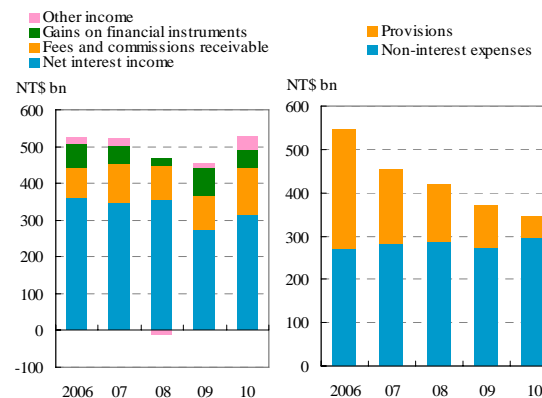
Sources: CBC, FDIC, BNM, BOT, MAS and APRA.

Chart 4.30 Distribution of ROE of domestic banks



Source: CBC.

Chart 4.31 Composition of incomes and costs of domestic banks



Source: CBC.

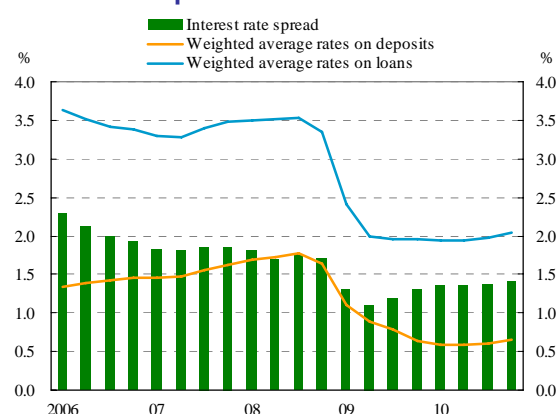
profitability.

The asset quality of domestic banks kept improving, maintaining low level credit costs, and thus contributed to the high profitability of 2010. However, there are several uncertainties worth paying attention to: (1) the third revision of Taiwan's Statements of Financial Accounting Standards (SFAS) No.34 "Financial Instruments: Recognition and Measurement" takes effect from the beginning of 2011. Under SFAS 34, banks have to recognize impairment losses when the loss events occur or there is objective evidence of impairment of loans and accounts receivable. Owing to the pressure of setting aside additional provisions, domestic banks' future profitability might be impacted;⁶⁶ (2) from 2011, domestic banks are required to set aside additional provisions for normal credit assets at the rate of 0.5% of the outstanding. Although there is a 3-year grace period, certain impacts on future profitability are still expected; (3) the Debt Renegotiation Relief Program launched by the Bankers Association of the Republic of China ended on 31 December 2010, as did some related measures such as loan extensions and preferential mortgages. As a result, the default rate of those borrowers might increase and in turn raise the credit costs of domestic banks; (4) global financial markets were turbulent due to the Japan's earthquake in March 2011, the European sovereign debt crisis and the political instability in the Middle East and North Africa. If the turbulence worsens in the future, domestic banks' credit and investment positions could possibly be harmed.⁶⁷

Capital adequacy

Capital adequacy ratios ascended slightly

Chart 4.32 Interest rate spread between deposits and loans



Notes: 1. Interest rate spread = weighted average interest rates on loans - weighted average interest rates on deposits.
 2. The weighted average interest rates on deposits and loans exclude preferred deposits of retired government employees and central government loans.
 3. Excludes the data of medium business banks.

Source: CBC.

⁶⁶ According to the FSC's press releases on 12 Aug 2010, domestic banks need to set aside an additional NT\$30 billion in provisions. However, due to the economic recovery and improved financial structure in the real sector, the amount is expected to decline.

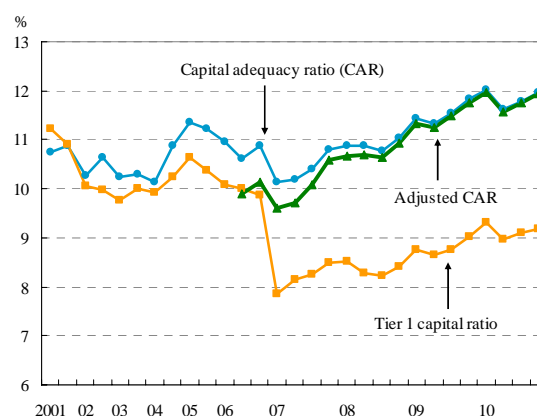
⁶⁷ At the end of 2010, domestic banks had US\$1.42 billion in claims on Japan and US\$0.89 billion in claims on the most debt-laden European countries (dubbed PIIGS), respectively.

Benefiting from accumulated earnings and the increase of common equity, net regulatory capital increased. As a result, the average capital adequacy ratio rose from 11.83% at the end of 2009 to 11.96% at the end of 2010. The Tier 1 capital ratio of domestic banks also increased to 9.17% (Chart 4.33). If unamortized deferred assets of NT\$4.6 billion⁶⁸ arising from losses recorded on the sale of classified assets were deducted from regulatory capital, the adjusted capital adequacy ratio would come to 11.94%, up by 0.17 percentage points from the end of 2009. These figures reflect that the capital adequacy of domestic banks slightly improved in 2010. Compared to the US and some Asia-Pacific neighboring countries, the average capital adequacy ratio of domestic banks is about the same as that of Australia, but much lower than those of the US and some Asian countries (Chart 4.34).

Further breaking down the components of regulatory capital, Tier 1 capital, which features the best risk bearing capacity, accounted for 76.64% of eligible capital, while Tier 2 capital registered 23.20% and Tier 3 capital contributed a mere 0.16% at the end of 2010. The ratios have remained broadly unchanged from the end of the previous year.

All domestic banks held sufficient capital, though they are set to face stricter capital standards in the future

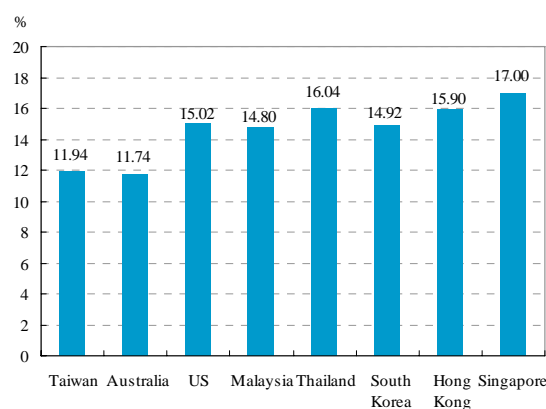
Chart 4.33 Capital adequacy ratio of domestic banks



- Notes: 1. End-of-period figures.
 2. The data are on a semiannual basis prior to June 2006 and on a quarterly basis beginning June 2006.
 3. Adjusted capital adequacy ratio = (eligible capital - unamortized deferred assets arising from losses recorded on the sale of non-performing assets) / risk-weighted assets - aforementioned unamortized deferred assets.

Source: CBC.

Chart 4.34 Comparison of capital adequacy ratios in selected countries



- Notes: 1. Figures for Australia, South Korea and Singapore are end-September 2010 data, while the others are end-December 2010 data.

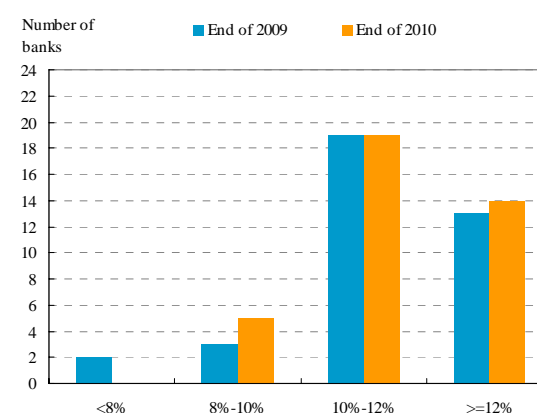
2. The figure for Taiwan is adjusted capital adequacy ratio.

Sources: CBC, APRA, FDIC, BNM, BOT, FSS, HKMA and MAS.

⁶⁸ Article 4 and 14 of the Regulations Governing the Capital Adequacy and Capital Category of Banks as amended on 30 June 2009 requires that unamortized losses recorded on the sale of non-performing assets should be deducted from Tier 1 capital. This requirement does not apply to sales made on or before 4 January 2007. The amount mentioned here occurred before the end of 2006.

All domestic banks had capital adequacy ratios higher than the statutory minimum (8%) at the end of 2010, and there were fourteen banks with ratios above 12% (Chart 4.35). Even though domestic banks' capital adequacy ratios were gradually increasing, the FSC elevated the risk weight for non-self-use residence loans to 100% in April 2011 in order to enhance domestic banks' risk management of real estate-related loans. The required regulatory capital of domestic banks is expected to increase in the future. Moreover, the Basel Committee on Banking Supervision (BCBS) announced a new global regulatory standard on bank capital adequacy and liquidity (Basel III) in December 2010. Accordingly, in addition to the requirement of more capital and higher quality of capital than under current Basel II rules, banks are required to carry an additional "capital conservation buffer" and "countercyclical buffer," making for a great impact on the global banking system. Although the reform will be implemented over an eight-year transitional period, domestic banks should start to adjust their capital plans and dividend payout policies as soon as possible.

Chart 4.35 Number of domestic banks classified by adjusted capital adequacy ratios



Source: CBC.

Table 4.2 Systemic risk indicators for the banking system

Banking System	Standard and Poor's	Fitch
	BICRA	BSI/MPI
Hong Kong	2	B/1
Singapore	2	B/1
Japan	2	C/1
South Korea	4	C/3
Taiwan	4	C/1
Malaysia	4	C/1
Thailand	6	C/1
Mainland China	6	D/1
Indonesia	8	D/1
Philippines	8	D/1

Note: Figures are end-February 2011 data.

Sources: Standard and Poor's and Fitch Ratings.

Credit ratings

Average credit rating level remained stable

Based on Standard & Poor's "Banking Industry Country Risk Assessment (BICRA)"⁶⁹ and Fitch Ratings' "Banking System Indicator / Macro-Prudential Indicator (BSI/MPI),"⁷⁰

⁶⁹ The classification scheme used by the Banking Industry Country Risk Assessment (BICRA) is a synthetic assessment developed by Standard & Poor's Corporation that is based on the credit standing of financial institutions in the context of the structure and performance of the economy, legal and regulatory infrastructure supporting the financial system, and the competition and operation environment of the banking sector, while factoring out the potential for government support for banks. Assessment results reflect relative country risk and banking sector credit quality, and are indicated with a score of 1 (strongest) to 10 (weakest).

⁷⁰ Fitch Ratings has devised two complementary measures, the Banking System Indicator (BSI) and Macro-Prudential Indicator (MPI), to

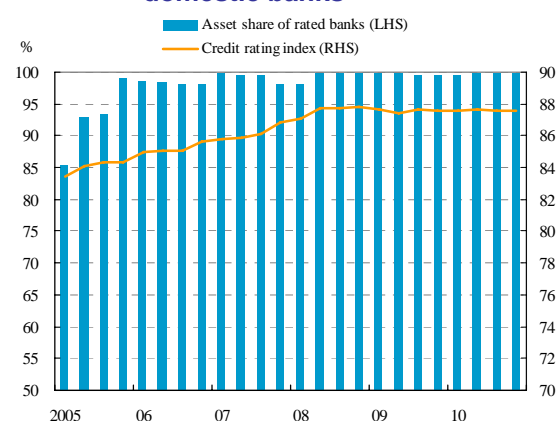
Taiwan's banking system rating remained unchanged in Group 4 and at level C/1, respectively, in February 2011 (Table 4.2). Compared to other Asian economies, the risks of Taiwan's banking industry were higher than those of Hong Kong and Singapore, about the same as those of Japan, South Korea, Malaysia and Thailand, but much lower than those of Mainland China, Indonesia and the Philippines.

According to the rating results of individual banks released by credit rating agencies, one bank was downgraded in 2010, but a new bank with a high credit rating was established, resulting in an unchanged credit rating index.⁷¹ This reflected that the overall credit rating of domestic banks remained stable (Chart 4.36).

Credit ratings are expected to be stable in the future

Most of the thirty-seven rated banks maintained credit ratings of twAA/twA (Taiwan Ratings) or AA(twn)/A(twn) (Fitch Ratings) at the end of 2010, remaining unchanged from the previous year, and only one bank had no credit rating (Chart 4.37). In addition, only one bank received a negative rating outlook or CreditWatch at the end of 2010, showing that credit ratings are expected to be stable in the future.

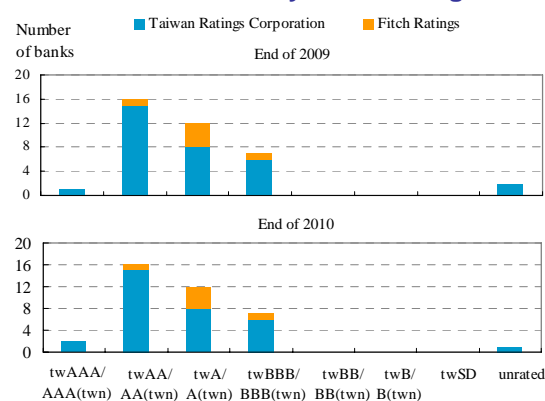
Chart 4.36 Credit rating index of rated domestic banks



Note: End-of-period figures.

Source: CBC.

Chart 4.37 Number of domestic banks classified by credit ratings



Sources: Taiwan Ratings Corporation and Fitch Ratings.

assess banking system vulnerability. The two indicators are brought together in a Systemic Risk Matrix that emphasizes the complementary nature of both indicators. The BSI, based on the synthetic assessment results composed of individual ratings and systematic risks in the banking system, measures intrinsic banking system quality or strength on a scale from A (very high quality) to E (very low quality). On the other hand, the MPI indicates the vulnerability to stress on above-trend levels of private sector credit, a bubble in real asset prices, and/or major currency appreciation, measuring the vulnerability of the macro environment on a scale from 1 (low) to 3 (high) in terms of banking system vulnerability.

⁷¹ The credit rating index is an asset-weighted average rating score of rated domestic banks, measuring the overall creditworthiness of those banks on a scale from 1 (weakest) to 100 (strongest). The rating score for banks is determined according to their long-term issuer ratings from Taiwan Ratings Corporation or national long-term ratings from Fitch Ratings.

4.2.2 Life insurance companies

The total assets of life insurance companies continued growing in 2010, albeit at a reduced pace, while operating performance deteriorated and investment performance continued to be susceptible to the volatility of global stock markets as well as foreign exchange markets.

The average risk-based capital (RBC) ratio at the end of 2010 rose as a result of the amendment of relevant regulations and remained above the statutory minimum of 200%. The overall credit rating of life insurance companies was better than in the previous year.

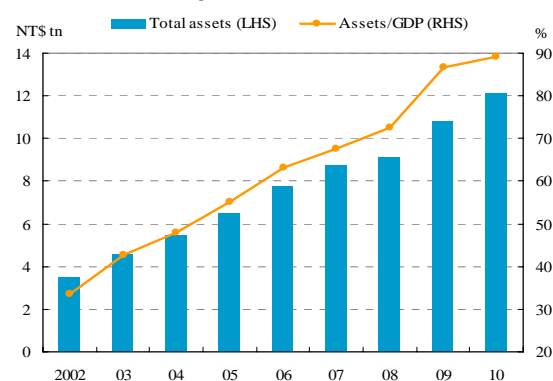
The range of asset growth slowed

The total assets of life insurance companies continually accumulated and reached NT\$12.13 trillion at the end of 2010, equivalent to 89.10% of annual GDP (Chart 4.38). This represented an increase of 12.23%, slightly slower than in the previous year.

In comparison with the end of 2009, the increase in assets was chiefly contributable to (1) a surge of domestic and overseas securities investments, thanks to the rebound of global stock markets; (2) a slight growth of real estate investments created by the recent local market boom; and (3) a continual accumulation of the assets of insurance products held in segregated custody accounts, the major component of other assets, owing to the prosperity of domestic and overseas stock markets.

The structure of the life insurance industry changed slightly during 2010. Twenty-three domestic life insurance companies⁷² held a 98.59% market share by assets at the end of 2010, while seven foreign life insurance companies sustained only 1.41%. The top three companies in terms of assets held a combined market share of 53.05%, while in terms of premium income, they held a combined market share of 55.26%. The combined market share in terms of assets of the top three companies declined by 1.12 percentage points, while that in terms of premium income rose by 2.33 percentage points year on year.

Chart 4.38 Total assets of life insurance companies



Note: Total assets are end-of-period figures.
Sources: DGBAS and FSC.

⁷² Including foreign affiliates.

Funds invested in securities had a higher growth

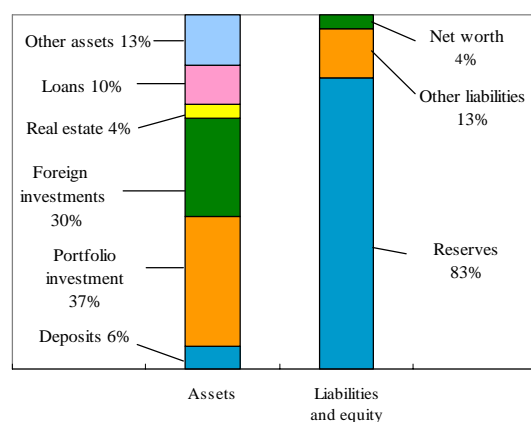
The funds of life insurance companies at the end of 2010 were chiefly invested in domestic securities and foreign investments, accounting for 37% and 30%, respectively, while 10% of funds was in loans, 6% in cash and deposits and 4% in real estate. As for the sources of funds, various policy reserves constituted 83%, while net worth accounted only for 4% (Chart 4.39). The usable funds of life insurance companies continued growing in 2010, and, motivated by the boom in global stock markets, funds invested in domestic securities and foreign investments increased by 13.47% and 21.95%, respectively, year on year, reaching a historical high level. In addition, real estate investments also enjoyed a growth of 8.20%.

The insurance industry did not increase its ratio of real estate investments over the past few years.⁷³ However, expecting the insurance industry to consider both its earning capacity and its reasonable exploitation of society's land resources when making real estate investment decision, the FSC amended the relevant regulations⁷⁴ concerning real estate investment of insurance companies in February 2011, which will be reviewed timely, in order to limit investment in vacant land more strictly.

Enormous losses was reported in 2010

Influenced by a slump in domestic and overseas stock markets as well as increased hedging costs due to the volatility of the foreign exchange rate, life insurance companies experienced poor performance and registered enormous losses of NT\$29.8 billion in the first half of 2010. As NT dollar appreciation enlarged foreign exchange losses in the second half of 2010, which offset the benefit from the recovery of domestic and overseas stock markets and resulted in poor investment performance in the same period, life insurance companies suffered enormous

Chart 4.39 Asset/liability structure of life insurance companies



Note: Figures are end-December 2010 data.
Source: FSC.

⁷³ According to a press release by the FSC on 6 April 2011, the ratio of real estate investment of the insurance industry remained at about 4% from 2006 to 2010.

⁷⁴ The FSC amended and promulgated "The Identifying Criterion and Handling Principles of Instant Application with Yield Concerning Real Estate Investment Undertaken by Insurance Industry" on 24 February 2011, adding the regulation that the investment of vacant land should comply with certain standards which exclude the application of parking lot and advertisement renting etc. from the identifying criterion of instant application with yield.

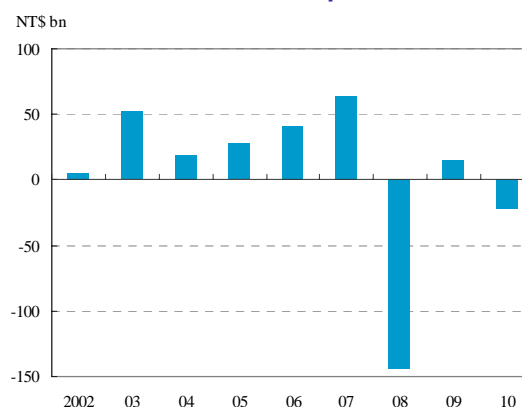
losses of NT\$21.8 billion in 2010, far behind the net profit before tax of NT\$14.9 billion in 2009 (Chart 4.40). During this period, average ROE and ROA slid to -4.76% and -0.19%, respectively (Chart 4.41). Should one company⁷⁵ which was taken into receivership by the FSC be excluded, the 2010 net loss before tax of life insurance companies as a whole would be reduced to NT\$15.6 billion, with average ROE and ROA of -2.99% and -0.14%, respectively.

In the second half of 2010, life insurance companies benefited from a rebound in domestic and overseas stock markets due to sustained strong growth in emerging Asian economies and the surging capital inflows resulting from the easy monetary policy of the US, and their average return on investment rose to 4.44% in 2010, higher than 3.55% in 2009. As the CBC continually raised interest rates from June 2010 onwards, it was anticipated that the return on investment of life insurance companies would gradually rise, and the potential losses driven by negative interest rate spreads would be alleviated.

However, the investment performance of life insurance companies will still face hardship as the rapid movement of short-term international capital between global financial markets raised the volatility of global stock markets and foreign exchange markets.

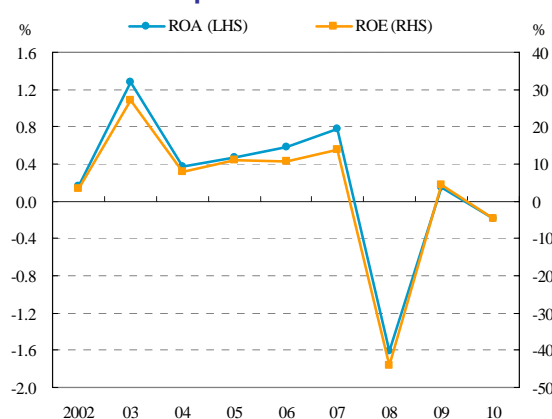
In addition, the FSC, after amending the Regulations Governing the Business of Overseas Investments by the Insurance Industry in August 2010, allowed insurance companies, under certain terms, to invest in specific securities issued by the government and corporations in Mainland China, and real estate was later included in October 2010. In December 2010, the FSC, amended the regulations again, and stipulated that if insurance companies, operating

Chart 4.40 Net income before tax of life insurance companies



Source: FSC.

Chart 4.41 ROE & ROA of life insurance companies



Notes: 1. ROA = net income before tax / average assets.
2. ROE = net income before tax / average equity.

Source: FSC.

⁷⁵ Kuo Hua Life Insurance Co. was taken into receivership by the Insurance Stabilization Fund on 4 August 2009 and registered a net loss before tax of NT\$6.14 billion in 2010.

within the 45% limit of funds used in overseas investments, conduct the business of traditional foreign currency policies, then they could expand the limit of overseas investments according to more flexible formulae. These measures intended to improve the efficiency of usable funds and investment revenues as well as the flexibility of overseas investment allocations of insurance companies. However, while raising their overseas investment positions, life insurance companies were required to carry out their risk control mechanisms thoroughly in accordance with the regulations mentioned above and to self-evaluate the compliance of the Practical Guidelines for Risk Management of the Insurance Industry on a quarterly basis, in order to mitigate investment risk under the environment of more complex international financial market.

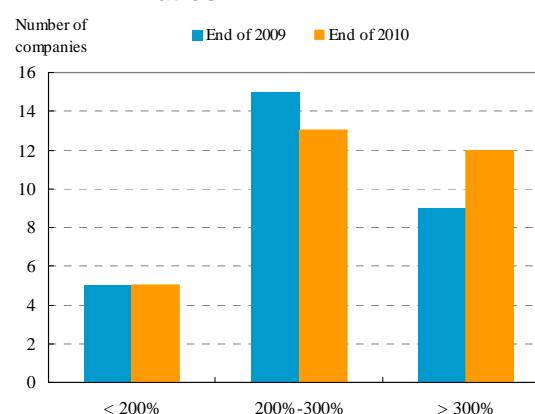
Average RBC ratio retained above the statutory minimum

In order to alleviate the pressure for life insurance companies to raise more capital and conform to the global trend of fair value accounting, the FSC amended the capital adequacy regulations in June 2010 to recognize the added value in the real estate investments as qualified regulatory capital.⁷⁶ As the amended regulations came into effect from 30 June 2010, the overall regulatory capital of life insurance companies increased markedly, and the average RBC⁷⁷ ratio rose slightly from 220.15% to 226.60% at the end of 2010, above the statutory minimum of 200%, even though they suffered enormous losses in 2010. By individual companies, there were twelve companies with ratios over 300%, increasing by three companies year on year, and there were five companies with ratios below 200%, the same as the end of 2009 (Chart 4.42), whose combined assets accounted for 4.14% of the total.

Overall credit ratings better than previous year

Of the eight life insurance companies rated by credit rating agencies, only one company was downgraded in 2010, much better than four companies in the previous year. Moreover,

Chart 4.42 Number of life insurance companies classified by RBC ratios



Source: FSC.

⁷⁶ However, the regulation on 10 June 2010 only applied to real estate for investment purposes, which had been held for over three years and the building upon it had been finished, in accordance with the principle of instant application with yield.

⁷⁷ According to Article 143-4 of the Insurance Act, the risk-based capital ratio (= regulatory capital / risk-based capital) of the insurance industry can not be below 200%.

only one company was listed on negative rating on CreditWatch at the end of February 2011, in contrast with three a year earlier, reflecting the upgrading of overall credit ratings. The top three companies in terms of assets and premium market share were rated above twA+ or A+(twn), respectively, signifying their strong ability to meet all financial commitments.

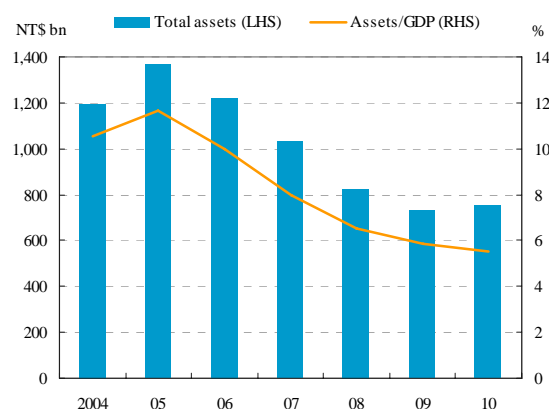
4.2.3 Bills finance companies

The total assets of bills finance companies rebounded slightly in 2010. Although earnings declined a little year on year, and the average capital adequacy ratio descended due to the amendment of relevant regulations, the quality of credit assets remained sound. The problem of maturity mismatch between assets and liabilities in bills finance companies still existed, and liquidity risk remained rather high; however, the major liability to equity ratio conformed to the statutory ceiling. The outstanding balance of the commercial paper guarantee business undertaken by bills finance companies gradually rose, but was still below the statutory ceiling.

Total assets rebounded slightly

By virtue of rising bonds and bills investment positions, the total assets of bills finance companies stood at NT\$754 billion at the end of 2010, equivalent to 5.54% of annual GDP and increased by 3.42% year on year (Chart 4.43). Of the nine bills finance companies, the top three companies held a combined market share of 73.48% by assets, while none of the other firms had a market share above 6% except for one company. For the past few years, owing to the synergy created by broadening operating scale and integrating resources, the tendency of bills finance companies to be merged with banks prevailed, and it seems inevitable that the assets and business scale of bills finance companies will contract further.

Chart 4.43 Total assets of bills finance companies



Note: Total assets are end-of-period figures.
Sources: CBC and DGBAS.

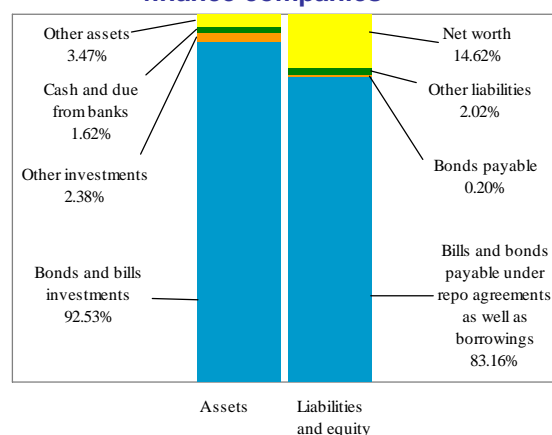
Regarding asset/liability structure at the end of 2010, bonds and bills investments on the asset side accounted for 92.53% of total assets, an increase of 1.25 percentage points year on year, while bills and bonds payable under repo agreements as well as borrowings on the liability side accounted for 83.16% of total assets and corporate bonds payable represented only 0.20% (Chart 4.44).

Profitability slightly decreased year on year

Bills finance companies posted a net income before tax of NT\$10.1 billion in 2010, slightly lower than NT\$11.0 billion in 2009 (Chart 4.45). The decrease in profitability was mainly driven by the fact that government bonds investments with higher yields had matured one after another, while newly issued bonds holdings had much lower yields, resulting in a dramatic decrease of interest revenues. At the same time, average ROE and ROA declined to 8.95% and 1.37%, respectively, lower than 9.65% and 1.41% in 2009 (Chart 4.46).

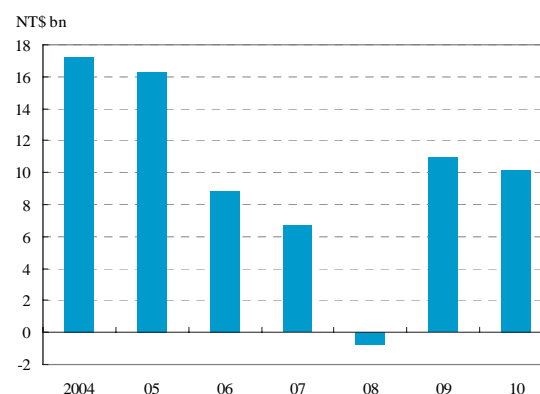
The CBC's decisions to raise policy rates from June 2010 compelled bills finance companies to face the pressure of rising funding costs as well as more unrealized losses of bills and bonds positions, which might be harmful to the future operation of bills finance companies. Nevertheless, driven by rising funding needs of corporate sector caused by continued global economic recovery, the commercial paper issuance went up again in 2010. In addition, the business of US dollar bills, which was approved to operate from December 2010,⁷⁸ may be conducive to the opening up of bills sources and enhancing profitability for

Chart 4.44 Asset/liability structure of bills finance companies



Note: Figures are end-December 2010 data.
Source: CBC.

Chart 4.45 Net income before tax of bills finance companies



Source: CBC.

⁷⁸ In order to help the corporate sector to obtain short-term foreign funds and expand domestic financial instruments and scope, the CBC and the FSC agreed to set up an on-shore US dollar bills market which began from 6 December 2010. At the initial stage, it was based on commercial paper issued by domestic corporations guaranteed by banks only.

bills finance companies.

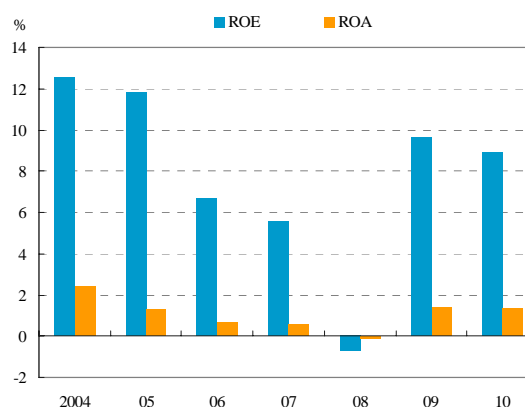
Asset quality remained satisfactory

The guaranteed advances ratio was only 0.19% at the end of 2010, declining year on year, owing to a sharp drop of the guaranteed advances amount, and the non-performing credit ratio also declined to 0.12% (Chart 4.47). At the same time, the ratio of the aggregate amount of loss and guarantee reserves to guaranteed advances, as well as to non-performing credit, was 1309.08% and 2026.46%, respectively. It showed the reserves set aside remained sufficient to cover potential losses of guarantee business, though the amount decreased by a large measure.

Average capital adequacy ratio decreased, yet remained above 12% for each firm

After the FSC amended the Regulations Governing the Capital Adequacy Ratio of Bills Finance Companies, which requires companies to hold additional capital for operational risk, the capital adequacy level of bills finance companies dropped accordingly, and the average capital adequacy ratio registered 16.20% at the end of 2010, decreasing by 1.08 percentage points year on year. Furthermore, the Tier 1 capital ratio declined from 18.84% to 15.60% year on year, yet remained above 12% for each firm. The average multiple of debt to equity of bills finance companies also went up slightly to 5.84 times at the end of 2010 (Chart 4.48), reflecting a small elevation in financial leverage.

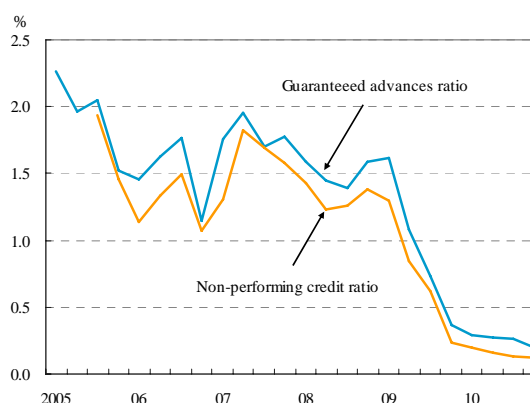
Chart 4.46 ROE & ROA of bills finance companies



Notes: 1. ROE = net income before tax / average equity.
2. ROA = net income before tax / average assets.

Source: CBC.

Chart 4.47 Guaranteed advances ratio of bills finance companies



Notes: 1. Guaranteed advances ratio = overdue guarantee advances / (overdue guarantee advances + guarantees).
2. Non-performing credit ratio = non-performing credit / (overdue guarantee advances + guarantees).

Source: CBC.

Liquidity risk remained high as maturity mismatch between assets and liabilities persisted

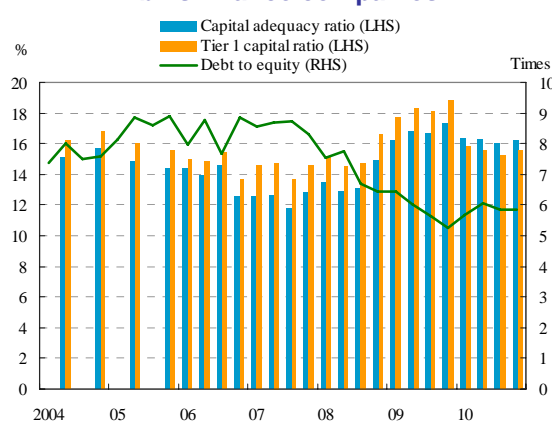
At the end of 2010, bonds and bills investments constituted 92.53% of total assets, while bonds investments accounted for 42.36% (Chart 4.49), the ratio declining year on year, yet still somewhat high. The sources of funds were mainly made up of interbank call loans and repo transactions, accounting for 83.16% of total assets. It was evident that a maturity mismatch between assets and liabilities still remained, and the demand for liquidity risk management was necessary.

For the purpose of fulfilling differential supervisory strategies and in order to reduce the operational and liquidity risk in bills finance companies, the FSC amended the regulations in April 2010, restricting the ceilings⁷⁹ of major liabilities according to the capital scale of bills finance companies. After implementation, the multiple of major liabilities to net worth of each bills finance company complied with the regulated ceilings, registering an average multiple of 6.35 times at the end of 2010.

Outstanding balance of guarantees rebounded gradually

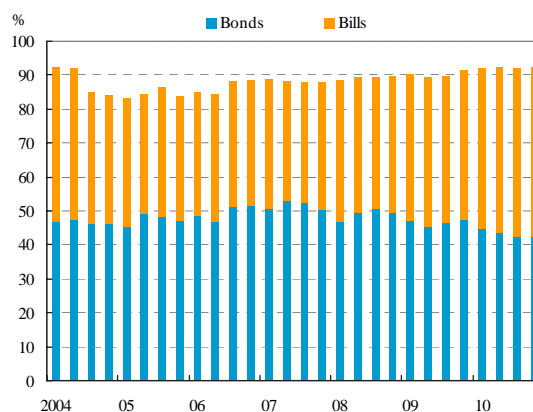
Because the funding demand of the corporate sector increased due to global economic recovery in 2010, the outstanding balance of commercial paper guarantees business undertaken by bills finance companies also rose manifestly, registering NT\$341.8 billion at the end of the year, an increase of NT\$25.5

Chart 4.48 Capital adequacy and leverage of bills finance companies



Source: CBC.

Chart 4.49 Bond & bill positions as percentage of assets at bills finance companies



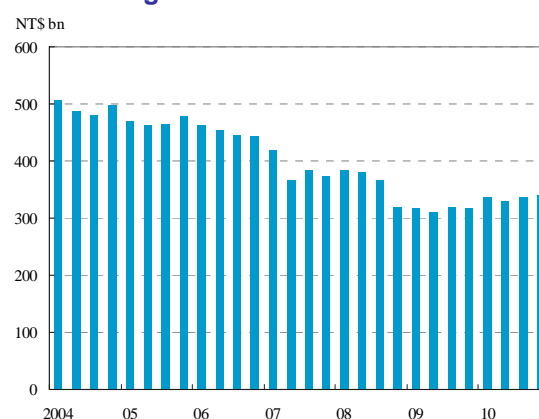
Note: End-of-period figures.

Source: CBC.

⁷⁹ According to the amended Directions for Ceilings on the Total Amounts of the Major Liabilities and Reverse Repo Transactions Conducted by Bills Houses by the FSC on 9 April 2010, the major liabilities of a bills finance company could not exceed six times, eight times or ten times its net worth depending on the level of its capital adequacy ratio of below 10%, above 10% but below 12% or above 12%. If a bills finance company is a subsidiary of a financial holding company or its bank shareholder meets safe and sound criteria, the ceiling will be raised by an additional two times its net worth. As of the end of December 2010, the capital adequacy ratio of each bills finance company was above 12%, so the ceilings were ten times or twelve times for each bills finance company.

billion or 8.06% year on year (Chart 4.50). In February 2010, the FSC restricted the multiple of guarantees and endorsements business to net worth undertaken by bills finance companies according to different capital adequacy ratio levels. At the end of the year, the average multiple registered 3.45 times and the multiple of all bills finance companies was below 4.2 times, conforming to the regulation-setting ceiling of five times.⁸⁰

Chart 4.50 Outstanding commercial paper guarantees



Note: End-of-period figures.
Source: CBC.

⁸⁰ According to the amended “Directions for Outstanding Amount of Guarantees and Endorsements of Short-term Bills by Bills Houses” by the FSC on 24 February 2010, the ceiling of the multiple of outstanding commercial paper guaranteed to net worth for all bills finance companies could not exceed one, three, four and five times, respectively, depending on the level of its capital adequacy ratios of below 10%, above 10% but below 11%, above 11% but below 12%, or above 12%. As of the end of December 2010, the capital adequacy ratio of each bills finance company was above 12%, so the ceiling of five times was set for each one.