disrupted by seasonal or irregular factors (e.g. large inflows or outflows of short-term capital), causing the exchange rate to become excessively volatile, the CBC may step in to maintain an orderly foreign exchange market. Though the volatility in the NT dollar exchange rate against the US dollar temporarily increased in 2011, 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

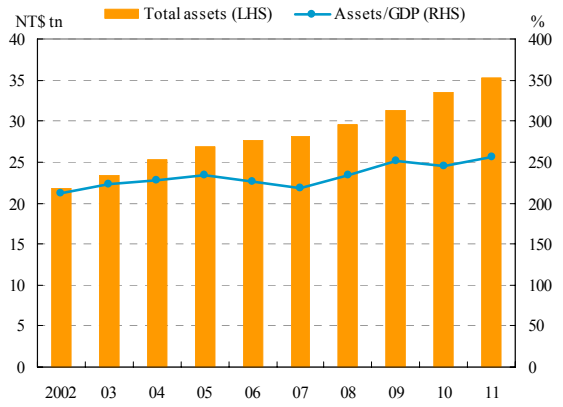
4.2.1 Domestic banks

In 2011, the total assets of domestic banks continually accumulated; however, the annual loan growth rate moderated. Asset quality remained satisfactory and credit risk concentration declined slightly; nevertheless, credit exposure concentrated in the real estate market remains high. The estimated VaR for market risk exposures of domestic banks had limited influence on their capital adequacy. Meanwhile, liquidity risk was moderate as the banking system benefited from ample liquidity. The profitability of domestic banks amplified sharply with a sustained improvement in capital adequacy in 2011, strengthening the capability of domestic banks to bear risks.

Total assets continually accumulated

The total assets of domestic banks kept growing and reached NT$35.3 trillion at the end of 2011, equivalent to 256.79% of annual GDP (Chart 4.15), while the annual growth rate of total assets decreased to 5.53% from 6.73% a year earlier. The main reason behind this was a decline in the outstanding amount of due from banks and interbank borrowings.

Chart 4.15 Total assets of domestic banks



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

Credit risk

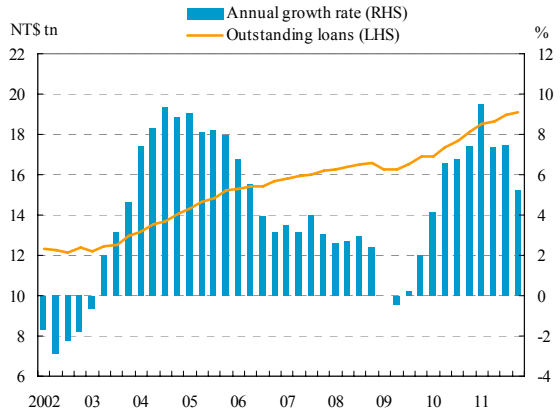
Customer loan growth slowed

Customer loans were the major source of credit risks for domestic banks. Outstanding loans of the local business units of domestic

banks[56] at the end of 2011 stood at NT$19.10 trillion and accounted for 54.11% of total assets.

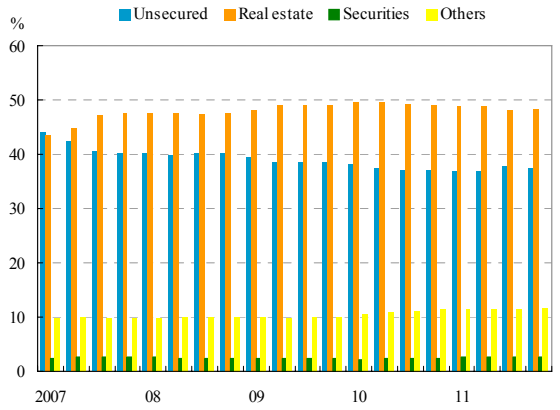
In 2011 Q1, due to a notable rise in loans to government agencies and a lower base compared to a year earlier, the annual loan growth rate increased significantly and reached a 10-year high of 9.47% in March. However, the annual growth rate moderated from the second quarter of the year onwards due to spillovers from the European sovereign debt crisis that shocked the global economy, as well as the implementation of the Specifically Selected Goods and Services Tax, which resulted in a reduction in the funding demands for corporate loans and individual mortgage loans. As a result, the annual loan growth rate declined to 5.21% in December (Chart 4.16). By category of the borrowers, the annual growth rate of individual loans decreased to 3.84% in December from 8.02% a year earlier, and the annual growth rate of corporate loans reached 8.23%, approximately equal to the figure at the end of 2010.

Chart 4.16 Outstanding loans and annual loan growth rate in domestic banks



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

Chart 4.17 Credit by type of collateral in domestic banks



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

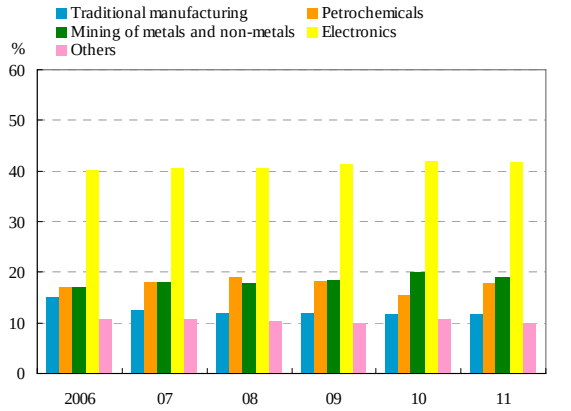
The concentration of credit exposure in real estate-related loans improved but remains high

Outstanding real estate-related loans[57] granted by the local business units of domestic banks moderated throughout the year but sustained a high level of NT$8.46 trillion, accounting for 44.30% of total loans as of the end of 2011. Meanwhile, real estate-secured credit granted by domestic banks amounted to NT$11.0 trillion, or 48.32% of total credit,[58] over the same period. The ratio declined gradually on a quarterly basis, but remains high (Chart 4.17).

[56] The term "local business units of domestic banks" excludes Offshore Banking Units and overseas branches. The term "customer loans" herein refers to discounts, overdrafts, other loans and import bills purchased. It excludes export bills purchased, non-accrual loans and interbank loans.
[57] The term "real estate-related loans" herein refers to lending by local business units of domestic banks to corporations and individuals for purchasing real estate.
[58] The term "credit" herein includes loans, guarantee payments receivable and acceptances receivable.

Among individual banks, ten had ratios of real estate-secured credit to total credit of over 60%. The number shrank from thirteen a year earlier, reflecting an improvement in the concentration of credit exposure in real estate-related loans. Recently, however, real estate market conditions in some areas with ample housing supply sharply cooled down, placing a buildup of downward adjustment pressure on house prices. Therefore, it would be advisable for banks with credit exposure highly concentrated in real estate-related loans in these areas to review their credit exposure and management to cope with potentially higher credit risks.

Chart 4.18 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 59 for the definition of manufacturing sector.
Source: CBC.

Industrial credit concentration of corporate loans gradually declined

Outstanding corporate loans of the local business units of domestic banks stood at NT$8.58 trillion at the end of 2011, while loans to the manufacturing sector registered NT$3.93 trillion and accounted for the largest share of 45.82% of the total.

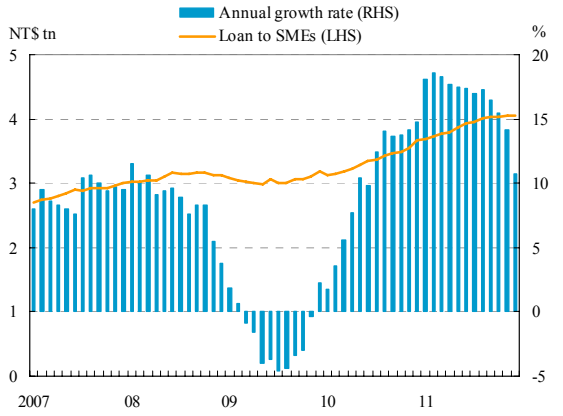
Within the manufacturing category,[59] the largest proportion of loans was for the electronics industry, which stood at NT$1.63 trillion and accounted for 41.59% of the total loans to the whole manufacturing sector (Chart 4.18). The ratio slightly decreased from 42.03% one year earlier, reflecting a descending industrial credit concentration. A few TFT-LCD and DRAM manufacturers suffered great losses, revealing that the electronics industry is exposed to substantial business cycle fluctuations and a rapid transformation of products. Domestic banks should pay close attention to changes in the business cycle and the financial conditions of borrowers to contain credit risks.

The supply of credit to small and medium enterprises (SMEs) continued to grow, albeit at a slower pace in the second half of 2011 due to a funding demand decline resulting from a weakening global recovery. Consequently, outstanding corporate loans to SMEs by domestic

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

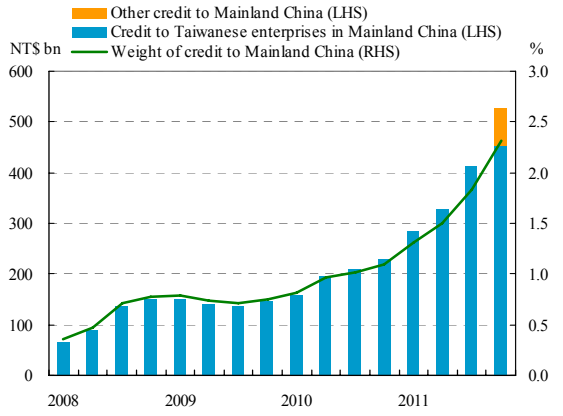
banks registered NT$4.05 trillion[60] at the end of 2011, representing an annual growth rate of 10.71% (Chart 4.19). Furthermore, in line with the government's Economic Vitalization Package and measures to promote employment, the Small and Medium Enterprise Credit Guarantee Fund of Taiwan (SMEG) also implemented several projects to encourage financial institutions to lend to SMEs. As a result, the outstanding amount of loan guarantees applied for by SMEs through the SMEG rose to NT$679.3 billion at the end of 2011, with an annual growth rate of 13.73%, and accounted for 16.76% of total SME loans. The guarantee coverage percentage also increased to 78.96% from 78.09% a year earlier. These statistics point to the favorable conditions for SMEs to acquire necessary funds, reflecting an ample supply of credit to SMEs.

Chart 4.19 Loans to SMEs by domestic banks



Source: FSC.

Chart 4.20 Credit to Mainland China by domestic banks



Note: Figure for "Other credit to Mainland China" started from December 2011.
Source: FSC.

Credit to customers in Mainland China accounted for a small share of total credit

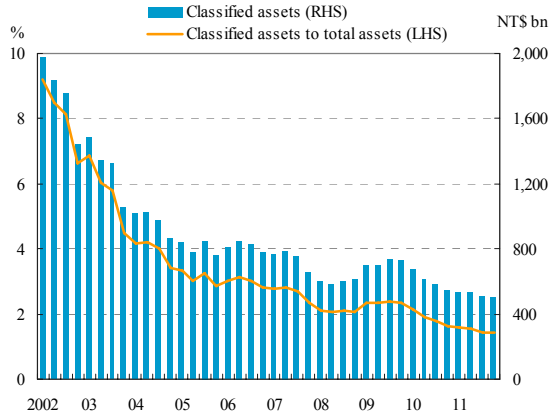
Benefiting from the marked loosening of Regulations Governing the Banking Activity and the Establishment and the Investment by Financial Institution Between the Taiwan Area and the Mainland Area,[61] as well as the substantial development of domestic banks in Mainland China's market, the outstanding credit to Taiwanese enterprises in Mainland China[62] by domestic banks at the end of 2011 registered NT$452.1 billion, a visible year-on-year increase of 96.96%. With the addition of other credit to Mainland China,[63] the

[60] Outstanding corporate loans to SMEs of domestic banks are FSC data.
[61] According to the regulations amended by the FSC on 7 September 2011, loan borrowers in Mainland China not only includes Taiwan's enterprises operating in Mainland China, but also extends to any individuals, legal persons, organizations, other institutions in the Mainland Area or their branches in any country or area outside the Mainland Area.
[62] The term "Outstanding credit to Taiwanese enterprises in Mainland China" herein includes: (1) direct credit to Taiwanese enterprises in Mainland China; (2) credit to legal persons in any country and area outside Mainland China in which the credit line or funds are transferred for use by any Taiwanese enterprises in Mainland China.
[63] The term "other credit to Mainland China" herein refers to the credit to legal persons in any country and/or area outside Mainland China in which the credit line or funds are transferred for use by any Taiwanese enterprises in Mainland China.

total outstanding credit to Mainland China stood at NT$525.9 billion, accounting for only a small share of 2.31% of total loans (Chart 4.20).

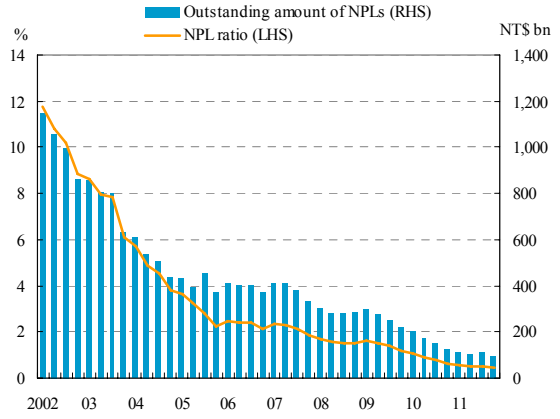
The non-performing credit ratio to Mainland China reached a mere 0.03% at the end of 2011, reflecting satisfactory loan quality. Nevertheless, on the back of the "Twelfth Five-Year Plan," wages and environmental protection costs in Mainland China are expected to grow further. This, coupled with the continued appreciation of the renminbi against the US dollar and slower global economic growth, which are both unfavorable to the competitiveness of exporting industries, points to heightened operational risks for corporations in Mainland China. Accordingly, domestic banks ought to carry out loan reviews and strengthen risk controls to reduce looming credit risks.

Chart 4.21 Classified assets of domestic banks



Notes: Excludes interbank loans.
Source: CBC.

Chart 4.22 NPL ratio of domestic banks



Note: Excludes interbank loans.
Source: CBC.

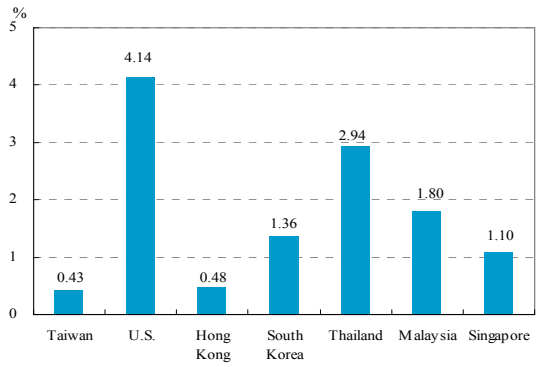
Asset quality remained satisfactory

Outstanding classified assets[64] and the average classified asset ratio of domestic banks stood at NT$503.1 billion and 1.43% at the end of 2011, dropping by 8.28% and 0.21 percentage points, respectively, over the previous year (Chart 4.21). Both registered ten-year record lows, reflecting that asset quality remained satisfactory. The expected losses of classified assets stood at NT$81.7 billion at the end of 2011, increasing by NT$17.3 billion or 26.81% year on year. This was mainly attributed to a notable rise in category five assets that had a higher loss rate. However, the ratio of expected losses to loan loss provisions stood at 28.23%, indicating sufficient provisions held by domestic banks to cover expected losses.

[64] 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.

The outstanding NPLs of domestic banks stood at NT$94.1 billion at the end of 2011, contracting dramatically by 23.48%. Meanwhile, the average NPL ratio fell to a record low of 0.43%[65] (Chart 4.22). Among 38 domestic banks, all but three had NPL ratios less than 1%. Compared to the US and neighboring Asian countries, the average NPL ratio of domestic banks in Taiwan was similar to that of Hong Kong, but much lower than those of other countries (Chart 4.23).

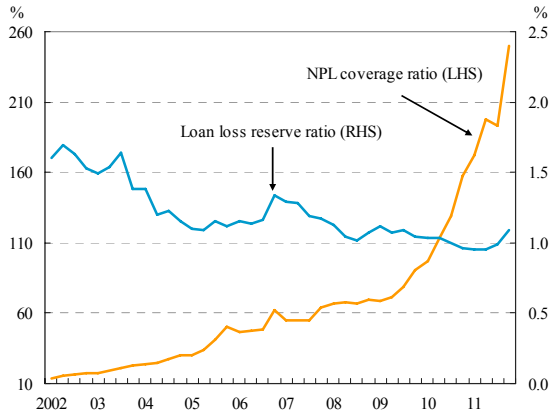
Chart 4.23 NPL ratios of banks in selected countries



Note: Figures are end-December 2011 data.
Sources: CBC, FDIC, HKMA, FSS, BOT, BNM, and MAS.

With a substantial decrease in NPLs, the NPL coverage ratio at the end of 2011 rose dramatically to 250.08%. The loan loss reserve ratio increased to 1.09% from 0.96% a year earlier as the FSC encourged banks to increase loan loss provisions (Chart 4.24). This reflects that the capabiltiy of domestic banks to withstand potential future losses by means of loan loss provisions has been strengthening.

Chart 4.24 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.

Market risk

Estimated Value-at-Risk for market risk exposures remained unchanged

The net position of debt securities accounted for the largest share of total market risk exposures of domestic banks, followed by the net position of equity securities and foreign exchange net position at the end of 2011. Using market data as of the end of March 2012, the estimated total VaR[66] for foreign exchange, interest rate and equity exposures of domestic banks at the end of 2011 stood at NT$128.7 billion, almost the same as that of a year earlier.

[65] When the total exposure of domestic banks to ProMOS Technologies Inc. (which entered into delinquency in April 2012) is accounted for, the NPL ratio increased to 0.63% at the end of April.

[66] 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's returns 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.

Among market risks, equity VaR showed a significant rise of 92.96%, affected by the intensifying European sovereign debt crisis. Interest rate VaR fell moderately as a result of stable interest rates, while foreign exchange VaR diminished substantially due to steady movement of NT dollar exchange rates (Table 4.1).

Table 4.1 Market risks in domestic banks

Unit: NT$ bn

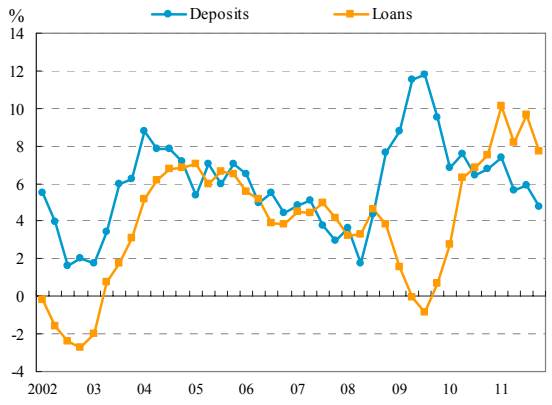
Types of risk	Items	End-Dec. 2010	End-Dec. 2011	Changes	
				Amount	%
Foreign exchange	Net position	57.4	60.3	2.9	5.05
	VaR	2.2	1.5	-0.7	-31.82
	VaR / net position (%)	3.83	2.49		-1.34
Interest rate	Net position	5,649.4	5,848.5	199.1	3.52
	VaR	115.8	111.5	-4.3	-3.71
	VaR / net position (%)	2.05	1.91		-0.14
Equities	Net position	516.8	536.6	19.8	3.83
	VaR	34.1	65.8	31.7	92.96
	VaR / net position (%)	6.6	12.26		5.66
Total VaR		128.4	128.7	0.3	0.23

Note: The total VaR is not equal to the sum of the VaRs of the three types of risks since it has taken the correlation among the three risk categories into consideration.
Source: CBC.

The effects of market risk on capital adequacy ratios were limited

According to the estimated results mentioned above, the total VaR would cause a decrease of 0.61 percentage points in the average capital adequacy ratio of domestic banks and induce the current ratio of 12.06% to fall to 11.45%. It shows that the effects of market risk may be considered as limited.

Chart 4.25 Annual growth rate of deposits and loans of domestic banks



Source: CBC.

Liquidity risk

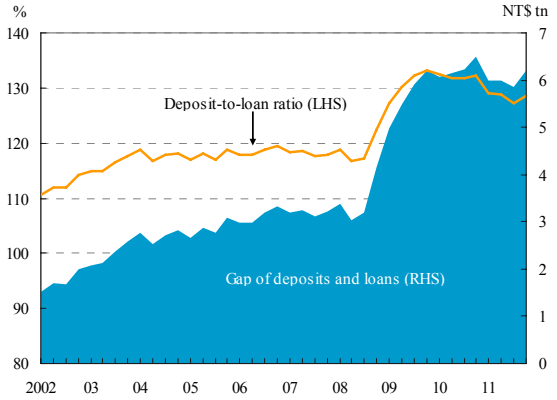
Liquidity in the banking system remained ample

Deposits and loans in domestic banks continued to increase in 2011, but at a slower pace, as the annual growth rate of loans and deposits fell to

7.73% and 4.79%, respectively (Chart 4.25). Given that the increase in loans exceeded that in deposits, the average deposit-to-loan ratio of domestic banks decreased to 128.66% at the end of 2011. The funding surplus (i.e. deposits exceeding loans) also contracted to NT$6.21 trillion; however, the overall liquidity in domestic banks remained abundant (Chart 4.26).

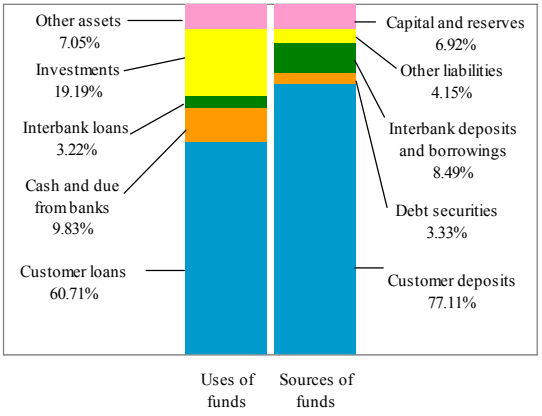
As for the sources of funds, relatively stable customer deposits accounted for the largest share of 77.11% of the total, slightly lower than a year before, followed by interbank deposits and borrowings at 8.49%, while debt securities issues contributed a mere 3.33% at the end of 2011. Regarding the uses of funds, customer loans accounted for the biggest share of 60.71% with a year-on-year rise of 1 percentage point, and cash and due from banks increased to 9.83%, while securities investments slightly fell to 19.19% of the total at the end of 2011 (Chart 4.27).

Chart 4.26 Deposit-to-loan ratio in domestic banks



Notes: Deposit-to-loan ratio = total deposits / total loans.
Source: CBC.

Chart 4.27 Sources and uses of funds in domestic banks



Notes: 1. Figures are as of end-December 2011.
2. Interbank deposits include deposits with the CBC.
Source: CBC.

Overall liquidity risk was moderate

The average NT dollar liquid reserve ratio of domestic banks was 27.96% in December 2011. Although exhibiting a decrease compared to the figure a year earlier, the liquid ratio was still well above the statutory minimum of 10%[67] (Chart 4.28), and the ratio of each domestic bank was higher than 15%. In the same period, Tier 1 liquid reserves, mainly consisting of certificates of deposit issued by the CBC, accounted for 95.34% of total liquid reserves,[68] while Tier 2 and Tier 3 reserves accounted for 4.53% and 0.13%, respectively. This revealed

[67] On 19 July 2011, the CBC raised the minimum liquidity reserve ratio from 7% to 10%, which was effective from October 2011. The relevant liquid reserve should be put up on a daily basis. Financial institutions unable to meet the requirements need to report to the CBC immediately.

[68] 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.

that the quality of liquid assets held by domestic banks remained satisfactory and overall liquidity risk was moderate.

Profitability

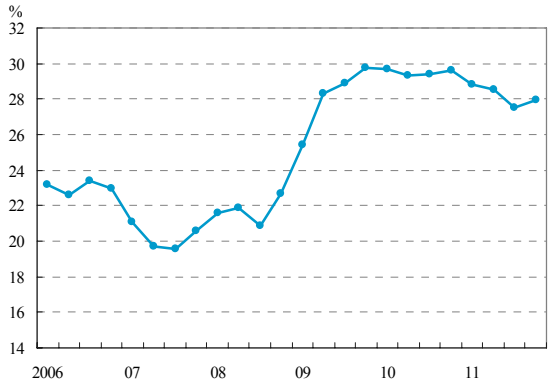
The highest profitability ever recorded

Owing to a rise in net interest income spurred by the expansion of interest rate spreads between deposits and loans, the aggregate net income before tax of domestic banks reached a historical high of NT$200.8 billion in 2011, with a dramatic increase of NT$16 billion, or 8.66%, year on year (Chart 4.29). The average ROE and return on assets (ROA), respectively, rose to 9.27% and 0.58%, slightly higher than the 9.08% and 0.57% posted the year before (Chart 4.30). However, compared to selected Asia-Pacific neighboring countries, the profitability of domestic banks was relatively low (Chart 4.31).

Among the total 38 domestic banks, only three reported losses due to increases of provisions for loan losses and amortization of deferred losses on the sale of classified assets, while the others all posted profits. Sixteen banks achieved profitable ROEs of 10% or more, increasing from eleven in 2010 (Chart 4.32). The ROEs of 21 banks increased compared to those in 2010, indicating improvement in their profitability.

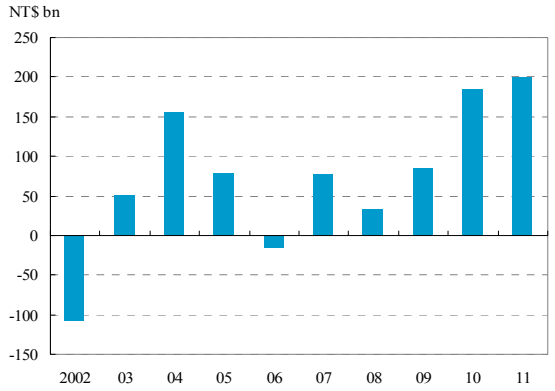
As for operating revenues and costs, total net revenues of domestic banks stood at NT$564.2 billion in 2011, rising by NT$34.7

Chart 4.28 Liquid reserve ratio of domestic banks



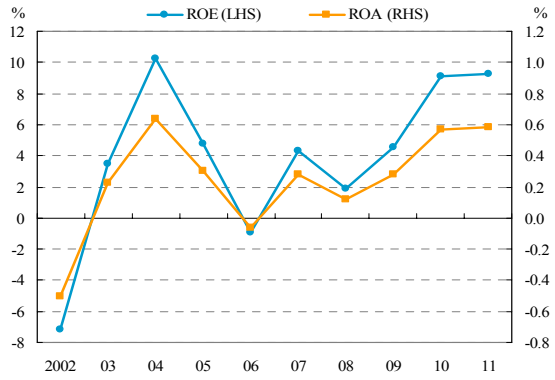
Note: Figures are the average daily data in the last month of a quarter.
Source: CBC.

Chart 4.29 Net income before tax of domestic banks



Source: CBC.

Chart 4.30 ROE & ROA of domestic banks

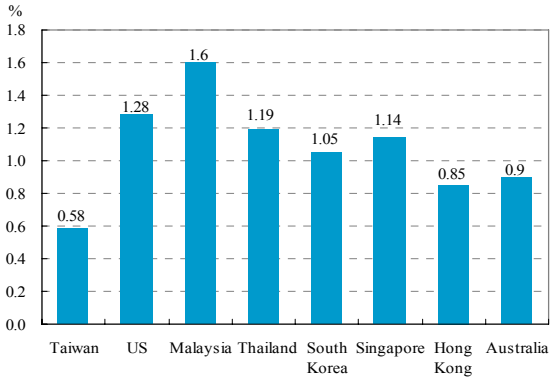


Notes: 1. ROE (return on equity) = net income before tax / average equity.
2. ROA (return on assets) = net income before tax / average total assets.
Source: CBC.

billion or 6.55% year on year. Of which, net interest income, accounting for 62.61% of the total revenues, increased by NT$38.1 billion compared to the previous year and reached NT$353.3 billion, resuming its level before the financial crisis as a result of the growth of loans and the increase of interest rate spreads between deposits and loans. Due to the setback of the asset management business caused by global financial turmoil in the second half of 2011, net fee and commission income fell to NT$119.9 billion, decreasing by NT$4.8 billion and accounting for 21.26% of total revenues. Because valuation of profits and gains on financial assets at fair value dramatically declined, net gains on financial instruments contracted by NT$13.6 billion and registered NT$39 billion, only accounting for 6.92% of total revenues.

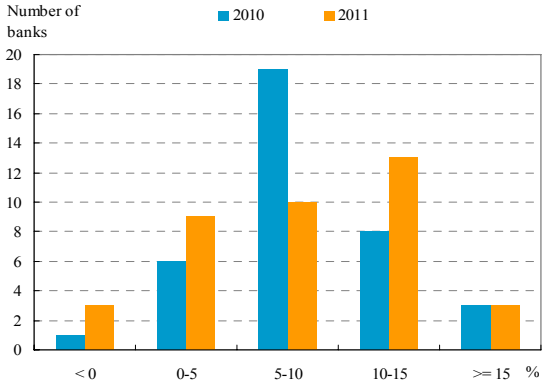
On the cost side, expenses other than interest[69] stood at NT$312.8 billion, rising by NT$16.3 billion compared to the previous year, and accounted for 86.07% of the total due to the growth of personnel costs. Provisions increased to NT$50.6 billion, rising by NT$2.1 billion and accounting for 13.93% of the total as a result of domestic banks being required to set aside additional provisions for category one credit assets (i.e. normal credit assets) at a rate of 0.5% of the outstanding and lift the loan coverage ratio to above 1% (Chart 4.33).

Chart 4.31 Comparison of ROA of banks in selected countries



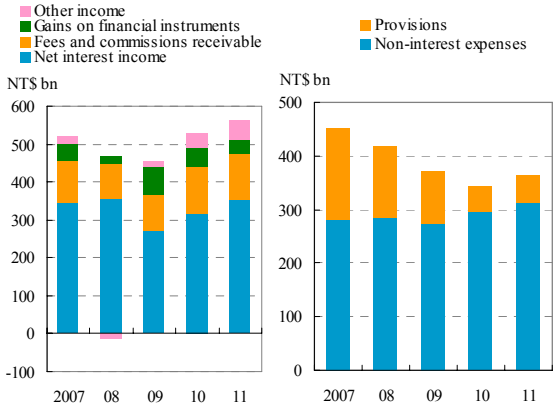
Note: Data are for 2011.
Sources: CBC, FDIC, BNM, BOT, FSS, MAS, HKMA and APRA.

Chart 4.32 Distribution of ROE of domestic banks



Source: CBC.

Chart 4.33 Composition of incomes and costs of domestic banks



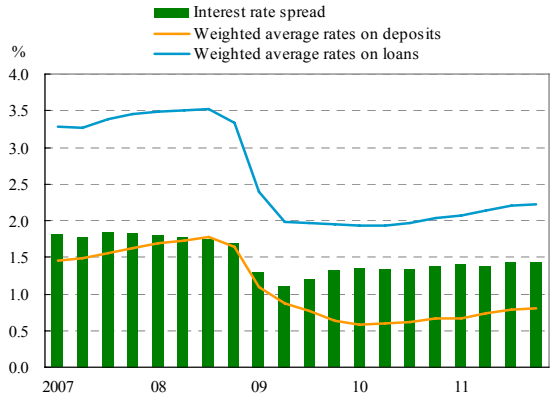
Source: CBC.

[69] Expenses other than interest include personnel costs and other operating and management expenses.

Factors that might affect future profitability

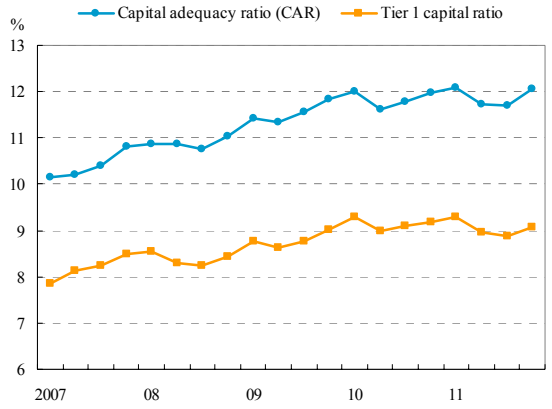
After the CBC raised policy rates five times from June 2010 and took a series of measures to urge banks to implement risk-based pricing on loans and adjust deposit structures, the interest rate spread between deposits and loans gradually expanded to 1.43 percentage points in 2011 Q4 (Chart 4.34). The gradual rebound of the interest rate spread was helpful in boosting domestic banks' profitability. Nevertheless, in an environment of low interest rates worldwide, banks are advised to enhance their innovative capabilities so as to provide differentiated financial services and lift their profits from niche business areas, while in the meantime strengthening their risk management in order to control costs and improve future profitability.

Chart 4.34 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.
Source: CBC.

Chart 4.35 Capital adequacy ratio of domestic banks



Notes: 1. End-of-period figures.
2. Capital adequacy ratio = eligible capital / risk-weighted assets.
3. Tier 1 capital ratio = tier 1 capital / risk-weighted assets.
Source: CBC.

In addition to the above commentary, domestic banks continue to face numerous challenges. First of all, influenced by the recession in the TFT-LCD and DRAM industries, a few large domestic corporations in these industries sank into financial difficulties and applied for loan renegotiations with creditor banks. This might increase pressure for those banks to set aside more provisions for loan losses and undermine their future profits.[70] Secondly, global financial market vulnerability persists since the European sovereign debt crisis remains unresolved. Any contingency may simply lead to further market downturns and could undermine future investment profits of banks. An unfolding of such a scenario needs to be monitored closely.

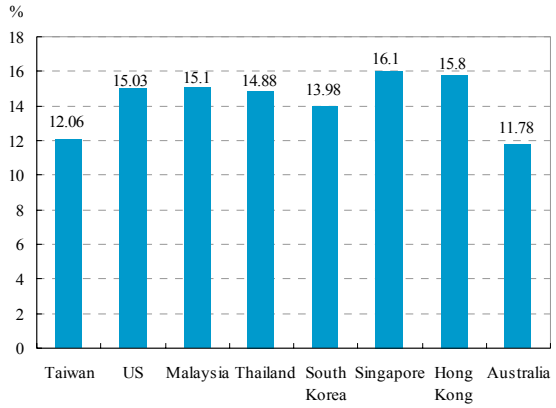
[70] Since domestic banks had set aside about 80% provisions on their loans to ProMOS Technologies, a big DRAM company, further loan losses on it should be limited.

Capital adequacy

Capital adequacy ratios ascended slightly[71]

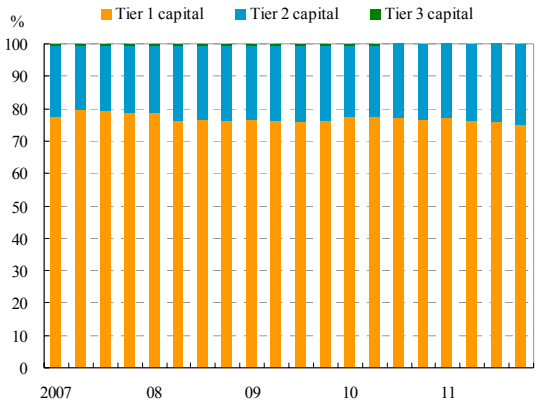
Affected by cash dividend payouts and an increase in risk-weighted assets, the average capital adequacy ratio and Tier 1 capital ratio of domestic banks in 2011 Q2 and Q3 displayed downward trends. Starting from Q4, however, benefiting from the increase in the issuance of long-term subordinated debentures and accumulated earnings, the average capital adequacy ratio rose to 12.06% at the end of 2011, higher than the ratio of 11.96% a year earlier. The Tier 1 capital ratio also rebounded to 9.08%, which was just slightly lower than 9.18% a year earlier (Chart 4.35). Compared to the US and some Asia-Pacific neighboring countries, the average capital adequacy ratio of domestic banks was marginally higher than that of Australia, but lower than those of the US and other Asian countries (Chart 4.36).

Chart 4.36 Comparison of capital adequacy ratios in selected countries



Note: Figures are as of the end of 2011.
Sources: CBC, FDIC, BNM, BOT, FSS, MAS, HKMA and APRA.

Chart 4.37 Components of eligible capital of domestic banks



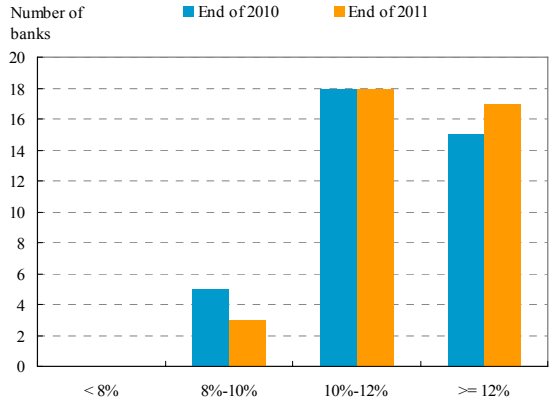
Note: Tier 3 capital figure for the end of 2011 is 0%, and for the other periods figures are from 0% to 0.34%.
Source: CBC.

Further breaking down the components of regulatory capital, Tier 1 capital, which features the best risk-bearing capacity, accounted for 75.28% of eligible capital, while Tier 2 capital registered 24.72%, and Tier 3 capital was zero at the end of 2011. Compared to the end of the previous year, the Tier 1 capital ratio declined by 1.45 percentage points, while the Tier 2 capital ratio saw a rise owing to a higher increase in the outstanding balance of long-term subordinated debentures (Chart 4.37).

[71] In this section, the capital adequacy related ratios of domestic banks at the end of 2011 were audited and certified by certified public accountants.

All domestic banks held sufficient capital, but faced pressure to raise their capital levels

Chart 4.38 Number of domestic banks classified by capital adequacy ratios



Source: CBC.

The capital adequacy ratios of all 38 domestic banks remained above the statutory minimum requirement of 8% at the end of 2011. There were seventeen banks with ratios above 12% (Chart 4.38), while 21 banks' ratios showed year-on-year increases. Even though domestic banks' capital adequacy ratios have been gradually increasing and all banks meet current minimum standards, the twofold impact stemming from the introduction of the Basel III and the amendment of national capital-related regulations will put elevated pressure on domestic banks to raise capital.

First, regarding Basel III, the BCBS introduced capital reforms in December 2010 that required banks to raise the quality and levels of capital. Given that the formulation of Taiwan's banking regulations tends to adhere to international requirements, the FSC has declared to phase in Basel III from 2013. For a start, the FSC amended capital regulations on 3 October 2011, which took effect from January 2012, to raise capital charges for securitization transactions and market risks after consulting the BCBS guidance of July 2009.[72] As regards the other capital reforms of Basel III, the FSC has been working on revamping related regulations. An amendment to the "Regulation Governing the Capital Adequacy and Capital Category of Banks" is expected to be completed in 2012 alongside the phased implementation from 2013.

Second, with regard to the amendment of national regulations on the calculation of capital adequacy ratios, the FSC issued a capital directive in the hope of controlling banks' real estate lending risks. From 21 April 2011, new mortgages which fail to conform with the definition of owner-occupied residence loans are required to make a sharp rise in their risk weight to 100%.[73] This will lead domestic banks which grant such mortgages to charge more

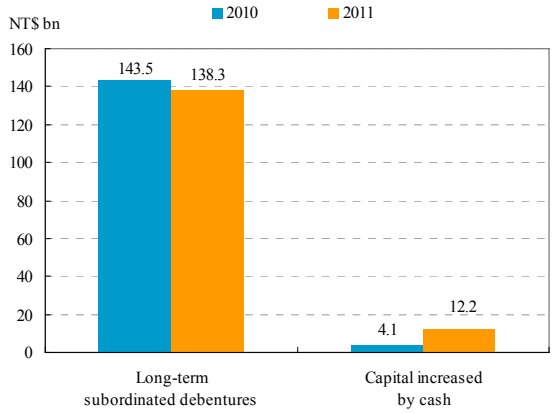
[72] The Basel Committee on Banking Supervision issued three publications of related capital accords in July 2009, including "Enhancements to the Basel II framework," "Revisions to the Basel II market risk framework," and "Guidelines for computing capital for incremental risk in the trading book."

[73] Conforming with the definition of owner-occupied residence loans (excluding NPLs), it allows the use of either one of the following two methods:
1). Based on the LTV ratio, a loan is divided into two parts. For the part that the LTV ratio is less than or equal to 75%, the risk weight is applied to 35%. For the part of the LTV ratio that is greater than 75%, the risk weight is applied to 75%.
2). All loans are applied to a risk weight of 45%.

capital and put upward pressure on increasing their capital.

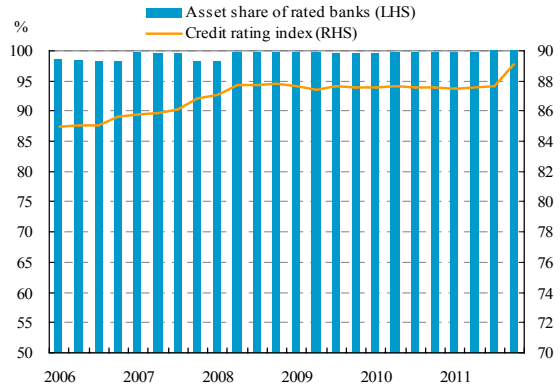
In response to the above-mentioned international trends in capital reforms and the amendment of national regulations, domestic banks have actively engaged in capital raising since 2010. During 2011, the aggregated capital raised by issuing long-term subordinated debentures and cash injections amounted to NT$150.5 billion, above the previous year's amount of NT$147.6 billion (Chart 4.39). However, most of the increased capital was classified as Tier 2 capital, rather than the common equity or Tier 1 capital that Basel III requires to be strengthened. Therefore, domestic banks are advised to review the capital gaps between Basel III requirements and their current capital conditions as soon as possible, and prudentially work out long-term capital plans and dividend payout policies so as to gradually reinforce the quality and levels of capital in line with national and international capital standards.

Chart 4.39 Funds raised by domestic banks in the past two years



Notes: 1. Period for capital increased by cash is based on the FSC's approved date.
2. The data exclude parent financial holding companies' increased investment for subsidiary banks.
Source: CBC.

Chart 4.40 Credit rating index of rated domestic banks



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

Credit ratings

Average credit rating level improved due to new rating criteria

According to the rating results[74] released by credit rating agencies, the credit rating index[75] of Taiwan's domestic banks improved remarkably in 2011 (Chart 4.40). The main reason was

[74] As of the end of 2011, the majority of Taiwan's domestic banks received long-term issuer ratings from Taiwan Ratings Corporation, followed by those with national long-term ratings from Fitch Ratings. Therefore, this section is based primarily on the Taiwan Ratings Corporation ratings (tw~), and secondarily on Fitch ratings (~(twn)).

[75] 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. The higher the index, the better the bank's overall solvency.

that Taiwan Ratings Corpration started to apply new rating criteria[76] recently revised by Standard & Poor's, and this resulted in eight banks being upgraded and two banks being downgraded.[77] Moreover, the Export-Import Bank of the Republic of China was rated for the first time and received the highest rating of AAA(twn), which also helped to improve the overall credit rating level.

Table 4.2 Systemic risk indicators for the banking system

Banking System	Standard and Poor's		Fitch	
	BICRA		BSI/MPI	
	2011/2	2012/2	2011/2	2012/2
Hong Kong	2	2	B/1	B/3
Singapore	2	2	B/1	B/2
Japan	2	2	C/1	C/1
South Korea	4	3	C/3	C/1
Taiwan	**4**	**4**	**C/1**	**C/1**
Malaysia	4	4	C/1	C/1
Thailand	6	5	C/1	C/1
Mainland China	6	5	D/1	D/3
Indonesia	8	7	D/1	D/3
Philippines	8	7	D/1	D/1

Sources: Standard and Poor's and Fitch Ratings.

As for the rating results of Taiwan's banking system released by credit rating agencies, Standard & Poor's "Banking Industry Country Risk Assessment (BICRA)," which was newly revised in November 2011,[78] maintained Taiwan's BICRA unchanged at Group 4. Compared to other Asian economies, the risks of Taiwan's banking industry were higher than those of Hong Kong, Singapore, Japan and South Korea, about the same as that of Malaysia, but much lower than those of Thailand, Mainland China, Indonesia and the Philippines. The rating results of Taiwan's banking system evaluated by Fitch Ratings' "Banking System Indicator / Macro-Prudential Indicator (BSI/MPI)[79]" remained unchanged at level C/1; however, the MPIs of Hong Kong, Singapore, Mainland China and Indonesia were downgraded from level 1 to level 2 or level 3, reflecting that their macrofinancial environments became more fragile (Table 4.2).

[76] On 9 November 2011, Standard & Poor's (S&P) announced that it would be revisiting the ratings of all rated banks globally following its new rating criteria. The new criteria set the Banking Industry Country Risk Assessment as the anchor in rating a bank. The anchor is then adjusted for bank-specific factors including business position, capital and earnings, risk position, funding and liquidity, and government and group support, to determine the issuer credit rating for a bank.

[77] Taiwan Ratings Corporation upgraded eight Taiwanese banks due to strong capital and high government support, while it downgraded two banks due to higher exposure to investment banking activities.

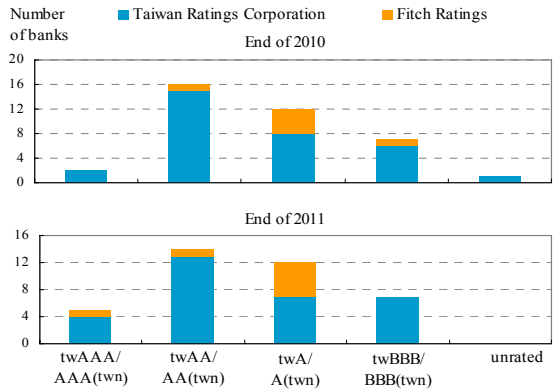
[78] On 9 November 2011, Standard & Poor's revised its Banking Industry Country Risk Assessment (BICRA) methodology. The new methodology has two main analytical components: economic risk and industry risk. The economic risk of a banking sector is determined by factors including economic resilience, economic imbalances, and credit risk in the economy, while industry risk is determined by institutional framework, competitive dynamics and system-wide funding. The overall assessments of those factors will lead to the classification of a country's banking system into BICRA groups, ranging from group 1 (lowest risk) to group 10 (highest risk), in order to indicate the relative country risk and banking sector credit quality.

[79] 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.

Credit ratings of domestic banks are expected to be stable in the near future

All domestic banks were rated by credit rating companies, and most of them maintained credit ratings of twAA/twA (Taiwan Ratings) or AA(twn)/A(twn) (Fitch Ratings) at the end of 2011; none had credit ratings lower than twBBB/BBB(twn) (Chart 4.41). The results were similar to those received the previous year. In addition, all banks received stable or positive rating outlooks or CreditWatch at the end of 2011, showing that credit ratings are expected to be stable in the near future.

Chart 4.41 Number of domestic banks classified by credit ratings

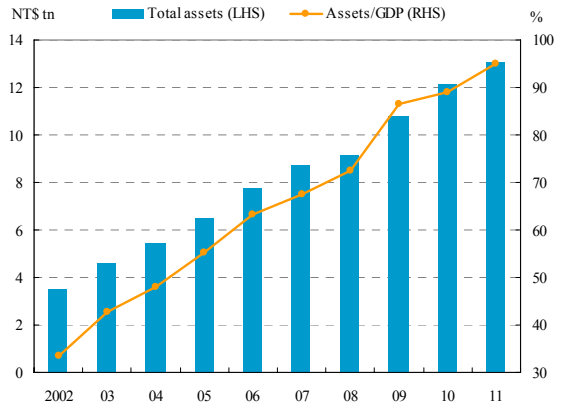


Sources: Taiwan Ratings Corporation and Fitch Ratings.

4.2.2 Life insurance companies

The total assets of life insurance companies continued to grow in 2011, although at a slower pace. The profitability of life insurance companies needs to be improved as overall the industry reported an operating loss. The RBC ratio at the end of 2011 was lower than a year earlier, while some companies fell below the statutory minimum of 200% over the same period. Generally, the credit ratings of the nine rated life insurance companies in 2011 remained stable.

Chart 4.42 Total assets of life insurance companies



Sources: FSC and DGBAS.

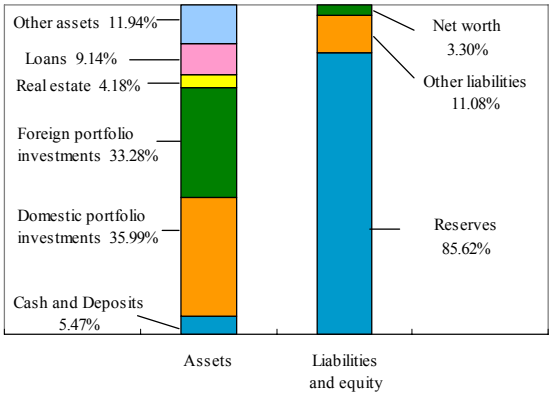
Asset growth slowed down

The total assets of life insurance companies continually grew and reached NT$13.06 trillion at the end of 2011, equivalent to 95.03% of annual GDP (Chart 4.42). However, the annual growth rate of total assets grew at an apparently slower pace of 7.96%, declining from its peak of 18.03% at the end of 2009.

The asset and liability structure of the life insurance industry changed slightly during 2011.

Twenty-four domestic life insurance companies[80] held a 98.53% market share by assets at the end of 2011, with only 1.47% for six foreign life insurance companies. The top three companies in terms of assets held a combined market share of 53.27%, with an increase of 0.55 percentage points compared to the end of the previous year. In terms of premium income, the combined market share of the top three companies was 50.81%, declining by 4.45 percentage points year on year.

Chart 4.43 Asset/liability structure of life insurance companies



Note: Figures are end-December 2011 data.
Source: FSC.

Foreign investments and real estate investments had higher growth

The funds of life insurance companies at the end of 2011 were chiefly invested in domestic and foreign securities, accounting for 35.99% and 33.28%, respectively, while 9.14% was in loans, 5.47% in cash and deposits and 4.18% in real estate. As for the sources of funds, various policy reserves constituted 85.62%, while net worth, influenced by the significant shrinking of unrealized net gains of financial products, dropped from 3.95% at the end of 2010 to 3.30% (Chart 4.43). This showed that the financial leverage of life insurance companies elevated in 2011.

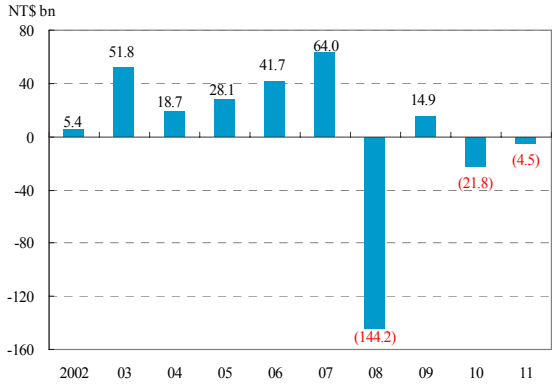
The usable funds of life insurance companies continued growing in 2011, although at a more subdued pace. Of them, foreign investments, benefiting from the relaxation of related regulations, grew substantially by 19.86%. Real estate investments increased by 13.27% due to insufficient supply of other long term investment instruments, although stricter regulations imposed limitations on the usage and yield of funds invested in real estate properties and required additional capital charges when such investments did not conform to the specified regulations. Domestic portfolio investments only increased slightly by 5.38%, owing to concerns over the more volatile stock market, while the assets of insurance products held in segregated custody accounts declined by 3.15%.

[80] Including foreign affiliates.

Losses were reported in 2011

The substantial shrinkage of premium income owing to the implementation of Taiwan's SFAS 40, which were put into practice in January 2011,[81] resulted from a huge contraction of gains from securities investments and even losses on foreign securities investments, leading to a net loss before tax of NT$4.5 billion for life insurance companies in 2011. Therefore, the profitability of the life insurance industry needs to be improved (Chart 4.44).

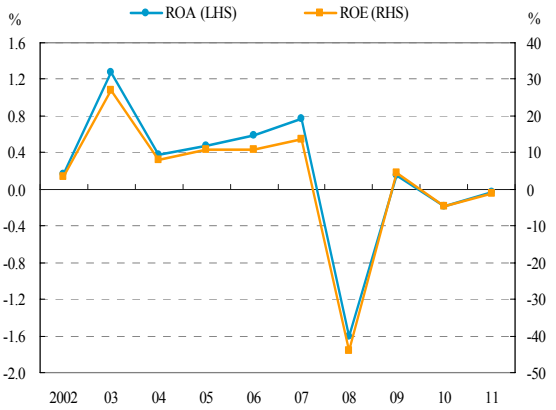
Chart 4.44 Net income before tax of life insurance companies



Source: FSC.

During the same period, average ROE and ROA were -0.99% and -0.04%, respectively (Chart 4.45). If Kuo Hua Life Insurance Company[82] is excluded, life insurance companies as a whole turned to report a net profit before tax of NT$1.7 billion, though with average ROE and ROA remaining at low levels of 0.32% and 0.01%, respectively. In addition, the average return on investments in 2011 was only 3.52%, revealing that the potential losses driven by negative interest rate spreads still needed to be alleviated. This, together with the fact that investment performance could be undermined by more volatile global financial markets resulting from the European sovereign debt crisis, may possibly have an adverse impact on the future profitability of life insurance companies.

Chart 4.45 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.

In recent years, the profitability of life insurance companies has been considerably susceptible to the short term volatility of the NT dollar foreign exchange rate. With the intention of alleviating the above-mentioned impact and stabilizing related profits and losses, the FSC amended the "Regulations Governing the Setting Aside of Various Reserves by

[81] After Taiwan's SFAS 40 was put into practice on 1 January 2011, the premiums of insurance contracts without manifest insurance risk were booked as liabilities instead of premium income, which resulted in a decline in premium income.
[82] Kuo Hua Life Insurance Company was taken into receivership by the Insurance Stabilization Fund on 4 August 2009 and registered a net loss before tax of NT$6.2 billion in 2011.

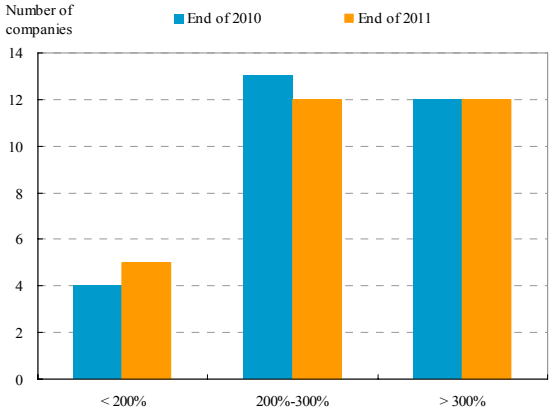
Insurance Enterprises" in February 2012, allowing life insurance companies to set aside foreign exchange volatility reserves on the liability side of their balance sheets from 1 March of the same year to cover potential foreign exchange losses when they may occur. This new reserve mechanism also helps life insurance companies to manage foreign exchange risks more flexibly and reduce related hedging costs.

Average RBC ratio declined

Although some life insurance companies raised more capital during 2011 and the FSC promulgated the tentative measures[83] of risk-based capital requirements, the average RBC ratio[84] of life insurance companies, excluding Kuo Hua Life Insurance Company, declined from 273.84% at the end of 2010 to 238.38% at the end of 2011, but still remained above the statutory minimum of 200%. The decline was mainly driven by the decrease of regulatory capital caused by operating losses and the increase of risk-based capital resulting from the swelling of domestic and foreign securities investments.

By individual companies, there were twelve companies with ratios over 300%, the same as at the end of 2010. However, five companies had ratios below 200% (Chart 4.46), whose combined assets accounted for 4.5% of the total. The financial structure of those companies needs to be improved as soon as possible.

Chart 4.46 Number of life insurance companies classified by RBC ratios



Note: Kuo Hua Life Insurance Company, which was taken into receivership by the Insurance Stabilization Fund on 4 August 2009, is excluded.
Source: FSC.

Overall credit ratings stable

None of the nine life insurance companies rated by Taiwan Ratings Corp. received credit rating adjustments in 2011, although one company was downgraded by Moody's owing to weak profitability and capital status. Moreover, all companies received stable or positive rating outlooks or CreditWatch, showing that the credit ratings of rated companies were expected to be stable in the near future. Of the top three companies,[85] two were rated above twA+,

[83] The FSC promulgated the tentative measures of risk-based capital requirements on 15 December 2011, which allowed insurance companies to calculate unrealized losses on stock-related investments using an arithmetic average of the closing price of each day during the half year preceding the evaluation day, instead of year-end closing prices, but to recognize unrealized gains upon the basis of prices as of the year-end valuation date. This tentative measure only applied to RBC ratio calculation in 2011.

[84] Risk-based capital ratio = regulatory capital / risk-based capital. According to Article 143-4 of the Insurance Act, the risk-based capital ratio of the insurance industry can not be below 200%.

[85] Nan Shan life insurance Company, one of the top three companies, does not request credit ratings agencies to provide a rating service.

signifying their strong ability to fulfill all financial commitments.

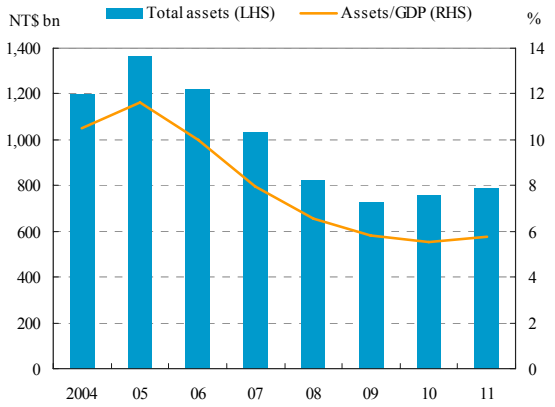
4.2.3 Bills finance companies

The total assets of bills finance companies kept tracking an upward growth path in 2011, while earnings increased slightly, owing to additional non-operating incomes. Although the average capital adequacy ratio continued to decline somewhat, the quality of credit assets remained sound. The problem of maturity mismatch between assets and liabilities in bills finance companies still existed, showing that liquidity risk remained rather high; however, the major liability to equity ratio still conformed to the statutory ceiling. The outstanding balance of the commercial paper guarantee business undertaken by bills finance companies gradually rebounded, and was also below the statutory ceiling.

Total assets kept on a growth path

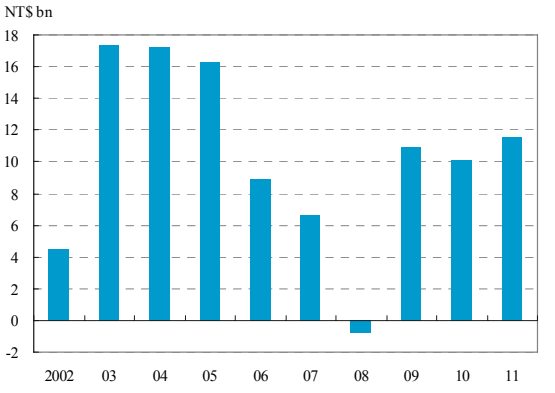
As a result of rising bonds and bills investment positions, the total assets of bills finance companies stood at NT$791 billion at the end of 2011, equivalent to 5.75% of annual GDP and increasing by 4.85% year on year (Chart 4.47). Of the eight bills finance companies,[86] the top three companies held a combined market share of 74.58% by assets, while each of the other firms had a market share below 7%.

Chart 4.47 Total assets of bills finance companies



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

Chart 4.48 Net income before tax of bills finance companies



Source: CBC.

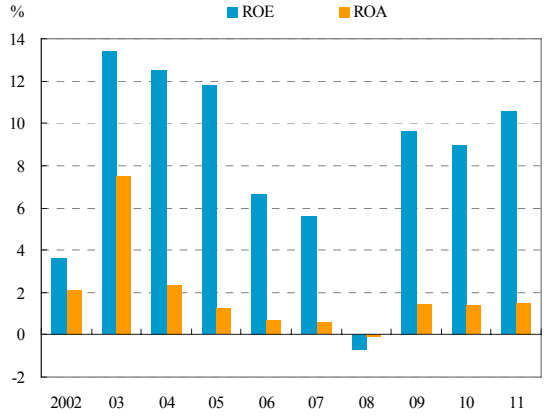
Profitability increased slightly due to additional non-operating income

Bills finance companies posted a net income before tax of NT$11.5 billion in 2011, a year-on-year increase of 13.74% over NT$10.1 billion registered in 2010 (Chart 4.48). The increase in profitability was mainly driven by capital gains of NT$4.7 billion from the

[86] The number of bills finance companies decreased from nine in 2010 to eight in 2011 due to a merger.

property transactions of two companies, which was recorded as non-operating income. At the same time, average ROE and ROA rose to 10.56% and 1.49%, respectively, higher than 8.95% and 1.37% in 2010 (Chart 4.49). If the above-mentioned capital gains from property transactions were excluded, however, the net income before tax of bills finance companies would have contracted by 32.87% year on year in 2011 due to the sharp shrinkage of net interest revenues resulting from ascending short term interest rates compressing the interest rate spread.

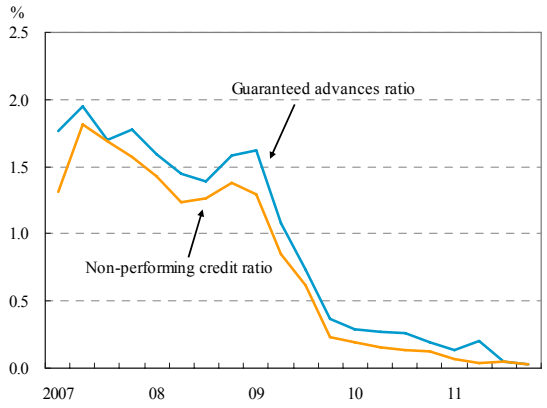
Chart 4.49 ROE & ROA of bills finance companies



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

As the CBC has kept policy rates unchanged since the third quarter of 2011, the pressures of rising funding costs and bond investment evaluation losses caused by the five previous rate rises were anticipated to alleviate temporarily. Moreover, increasing bills issuance, induced by additional short term funding needs during the recent economic rebound, and a stably growing commercial paper guarantees business could be conducive to the future profitability of bills finance companies.

Chart 4.50 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.

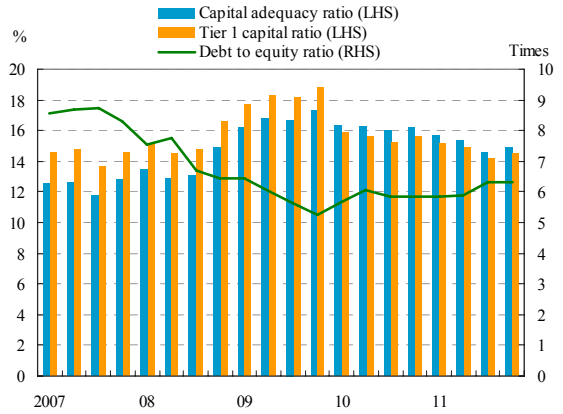
Asset quality remained sound

The average guaranteed advances ratio and the non-performing credit ratio both declined simultaneously to historical lows of 0.02% each at the end of 2011, indicating the credit quality of bills finance companies remained sound (Chart 4.50). At the same time, the ratios of the aggregate amount of credit loss and guarantee reserves to non-performing credit as well as to guaranteed advances, respectively, stood at the same value of 8,593.33%. It showed that the reserves set aside remained sufficient to cover potential credit losses.

Average capital adequacy ratio decreased, yet remained above 13% for each firm

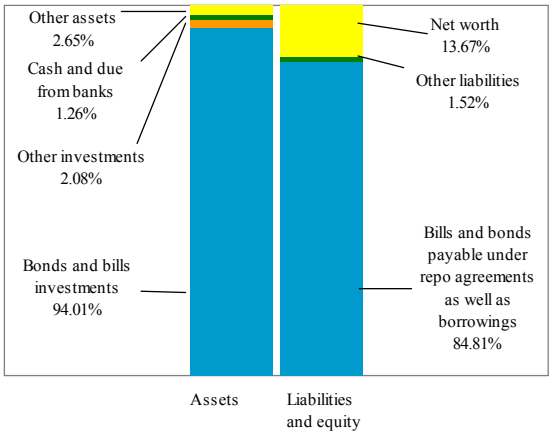
After the FSC amended the Regulations Governing the Capital Adequacy Ratio of Bills Finance Companies and required companies to hold additional capital for operational risk at the end of 2009, the capital adequacy level of bills finance companies trended down, and the average capital adequacy ratio registered 14.90% at the end of 2011, decreasing by 1.30 percentage points year on year. Furthermore, the Tier 1 capital ratio declined from 15.60% a year before to 14.48%. However, the capital adequacy ratio for each firm still remained above 13%, well above the statutory minimum of 8%. The average ratio of debt to equity of bills finance companies went up slightly to 6.31 at the end of 2011, higher than 5.84 at the end of 2010 (Chart 4.51), reflecting a small elevation in financial leverage.

Chart 4.51 Capital adequacy and leverage of bills finance companies



Source: CBC.

Chart 4.52 Asset/liability structure of bills finance companies



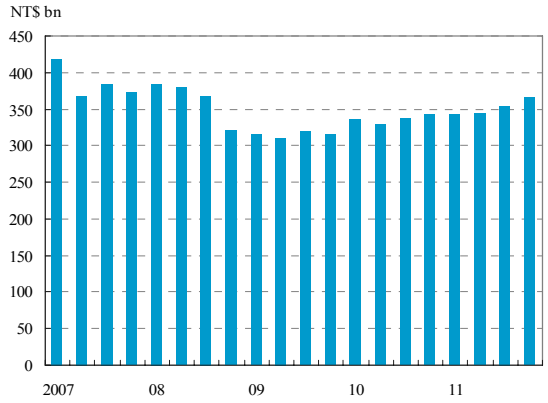
Note: Figures are end-December 2011 data.
Sources: CBC and FSC.

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

Looking at the structure of assets and liabilities of bills finance companies at the end of 2011, bonds and bills investments constituted 94.01% of total assets, in which long-term bonds investments accounted for 44.44%. The sources of funds were mainly made up of short-term repo transactions and borrowings, accounting for 84.81% of total assets, while net worth was only 13.67% of total assets (Chart 4.52). The significant maturity mismatch between assets and liabilities showed that bills finance companies still faced high liquidity risk, which needs to be closely monitored.

In order to reduce the business risk and liquidity risk in bills finance companies, the FSC amended the regulations in April 2010, restricting the ceilings of major liabilities[87] of bills finance companies according to their capital scale. At the end of 2011, the average ratio of major liabilities to net worth registered 7.15, higher than 6.35 at the end of 2010. However, none of the bills finance companies exceeded the regulatory ceilings of ten or twelve times.

Chart 4.53 Outstanding commercial paper guarantees



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

Outstanding balance of guarantees rebounded gradually

Following the increase of commercial paper issuance, the outstanding guarantees business undertaken by bills finance companies rebounded gradually, registering NT$366.3 billion at the end of 2011, an increase of NT$24.5 billion or 7.16% year on year (Chart 4.53). In February 2010, the FSC began to set the required ratio of guarantees and endorsements business to net worth undertaken by bills finance companies according to their different capital adequacy ratio levels.[88] At the end of 2011, the average ratio registered 3.90, higher than 3.45 a year before. Although the ratio of each bills finance company rose slightly in 2011, it still conformed to the regulatory ceiling of five times.

[87] 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 2011, 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.

[88] 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 ratio of outstanding commercial paper guaranteed to net worth for a 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 2011, the capital adequacy ratio of each bills finance company was above 12%, so the ceiling of five times was set for each one.