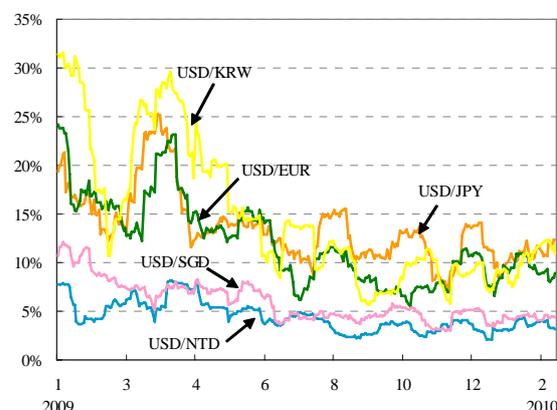


NT dollar exchange rate volatility remained relatively stable compared to other currencies

While the fluctuation of the NT dollar exchange rate increased slightly in the first half of 2009 before declining, the annual average volatility stood at 4.56% for the year as a whole. In January-February 2010, the volatility in the NT dollar exchange rate against the US dollar decreased further to 3.58%. 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 4.12).

Chart 4.12 Exchange rate volatility of various currencies against US dollar



Note: Volatility refers to the annualized standard deviation of 20-day daily returns.
Source: CBC.

4.2 Financial institutions

This section analyses the relatively important financial institutions, including domestic banks, life insurance companies and bills finance companies.

4.2.1 Domestic banks

In the second half of 2009, the growth in loans extended by domestic banks returned to positive territory. Credit risk in corporate loans slightly decreased, but credit risk concentration was still high. Although the NPL ratio continuously decreased, special mention loans,⁴⁴ not reported as NPLs, rose and resulted in slight increases in both classified asset amounts and ratios, showing a slight decline in asset quality. The estimated Value at Risk (VaR) for market risk exposures decreased with limited influence on capital adequacy. Liquidity risk remained low as the banking system benefited from ample liquidity. The profitability of domestic banks rose substantially in 2009 compared to the previous year, and the average capital adequacy ratio continued to increase, strengthening the capability of domestic banks to bear risks.

⁴⁴ Special mention loans refer to:

- (1) Loans for which borrowers' financial situations and debt repayment capacities are experiencing difficulties, and, upon agreement, are approved to delay principal repayments while interest has to be repaid on time;
- (2) Loans for which borrowers applied for debt restructuring and repaid principal and interest as agreed, according to related rules; and
- (3) Loans for which principal and interest are overdue by one to three months, or not yet due but already some poor credit exists.

Credit risk

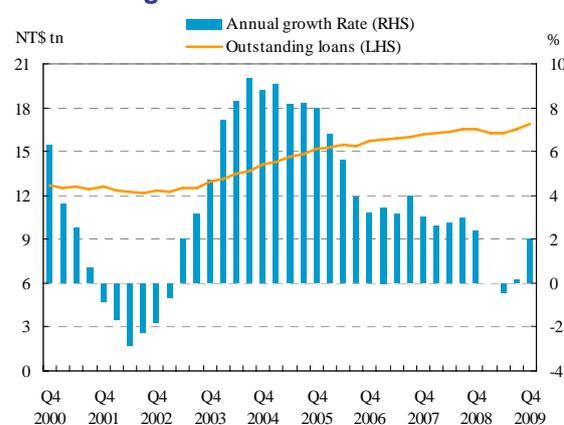
Customer loan growth turned positive

Customer loans⁴⁵ were the major type of credit exposure for domestic banks. The outstanding loans of the local business units of domestic banks at the end of 2009 stood at NT\$16.9 trillion and accounted for 53.92% of total assets. The annual growth rate in loans slowed markedly in 2009 and even turned from positive to -0.45% in June. In 2009 Q3, due to the warming up of the economy and increasing customer funding demand, the annual growth rate turned from negative to positive and reached 2.00% at the end of 2009 (Chart 4.13). To analyze the borrowers specifically, the annual growth rate of individual loans was negative from January 2008; however, it turned positive from July 2009 and kept expanding by larger amounts, finally reaching 4.08% at the end of 2009. The annual growth rate of corporate loans turned negative from April 2009, following substantial contractions, while the decreases slowed and the annual growth rate registered -2.51% at the end of 2009.

Credit exposure significantly concentrated in the real estate market

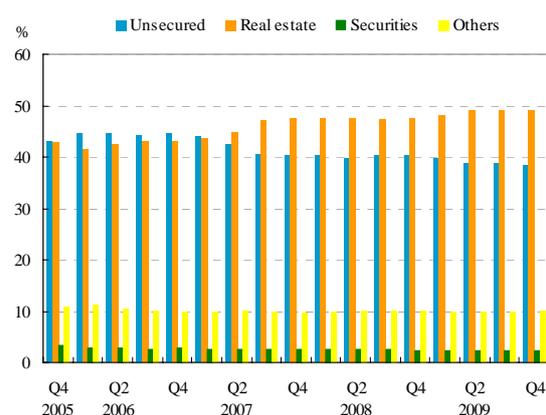
The concentration of credit exposure in the real estate loans trended upward from the beginning of 2009. Outstanding real estate-related loans⁴⁶ of domestic banks reached NT\$7.11 trillion and accounted for 42.07% of total loans as of the end of 2009. In addition, real estate secured credit granted by

Chart 4.13 Outstanding loans and annual loan growth rate in domestic banks



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

Chart 4.14 Credit by type of collateral in domestic banks



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

⁴⁵ The term “customer loans” herein refers to amounts lent by local business units of domestic banks to their customers. It excludes interbank lending.

⁴⁶ The term “real estate-related loans” includes loans for construction, house purchases, and house refurbishments.

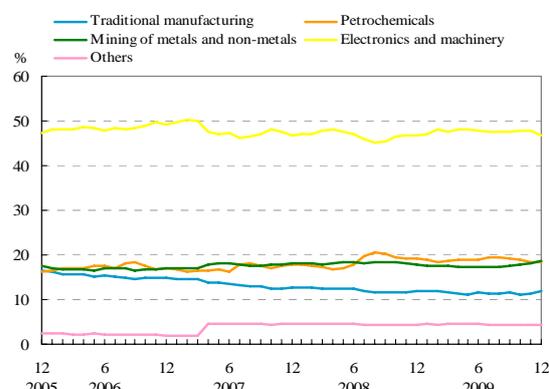
domestic banks amounted to NT\$9.62 trillion, or 49.08% of total credit, at the end of 2009, which was 1.58 percentage points higher than the figure of the previous year (Chart 4.14). Among individual banks, fifteen had ratios of real-estate secured credit to total credit of over 60% as of the end of 2009, two banks more compared with the end of 2008.

The real estate market warmed up recently, while the NPL ratio of real estate-related loans remained relatively low. However, the debt servicing capability of residential mortgage borrowers may be undermined in the face of high unemployment rates and the potential rebound of interest rates. Moreover, with consideration of the upsurge of property prices in some specific areas (particularly Taipei City and Taipei County), the government adopted several measures such as stopping the auction sales of national land and urging banks to manage the risks associated with housing loans. Banks with credit exposures highly concentrated in real estate-related loans should review their credit policies to cope with the potentially increasing risks.

Credit risk of corporate loans slightly declined

Outstanding corporate loans of the local business units of domestic banks stood at NT\$7.31 trillion at the end of 2009, decreasing by NT\$0.19 trillion over the previous year, while loans to the manufacturing sector stood at NT\$3.37 trillion and accounted for the largest share of 46.05% of the total, decreasing by 0.96 percentage points. This reflected the slight decline of industrial credit concentration. Within the manufacturing category,⁴⁷ the larger proportion of loans were for electronics, electric machinery and machinery-related industries, which stood at NT\$1.57 trillion and accounted for 46.71% of the total⁴⁸ (Chart 4.15).

Chart 4.15 Weight of loans to the manufacturing sectors by domestic banks



Notes: 1. End-of-period figures.

2. Weight of each sector = loans to each sector / loans to the whole manufacturing sector.

Source: CBC.

⁴⁷ 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."

⁴⁸ The production value of electronics, electric machinery and machinery-related industries accounted for 42.46% of total manufacturing production value at the end of 2009, which is less than loans to electronics, electric machinery and machinery makers as a percentage of total loans to the manufacturing sector.

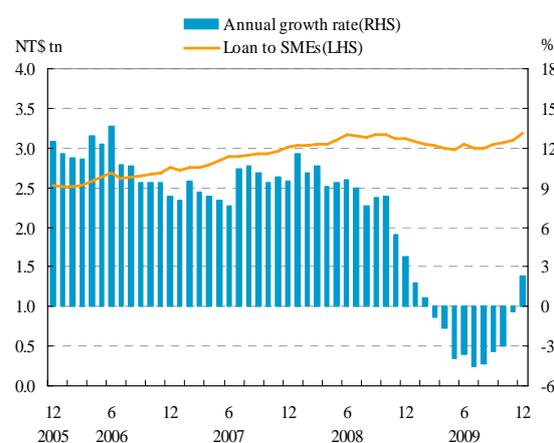
When the global financial crisis deepened in 2008 Q4, SMEs, which play an important role in Taiwan's economy, immediately faced difficulties to obtain funds from banks. Outstanding corporate loans to SMEs of domestic banks continuously decreased, and from March 2009, the year-on-year growth rate turned from positive to negative. After the government adopted a series of measures to assist SMEs to obtain necessary operating funds, the growth rate of loans to SMEs eventually returned to positive territory and the outstanding amount was NT\$3.19 trillion at the end of 2009, which accounted for 43.66% of total corporate loans, with an annual growth rate of 2.34% (Chart 4.16 and Box 2). In addition, in line with the government's Economic Vitalization Package, the Small and Medium Enterprise Credit Guarantee Fund of Taiwan (SMEG) also implemented several plans to loosen the qualification requirements for credit guarantees, allowing the outstanding loans guaranteed by the SMEG to rise from a low of NT\$456.7 billion in March 2009 to NT\$505.8 billion at the end of 2009. This represented a 5.71% year-on-year increase and accounted for 15.85% of total SME loans. During the same period, the guarantee amount and guarantee coverage percentage also grew to NT\$372.8 billion and 73.72%, respectively.

Due to economic recovery at home and abroad, profitability rebounded, financial structures strengthened and short-term debt repayment capacities improved in the corporate sector. The credit risk of domestic banks related to corporate loans is expected to drop.

Asset quality declined slightly

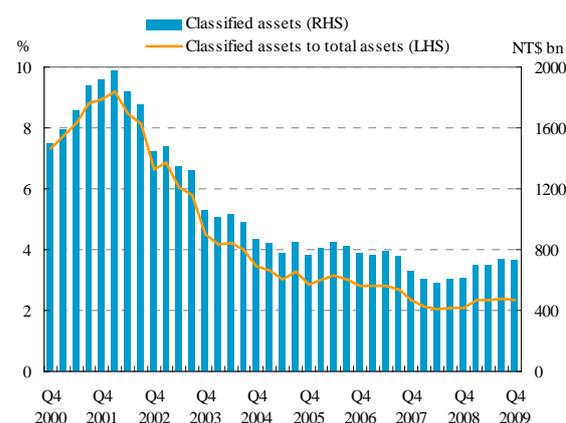
In 2009, the outstanding classified assets⁴⁹ of

Chart 4.16 Loans to SMEs by domestic banks



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

Chart 4.17 Classified assets of domestic banks



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

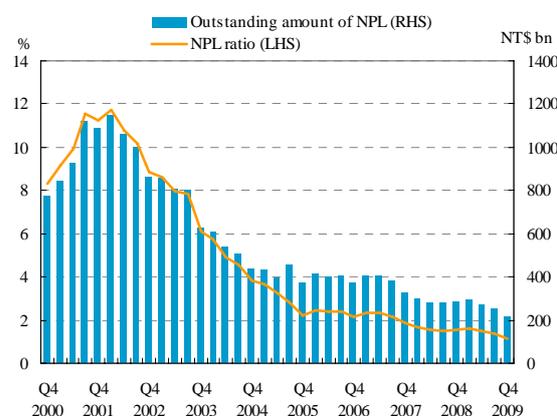
⁴⁹ The Regulations Governing the Procedures for Banking Institutions to Evaluate Assets and Deal with Non-performing/Non-accrual Loans break down all assets into five different categories, including: category one – normal credit assets; category two – credit assets requiring special mention; category three – substandard credit assets; category four – doubtful credit assets; and category five – loss assets. The term “classified assets” herein includes all assets classified as category two to five.

domestic banks increased year on year by a significant 19.50% and stood at NT\$731.7 billion at the end of December. At the same time, the average classified asset ratio was 2.34%, increasing by 0.26 percentage points over the previous year (Chart 4.17). The asset quality of domestic banks showed little sign of deterioration. Nevertheless, most of the increase of classified assets belonged to the special mention category, which has a relatively low loan loss reserve ratio.⁵⁰ Moreover, there was a reduction in the “loss” category, which has a relatively high loan loss reserve ratio. As a result, the expected losses⁵¹ at the end of 2009 declined by 8.43% year on year to NT\$97.1 billion and the ratio of expected losses to loan loss provisions stood at 39.95%. The provisions set aside by domestic banks were still sufficient to cover expected losses.

As a result of write-offs and sales of NPLs amounting to NT\$126 billion for the year as a whole, the outstanding NPLs of domestic banks stood at NT\$215.8 billion at the end of 2009, contracting dramatically by 24.52% year on year. Meanwhile, the average NPL ratio remained at a low level of 1.15% (Chart 4.18). Among individual banks, all had NPL ratios of less than 5%, except for one⁵² with a ratio as high as 15.50%, while thirty-two banks had ratios of less than 2% (Chart 4.19). Compared to the US and neighboring Asian countries, the average NPL ratio of domestic banks in Taiwan was relatively low (Chart 4.20).

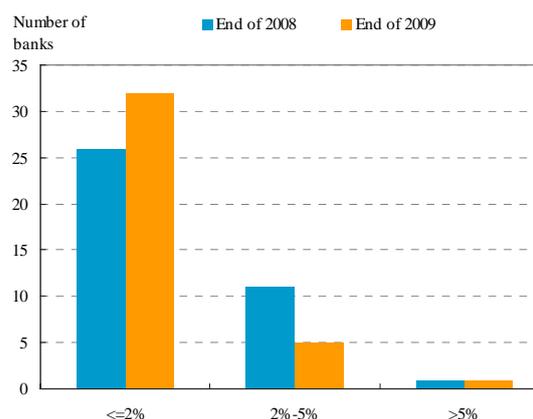
Together with the decrease in NPLs and the increase in loan loss provisions, the NPL coverage ratio at the end of 2009 rose dramatically to 90.35%, while the loan loss reserve ratio slightly reduced to 1.04% (Chart

Chart 4.18 Average NPL ratio of domestic banks



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

Chart 4.19 Distribution of NPL ratios of domestic banks



Note: Excludes interbank loans.
Source: CBC.

⁵⁰ The “loan loss reserve ratio” imposed on loans of category one to five are 0%, 2%, 10%, 50% and 100%, respectively.

⁵¹ Loss herein refers to the losses from loans, acceptances, guarantees, credit card revolving balances, and factoring without recourse.

⁵² This bank was taken into conservatorship by the Central Deposit Insurance Corporation (CDIC) in September 2008.

4.21).

Although the outstanding NPLs and the NPL ratio both declined in 2009, special mention loans not reported as NPLs increased significantly with an outstanding amount of NT\$412.9 billion at the end of 2009. If special mention loans are combined with NPLs, they amount to NT\$628.7 billion and account for 3.36% of total loans, higher than the figure of 2.83% in the previous year, suggesting that the loan quality of domestic banks declined slightly.

Market risk

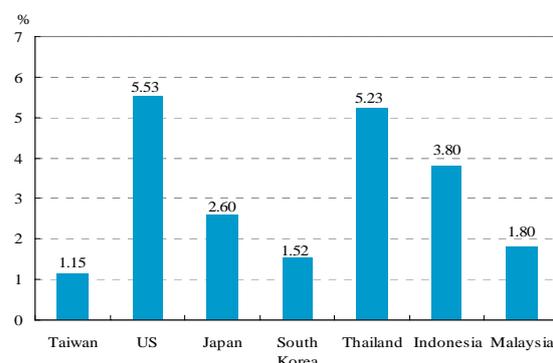
Estimated Value-at-Risk dropped

Using market data as of the end of February 2010, the estimated total VaR⁵³ calculated by the CBC's market risk model for foreign exchange, interest rate and equity exposures of domestic banks at the end of 2009 stood at NT\$96.9 billion. The figure contracted significantly by 34.92% year on year (Table 4.1), mainly resulting from the decrease in the volatility of all types of risk.

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 0.48 percentage points in the average capital adequacy ratio and induce the current ratio of

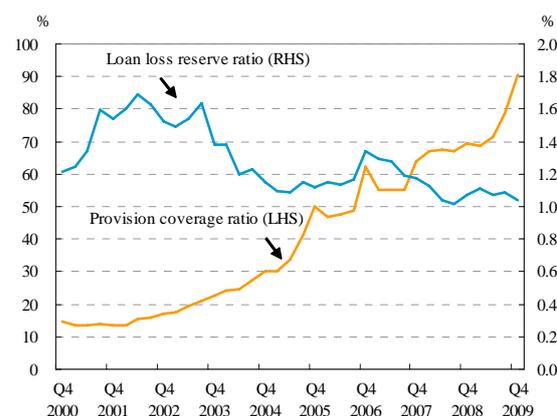
Chart 4.20 NPL ratios of banks in selected countries



Note: Figure for Japan is end-September 2009 data. The others are end-December 2009.

Sources: CBC, FDIC, FSA, FSS, BOT, BI, and BNM.

Chart 4.21 NPL coverage ratio and loan loss reserve ratio of domestic banks



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

2. Excludes interbank loans.

Source: CBC.

⁵³ The CBC modified the market risk model in September 2009. The new 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 1000 foreign exchange rate, interest rate, and equity price samples.

11.79%⁵⁴ to fall to 11.31%. Nevertheless, the effects may be considered as somewhat limited.

Table 4.1 Market risk in domestic banks

Unit: NT\$ bn

Types of risk	Items	End-Dec. 2008	End-Dec. 2009	Changes	
				Amount	%
Foreign exchange	Net position	43.6	47.6	4.0	9.17
	VaR	2.6	1.4	-1.2	-46.15
	VaR / net position	5.96	2.94		-3.02
Interest rate	Net position	3,191.6	3,755.5	563.9	17.67
	VaR	133.0	50.1	-82.9	-62.34
	VaR / net position	4.17	1.33		-2.84
Equity	Net position	451.9	502.9	51.0	11.29
	VaR	73.8	50.9	-22.9	-31.03
	VaR / net position	16.33	10.12		-6.21
Total VaR		148.9	96.9	-52.0	-34.92

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.

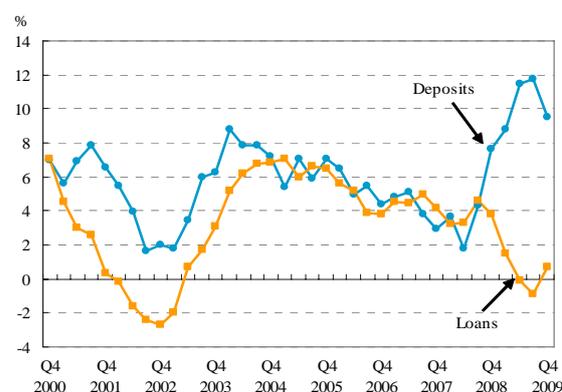
Source: CBC.

Liquidity risk

Banking system liquidity remained ample

Owing to a large amount of overseas funds continuously flowing back to Taiwan, deposits in domestic banks increased materially in 2009, and the growth rate of deposits even reached 11.76% year on year in September, before slightly declining to 9.54% in December. As for loans, the annual growth rate dropped markedly and turned negative in the first three quarters of 2009 due to the weak demand for corporate finance and

Chart 4.22 Annual growth rate of deposits and loans of domestic banks



Source: CBC.

⁵⁴ The term "capital adequacy ratio" used herein is based on regulatory capital which has deducted unamortized deferred losses on the sale of NPLs.

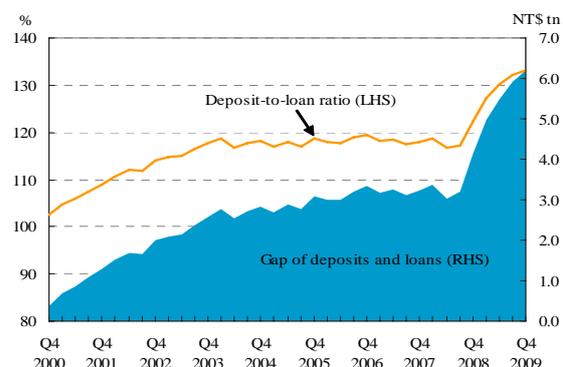
banks' more conservative credit policies. However, the growth of loans turned to positive 0.67% in 2009 Q4 as a result of the warming up of economic activity and increasing financing demand (Chart 4.22). Owing to the substantial increase in deposits and sluggish growth of loans, the average deposit-to-loan ratio of domestic banks climbed dramatically and reached 133.13% at the end of 2009. The funding surplus (i.e. deposits exceeding loans) registered NT\$6.20 trillion, reflecting abundant liquidity in domestic banks (Chart 4.23).

As for the sources of funds, relatively stable customer deposits accounted for the largest share of 77% of the total, increasing slightly compared to the previous year, followed by interbank deposits and borrowings at 9%, while debt securities issues contributed a mere 3% at the end of 2009. Regarding the uses of funds, customer loans accounted for the biggest share of 59% with a year on year decline of 3 percentage points, while cash and due from banks increased from 12% at the end of the previous year to 15% of the total in 2009 (Chart 4.24).

Overall liquidity risk was moderate

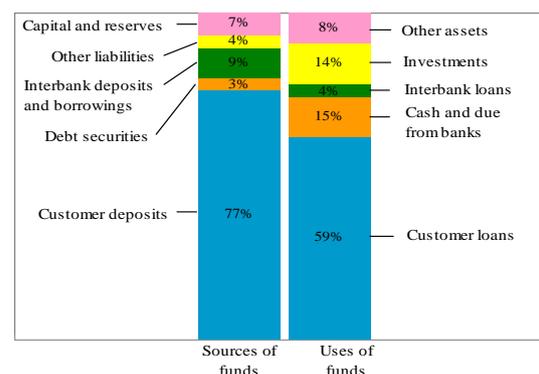
The average NT dollar liquid reserve ratio of domestic banks continuously went up to 29.78% in December 2009, well above the statutory minimum of 7% (Chart 4.25), and the ratio of each domestic bank was higher than 12%. In the same period, Tier 1 liquid reserves, mainly consisting of certificates of

Chart 4.23 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 4.24 Sources and uses of funds in domestic banks



Notes: 1. Figures are end-December 2009.
2. Interbank deposits include deposits at CBC.
Source: CBC.

Chart 4.25 Liquid reserve ratio of domestic banks



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

deposit issued by the CBC, accounted for 95.88% of total liquid reserves,⁵⁵ while Tier 2 and Tier 3 reserves accounted for 3.77% and 0.35%, respectively. This reveals that the quality of liquid assets held by domestic banks remained satisfactory and overall liquidity risk was moderate.

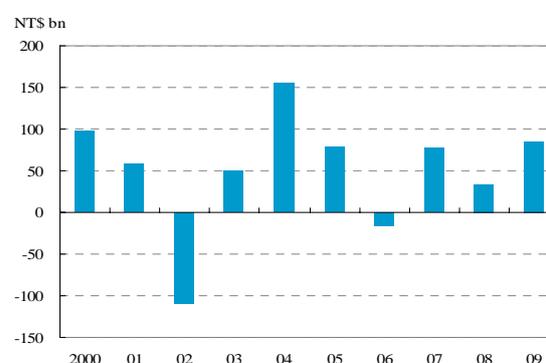
Profitability

Profitability rebounded significantly in 2009

Owing to the high earnings of investment positions and the significant reduction in bad debt expenses, domestic banks reported a net income before tax of NT\$85.1 billion in 2009, much higher than the figure of NT\$34.4 billion in 2008 (Chart 4.26). The average return on equity (ROE) and return on assets (ROA) elevated to 4.52% and 0.28%, respectively (Chart 4.27). If the bank⁵⁶ which was taken into conservatorship by the Central Deposit Insurance Corporation (CDIC) is subtracted from the other domestic banks, the net income before tax and ROE will both increase slightly to NT\$86.5 billion and 4.55%, respectively, with nearly no influence on the ROA. Compared to the US and Asia-Pacific neighboring countries, the profitability of domestic banks was relatively low, barely higher than that of the US, where the global financial turmoil originated from, and almost the same as that of South Korea (Chart 4.28).

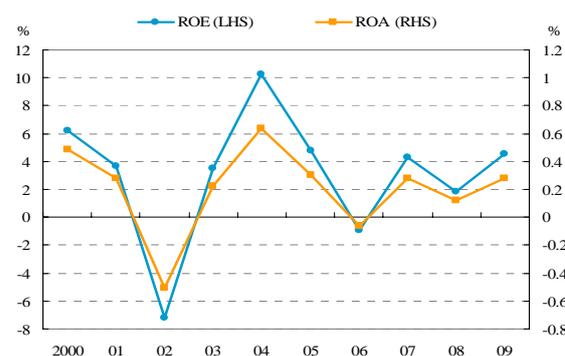
Among the total thirty-eight domestic banks, thirteen banks suffered declining profitability

Chart 4.26 Net income before tax in domestic banks



Source: CBC.

Chart 4.27 ROE & ROA of domestic banks



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

Source: CBC.

⁵⁵ 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.

⁵⁶ Same as foot note 52, this bank's net loss was NT\$1.35 billion in 2009.

in 2009 compared to the previous year, mostly attributable to the contraction of net interest income, while several were also affected by the large amount of loss provisions set aside to resolve disputes over the sale of structured notes. Moreover, four of the thirty-eight banks posted negative ROEs,⁵⁷ decreasing markedly from seventeen in 2008. The number of banks achieving a profitable ROE of 10% or more was merely two (Chart 4.29).

As for operating revenues and costs, total operating revenues of domestic banks stood at NT\$454.4 billion in 2009, a slight decline of NT\$0.4 billion, or 0.09% year on year. Of which, net interest income, accounting for 60% of the total revenues, declined substantially by NT\$86 billion year on year as a result of narrowed interest rate spreads between deposits and loans. As global capital markets returned to normality and investors gradually regained confidence, non-interest income (primarily including net gains on financial instruments and net fee and commission income) showed a significant expansion and partly neutralized the adverse impact caused by the fall in net interest income. On the cost side, various provisions decreased sharply as a result of declining loan losses. Accompanied with effective control of business and administrative expenses, operating costs fell by NT\$49.3 billion, or 11.74% year on year (Chart 4.30).

Factors that might undermine future profitability

Along with the recovery of both the global and domestic economies, the real sector's credit risk is expected to decline and benefit domestic banks' future profitability. However, there are several uncertainties worth paying attention to: (1) in the short run, narrowed interest rate

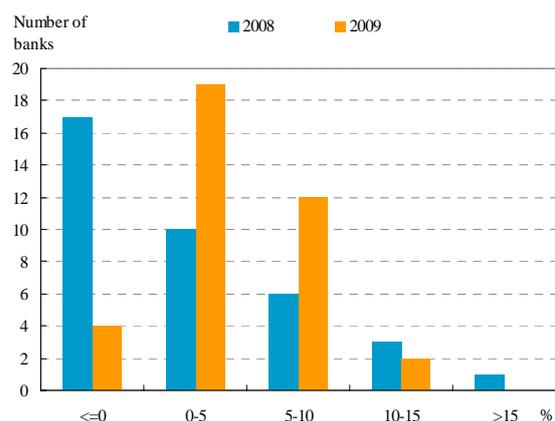
Chart 4.28 Comparison of ROA of banks in selected countries



Note: Data for Singapore is for end-September 2009, and data for South Korea and Australia are for end-June 2009, while the others are for end-December 2009.

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

Chart 4.29 Distribution of ROE of domestic banks



Source: CBC.

⁵⁷ Excluding one bank with negative net worth in 2008 and 2009.

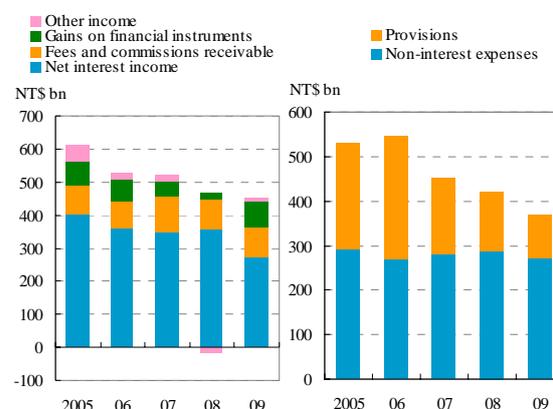
spreads between deposits and loans are unlikely to return to previous higher levels and, therefore, will limit the growth of net interest income; (2) the ascending sovereign risks in several countries facing huge public debt and fiscal deficits triggered turmoil in global financial markets. If the situation deteriorates further, domestic banks' foreign credit and investment positions might suffer losses; (3) the third revision of Taiwan's Statements of Financial Accounting Standards (SFAS) No.34 "Financial Instruments: Recognition and Measurement" will cover loans and accounts receivable and take effect from the beginning of 2011. Accordingly, domestic banks are required to set aside additional loan loss provisions, and this might impact their future profitability⁵⁸; (4) More open cross-strait financial policies will bring domestic banks new business opportunities while also exposing them to more challenges of intense competition and mergers.

Capital adequacy

Capital adequacy ratios continued rising

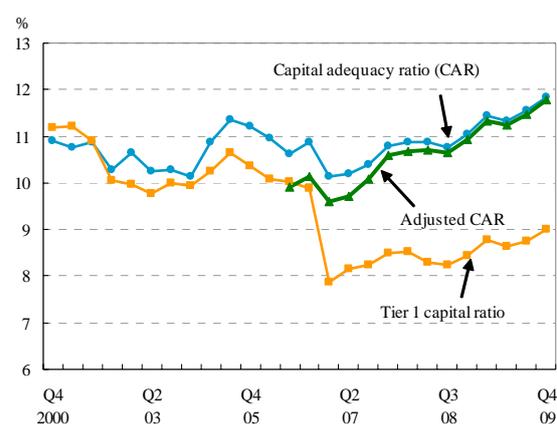
Benefiting from accumulated earnings and a booming stock market, the unrealized gains on available-for-sale financial assets of domestic banks increased and pushed stockholder's equity higher. As a result, the average capital adequacy ratio rose from 11.04% at the end of 2008 to 11.85% at the end of 2009. The Tier 1 capital ratio of domestic banks also increased from 8.43% to 9.01% (Chart 4.31). If unamortized deferred assets of NT\$11.59 billion⁵⁹ arising from losses recorded on the sale of

Chart 4.30 Composition of incomes and costs of domestic banks



Source: CBC.

Chart 4.31 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.

Source: CBC.

⁵⁸ The loan loss reserve ratios currently used by domestic banks are set by the government (See footnotes 50 and 51). However, in the future, the loan loss evaluation will implement the "incurred loss model," under which banks have to evaluate the impairment of each asset. This might impact banks' profitability but help to improve the transparency of financial reports.

⁵⁹ 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.

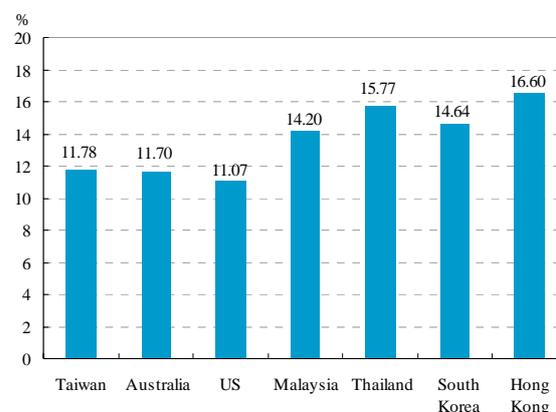
classified assets were deducted from regulatory capital, the adjusted capital adequacy ratio came to 11.79%, up by 0.87 percentage points from the end of 2008. These figures reflect that the capital adequacy of domestic banks was continuously improving in 2009. Compared to the US and some Asia-Pacific neighboring countries, the average capital adequacy ratio of domestic banks is about the same as those of Australia and the US, but much lower than those of some Asian countries including South Korea (Chart 4.32).

Further breaking down the components of regulatory capital, Tier 1 capital, which features the best risk bearing capacity, accounted for 76.06% of eligible capital, while Tier 2 capital registered 23.71% and Tier 3 capital contributed a mere 0.23% at the end of 2009. The ratio of Tier 2 capital moderately increased in 2009, while those of Tier 1 and Tier 3 capital slightly decreased.

Only one bank held insufficient capital

None of the domestic banks had capital adequacy ratios under the statutory minimum (8%) at the end of 2009. As for adjusted capital adequacy ratios, there was only one bank, with assets accounting for only 1.11% of the total, that had a ratio below the statutory minimum. However, this had limited impact on the banking system. In addition, there were thirteen banks with ratios above 12%, seven more compared with the end of 2008 (Chart 4.33).

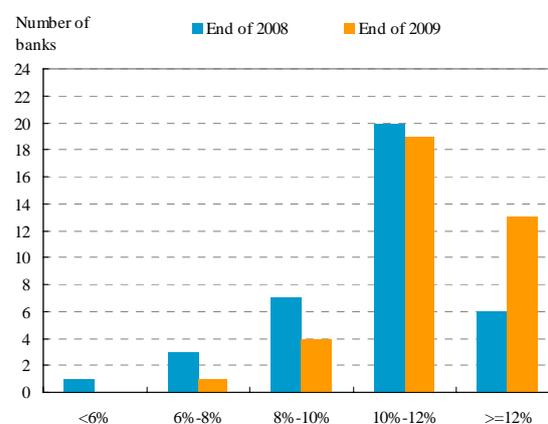
Chart 4.32 Comparison of capital adequacy ratios in selected countries



Notes: 1. Figures for Australia, South Korea and Hong Kong are end-September 2009 data, while the others are end-December 2009 data.
2. The figure for Taiwan is adjusted capital adequacy ratio.

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

Chart 4.33 Number of domestic banks classified by adjusted capital adequacy ratios



Source: CBC.

Credit ratings

Average credit rating level slightly slid

Based on Standard & Poor's "Banking Industry Country Risk Assessment (BICRA)"⁶⁰ and Fitch Ratings' "Banking System Indicator / Macro-Prudential Indicator (BSI/MPI)",⁶¹ Taiwan's banking system rating remained unchanged in Group 4 and at level C/1, respectively, in February 2010 (Table 4.2). Compared to other Asian economies, the risks in Taiwan's banking industry were higher than those in Hong Kong and Singapore, about the same as those in Japan, South Korea and Thailand, but much lower than those in China, Indonesia and the Philippines.

However, according to the rating results of individual banks released by credit rating agencies, there were eight banks downgraded in 2009, resulting in a slight slide in the credit rating index.⁶² It reflected that the overall credit rating of domestic banks marginally declined (Chart 4.34).

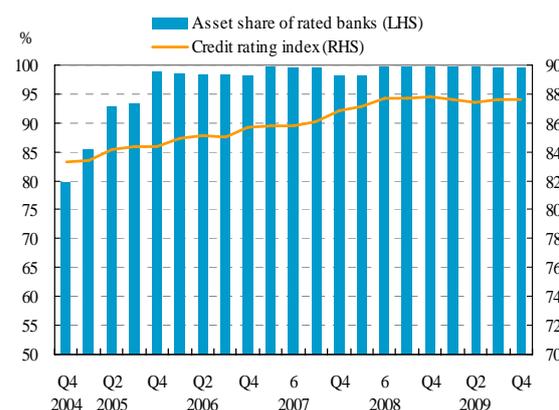
Table 4.2 Systemic risk indicators for the banking system

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
Thailand	6	C/1
China	6	D/1
Indonesia	8	D/1
Philippines	8	D/1

Note: Figures are end-February 2010 data.

Sources: Standard and Poor's and Fitch Ratings.

Chart 4.34 Credit rating index of rated domestic banks



Note: End-of-period figures.

Source: CBC.

⁶⁰ 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).

⁶¹ Fitch Ratings has devised two complementary measures, the Banking System Indicator (BSI) and Macro-Prudential Indicator (MPI), to 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.

⁶² 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.

Uncertainties over future credit ratings are alleviating

Most of the thirty-six rated banks maintained credit ratings of twAA/twA (Taiwan Ratings) or AA(twn)/A(twn) (Fitch Ratings) at the end of 2009, and none of them was rated below twBB/BB(twn), or speculative (Chart 4.35). In addition, ten banks received negative rating outlooks or CreditWatch at the end of 2009. However, the number declined to nine in February 2010, showing that uncertainties over future credit ratings were alleviating.

4.2.2 Life insurance companies

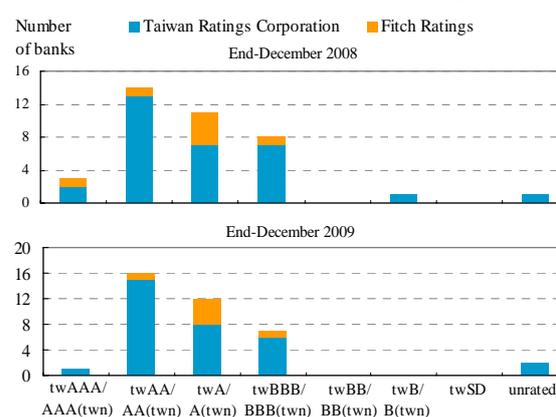
The total assets of life insurance companies increased and their performance improved in 2009. However, the potential losses driven by negative interest rate spreads and the high volatility of investment performance might continue to erode their future profits. The average risk-based capital (RBC) ratio at the end of June 2009 ascended slightly as a result of an increase in net worth but still remained below the statutory minimum of 200%. Nevertheless, it is expected to improve as the profits of life insurance companies grew significantly in the second half of 2009.

As for credit ratings, four companies were downgraded during 2009 and three companies were listed on negative rating outlooks or CreditWatch at the end of February 2010. Although life insurance companies generally performed better in 2009, they still face several challenges in the future.

Assets grew as fast as the years before the financial crisis

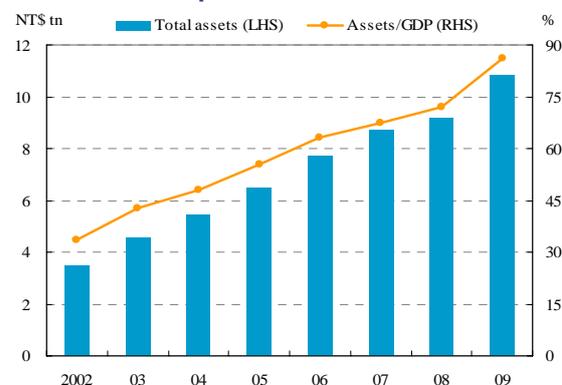
The total assets of life insurance companies increased by 18.03% year on year in 2009, as fast as the years before the financial crisis, and reached NT\$10.81 trillion at the end of

Chart 4.35 Number of domestic banks classified by credit ratings



Sources: Taiwan Ratings Corporation and Fitch Ratings.

Chart 4.36 Total assets of life insurance companies



Note: Total assets are end-of-period figures.

Source: FSC.

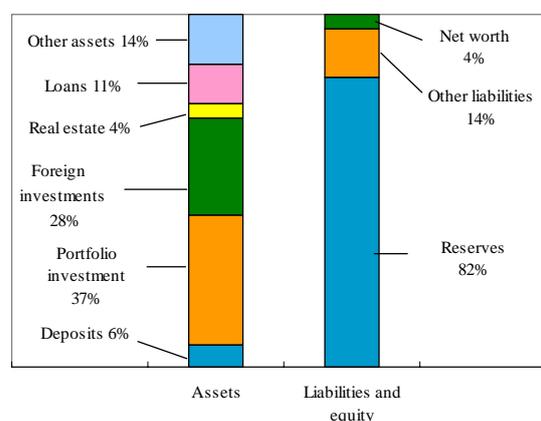
2009, equivalent to 86.28% of annual GDP (Chart 4.36). The asset increase was mainly supported by a surge of securities investments due to the recovery of global financial markets. In addition, insurance products held in segregated custody accounts, the major component of other assets, rose 37.00% year on year owing to the increase of investment-linked insurance policies as domestic investors gradually regained confidence resulting from the alleviation of the financial crisis and the settlement of customer disputes regarding structured products.

The structure of the life insurance industry changed little in 2009. As of the end of 2009, twenty-two domestic life insurance companies held a 98.69% market share by assets, while eight foreign life insurance companies⁶³ commanded a share of only 1.31%. In terms of assets, the top three companies held a combined market share of 54.17%, while in terms of premium income, the top three companies held a combined market share of 52.92%. As a few European life insurance companies sold their subsidiaries in Taiwan to domestic insurance companies, market concentration might elevate further.

Funds invested in securities grew significantly

The funds of life insurance companies at the end of 2009 were mainly invested in domestic and foreign securities, accounting for 65% of funds, while 11% of funds were in loans and 4% in real estate. As for the sources of funds, various policy reserves constituted 82%, while net worth accounted for 4% (Chart 4.37). Regarding the analysis of growth of usable funds of life insurance companies in 2009, domestic and foreign portfolio investment increased by 16.18% and 23.49%, respectively; deposits registered an increase of 33.18%, while real estate investments also increased by 17.09% due to their stable revenue and loosened restrictions on real estate investments of life insurance companies.

Chart 4.37 Asset/liability structure of life insurance companies



Note: Figures are end-December 2009 data.
Source: FSC.

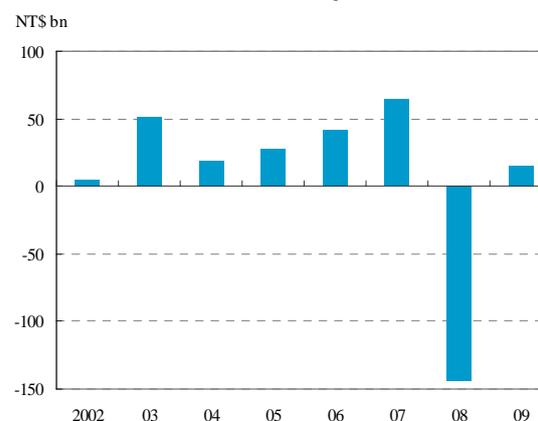
⁶³ Including foreign affiliates.

Returning to profit in 2009

After experiencing enormous losses in 2008, life insurance companies as a whole registered a net profit before tax of NT\$14.9 billion in 2009, mainly led by the profit in domestic and foreign portfolio investments, which benefited from the recovery of the global economy, more sanguine financial markets and rapidly rebounding stock markets (Chart 4.38). This was reflected in the marked improvement in the operating performance of life insurance companies. During the same period, average ROE and ROA also rose substantially and stood at 4.53% and 0.15%, respectively, much higher than -44.03% and -1.61% registered in 2008, but still lower than the levels in 2007 before the global financial crisis (Chart 4.39). One company which was taken into receivership by the Financial Supervisory Commission (FSC)⁶⁴ is excluded, other life insurance companies as a whole registered a net profit before tax of NT\$20.0 billion and average ROE and ROA of 5.13% and 0.21%, respectively, in 2009.

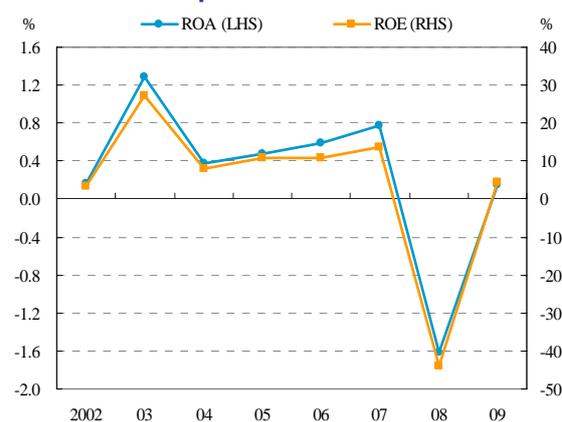
As a consequence of the rebound in domestic and foreign financial markets, the average return on investment of life insurance companies rose to 3.55% in 2009, compared to 1.87% in 2008. However, the impact of negative interest rate spreads on profits is still a concern before global interest rates begin to turn up. Furthermore, the high volatility of global financial markets also put pressure on the performance of life insurance companies. In order to provide more stable and long term investment instruments, the FSC relaxed certain regulations related to real estate and securities investments to enhance the flexibility and

Chart 4.38 Net income before tax of life insurance companies



Source: FSC.

Chart 4.39 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.

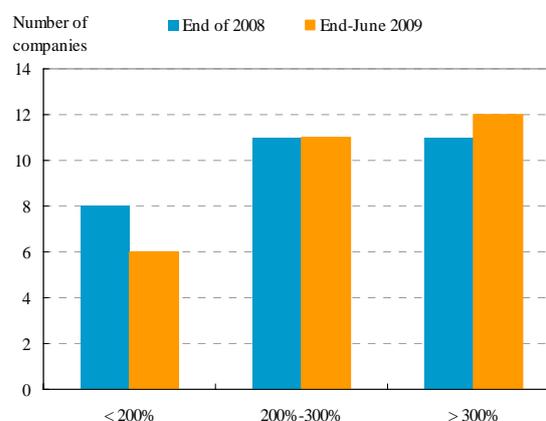
⁶⁴ The FSC took Kuo Hua Life Insurance Co. into receivership on 4 August 2009 and entrusted the Insurance Stabilization Fund as the conservator of the company under the authorization of the Insurance Act. Kuo Hua Life Insurance Co. registered a net loss before tax of NT\$5.05 billion in 2009.

efficiency of funds usage under consideration of their safety, liquidity and profitability.

Average RBC ratio rebounded slightly

As a result of the recovery of profit and net worth, the average RBC ratio for life insurance companies increased slightly from 190.37% at the end of 2008 to 198.27% at the end of June 2009, but was still below the statutory minimum of 200%.⁶⁵ Since profit in the second half of 2009 improved significantly, the average RBC ratio was expected to increase further. At the end of June 2009, there were twelve companies with ratios of over 300%. However, there still were six companies with ratios below 200% (Chart 4.40), the combined assets of which accounted for 8.57% of the total⁶⁶. Their financial structures needed to be improved. Considering the current economic and financial situation, the FSC announced the amendment of RBC regulations⁶⁷ on 5 February 2010, and the amendment was put into practice immediately with the intention of enhancing the stability of capital adequacy and the solvency of life insurance companies.

Chart 4.40 Number of life insurance companies classified by RBC ratios



Source: FSC.

Credit ratings for the top three companies remained above twA+ or A+ (twn)

Of the ten domestic life insurance companies rated by credit rating agencies, four companies were downgraded in 2009. This somewhat reflects the weak capital level for those companies and concerns about the potential impact of mergers & acquisitions on their financial health. There still were three companies listed on negative rating outlooks or CreditWatch at the end of February 2010. Nevertheless, the top three companies in terms of assets and premium market share were rated above twA+ or A+(twn),⁶⁸ respectively, signifying their strong ability to meet all financial commitments.

⁶⁵ Excluding the life insurance companies with negative equity, the average RBC ratio for other companies was 269.39%.

⁶⁶ Excluding Kuo Hua Life Insurance Co., the ratio became 6.08%.

⁶⁷ The main amendments were: (1) the issuance of bonds with a capital nature or preferred stock of a liability type shall be included in eligible capital; (2) the funds invested in bonds with a capital nature or preferred stock of a liability type shall be deducted from eligible capital; (3) the special reserve for major events can be included in eligible capital; and (4) 80% of unrealized gains and 100% of unrealized losses arising from investments on stocks, exchange-traded funds (ETFs) and mutual funds can be included in eligible capital.

⁶⁸ Ratings prefixed with "tw" are from the Taiwan Ratings Corporation, while ratings suffixed with "(twn)" are from Fitch Ratings.

The challenges faced by life insurance companies

Declining global interest rates and greater volatility in the financial investment environment decreased the investment return and, in turn, amplified the impact of negative interest rate spreads on Taiwan's life insurance industry. The root of the negative interest rate spreads problem was the duration mismatch of assets and liabilities of life insurance companies as they have long-term and fixed-rate liabilities and hold short-term and floating-rate assets. Life insurance companies should take responsive deliberate measures to improve their asset allocations and enhance their interest rate risk and foreign exchange rate risk management in order to maintain safety and soundness in the current environment with a cyclical economy and volatile financial markets (Box 3).

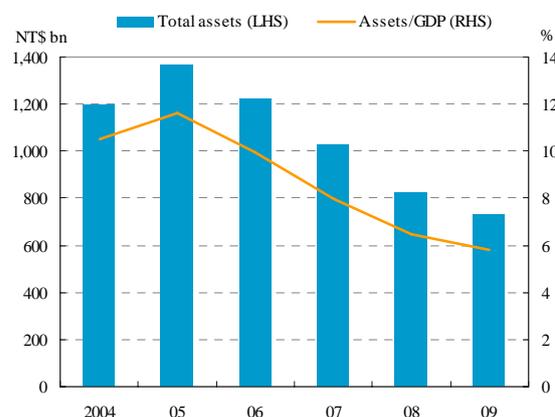
4.2.3 Bills finance companies

The total assets of bills finance companies continued to contract in 2009. Their profitability increased significantly, mainly due to the interest rate cuts by the CBC, and both asset quality and capital adequacy were enhanced. Although bills finance companies still faced the situation of maturity mismatch between assets and liabilities, their liquidity risk was expected to decline as the amended regulations of limiting the financial leverage of bills finance companies was put into practice. Moreover, as the guarantee business of bills finance companies has contracted over the years, they face the need to search for new business niches for the sake of long-term performance.

Total assets continued to contract

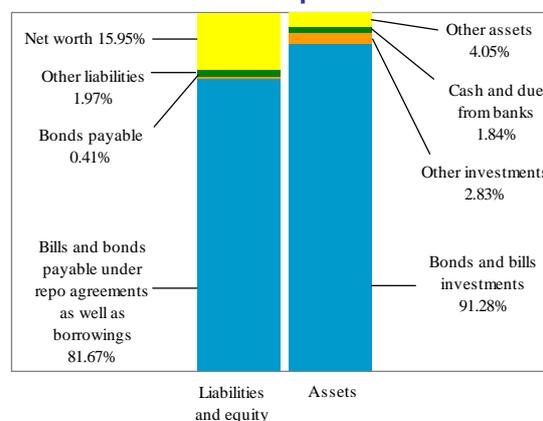
Driven by the reduction of bonds and bills investments in order to alleviate the risk of interest rate reversals, the total assets of bills finance companies continued to decline and

Chart 4.41 Total assets of bills finance companies



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

Chart 4.42 Asset/liability structure of bills finance companies



Note: Figures are end-December 2009 data.
Source: CBC.

stood at NT\$729.1 billion, or 5.82% of annual GDP, as of the end of 2009, a decrease of 11.53% year on year (Chart 4.41). The three largest bills finance companies commanded a market share by assets of 71.01% in total, while each of the other firms had a market share below 7%.

As for asset/liability structure at the end of 2009, bonds and bills investments on the asset side accounted for 91.28% of total assets, an increase of 1.37 percentage points compared to the end of the previous year, while bills and bonds payable under repo agreements as well as borrowings on the liability side accounted for 81.67%, a decrease of 2.46 percentage points (Chart 4.42).

Profitability saw a great improvement

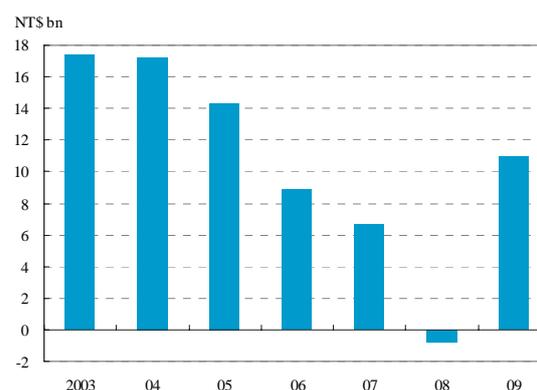
Bills finance companies posted a net income before tax of NT\$11 billion in 2009, a big increase compared to a loss of NT\$0.8 billion in 2008 (Chart 4.43). At the same time, ROE and ROA rose dramatically to 9.60% and 1.41%, respectively (Chart 4.44). The increase in profitability was mainly underpinned by a significant reduction of interest expenses, as the interest rates of repos and overnight borrowing, the two main funding sources, fell due to CBC's rate cuts.

Once interest rates reverse and trend up, however, higher funding costs and valuation losses in bonds and bills investments might erode the future profits of bills finance companies.

The average capital adequacy ratio increased and financial leverage continued to improve

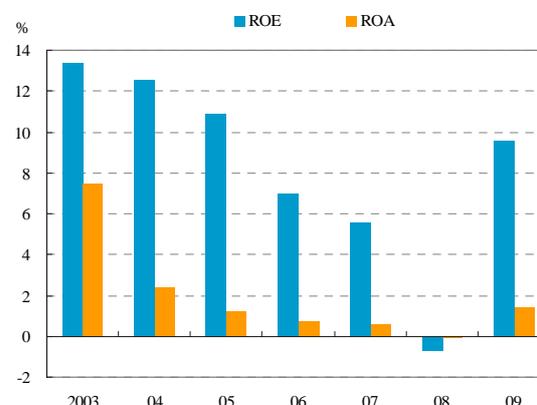
Because of the obvious contraction of risky assets, the average capital adequacy ratio of bills finance companies rose and registered

Chart 4.43 Net income before tax of bills finance companies



Source: CBC.

Chart 4.44 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.

17.28% as of the end of 2009, while all companies had ratios above 13%. The average Tier 1 capital ratio also rose and stood at 18.84%. Furthermore, owing to a contraction in debt and an increase in equity, the average debt to equity ratio of bills finance companies continued to slide to 5.27 as of the end of 2009 (Chart 4.45), reflecting an improvement in financial leverage.

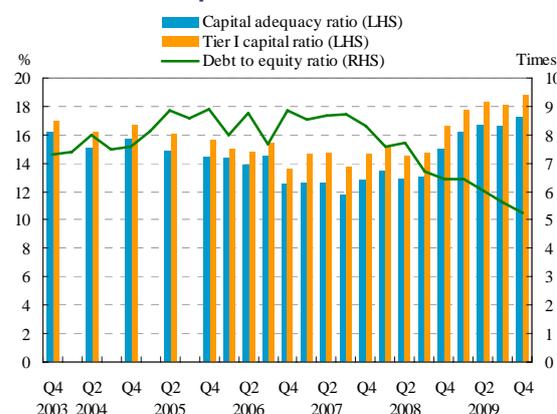
Credit quality remained satisfactory

The guaranteed advances ratio and non-performing credit ratio⁶⁹ for the guarantee business dropped significantly to 0.37% and 0.23%, respectively, at the end of 2009 (Chart 4.46), mainly driven by a large amount of write-offs during the year. The credit quality of bills finance companies remained satisfactory.

Maturity mismatch between assets and liabilities remained, but liquidity risk is expected to mitigate

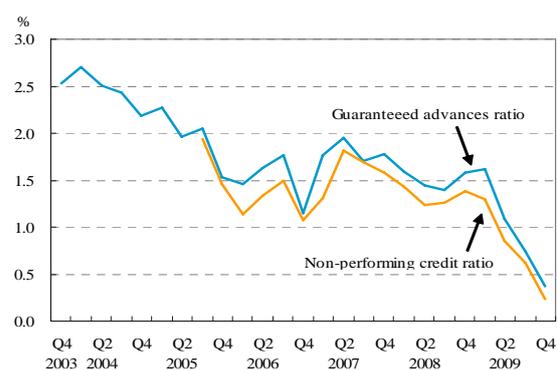
Affected by the global financial crisis, liquidity risk of bills finance companies ascended in 2008 Q4. Nevertheless, the risk alleviated in 2009 due to better performance of companies and ample liquidity in the financial market. However, the maturity mismatch between assets and liabilities of bills finance companies still persisted. At the end of 2009, bonds and bills investments constituted 91.28% of total assets, in which bonds investments accounted for 47.50% (Chart 4.47), while repos and short-term borrowings made up 81.67% of total assets. These figures showed that the liquidity risk of bills finance companies was somewhat high. In order to reduce their liquidity risk, the FSC promulgated the amendments to the Directions for Ceilings on the Total Amounts of the Major Liabilities and Reverse Repo

Chart 4.45 Capital adequacy ratio and leverage of bills finance companies



Source: CBC.

Chart 4.46 Guaranteed advances ratio of bills finance companies



Notes: 1. Guaranteed advances ratio = overdue guarantee advances / (overdue guarantee advances + guarantees).
Non-performing credit ratio = non-performing credit / (overdue guarantee advances + guarantees).
2. The data of non-performing credit ratios are compiled from September 2005 onwards.

Source: CBC.

⁶⁹ Non-performing credit for guaranteed advances refers to those guarantee advances that are more than three months overdue.

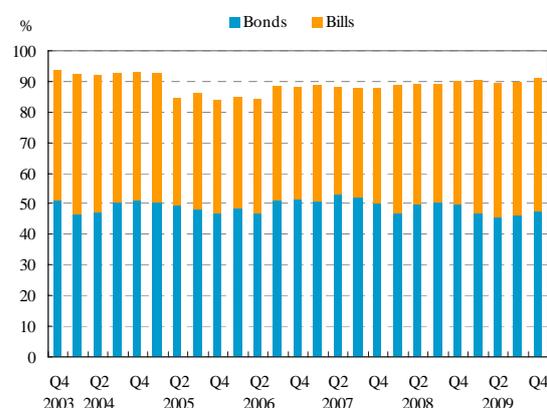
Transactions Conducted by Bills Houses on 9 April 2010. The amended directive states that the major liabilities of a bills finance company may not exceed ten times, eight times or six times its net worth depending on the level of its capital adequacy ratio, compared to fourteen times for all companies in the pre-amended directive. 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. With the implementation of this directive, it is expected that the liquidity risk of bills finance companies will be reduced.

With the guarantee business shrinking, bills finance companies should search for new business niches

The outstanding balance of commercial paper guaranteed by bills finance companies continued to decline in 2009 and registered NT\$316.3 billion as of the end of the year (Chart 4.48). The main reason was that bills finance companies tended to be more

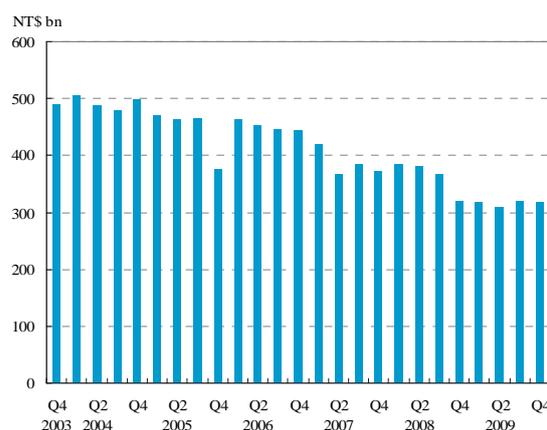
conservative in granting credit lines and enterprises preferred borrowing from banks rather than issuing commercial paper due to ample funding in the banking system. In order to reduce the credit risk of bills finance companies as well as encourage them to act as brokers and traders but not creditors, the FSC promulgated the amendments to the Directions for Outstanding Amount of Guarantees and Endorsements of Short-term Bills by Bills Houses on 24 February 2010. Compared to eight times, the ceiling of the ratio of outstanding commercial paper guaranteed to net worth for all bills finance companies before the amendment, the amended directive requires that the above ratios shall not exceed five, four, three and one times, respectively, if their capital adequacy ratios are above 12%, 11%-12%, 10%-11% or below 10%, respectively. This new direction will not impact the guarantee

Chart 4.47 Bond & bill positions as percentage of assets at bills finance companies



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

Chart 4.48 Outstanding commercial paper guarantees



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

business of bills finance companies immediately as all bills finance companies had capital adequacy ratios above 12% and had ratios of outstanding commercial paper guarantees to net worth below five times. However, bills finance companies should search for new business niches for the sake of long-term performance.

Box 2

Loans to small and medium enterprises

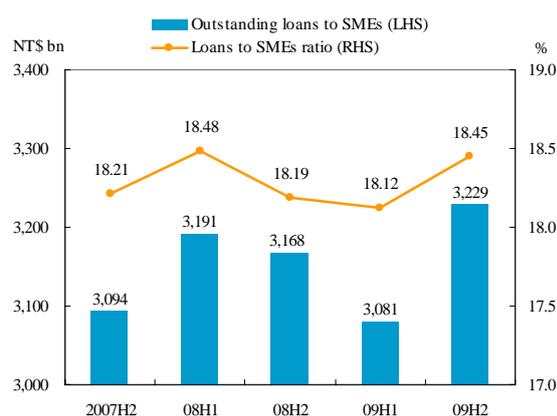
Small and medium enterprises (SMEs) play an important role in Taiwan's economic development and have far-reaching impacts on economic growth and social stability. The total number of SMEs registered 1.235 million, accounting for 97.70% of the total number of corporations at the end of 2008. In terms of number of workers, 7.966 million workers worked for SMEs, which was equivalent to 76.58% of national employment that year. The total sales revenues for SMEs amounted to NT\$10.46 trillion, or 29.69% of the corporate sector as a whole¹. Their main source of funding is loans from banks². Nevertheless, compared to large corporations, SMEs encounter more difficulties in obtaining loans from banks because of a lack of transparency, relatively unsound financial structures and insufficient collateral. In view of the pro-cyclical nature of banks' lending behavior³ and that currently the economy has not yet fully recovered, the relevant government authorities would actively adopt measures so as to increase banks' incentives for extending loans to SMEs.

1. Loans to SMEs

The outstanding amount of total loans to SMEs granted by banks amounted to NT\$3,229.4 billion as of the end of 2009, increasing by NT\$61.6 billion, or 1.94%, year on year, representing an increase of NT\$ 38.3 billion, or 1.2%, when compared with that of June 2008 before the onset of the global financial crisis. Loans to SMEs accounted for 18.54% of total loans as of the end of 2009, up by 0.26 percentage points from that of the previous year-end, but slightly down by 0.03 percentage points from that of the end of June 2008⁴. In general, loans to SMEs have returned to the level they were at before the financial crisis struck (Chart B2.1).

Most loans to SMEs were granted by state banks, in line with government policies. Loans to SMEs granted by the 8 widely-defined state banks⁵ reported NT\$2,261.4 billion, with a market share of

Chart B2.1 Outstanding and ratio of Loans to SMEs in Banks



Notes: 1. The term "banks" here refers to domestic banks and local branches of foreign banks.
2. End-of-period figures.

Source: FSC.

70.03%, which was relatively concentrated; loans extended to SMEs by the local branches of foreign banks was merely NT\$37.5 billion or 1.16% of the market.

2. Measures Adopted by the Government to Assist SMEs

Considering the current economic environment's impacts on corporate finances, the CBC continued to adopt easy monetary policies to lower banks' costs of funding and inject ample liquidity into the market so as to increase the lending capacity of the banking sector. Other relevant government agencies also took the following responses to assist SMEs in obtaining operation funds:

2.1 The Small and Medium Enterprise Credit Guarantee Fund of Taiwan (SMEG) adopted several measures to increase banks' incentives to extend loans to SMEs

In view of full compliance with the government's policy, the SMEG launched a new Special Guarantee Program to Promote Employment and Funding. Under the Program, credit lines were increased and restrictions on credit guarantees that enterprises can utilize to apply for loans were relaxed, guarantee fee rates were lowered, and both guarantee coverage percentages and the standard payment rate after claims for loans under the Package Credit Guarantees were increased. Through the credit guarantees of this program, credit risks faced by banks were largely reduced, and as a consequence, banks' incentives to extend loans to SMEs were increased significantly. In 2009, the SMEG helped SMEs obtain financing of NT\$613.1 billion (of which NT\$462.0 billion was guaranteed by the SMEG), an increase of NT\$94.2 billion from NT\$518.9 billion (where SMEG guarantees amounted to NT\$327.3 billion) extended in 2008.

2.2 The government and contracted financial institutions donated more to expand the capacity of the SMEG

In 2009, donations from the government and contracted financial institutions increased to NT\$6 billion and NT\$2 billion, respectively. As a result, the net worth of the SMEG registered NT\$27.7 billion as of the end of 2009, representing a ceiling of credit guarantees of NT\$554.0 billion. When compared with outstanding credit guarantees of NT\$393.9 billion granted by the SMEG⁶ in the same year, there was still ample capacity for guarantees available.

2.3 The FSC required domestic banks to extend more loans to SMEs

Domestic banks' loans to SMEs have increased gradually since the Domestic Banks Loans to SMEs Enhancement Project was initiated by the Financial Supervisory

Commission (FSC) in July 2005. As of the end of 2009, loans to SMEs granted by domestic banks stood at NT\$3.19 trillion, increasing by NT\$73.1 billion from the previous year. The ratio of their loans to SMEs to their overall corporate loans reached 43.66%, an increase of 2.07 percentage points from the previous year. To help SMEs obtain operation funds, the FSC continued to promote the Project, and loans to SMEs granted by domestic banks were expected to increase by NT\$100 billion by the end of 2010.

- Notes:
1. SMEs Outlook 2009, issued by Small and Medium Enterprise Administration, Ministry of Economic Affairs (MOEA).
 2. Sources from the Department of Statistics, MOEA.
 3. Loans granted by banks increase during economic expansions while they decrease markedly during contractions, which may worsen the volatility and instability of the macro-economy.
 4. Figures are taken from the Banking Bureau, Financial Supervisory Commission.
 5. These banks here refer to the Bank of Taiwan, Land Bank of Taiwan, Taiwan Cooperative Bank, First Commercial Bank, Hua Nan Commercial Bank, Chang Hwa Commercial Bank, Taiwan Business Bank and Mega International Commercial Bank.
 6. Including NT\$21 billion of government project finance.

Box 3

Current issues facing Taiwan's life insurance companies and possible solutions

1. Current issues facing life insurance companies

1.1 Duration mismatch and negative interest rate spread

The fundamental issue facing life insurance companies in Taiwan is that long-term liabilities' share in total liabilities is persistently higher than long-term assets' share in total assets, owing to a lack of long-term investment instruments in the domestic market. This leads to a duration mismatch that may cause a higher risk of losses when market prices exhibit larger fluctuations. On the other hand, the assumed interest rates of life insurance policies issued in earlier periods are still higher than the current rates of investment return due to a worldwide downward trend of interest rates, resulting in the existence of a negative interest rate spread.

1.2 Average risk-based capital ratio needs to be improved

The return on investment of life insurance companies significantly declined in 2008 due to the deepening global financial crisis. In addition, operating losses during the same year further caused a decrease in their net worth. As a result, the average RBC ratio for life insurance companies dropped to 190.37% at the end of 2008, even though the Financial Supervisory Commission temporarily relaxed the regulation of risk-based capital (RBC) for the insurance industry. In the first half of 2009, unrealized gains and losses from domestic and foreign securities investments turned positive, but the average RBC ratio merely increased to 198.27% at the end of June 2009, still below the statutory minimum requirement of 200%. Among all insurance companies, there were six with RBC ratios below 200% where further improvement was needed.¹

2. Possible solutions

The following measures may contribute to improving the performance of life insurance companies and lowering the potential unfavorable effects:

- (1) If the government issues more long-term government bonds, it will help to provide sufficient long-term investment instruments for life insurance companies and, in turn, ease the mismatch problem of the asset-liability term structure;
- (2) Life insurance companies are encouraged to focus on selling traditional life insurance

policies, but not investment-linked insurance policies, during low interest rate environments. Losses from negative interest rate spreads may be reduced accordingly;

(3) Insurance policies with high assumed interest rates should be closely monitored by supervisory agencies and be put under the risk control mechanism of insurance companies so as to reduce the risk arising from over competition in the life insurance industry; and

(4) Life insurance companies with RBC ratios lower than the statutory minimum standards should raise more capital within a certain time period. Furthermore, a 2% sales tax levied on life insurance companies may be considered by the government to be appropriated to the Insurance Stabilization Fund so as to expand the scale of the Fund and, in turn, contribute to adopting appropriate supervisory measures for problematic life insurance companies or implementing a market exit mechanism.

Note: As the profitability of life insurance companies improved markedly in the second half of 2009, the average RBC ratio is expected to increase at the end of 2009.