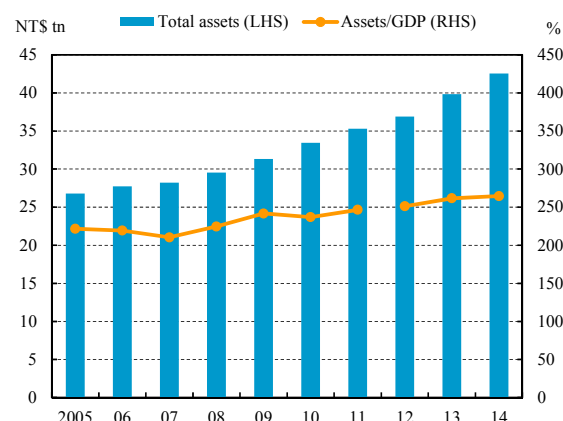


3.2 Financial institutions

3.2.1 Domestic banks

In 2014, the total assets of domestic banks⁵⁵ accumulated continuously mainly because of increasing loans. Asset quality improved and the sector concentration of corporate loans declined continuously. The concentration of credit exposure in real estate loans remained broadly unchanged; nevertheless, the trading volume of real estate contracted and the price of real estate gradually decreased. Banks should take prudent actions to address potentially mounting credit risks. The estimated VaR of overall market risk exposures of domestic banks rose but had limited influence on their capital adequacy. Moreover, liquidity risk was moderate thanks to ample liquidity in the banking system. The profitability of domestic banks reached a record high in 2014, while the average capital adequacy ratio also rose. This revealed that the capacity of domestic banks to bear losses was satisfactory.

Chart 3.16 Total assets of domestic banks



Note: Figures for total assets from 2012 are on the TIFRSs basis, while those of prior years are on the ROC GAAP basis.
Sources: CBC and DGBAS.

Total assets increased continually

The total assets of domestic banks kept increasing and reached NT\$42.56 trillion at the end of 2014, equivalent to 264.62% of annual GDP (Chart 3.16). The annual growth rate of total assets decreased slightly to 6.86% from 7.95% a year earlier.

Credit risk

Customer loans saw stable growth

In 2014, customer loans were the major source of credit risk for domestic banks. Outstanding loans of their domestic banking units (DBUs)⁵⁶ stood at NT\$21.11 trillion at the end of 2014, accounting for 49.59% of total assets, with the annual growth rate increasing to 3.89% from 2.90% a year earlier (Chart 3.17).

⁵⁵ The 40 domestic banks referred to in this section include the Agricultural Bank of Taiwan.

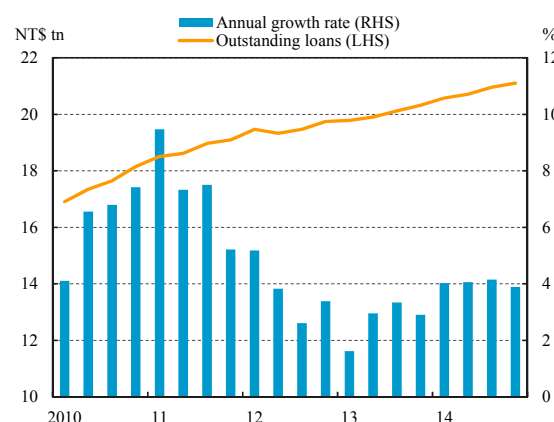
⁵⁶ The term “domestic banking units” excludes offshore banking units and overseas branches. The term “customer loans” herein refers to discounts, overdrafts, other loans and import bills purchased. It excludes export bills purchased, non-accrual loans and interbank loans.

In terms of borrowers of loans extended by domestic banks' DBUs, at the end of 2014, the annual growth rate of corporate loans increased slightly to 3.1% from 2.51% a year earlier, and the annual growth rate of individual loans recorded 5.93%, which was about the same as the previous year. The annual growth rate of loans to government agencies was -2.64%, because an increase in government tax revenues and the outstandings of government bond issuance⁵⁷ caused a decrease in demand for bank borrowing.

Concentration of credit exposure in real estate loans held steady, but the ratio of real estate-secured credit ascended

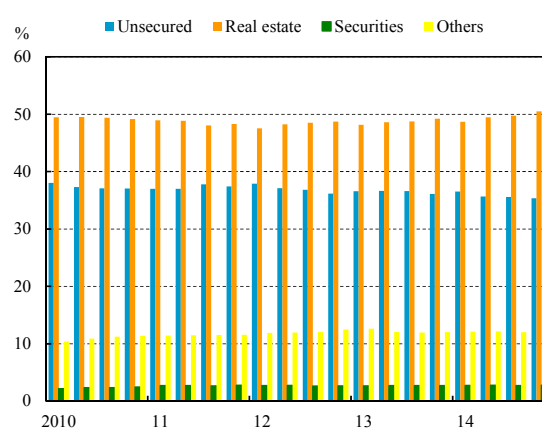
Outstanding real estate loans⁵⁸ granted by DBUs of domestic banks amounted to NT\$7.73 trillion, accounting for 36.58% of total loans at the end of 2014. The ratio held steady, about the same as in the previous year. Because the government continuously implemented targeted prudential measures toward real estate loans and banks' loan policy turned more conservative in recent years, the concentration of credit exposure in real estate loans has gradually improved compared to the 38.66% figure recorded at the end of June 2010. However, the total real estate-secured credit granted by domestic banks reached NT\$13.25 trillion, accounting for 50.48% of total credit,⁵⁹ an increase of 1.28 percentage points over the previous year (Chart 3.18).

Chart 3.17 Outstanding loans and annual loan growth rate in domestic banks



Source: CBC.

Chart 3.18 Credit by type of collateral in domestic banks



Note: End-of-period figures.

Source: CBC.

⁵⁷ Total net tax revenues and outstanding of government bonds in 2014 increased by NT\$142.0 billion (7.74%) and NT\$230.7 billion (4.43%), respectively, over the previous year.

⁵⁸ The term "real estate loans" herein refers to house-purchase loans, house-refurbishment loans and construction loans.

⁵⁹ The term "credit" herein includes loans, guarantee payments receivable and acceptances receivable.

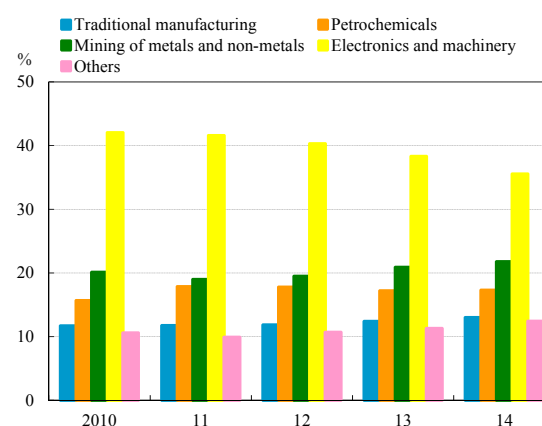
With the trading volume of real estate contracting, as well as emerging signs of a slight decline in house prices, banks should cautiously adjust their loan policy and strengthen risk control mechanisms to address potentially mounting credit risks.

Credit concentration of corporate loans continually declined

Outstanding corporate loans of DBUs of domestic banks stood at NT\$9.35 trillion at the end of 2014, while loans to the manufacturing sector registered NT\$3.85 trillion and accounted for the largest share of 41.20% of the total. Within the manufacturing sector,⁶⁰ the largest proportion of loans was for the electronics industry, which stood at NT\$1.37 trillion and accounted for 35.53% of the total loans to the whole manufacturing sector. However, in recent years, the ratio has gradually declined (Chart 3.19), and the credit concentration of corporate loans has decreased.

Outstanding corporate loans to small and medium enterprises (SMEs) by domestic banks steadily expanded to NT\$5.19 trillion at the end of 2014, increasing by NT\$408.2 billion or 8.54% over the previous year (Chart 3.20). The ratio of these loans to outstanding corporate loans has also ascended each year and reached a ten-year high of 55.49% at the end of 2014, indicating good results as banks expanded SME lending in line with government policy while ensuring proper risk control. Along with SME loan growth, the outstanding amount of loan guarantees applied for by SMEs through the Small and Medium Enterprise Credit Guarantee Fund of Taiwan (SMEG) also kept rising and increased by 4.30% from year-end 2013 to reach NT\$867.9 billion at the end of 2014, and the guarantee coverage ratio

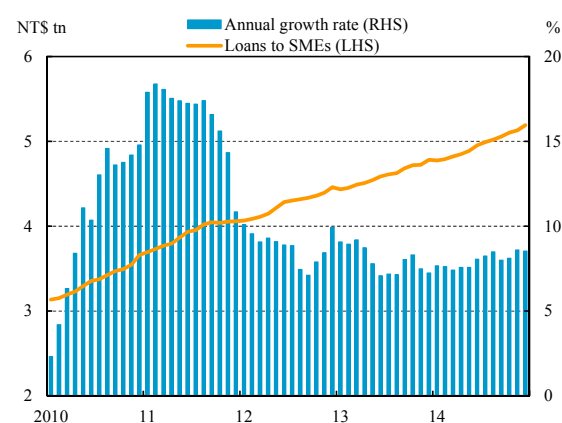
Chart 3.19 Exposure to the manufacturing sector by domestic banks



Notes: 1. End-of-period figures.
2. Exposure to each sector = loans to each sector / loans to the whole manufacturing sector.

Source: CBC.

Chart 3.20 Loans to SMEs by domestic banks



Source: CBC.

⁶⁰ Loans to the manufacturing sector are divided into five categories by industry, including: (1) electronics, (2) mining of metals and non-metals, (3) petrochemicals, (4) traditional manufacturing, and (5) others.

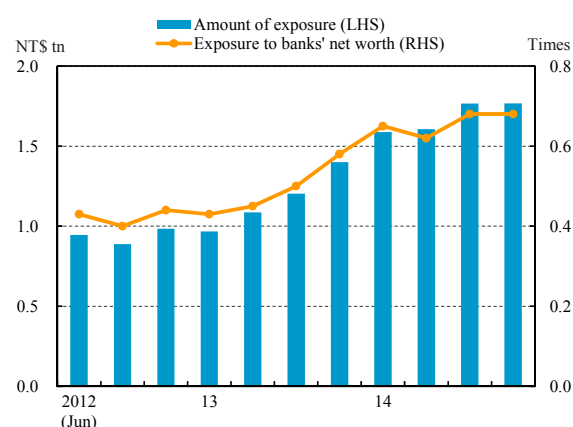
also increased to 78.75%. These statistics all point to the favorable conditions for SMEs to acquire necessary funds.

Exposure to Mainland China grew continually in the first three quarters, but turned to decline in the fourth quarter

According to Article 12-1 of the *Regulations Governing the Banking Activity and the Establishment and the Investment by Financial Institution Between the Taiwan Area and the Mainland Area*, the aggregate amount of credit, investment, and interbank loans/deposits (hereafter statutory exposure)⁶¹ extended by a domestic bank to customers in Mainland China should not exceed 100% of the bank's net worth as of the end of the preceding fiscal year. In the first three quarters of 2014, the aggregate amount of such exposure of all domestic banks continuously increased, but reversed to a decline in the fourth quarter. At the end of 2014, the aggregate amount stood at NT\$1.77 trillion, or 68% as a percentage of banks' net worth, higher than 58% a year earlier (Chart 3.21). However, it was still within the statutory limit and no domestic bank exceeded the limit.

In addition to reinforcing target examination and risk control practices for credit exposure of domestic banks to customers in Mainland China, the FSC implemented the following measures in response to increasing credit risks in recent years:⁶² (1) strengthening due

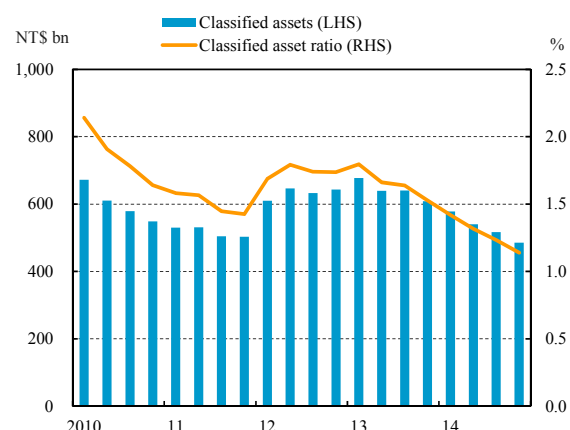
Chart 3.21 Exposure to Mainland China by domestic banks



Note: FSC implemented calculation method of statutory exposure in Mainland area since April 2012.

Source: CBC.

Chart 3.22 Classified assets of domestic banks



Note: Classified asset ratio = classified assets / total assets.

Source: CBC.

⁶¹ Statutory exposure refers to aggregate exposure, but excludes: (1) short-term trade financing within one year; (2) credits and investments backed by guarantees or collateral which are fully secured outside Mainland China. Moreover, specific interbank loans/deposits with remaining maturity less than three months and the underlying counterparty rated at investment-grade are weighted with 20% of the aggregate amount of exposures.

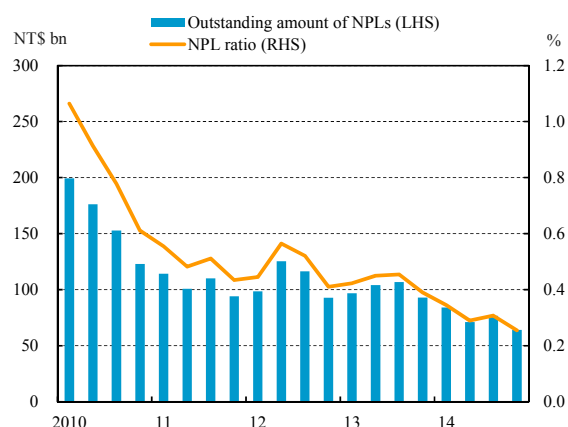
⁶² The balance of NPLs and NPL ratio of Mainland Chinese commercial banks kept growing. Furthermore, several Mainland Chinese enterprises defaulted in the second half of 2014.

deligence audits on transaction authenticity of short-term trade financing by domestic banks, which is exempted from the statutory exposures; (2) bringing the full amount of interbank loans/deposits into the calculation of the statutory exposure limit in Mainland China, because such short-term interbank loans/deposits are shorter than three months but are expected to be extended after they are due, causing the loans/deposits period to exceed three months; and (3) requiring domestic banks to meet the requirement that minimum loan loss provisions and guaranteed reserves shall be at least 1.5% of the outstanding credit to customers in Mainland China by the end of 2015. Accordingly, domestic banks should cautiously monitor economic and financial conditions in Mainland China, as well as prudently controlling their exposures to customers in Mainland China.

Asset quality improved continuously

Outstanding classified assets⁶³ and the average classified asset ratio of domestic banks stood at NT\$485.0 billion and 1.14% at the end of 2014, decreasing by 20.29% and 0.39 percentage points, respectively, over the previous year (Chart 3.22). Meanwhile, expected losses of classified assets⁶⁴ also contracted by NT\$26.7 billion or 33.23% from a year earlier to NT\$53.6 billion, while the ratio of expected losses to loan loss provisions was only 14.49%, indicating sufficient provisions to cover expected losses.

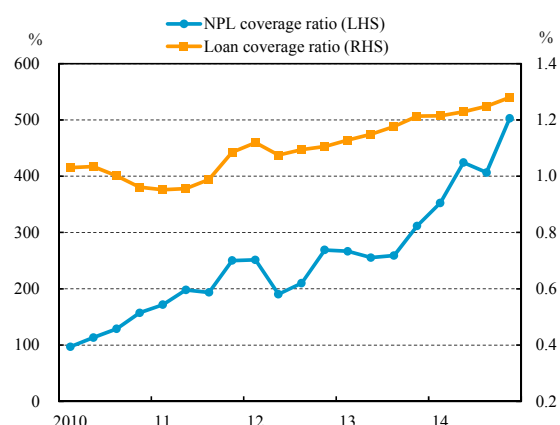
Chart 3.23 NPL ratio of domestic banks



Note: Excludes interbank loans.

Source: CBC.

Chart 3.24 NPL coverage ratio and loan coverage ratio of domestic banks



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

2. Loan coverage ratio = total provisions / total loans.

3. Excludes interbank loans.

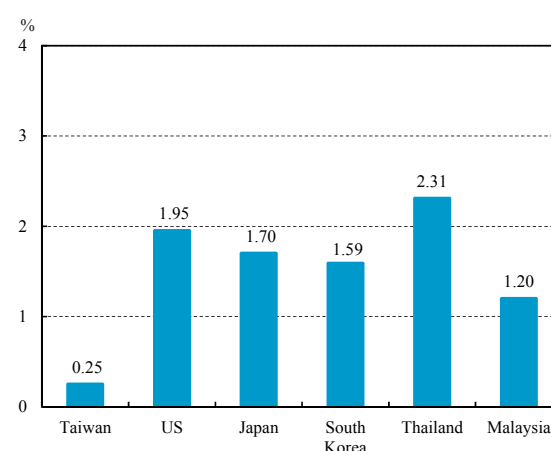
Source: CBC.

⁶³ 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.

⁶⁴ Loss herein refers to the losses from loans, acceptances, guarantees, credit cards, and factoring without recourse.

The outstanding NPLs of domestic banks registered NT\$64.0 billion at the end of 2014, decreasing by 31.15% year on year, owing to write-offs and retrieval of NPLs. The average NPL ratio fell to a record low of 0.25% (Chart 3.23). With the decrease in NPLs and the increase in provisions, the NPL coverage ratio and the loan coverage ratio rose to 502.87% and 1.28%, respectively, at the end of 2014 (Chart 3.24). Among the 40 domestic banks, all had NPL ratios of less than 1%, except for one with a ratio between 1% and 1.5%, at the end of 2014. Compared to the US and neighboring Asian countries, the average NPL ratio of domestic banks in Taiwan was much lower (Chart 3.25).

Chart 3.25 NPL ratios of banks in selected countries



Note: Figures for Japan and South Korea are end-September 2014 data, while the others are end-December 2014 data.
Sources: CBC, FDIC, FSA, FSS, BOT and BNM.

Market risk

Estimated Value-at-Risk for market risk exposures rose

The net position of debt securities accounted for the largest share of total market risk exposures of domestic banks at the end of 2014, followed by the net positions of equity securities and of foreign exchange. Using market data as of March 2015, the estimated total VaR calculated by the CBC's market risk model⁶⁵ for foreign exchange, interest rate and equity exposures of domestic banks stood at NT\$291.8 billion at the end of 2014, ascending by NT\$28.1 billion or 10.66% compared to the figure a year earlier. Among market risks, interest rate VaR increased by 7.59% as the yields on Taiwan's government bonds trended upward, following a rise in US government bond yields supported by better performance of the economy and improved employment as well as the Fed's QE exit. Equity and foreign exchange VaRs also increased owing to a rise in the volatility of the stock and foreign exchange markets caused by the divergence in the monetary policies of advanced countries (Table 3.1).

⁶⁵ 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 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 (Data as of 27 March 2015).

Table 3.1 Market risks of domestic banks

Unit: NTS bn

Types of risk	Items	End-Dec. 2013	End-Dec. 2014	Changes	
				Amount	PP ; %
Foreign exchange	Net position	79.9	78.4	-1.5	-1.88
	VaR	1.6	2.3	0.7	43.75
	VaR / net position (%)	2.00	2.93		0.93
Interest rate	Net position	6,723.7	7,033.2	309.5	4.60
	VaR	237.2	255.2	18.0	7.59
	VaR / net position (%)	3.53	3.63		0.10
Equities	Net position	597.4	709.2	111.8	18.71
	VaR	24.9	34.3	9.4	37.75
	VaR / net position (%)	4.17	4.84		0.67
Total VaR		263.7	291.8	28.1	10.66

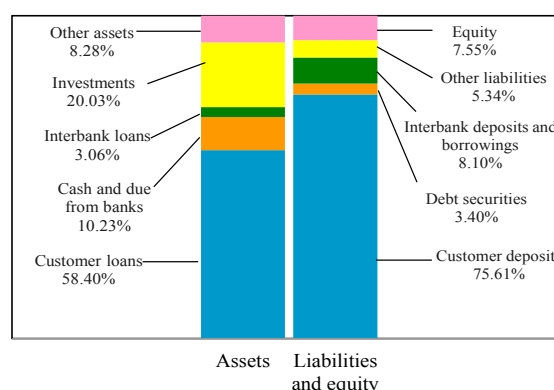
Note: PP = percentage point.

Source: CBC.

The effects of market risk on capital adequacy ratios reached about 1 percentage point

According to the estimated results mentioned above, the total VaR would cause a decrease of 1.21 percentage points in the average capital adequacy ratio of domestic banks and induce a drop in the ratio from the current 12.34% to 11.13%. Nevertheless, it would still be higher than the statutory minimum of 8%.

Chart 3.26 Asset/liability structure of domestic banks



Notes: 1. Figures are as of end-December 2014.

2. Equity includes loss provisions. Interbank deposits include deposits with the CBC.

Source: CBC.

Liquidity risk

Liquidity in the banking system remained ample

The structure of assets and liabilities for domestic banks roughly remained unchanged in 2014. As for the sources of funds, relatively stable customer deposits still made up the largest share of 75.61% of the total, followed by interbank deposits and borrowings at 8.10%, while debt securities issues contributed a mere 3.40%. Regarding the uses of funds, customer loans

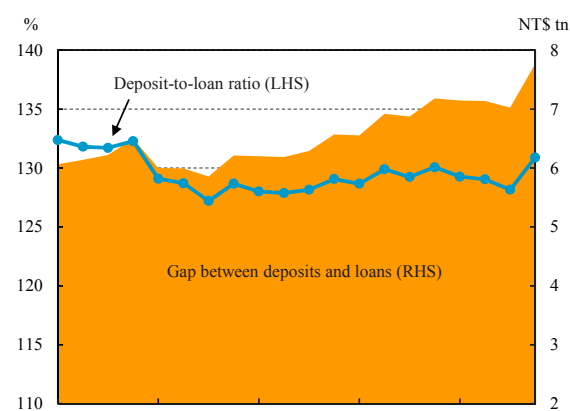
accounted for the biggest share of 58.40%, followed by securities investments at 20.03%, while cash and due from banks accounted for 10.23% (Chart 3.26).

Given that the increase in deposits slightly exceeded that in loans in 2014, the average deposit-to-loan ratio of domestic banks rose to 130.89%. The funding surplus (i.e., deposits exceeding loans) also expanded to NT\$7.77 trillion, indicating that the overall liquidity in domestic banks remained abundant (Chart 3.27).

Overall liquidity risk was moderate

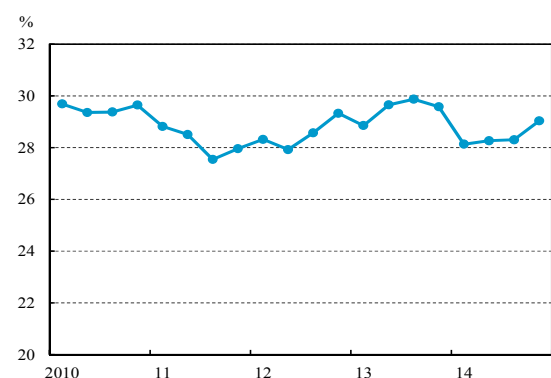
The average NT dollar liquid reserve ratio of domestic banks was well above the statutory minimum of 10% in every month of 2014 and stood at 29.04% in December, a slight decrease of 0.54 percentage points year on year (Chart 3.28), while the ratio of domestic banks was each higher than 15%. Looking at the components of liquid reserves in December 2014, Tier 1 liquid reserves, mainly consisting of certificates of deposit issued by the CBC, accounted for 87.01% of the total, while Tier 2 and other reserves accounted for a total of 12.99%. This revealed that the quality of liquid assets held by domestic banks remained satisfactory and overall liquidity risk was moderate.

Chart 3.27 Deposit-to-loan ratio of domestic banks



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

Chart 3.28 Liquid reserve ratio of domestic banks



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

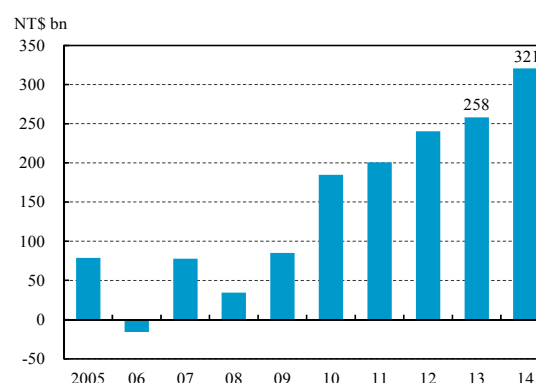
Profitability

Benefiting from the notable profit growth of OBUs and overseas branches, banks recorded historical high profits for 2014

The aggregate net income before tax of domestic banks reached a historical high of NT\$320.7 billion in 2014, increasing by NT\$62.5 billion or 24.19% year on year. The average ROE and ROA also rose to new highs of 11.62% and 0.77%, respectively, showing significant improvement in business performance (Charts 3.29 and 3.30). Compared to selected neighboring Asia-Pacific economies, the ROAs of domestic banks still lagged behind (Chart 3.31).

The main reason for the increase in profits, other than a substantial rise in net interest income and fee income, was recognition of a NT\$14.8 billion gain from a bargain purchase⁶⁶ by CTBC Bank as a result of acquisition activity in June 2014. Excluding the influence of that one-time gain, annual profits still increased by NT\$47.7 billion or 18.46% year on year. Among them, offshore banking units (OBUs) and overseas branches' net income before tax in 2014 grew by 52.74% and 36.10%, respectively, combining to contribute 37% of total profit, rising significantly from 31% a year earlier (Chart 3.32).

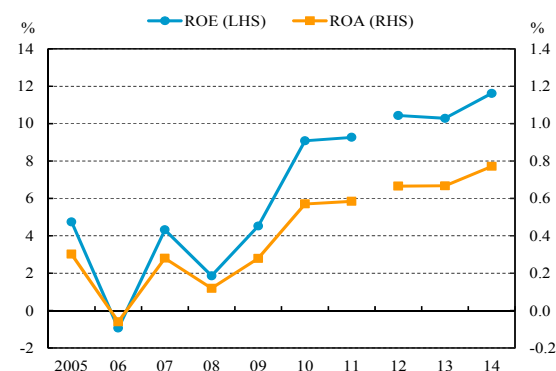
Chart 3.29 Net income before tax of domestic banks



Note: Figures from 2012 forward are on the TIFRSs basis, while those of prior years are on the ROC GAAP basis (same in all charts in this section).

Source: CBC.

Chart 3.30 ROE & ROA of domestic banks

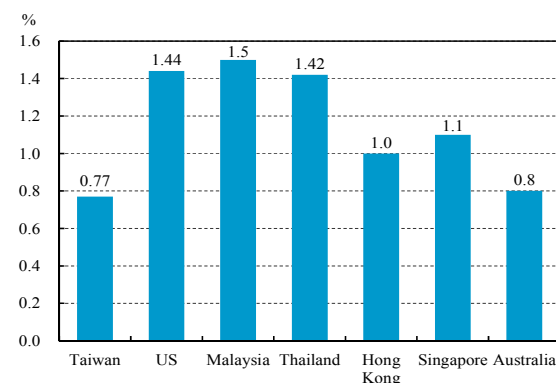


Notes: 1. ROE = net income before tax / average equity.

2. ROA = net income before tax / average total assets.

Source: CBC.

Chart 3.31 Comparison of ROAs of banks in selected economies



Note: Figures are as of 2014.

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

⁶⁶ In accordance with IFRS 3, an acquirer is required to measure the difference between the consideration transferred and the net identifiable assets at acquisition-date fair values of the acquiree in a business combination. If the difference is positive, that will be recognized as goodwill. If the difference is negative, the acquirer records a gain from a bargain purchase and that gain is treated as current period profit.

In 2014, seven domestic banks achieved profitable ROEs of 15% or more, increasing from four banks in 2013; the number of domestic banks whose ROAs reached the international standard of 1% increased to ten (Chart 3.33). In addition, the ROEs of 26 banks, and ROAs of 28 banks increased compared to the previous year.

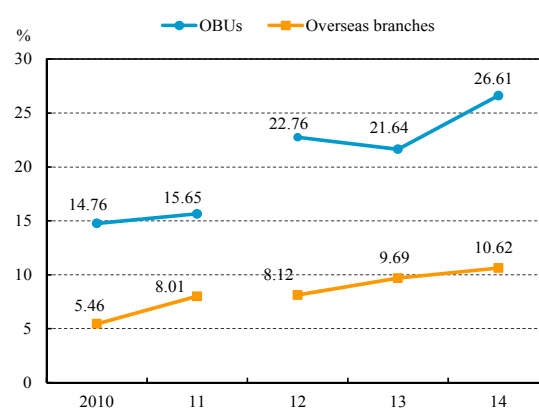
Net operating income grew substantially

Total net operating income of domestic banks registered NT\$730.8 billion in 2014, increasing by NT\$88.5 billion or 13.78% year on year, mainly owing to marked growth in net interest income and fee income. Analyzed by income component, net interest income increased by NT\$42 billion year on year; the annual growth rate also expanded from 3.49% a year earlier to 10.73% in 2014. Net fee income rose by NT\$15.9 billion or 11.77%, supported by growth in the wealth management business. Moreover, net gains on financial instruments increased by NT\$9.2 billion or 9.74%, driven by an increase in valuation gains (Chart 3.34).

Operating costs increased by a relatively smaller margin

The operating costs of domestic banks registered NT\$410.1 billion in 2014, rising by NT\$26 billion or 6.78% compared to the previous year. Among them, non-interest expenses⁶⁷ increased by NT\$27.3 billion or 8.06% and accounted for an increasing share of 89% of total operating costs, owing to the rise in employee benefits expenses and other operating and management expenses. Meanwhile, provisions for loan losses and guarantee reserves decreased by NT\$1.3 billion or 2.94% year on year, mainly owing to a higher base of 2013

Chart 3.32 Profit contributions of OBUs and overseas branches



Note: Overseas branches include branches in Mainland China.
Source: CBC.

Chart 3.33 Distribution of ROEs and ROAs of domestic banks



Source: CBC.

⁶⁷ Non-interest expenses include employee benefits expenses, depreciation and amortization expenses, and other operating and management expenses.

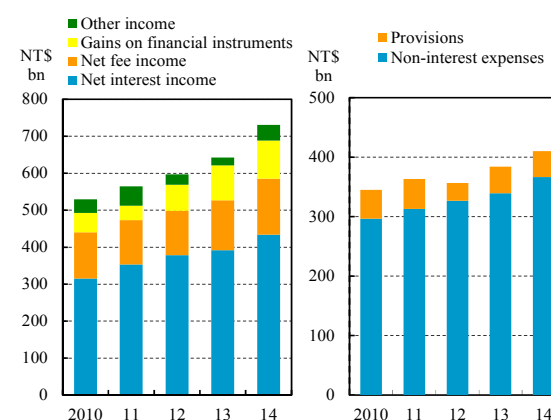
resulting from the requirement by the FSC in 2013 to raise the ratio of provisions from 0.5% to 1% of the balance of normal credit assets (excluding assets that represent claims against the central and local governments in Taiwan), leading to a marked increase in provisions (Chart 3.34).

Factors that might affect future profitability

Driven by a rise in the interest rates of new loans for house purchases, the interest rate spread between deposits and loans gradually rebounded to 1.44 percentage points in 2014 Q4 (Chart 3.35). The rise in the spread was helpful in boosting domestic banks' profitability.

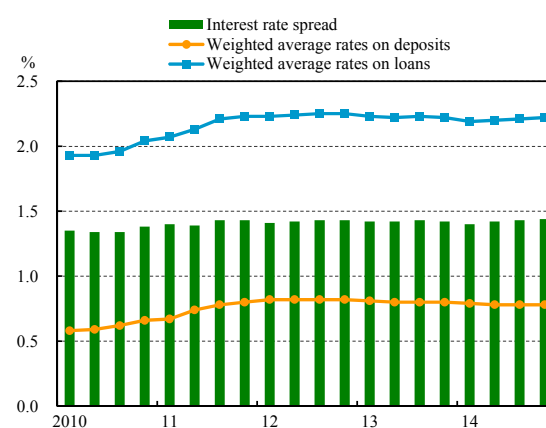
In order to enhance the risk-bearing capacity of banks, in December 2014, the FSC required that domestic banks have to maintain a provision ratio of at least 1.5% against loans for home purchase, refurbishment, or construction by the end of 2016. Some large private banks had already achieved the 1.5% provision ratio at the end of 2014, and the other banks still have a two-year buffer period to increase provisions. Moreover, in April 2015, the FSC required that the ratio of loan loss provisions and guarantee reserves to the balance of normal credit assets extended to customers in Mainland China by domestic banks (including short-term trade financing) has to reach at least 1.5% by the end of 2015. Nevertheless, both of the requirements are estimated to have a limited impact on overall profits.

Chart 3.34 Composition of incomes and costs of domestic banks



Source: CBC.

Chart 3.35 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.

Capital adequacy

Capital ratios trend upward

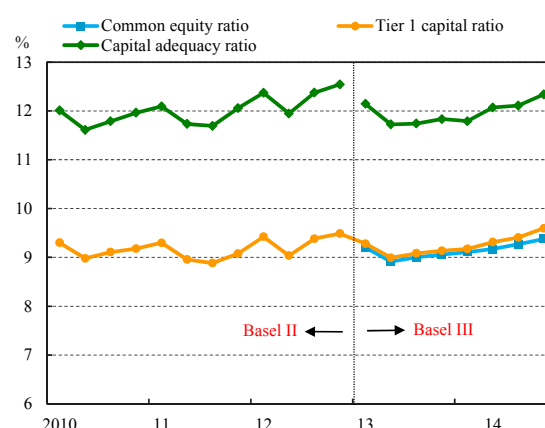
In the first quarter of 2014, the average capital ratio of domestic banks declined slightly as risk-weighted assets accumulated at a faster pace. From Q2 onwards, as a result of capital injection and accumulated earnings as well as the issuance of Basel III-compliant subordinated debt, the average common equity ratio, Tier 1 capital ratio and capital adequacy ratio rose and stood at 9.38%, 9.60% and 12.34% at the end of 2014, respectively, from 9.06%, 9.14% and 11.83% a year earlier (Chart 3.36). However, compared to some neighboring Asia-Pacific economies, domestic banks in Taiwan had lower Tier 1 capital ratios (Chart 3.37).

Further breaking down the components of regulatory capital, common equity Tier 1 capital, which features the best loss-bearing capacity, accounted for 76.00% of eligible capital, while non-common equity Tier 1 capital and Tier 2 capital registered only 1.77% and 22.23%, respectively, at the end of 2014. It showed that the capital quality of domestic banks was satisfactory.

The capital levels of all domestic banks were higher than the 2014 statutory minimum

At the end of 2014, the common equity ratios, Tier 1 capital ratios and capital adequacy ratios for all domestic banks remained above the statutory minimum requirements for 2014 (4%, 5.5% and 8.0%) and those for 2015 (4.5%, 6.0% and 8.0%). Compared to the end of the previous year, the number of banks with Tier 1 capital ratios higher than 8.5% significantly

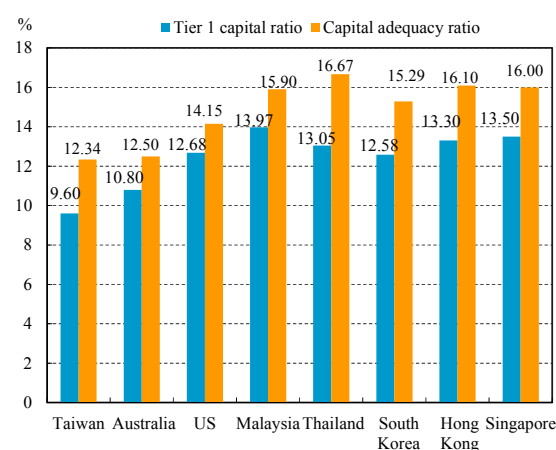
Chart 3.36 Capital ratio of domestic banks



- Notes:
1. Figures from 2013 forward are based on Basel III, while prior years are based on Basel II.
 2. Common equity capital ratio = common equity Tier 1 capital / risk-weighted assets.
 3. Tier 1 capital ratio = Tier 1 capital / risk-weighted assets.
 4. Capital adequacy ratio = eligible capital / risk-weighted assets.

Source: CBC.

Chart 3.37 Comparison of capital ratios in selected economies



Note: Figures for Hong Kong, South Korea and Singapore are as of end-September 2014; others are as of the end of 2014.

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

increased, indicating that most banks have been improving their capital quality and level in order to meet Basel III standards⁶⁸ or to increase their merger and acquisition momentum (Chart 3.38).

Some banks faced pressure to raise their capital levels

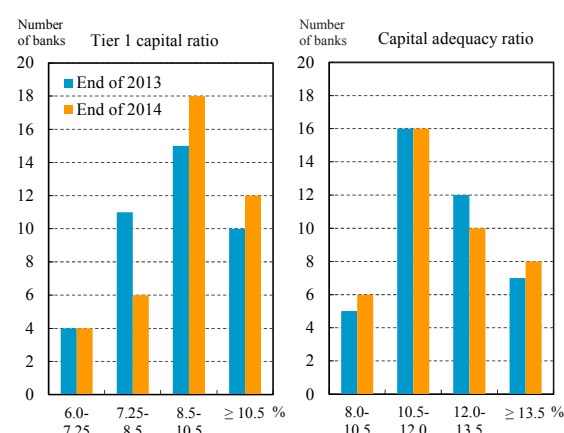
Even though the capital ratios of all banks at the end of 2014 met the minimum standards for 2015, some banks, particularly state-owned banks and small private banks, might not fulfill all minimum capital requirements effective from 2016 onwards and thus face pressure to raise their capital levels. Such banks should actively reinforce their capital adequacy via seasoned equity offerings, accumulating earnings, issuing subordinated debts, and adjusting asset structures to raise their capital ratios gradually.

Credit ratings

Average credit rating level remained stable

With respect to the overall risk assessments of Taiwan's banking system made by credit rating agencies, Standard & Poor's Banking Industry Country Risk Assessment

Chart 3.38 Number of domestic banks classified by capital ratios



Source: CBC.

Table 3.2 Systemic risk indicators for the banking system

Banking System	Standard and Poor's		Fitch	
	BICRA		BSI/MPI	
	2014/2	2015/2	2014/2	2015/2
Hong Kong	2	2	a/3	a/3
Singapore	2	2	aa/2	aa/2
Japan	2	2	a/1	a/1
South Korea	3	3	bbb/1	bbb/1
Taiwan	4	4	bbb/1	bbb/1
Malaysia	4	4	bbb/1	bbb/1
China	5	5	bb/3	bb/3
Thailand	6	6	bbb/1	bbb/1
Indonesia	7	7	bb/3	bb/2
Philippines	7	7	bb/1	bb/1

Sources: Standard and Poor's and Fitch Ratings.

⁶⁸ For implementation of Basel III in Taiwan, see CBC (2013), *Financial Stability Report, May*. The minimum capital requirements in the transition period are as follows:

Items	2013	2014	2015	2016	2017	2018	2019 onwards
Common equity ratio (%)	3.5	4.0	4.5	5.125	5.75	6.375	7.0
Tier1 capital ratio (%)	4.5	5.5	6.0	6.625	7.25	7.875	8.5
Capital adequacy ratio (%)	8.0	8.0	8.0	8.625	9.25	9.875	10.5

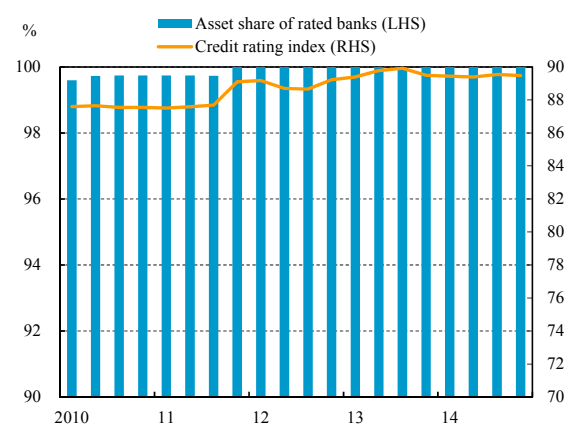
(BICRA)⁶⁹ maintained Taiwan's BICRA unchanged at Group 4. Compared to other Asian economies, the risk of Taiwan's banking industry was higher than those of Hong Kong, Singapore, Japan, and South Korea, about the same as that of Malaysia, but much lower than those of Mainland China, Thailand, Indonesia and the Philippines. The assessment of Taiwan's banking system evaluated by Fitch Ratings' Banking System Indicator/ Macro-Prudential Indicator (BSI/MPI)⁷⁰ also remained unchanged at level bbb/1 (Table 3.2).

As for the rating results⁷¹ released by credit rating agencies, the credit rating index⁷² of domestic banks descended slightly in 2014 (Chart 3.39), because one bank, whose parent company was downgraded by Standard & Poor's, received a rating downgrade from twAAA to twAA+.

Rating outlooks remained stable

All domestic banks were rated by credit rating agencies for 2014. Most of them maintained credit ratings of twAA/twA (Taiwan Ratings) or AA(twn)/A(twn) (Fitch Ratings) at the end of 2014, and none had credit ratings lower than

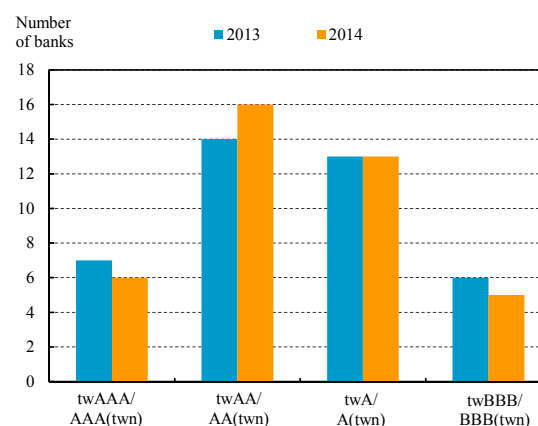
Chart 3.39 Credit rating indices of rated domestic banks



Note: End-of-period figures.

Sources: Taiwan Ratings Corporation, Fitch Ratings, and CBC.

Chart 3.40 Number of domestic banks classified by credit ratings



Note: End-of-period figures.

Sources: Taiwan Ratings Corporation and Fitch Ratings.

⁶⁹ The analytical dimensions of Standard & Poor's BICRA include 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.

⁷⁰ Fitch Ratings has devised two complementary measures, the BSI and 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 represents banking system strength on a scale from aa (very strong) to ccc/cc/c (very weak). On the other hand, the MPI indicates the vulnerability to stress on above-trend levels of private sector credit, a bubble in real asset prices, and/or major currency appreciation, measuring the vulnerability of the macro environment on a scale from 1 (low) to 3 (high) in terms of banking system vulnerability.

⁷¹ As of the end of 2014, the majority of Taiwan's domestic banks received long-term issuer ratings from Taiwan Ratings, followed by those with national long-term ratings from Fitch Ratings. Therefore, this section is based primarily on the Taiwan Ratings' ratings (tw~), and secondarily on Fitch Ratings' ratings (~twn).

⁷² 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 or national long-term ratings from Fitch Ratings. The higher the index is, the better the bank's overall solvency.

twBB/BB(twn) (Chart 3.40). The results were similar to those received the previous year. Regarding rating outlooks, while three banks turned negative in 2014,⁷³ the other 37 banks remained stable or positive.

3.2.2 Life insurance companies

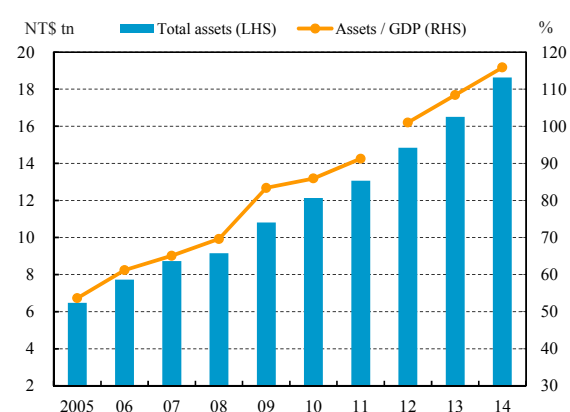
In 2014, the total assets of life insurance companies grew quickly, and their profitability registered a record high, showing an improvement in operating performance. At the end of 2014, the average RBC ratio of life insurance companies rose significantly. However, the financial strength of a few companies needs to be bolstered as soon as possible.

Assets grew rapidly

The total assets of life insurance companies grew continually and reached NT\$18.64 trillion at the end of 2014, equivalent to 115.86% of annual GDP (Chart 3.41). The annual growth rate of total assets rose to 12.93% at the end of 2014, picking up rapidly from 11.24% a year earlier.

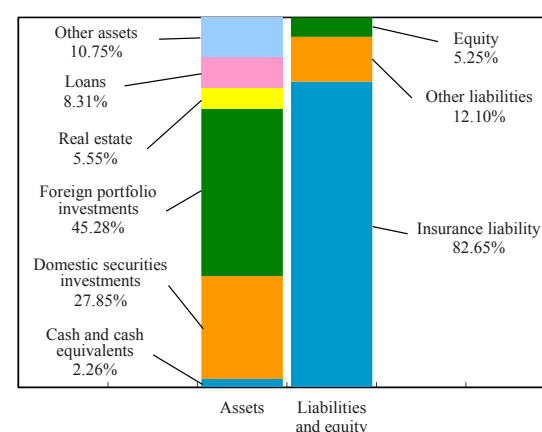
At the end of 2014, 23 domestic life insurance companies⁷⁴ held a 98.56% market share by assets, four of which were foreign affiliates holding a 2.71% market share, while four foreign life insurance companies held the remaining 1.44% of total assets. The top three companies in terms of assets held a combined market share of 55.34%, revealing a slight

Chart 3.41 Total assets of life insurance companies



Note: Figures from 2012 forward are on the TIFRSs basis, while prior years are on the ROC GAAP basis.
Sources: FSC and DGBAS.

Chart 3.42 Asset/liability structure of life insurance companies



Note: Figures are end-December 2014 data.
Source: FSC.

⁷³ The reasons for the three banks receiving negative rating outlooks were: (1) a negative rating outlook of one bank's parent company; (2) expansion of one bank's loan portfolio at a pace faster than the sector average putting pressure on its already below-par capitalization; and (3) fast growth of one bank's business and limited internal capital causing its loss-absorption ability to be worse than its peers.

⁷⁴ Foreign affiliates included.

increase of 1.37 percentage points year on year. The market structure of the life insurance industry roughly remained unchanged in 2014.

Foreign portfolio investments held the largest share

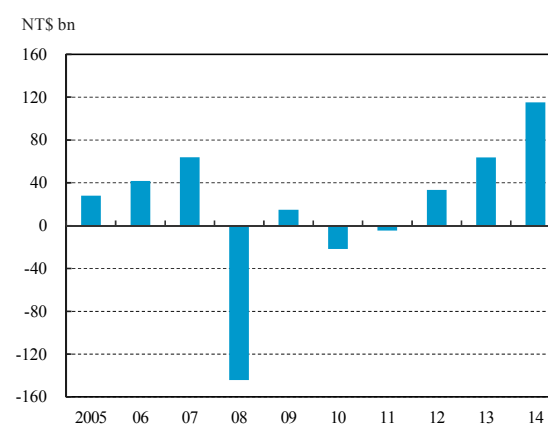
The funds of life insurance companies at the end of 2014 were chiefly invested in foreign portfolios and domestic securities. The share of foreign portfolio investments rose to 45.28%, benefiting from the amendment of the *Insurance Act* that excludes foreign currency-denominated international bonds from the amount subject to the overseas investment ceiling. The share of domestic securities investments dipped to 27.85%. As for the sources of funds, insurance liability accounted for the largest share of 82.65%, and equity rose to a share of 5.25% owing to the huge expansion of unrealized gains on available-for-sale financial assets as well as operating profits, reflecting an improved financial leverage of life insurance companies (Chart 3.42).

Net income registered a record high

Life insurance companies reported a record-high net income before tax of NT\$115 billion in 2014, a year-on-year increase of NT\$51 billion or 80.65% (Chart 3.43). This was mainly driven by huge foreign exchange gains derived from the depreciation of the NT dollar, as well as incremental expansion of interest income and realized gains on available-for-sale financial assets spurred by continuous growth and adjustments of bond and bill investments.

During the same period, average ROE and ROA were 14.20% and 0.66%, respectively, much higher than 10.20% and 0.41% in 2013 (Chart 3.44). Among all 27 insurance companies, nine

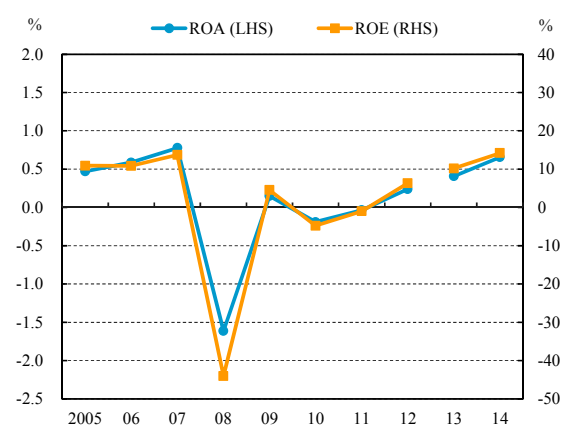
Chart 3.43 Net income before tax of life insurance companies



Note: Figures from 2012 forward are on the TIFRSs basis, while prior years are on the ROC GAAP basis.

Source: FSC.

Chart 3.44 ROE & ROA of life insurance companies



Notes: 1. Figures from 2012 forward are on the TIFRSs basis, while prior years are on the ROC GAAP basis.

2. ROE = net income before tax / average equity.

3. ROA = net income before tax / average assets.

Source: FSC.

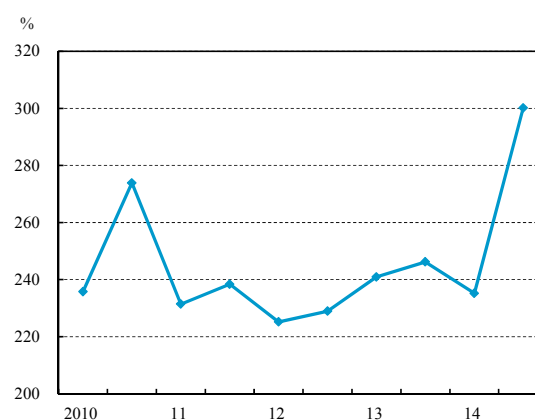
companies posted better profits and achieved ROEs of 10% or more, three more than that of the previous year. However, there were 11 companies who still suffered losses, three less than the number a year earlier.

Average RBC ratio recorded an eight-year high

Although greater investment portfolios bolstered the amount of RBC, the FSC's measure to lower the coefficient for foreign portfolio investments, as well as introducing the new risk capital calculation formula regarding foreign exchange risk as an independent risk factor, limited RBC growth. Furthermore, the industry earned healthy profits and the FSC loosened the regulation to allow more unrealized gains on investment property to be included in regulatory capital, resulting in the significant increase of regulatory capital. Consequently, the average RBC ratio rose to 300.12% at the end of 2014 (excluding Singfor and Global Life Insurance Companies, which were under receivership), from 246.22% a year before, posting an eight-year high (Chart 3.45).

By individual company, there were 16 companies with RBC ratios over 300%, four more than the figure of the previous year. Moreover, the number of companies below 200% decreased to two (Figure for end-2014 is exclusive of the two life insurance companies under receivership, Chart 3.46), whose combined assets accounted for 0.61% of the total. Although the share is low, the financial structure of those companies needs to be improved as soon as possible.

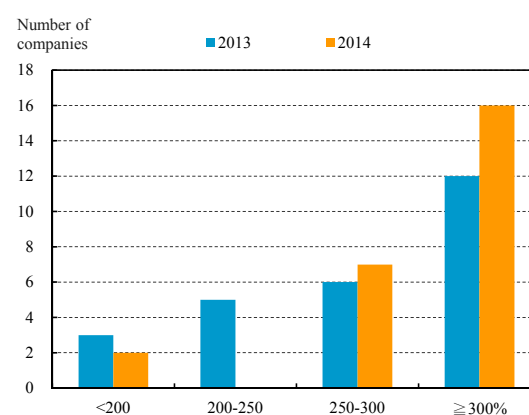
Chart 3.45 RBC ratio of life insurance companies



Notes: 1. RBC ratio = regulatory capital / risk-based capital.
2. Kuo Hua Life Insurance Company, which was taken into receivership by the Taiwan Insurance Guaranty Fund in August 2009 and merged into TransGlobe Life Insurance Company in March 2013, is excluded from figures from 2010 onwards. Figure for end-2014 is exclusive of Singfor and Global Life Insurance companies.

Source: FSC.

Chart 3.46 Number of life insurance companies classified by RBC ratios



Notes: 1. End-of-period figures.
2. Figure for 2014 is exclusive of Singfor and Global Life Insurance Companies.

Source: FSC.

Because of poor management, RBC ratios below the statutory minimum, and consecutive quarters of negative net worth, Singfor and Global Life Insurance companies were taken into receivership by the Taiwan Insurance Guaranty Fund on 13 August 2014 and sold by tender to Cathay Life Insurance Co. on 23 March 2015. This is deemed beneficial to safeguarding the interests of insured parties and sustaining financial stability.

Overall credit ratings kept stable, with most obtaining stable credit outlooks⁷⁵

None of the 11 life insurance companies rated by Taiwan Ratings or Fitch Ratings received credit rating adjustments in 2014. As of the end of December, all rated insurance companies maintained credit ratings above twA or its equivalent, while the three biggest insurance companies by assets were all rated twAA+, showing strong capability to fulfill all financial commitments. As for the credit outlook, all received stable credit outlooks, except for CTBC Life Insurance Co., which received a negative credit outlook because financial support from its affiliated company CTBC Bank might suffer owing to a weakening financial structure.⁷⁶

Life insurance companies should undertake prudential risk management of securities investments

The usable funds of life insurance companies continued accumulating in recent years and therefore propelled great expansion of securities investments. Of them, foreign portfolio investments had the largest growth rate because of insufficient supply of other domestic long-term investment instruments and the relaxation of related regulations. While the efficiency of fund usage could be improved through greater foreign portfolio investments, it is inevitable to incur higher foreign exchange risk. In addition, some bond and bill investments are classified as fair value through profit or loss financial assets or available-for-sale financial assets, the fair value and investment returns of which are susceptible to interest rate fluctuations. It is likely that discrepancies in GDP growth rates will continue to cause monetary policy divergence around the globe. In particular, the Fed signaled that it might raise the federal funds rate in the forthcoming future, putting upward pressure on both yield curves for US and Taiwan government bonds. In response to rising interest rate risk, insurance companies with huge securities investments should undertake prudential risk management hereafter.

⁷⁵ As most life insurance companies were rated by Taiwan Ratings, the analysis in this section focuses primarily on the opinions of Taiwan Ratings. Other rating agencies' opinions are also taken into consideration, though.

⁷⁶ Cathay Life Insurance Co. was placed on Watch Negative by Taiwan Ratings on 25 March 2015. The main reason behind this was that the company's heightened foreign exchange risk together with the proposed acquisitions of Singfor and Global Life Insurance Companies with negative net worth will likely weaken its earnings and capital.

3.2.3 Bills finance companies

The total assets of bills finance companies decreased slightly in 2014. However, profitability increased in the same year and the quality of credit assets remained sound, yet the liquidity risk and long-term interest rate risk stayed high. The average capital adequacy ratio of bills finance companies increased slightly, while the ratio of each company stayed well above the statutory minimum.

Total assets decreased slightly

The total assets of bills finance companies stood at NT\$818.1 billion, a figure equivalent to 5.09% of annual GDP, at the end of 2014, decreasing by 1.32% year on year owing to the decline in short-term bill positions (Chart 3.47).

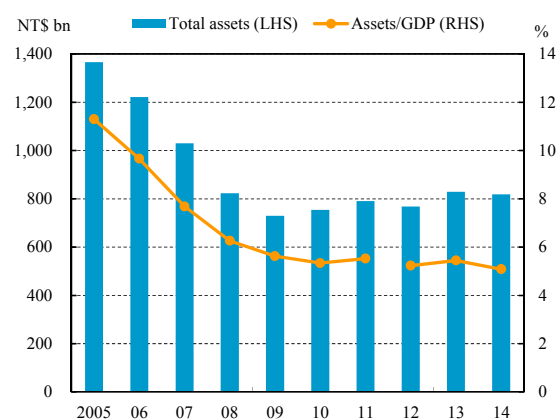
In terms of the asset and liability structure at the end of 2014, bond and bill investments constituted 93.31% of total assets, a decrease of 1.26 percentage points year on year. On the liability side, bills and bonds sold under repo transactions as well as borrowings accounted for 84.80% of total assets, while equity only accounted for 13.68% of total assets (Chart 3.48).

Credit risks

Outstanding balance of guarantees and the ratio of real estate-secured credit increased gradually

The outstanding guarantees business undertaken by bills finance companies registered NT\$463.7 billion at the end of 2014, an increase of NT\$30 billion or 6.92% year on year

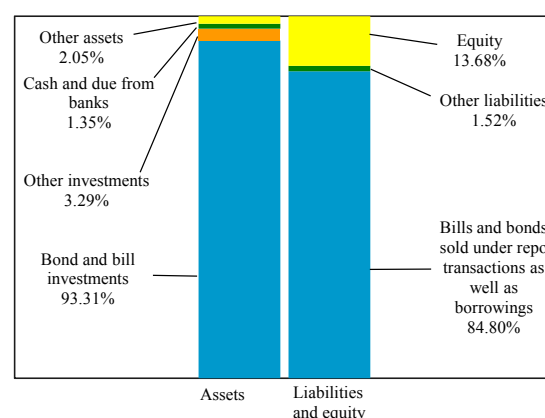
Chart 3.47 Total assets of bills finance companies



Note: Figures from 2012 onwards are on the TIFRSs basis, while prior years are on the ROC GAAP basis.

Sources: CBC and DGBAS.

Chart 3.48 Asset/liability structure of bills finance companies



Note: Figures are end-December 2014 data.

Sources: CBC and FSC.

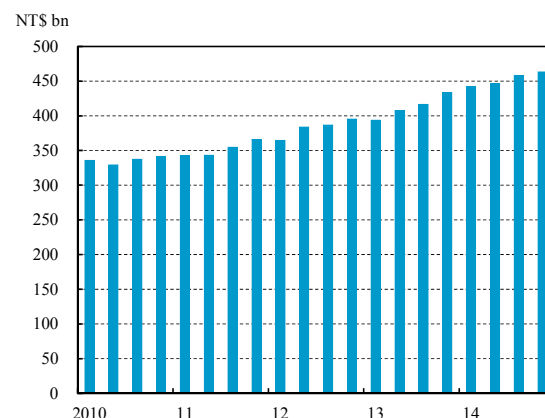
(Chart 3.49). The rise was mainly because of the increased issuance of commercial paper by private corporations for short-term funding amid the domestic economic recovery and low interest rates in the bill market, as well as a higher guarantees ceiling raised from 5 times equity to 5.5 times for companies with regulatory capital ratios of 13% or higher after the FSC amended related regulations in July 2014. As a result, the average multiple of outstanding guarantees to equity of bills finance companies rose to 4.58 times at the end of 2014, compared to 4.38 times a year before. However, each bills finance company still conformed to the regulatory ceiling.⁷⁷

Guarantees granted to the real estate and construction industries and the credits secured by real estate accounted for 26.03% and 30.37%, respectively, of total credits of bills finance companies, showing an upward trend. It is advisable for bills finance companies to closely monitor such credit risks against a backdrop of contracting transaction volume and moderating prices in the housing market.

Credit quality remained sound

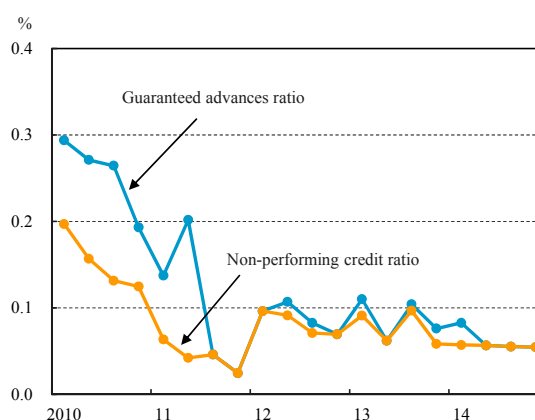
At the end of 2014, the average guaranteed advances ratio and the non-performing credit ratio of bills finance companies both stayed at 0.05%, reflecting sound credit quality (Chart 3.50). At the same time, both the ratios of credit loss reserves to total guaranteed advances and to non-performing credits were 3,091.70%, indicating that the reserves set aside were significantly sufficient to cover potential credit losses.

Chart 3.49 Outstanding commercial paper guarantees of bills finance companies



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

Chart 3.50 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.

⁷⁷ The FSC amended the *Ceiling on the Total Amounts of the Short-term Bills Guarantee and Endorsement Conducted by Bills Finance Companies* on 18 July 2014, stipulating that the ratio of outstanding commercial paper guaranteed to equity for a bills finance company should not exceed 1, 3, 4, 5 or 5.5 times, respectively, depending on the level of its capital adequacy ratio of below 10%, above 10% but below 11%, above 11% but below 12%, above 12% but below 13%, or above 13%.

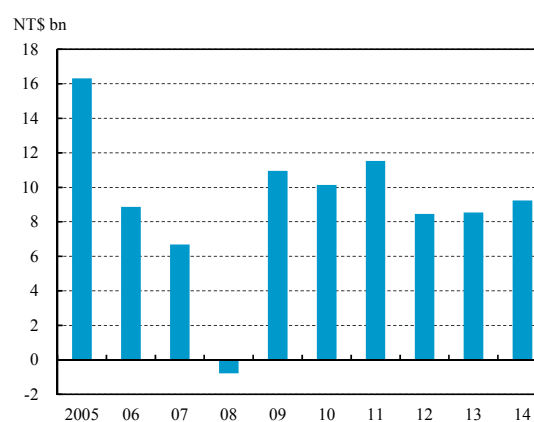
Liquidity risk remained high

In 2014, bills finance companies still heavily relied on short-term interbank call loans and repo transactions as funding sources, while over 40% of funds went to long-term bond investments. The significant maturity mismatch between assets and liabilities showed bills finance companies still faced high liquidity risk. Moreover, the average multiple of major liabilities to equity at the end of 2014 dropped to 6.85 times, compared to 7.13 times a year before, owing to the 1.71% decrease of major liabilities in 2014. The multiples of each bills finance company were below the regulatory ceilings of ten or twelve times.⁷⁸

Profitability rose slightly

Bills finance companies posted a net income before tax of NT\$9.24 billion in 2014 (Chart 3.51), with an increase of NT\$0.69 billion or 8.12% year on year. Over the same period, average ROE and ROA registered 8.38% and 1.12%, respectively, both higher than the ratios of 7.90% and 1.07% posted in 2013 (Chart 3.52). The rise in income was mainly contributed to by increased commission revenues as the companies actively undertook the commercial paper guarantees and underwriting businesses and by expanded income from high-yield non-government bond investments.⁷⁹ However, when the Fed raises interest rates, resulting in an upward trend in

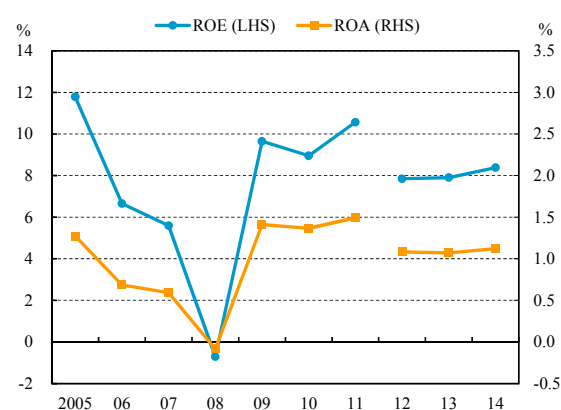
Chart 3.51 Net income before tax of bills finance companies



Note: Figures from 2012 forward are on the TIFRSs basis, while prior years are on the ROC GAAP basis.

Source: CBC.

Chart 3.52 ROE & ROA of bills finance companies



Notes: 1. Figures from 2012 forward are on the TIFRSs basis, while prior years are on the ROC GAAP basis.

2. ROE = net income before tax / average equity.

3. ROA = net income before tax / average assets.

Source: CBC.

⁷⁸ According to the *Directions for Ceilings on the Total Amounts of the Major Liabilities and Reverse Repo Transactions Conducted by Bills Houses*, which aim to reduce the operating and liquidity risks of bills finance companies, the major liabilities of a bills finance company could not exceed six times, eight times or ten times its equity 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 additional two times its equity. As of the end of 2014, the capital adequacy ratio of each bills finance company was above 12%, so the ceilings were capped at ten times or twelve times for each one.

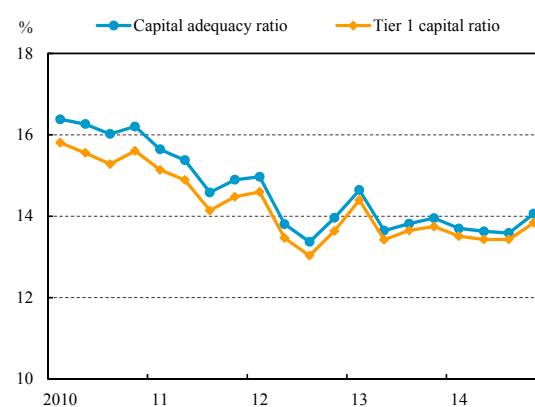
⁷⁹ Non-government bond investments, which comprise corporate bonds and bank debentures, rose to 59.84% of total assets at the end of 2014, compared to 56.30% a year before.

long-term interest rates, those bond positions may suffer evaluation losses that not only have the potential to erode equity but also could impact future profitability of bills finance companies. While facing higher interest rate risks, companies have taken response measures step by step to reduce possible adverse impacts (Box 5).

Average capital adequacy ratio rebounded

The average capital adequacy ratio of bills finance companies registered 14.06% at the end of 2014, slightly higher than 13.95% of the previous year, while the Tier 1 capital ratio rebounded to 13.84% from 13.75% a year before, owing to the sharp contraction in non-guarantee commercial paper holdings with higher risk weights and the decrease in long-term equity investments.⁸⁰ Furthermore, the capital adequacy ratio for each bills finance company was higher than 13%, well above the statutory minimum of 8% (Chart 3.53).

Chart 3.53 Capital adequacy ratios of bills finance companies



Source: CBC.

⁸⁰ Long-term equity investments must be totally excluded from regulatory capital.

Box 5

The interest rate risk faced by bills finance companies and their response measures

The investments of bills finance companies in bills and bonds are mainly funded by repurchase (RP) transactions, call loans and other short-term borrowings. This operational model whereby short-term borrowing is used to finance long-term assets, with over 40% of assets allocated to bond investments, has caused a maturity mismatch between assets and liabilities and increased liquidity risk. In addition, bills finance companies may also face higher interest rate risks with long-term interest rates likely to go up in the future. This box explores the interest rate risk faced by bills finance companies in bond investments and their response measures.

1. The bond investment strategies of bills finance companies

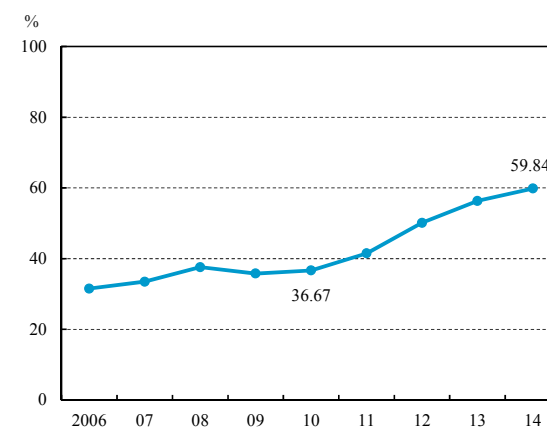
The bond investment strategies of bills finance companies can be mainly divided into “yielding” operations¹ and short-swing outright transactions, in which yielding operations account for a bulk of the total.

1.1 Yielding operations

1.1.1 The proportion of investment in non-government bonds trended up

The types of bonds held by bills finance companies comprise government bonds, corporate bonds and bank debentures. About 95% of the bond portfolios are booked as available-for-sale (AFS) financial assets for accounting purposes. To improve investment returns, there has been a gradual increase in the asset allocation to higher-yield corporate bonds, bank debentures and other non-government bonds since 2011 (Chart B5.1).

Chart B5.1 The proportion of non-government bonds to total bond holdings



Source: FSC.

1.1.2 Bond balances and their duration stayed relatively low

In practice, the impact of rising interest rates on bond portfolios depends on the bond

balances and the length of duration. At the end of 2014, the bond balances held by bills finance companies and their average duration mostly remained relatively low and thus less susceptible to a rise in interest rates (Chart B5.2).

1.1.3 Yielding spreads gradually declined

AFS portfolios are mainly traded by way of RP so as to earn an interest spread through short-term financing for long-term assets. In recent years, despite little change in the trend of RP interest rates, yielding spreads gradually

narrowed and hence caused overall bond yields to slip. One of the main reasons is that higher-yield bonds purchased in earlier periods matured or were sold prior to maturity with a view to realizing a profit. Another important reason is that new bond portfolios were subsequently built up during the recent period of relatively low interest rates. For example, the yielding spread in 2014 was about 0.93 percentage points, markedly lower than 1.72 percentage points in 2010.

1.2 Short-swing outright transactions

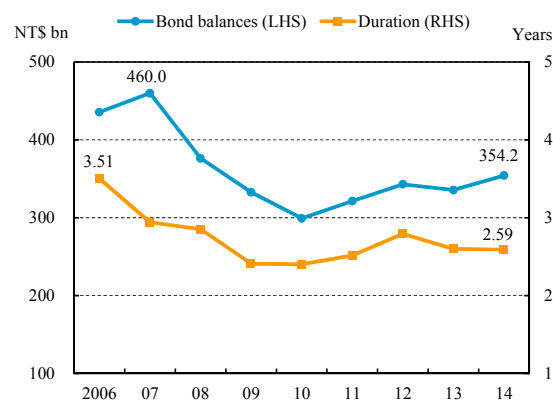
1.2.1 The trading positions for short-swing transactions remained low

The proportion of short-swing trading positions, which were measured at fair value through profit or loss in the balance sheet for the purpose of short-swing outright transactions to earn a price differential, was mostly lower than 5%. Therefore, such trading positions accounted for only a small fraction of total positions.

1.2.2 The willingness for short-swing trading decreased

In recent years, influenced by the US exit from its quantitative easing (QE) policies and the prospect that the Fed might raise interest rates, yields rebounded from the bottom. In addition, bonds tended to be held by a limited handful of financial institutions, resulting in less bonds being traded in the market. Consequently, the overall volume of outright bond transactions shrank and market quotations were often on and off. These factors

Chart B5.2 Balances and average duration of bonds by bills finance companies



Note: Duration is estimated based on the investment portfolios of three major bills finance companies in Taiwan.

Source: CBC.

have increased the risk of short-swing transactions and, in turn, most bills finance companies have decreased their short-swing outright transactions to reduce risks.

2. The interest rate risk assessing mechanism of bills finance companies

Bills finance companies generally make use of interest rate sensitivity analysis and stress tests to assess interest rate risk. The pertinent information shall be submitted to the board of directors and senior management as a reference to set operational strategies and risk appetite.

2.1 Interest rate sensitivity analysis

The DV01 (dollar value of a basis point) method is the most commonly used by bills finance companies for bond interest rate sensitivity analysis. It measures the absolute value of the change in prices of overall bond positions for a one basis point change in yield.

2.2 Stress test of interest rate risk

Although bills finance companies have not yet faced legal requirements to conduct stress tests, most of them implemented stress tests of interest rate risk spontaneously in view of strengthening interest rate risk management, and simulated possible impacts on their profits and losses and capital adequacy ratios under various stress scenarios. However, the stress scenarios set by some bills finance companies were not severe enough² and might not properly reflect the impacts of extreme events.

3. Response measures to a possible rise in bond yields

Bills finance companies commonly envisaged that short-term interest rates were expected to remain stable and would not rise sharply, but mid- and long-term interest rates may go up in the future. Accordingly, they have taken the following response measures to mitigate the interest rate risks to bond portfolios:

3.1 Response measures to AFS positions

3.1.1 Control of bond positions and duration, plus adoption of the strategy to step up bond positions in due course

Currently, the average duration of bond holdings by bills finance companies is mostly less than three years, but it will gradually decrease as bonds mature over time. Bond positions will also decrease each year accordingly. Because of their consideration of yielding operations, bills finance companies still have unmet demand to build up their

bond positions. Consequently, they will control bond positions and duration while adopting a strategy of rebuilding bond positions step by step for risk mitigation.

3.1.2 Increase in asset allocation to non-government bonds

The yields of corporate bonds and bank debentures are higher than those of government bonds. In view of liquidity, profitability and asset quality, bills finance companies may increase investments in higher-rated corporate bonds and bank debentures.

3.1.3 Diversifying sources of funds and reducing yielding costs

Bills finance companies will actively expand their RP customer bases to include legal persons and natural persons, so as to diversify the channels of funding sources, increase funding flexibility and push down yielding costs.

3.2 Response measures in terms of trading positions

Bill finance companies will focus on trading of benchmark bonds with the highest liquidity and strictly implement the trading principles of “stop loss” and “lock in gains.”

4. Conclusion

- (1) Bills finance companies run bills and bond businesses over an extensive period of time. Their operational performance is highly sensitive to interest rate movements. In the situation that long-term interest rates may trend upward, they are poised to strengthen interest rate risk management. In the future, unless short- and long-term interest rates rise sharply and simultaneously, it is expected that they can respond well to address the impacts of interest rate risk.
- (2) Although some bills finance companies conducted stress tests of interest rate risk spontaneously, the stress scenarios they set were not severe enough and could not reflect the shock of extreme events. The competent authority can clearly lay down the requirements for stress tests implemented by bills finance companies, so as to urge them to strengthen risk management.
- (3) As bills finance companies increase their investments in non-government bonds, they should take prudent measures to deal with the relatively high credit risk posed by non-government bonds.

Notes: 1. “Yielding” refers to the trading strategy by use of long-term bond holdings to borrow short-term funds through a repurchase (RP) transaction with a dealer. The transaction allows the bond

holder to receive higher long-term yield rate and pay lower short-term RP interest rate. The gain from the interest spreads is called "yielding spread."

2. For example, under the stress scenario that bond yields rise by 25 basis points.