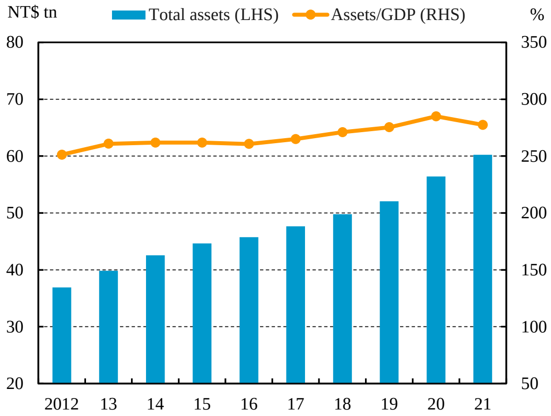
3.2 Financial institutions

3.2.1 Domestic banks

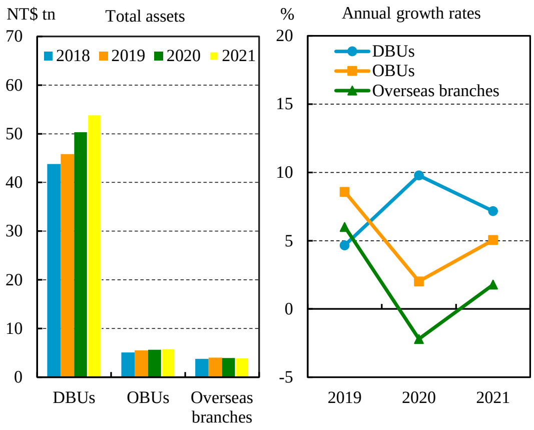
The total assets of domestic banks[31] continually expanded in 2021 but at a slower pace. Asset quality improved and exposures to China continuously decreased. The sectoral concentration in corporate loans declined moderately, while loans related to real estate increased slightly. The estimated value at risk (VaR) of market risk exposures decreased and the impacts on capital adequacy ratios were limited. Liquidity in the banking system was ample, and overall liquidity risk remained relatively low. The profitability of domestic banks turned to increase in 2021, and the average capital adequacy ratio rose, indicating satisfactory capacity to bear losses.

Chart 3.15 Total assets of domestic banks



Note: Figures from 2012 forward are on the TIFRSs basis.
Sources: CBC and DGBAS.

Chart 3.16 Total assets of domestic banks by sector



Note: Figures for total assets include interbranch transactions.
Source: CBC.

Total assets kept growing, but at a slower pace

The total assets of domestic banks kept growing and reached NT$60.23 trillion at the end of 2021, equivalent to 277.41% of annual GDP (Chart 3.15). Nevertheless, the annual growth rate of the total assets rose at a slower pace of 6.78%. Broken down by sector, the annual asset growth rates of offshore banking units (OBUs) and overseas branches trended upwards, whereas those of domestic banking units (DBUs) trended down (Chart 3.16).

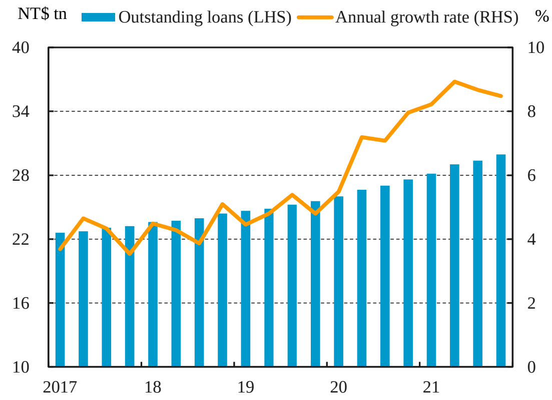
[31] Includes Agricultural Bank of Taiwan.

Credit risk

Customer loans growth accelerated

Customer loans granted by the DBUs of domestic banks stood at NT$29.95 trillion at the end of 2021, accounting for 49.73% of total assets with an annual growth rate of 8.48% (Chart 3.17). Among them, the annual growth rate of household borrowing slightly declined to 8.68%, while the annual growth rate of corporate loans rose to 8.92% owing to the undertaking of relief loans and rising funding demand after the pandemic eased.

Chart 3.17 Outstanding loans in domestic banks

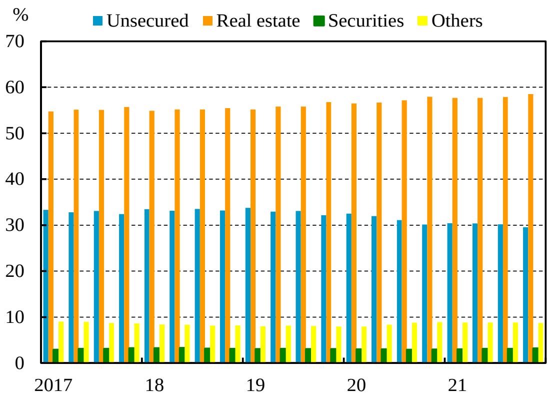


Note: Loans of OBUs and overseas branches are excluded.
Source: CBC.

The share of real estate-secured credit continuously increased

At the end of 2021, real estate-secured credit granted by domestic banks reached NT$20.85 trillion, accounting for 58.49% of total credit[32] (Chart 3.18). Transactions in the housing market thrived and house prices trended upwards in 2021. However, considering that the pressure from the increased stock of unsold new housing units remained and the government had actively introduced relevant measures to curb market speculation, the credit risk related to the real estate sector is still high, warranting continuous monitoring.

Chart 3.18 Credit by type of collateral in domestic banks



Source: CBC.

Credit concentration in corporate loans slightly decreased

For the DBUs of domestic banks, corporate loans stood at NT$12.85 trillion at the end of 2021, of which loans to the manufacturing sector accounted for the largest share at 36.63%. Among the manufacturing sector,[33] the largest proportion of loans was in the electronics industry with

[32] The term "credit" herein includes loans, guarantee payments receivable, and acceptances receivable.
[33] 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.

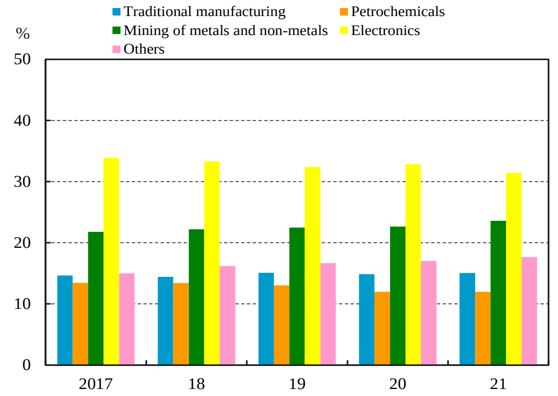
a share of 31.42%, showing a slight decrease over the previous year. This reflected the fact that credit concentration in corporate loans reduced mildly (Chart 3.19).

Exposures to China continued to decrease, but potential risks remained high

At the end of 2021, the statutory exposures of domestic banks to China stood at NT$1.34 trillion, decreasing by 11.22% from a year earlier mainly owing to a decline in credit granted. The above exposures as a percentage of their previous year-end final net worth also fell to a new low of 34% (Chart 3.20).

Although domestic banks' exposure to China remained at a low level, considering the slowdown in China's short-term economic growth, coupled with the impact of the Russia-Ukraine war disrupting the global supply chain on which it depends, the potential economic and financial risks in China are still high; therefore, they warrant continual close attention.

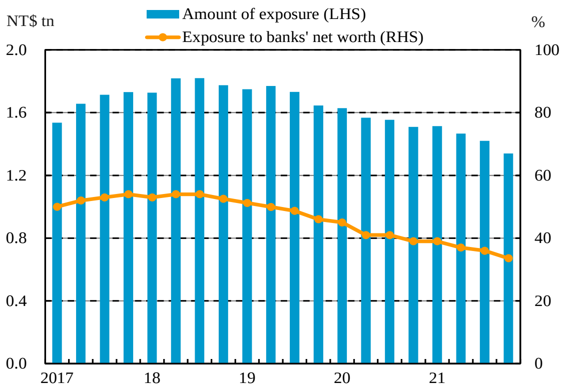
Chart 3.19 Exposure to the manufacturing sector by domestic banks



Notes: 1. Exposure to each sector = loans to each sector/loans to the whole manufacturing sector.
2. Exposures of OBUs and overseas branches were excluded.

Source: CBC.

Chart 3.20 Exposures of domestic banks to China



Source: FSC.

Asset quality improved

The outstanding classified assets[34] of domestic banks decreased by 6.37% from a year earlier and stood at NT$449.2 billion at the end of 2021. Therefore, the average classified asset ratio stood at 0.75%, slightly decreasing by 0.01 pps from the end of the previous year (Chart 3.21), showing that the asset quality of domestic banks improved. Meanwhile, the expected losses of classified assets[35] decreased by NT$6.7 billion from a year earlier to NT$45.2 billion, accounting for 8.91% of allowances for doubtful accounts and loss provisions, indicating that

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[34] Assets of domestic banks are broken down into five categories: normal, special mention, substandard, doubtful, and loss. The term "classified assets" herein includes all assets classified as the latter four categories.

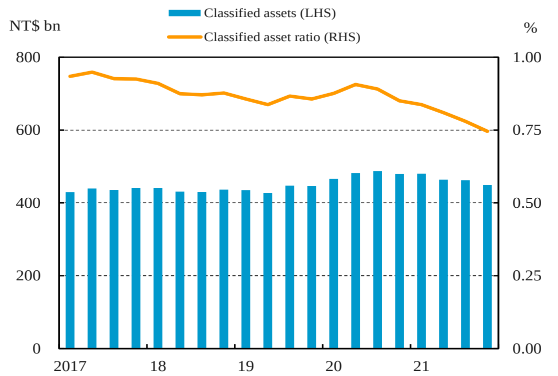
[35] Loss herein refers to the losses from loans, acceptances, guarantees, credit cards, and factoring without recourse.

domestic banks had sufficient provisions to cover expected losses without eroding equity.

The outstanding NPLs of domestic banks registered NT$59.4 billion at the end of 2021, decreasing by 15.09% from the end of the previous year. The average NPL ratio saw a decline to 0.17% (Chart 3.22), continuing to hit a record low. In addition, at the end of 2021, because of a greater increase in loans than in the allowance for doubtful accounts, the loan coverage ratio declined slightly to 1.36%. However, the NPL coverage ratio rose sharply to 781.47% (Chart 3.23) on account of a greater decrease in NPLs. The overall capability of domestic banks to cope with potential loan losses remained satisfactory.

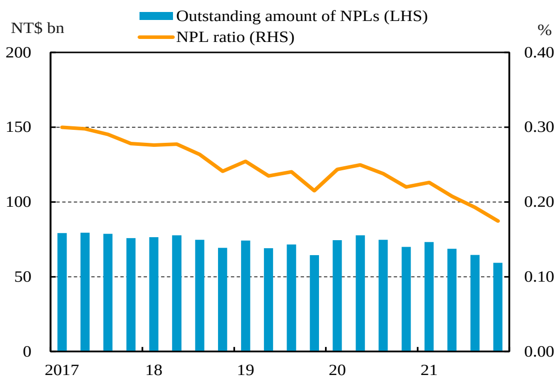
Since the outbreak of the pandemic in early 2020, in order to assist the harder-hit enterprises and individuals and to tide them over, domestic banks have successively provided various relief loans, with a scale of more than 570,000 applicants and the amount exceeding NT$4.88 trillion by late December 2021. Considering that uncertainties surrounding the global and domestic pandemic outlooks remain high and that the relief loans extended by domestic banks in line with government policies will be withdrawn eventually, it is important to closely monitor banks' credit risk management of relief loans and the related impacts on credit quality (Box 2).

Chart 3.21 Classified assets of domestic banks



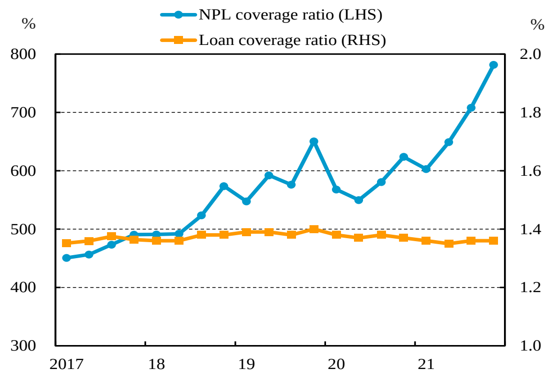
Note: Classified asset ratio = classified assets/total assets.
Source: CBC.

Chart 3.22 NPLs of domestic banks



Note: Excludes interbank loans.
Source: CBC.

Chart 3.23 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.

Market risk

Estimated value-at-risk for market risk exposures decreased

Based on the Bank's VaR model,[36] the estimated total VaR for market risk exposures of domestic banks stood at NT$153.1 billion at the end of 2021, decreasing by NT$6.7 billion or 4.19% compared to a year earlier (Table 3.1). Among the market risk exposures, the interest rate VaR declined by 8.17% year on year in 2021. This mainly resulted from a shrinkage in short-term bond yield volatility because of a relative easing of pandemic-induced fear in financial markets. Meanwhile, the equities VaR rose by 49.53%, reflecting a substantial increase of 43.97% in the net position of equity securities. The FX VaR diminished by 2.94%, owing to reductions in the net position of FX and decreasing volatility in the NT dollar exchange rate against the US dollar (Table 3.1).

Since February 2022, the deterioration in the conflict between Russia and Ukraine and monetary policy tightening adopted by central banks in major economies owing to rising inflationary pressures have exacerbated volatilities in both US bond yields and international stock markets. These factors could in turn increase the VaR for relevant exposures of domestic banks and therefore warrant close attention.

Table 3.1 Market risks in domestic banks

Unit: NT$ bn

Type of risk	Item	End-Dec. 2020	End-Dec. 2021	Changes	
				Amount	pps
Foreign exchange	Net position	201.8	200.2	-1.6	-0.79
	VaR	3.4	3.3	-0.1	-2.94
	VaR/net position (%)	1.68	1.65		-0.03
Interest rate	Net position	1,986.5	2,001.3	14.8	0.74
	VaR	145.7	133.8	-11.9	-8.17
	VaR/net position (%)	7.33	6.69		-0.64
Equities	Net position	78.0	112.3	34.3	43.97
	VaR	10.7	16.0	5.3	49.53
	VaR/net position (%)	13.72	14.25		0.53
Total VaR		159.8	153.1	-6.7	-4.19

Source: CBC.

[36] For more details about the Bank's VaR model, please see CBC (2016), Box 2, *Financial Stability Report*.

The impacts of market risk on capital adequacy ratios were limited

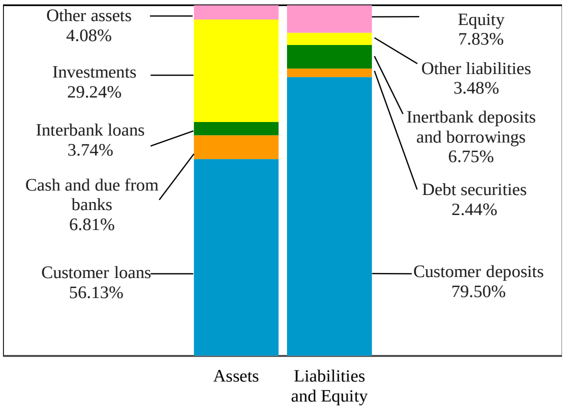
According to the estimation mentioned above, the total VaR would lead to a decrease of 0.33 pps[37] in the average capital adequacy ratio of domestic banks, causing the ratio to drop from the current 14.80% to 14.47%. Nevertheless, it would still be higher than the statutory minimum of 10.5%.

Liquidity risk

Liquidity in the banking system remained ample

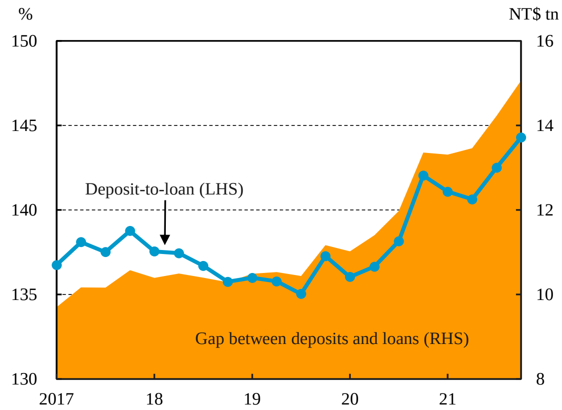
The asset and liability structure of domestic banks remained roughly unchanged in 2021. For the sources of funds, customer deposits, which tend to be relatively stable, still made up the largest share with 79.50% of the total. As for the uses of funds, customer loans accounted for the biggest share with 56.13% (Chart 3.24). At the end of 2021, the average deposit-to-loan ratio of domestic banks rose to 144.30%, and the funding surplus (i.e., deposits exceeding loans) increased to NT$15.06 trillion. The overall liquidity of domestic banks remained abundant (Chart 3.25).

Chart 3.24 Asset/liability structure of domestic banks



Notes: 1. Figures are as of end-December 2021.
2. Equity includes loss provisions. Interbank deposits include deposits with the CBC.
Source: CBC.

Chart 3.25 Deposit-to-loan ratio of domestic banks



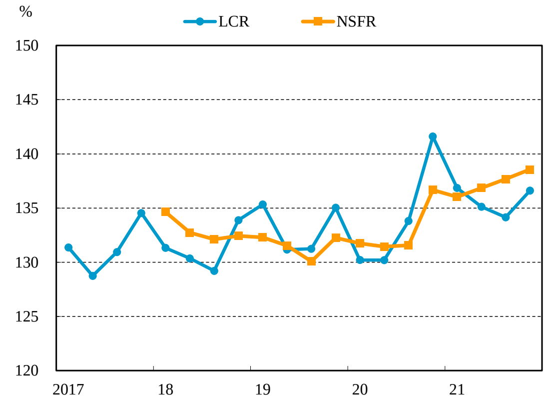
Note: Deposit-to-loan ratio = total deposits/total loans.
Source: CBC.

[37] Domestic banks had already set aside capital for market risk in accordance with relevant regulations. To avoid double counting, the impacts of market risk on the capital adequacy ratio herein were estimated using capital shortfalls after considering the aforementioned market risk capital.

Overall liquidity risk remained relatively low

The average NT dollar liquid reserve ratio of domestic banks was well above the statutory minimum of 10% in every month of 2021 and stood at 31.52% in December. At the end of 2021, the average liquidity coverage ratio (LCR) of domestic banks decreased to 137% (Chart 3.26), while the net stable funding ratio (NSFR) of domestic banks rose to 139% (Chart 3.26). Meanhwhile, all banks met the minimum LCR and NSFR requirements in 2021, indicating that the overall liquidity risk of domestic banks was relatively low.

Chart 3.26 LCR and NSFR of domestic banks



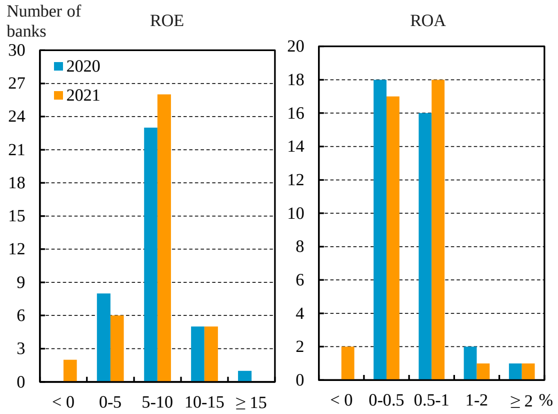
Note: LCR and NSFR were implemented from 2015 and 2018 onwards, respectively.
Source: CBC.

Profitability

Profit of domestic banks rebounded in 2021

The net income before tax of domestic banks in 2021 recorded NT$338.7 billion, increasing by NT$24.4 billion or 7.76% over the previous year. This mainly resulted from a pickup in net interest income owing to a greater decrease in interest expenses. The average ROE of domestic banks rose to 8.14%, while the average ROA remained at 0.58%, indicating ascending profitability.

Chart 3.27 Domestic banks classified by ROE and ROA



Source: CBC.

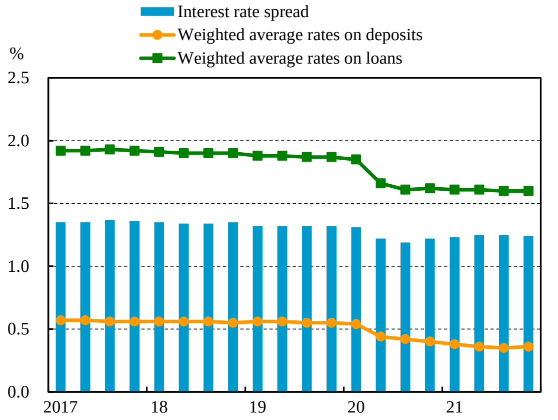
In 2021, except for the operating losses of LINE Bank and Rakuten Bank, which officially began operations at the beginning of the year, all the other banks made profits. Among them, the numbers of banks with higher ROEs and ROAs than the previous year were 27 and 23, respectively. Five banks achieved a profitable ROE of 10% or more, decreasing from six banks in 2020. Meanwhile, the number of banks with ROAs above the international standard of 1% also saw a decrease from three to two (Chart 3.27).

Factors that might affect future profitability

Owing to an increase in the proportion of demand deposits, which pay lower interest, the average interest rate spread between deposits and loans of domestic banks at the end of 2021 slightly elevated to 1.24% from 1.22% at the end of the previous year (Chart 3.28), which is beneficial to domestic banks for expanding net interest income.

Although profits of domestic banks recovered in 2021, there are still uncertainties regarding future profitability which warrant close attention, including: (1) banks with greater exposure to Russia may need to increase provisions for impaired assets, which could affect their profitability, as Russia's sovereign credit rating has been downgraded to junk level recently; (2) issues such as a surge in international commodity prices and supply chain disruptions may affect the operation and debt-servicing capacity of specific industries, thus escalating credit losses; (3) intensified fluctuations in international financial markets may affect future investment returns.

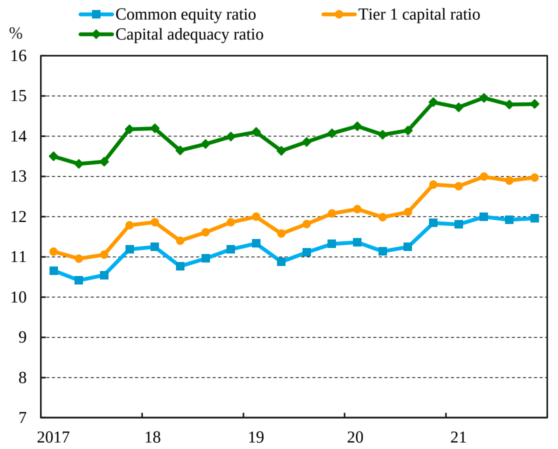
Chart 3.28 Interest rate spread of domestic banks



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 preferential deposits of retired government employees and central government loans.

Source: CBC.

Chart 3.29 Capital ratios of domestic banks



Notes: 1. Common equity ratio = common equity Tier 1 capital/risk-weighted assets.
2. Tier 1 capital ratio = Tier 1 capital/risk-weighted assets.
3. Capital adequacy ratio = eligible capital/risk-weighted assets.

Source: CBC.

Capital adequacy

Capital ratios trended upward

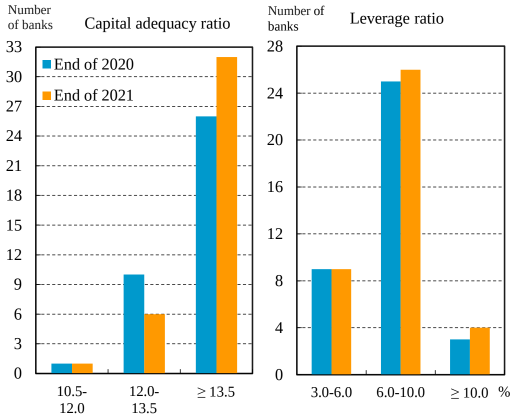
Benefiting from the lower risk weights to domestic banks' real-estate exposures by adopting the LTV approach, which led to a substantial reduction in their risk-weighted assets, and the capital injection from accumulated earnings, the average common equity ratio and Tier 1 capital ratio reached 11.96% and 12.97%, respectively, at the end of 2021. As for the capital adequacy ratio, it stood at 14.80%, almost the same as the ratio a year before (Chart 3.29). Among the components of regulatory capital, common equity Tier 1 (CET 1) capital, featuring the best loss-bearing capacity, accounted for 80.80% of eligible capital. This showed that the capital quality of domestic banks was satisfactory.

Moreover, the average leverage ratio of domestic banks stood at 6.46% at the end of 2021, lower than 6.64% a year earlier but still above the 3% statutory standard, indicating that financial leverage remained sound.

All domestic banks had capital ratios and leverage ratios higher than the statutory minimum

At the end of 2021, the capital ratios of six domestic systemically important banks (D-SIBs) as well as non-D-SIBs were all above the relevant FSC statutory minimum standards or additional capital buffer requirements.[38] Leverage ratios of all domestic banks also exceeded the statutory minimum of 3% (Chart 3.30).

Chart 3.30 Distribution of domestic banks' capital adequacy ratios and leverage ratios



Note: Leverage ratio = Tier 1 capital/total exposures.
Source: CBC.

Table 3.2 Systemic risk indicators for the banking system

Banking System	Standard & Poor's		Fitch	
	BICRA		BSI/MPI	
	2021/2	2022/2	2020/8	2021/8
Singapore	2	2	aa/1	aa/2
Hong Kong	2	2	a/2	a/2
Japan	3	3	a/2	a/2
South Korea	3	3	a/1	a/2
Taiwan	**4**	**4**	**bbb/2**	**bbb/2**
Malaysia	4	4	bbb/1	bbb/1
Philippines	5	5	bb/1	bb/1
China	6	6	bb/1	bb/1
Thailand	6	6	bbb/1	bbb/1
Indonesia	6	6	bb/1	bb/1

Sources: Standard & Poor's and Fitch Ratings.

Credit ratings

Average credit rating level remained steady

Of the overall risk assessments of Taiwan's banking system made by credit rating agencies, Standard & Poor's kept Taiwan's Banking Industry Country Risk Assessment (BICRA)[39] unchanged at Group 4 with moderate risk. Compared to other Asian economies, the risk level of Taiwan's banking system was the same as that of Malaysia, but much lower than those of the Philippines, China, Thailand and Indonesia. Moreover, the assessment of Taiwan's banking system by Fitch Ratings in its Banking System Indicator/Macro-Prudential Risk Indicator

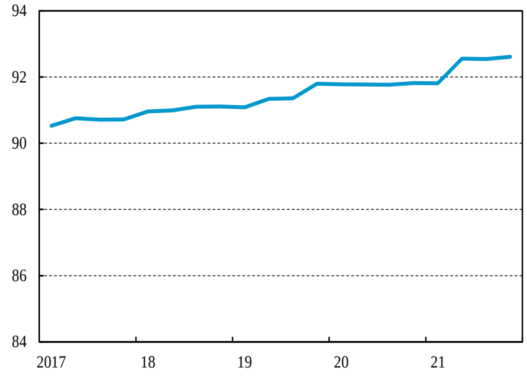
[38] The statutory standards for the common equity ratio, Tier 1 capital ratio and capital adequacy ratio of non-D-SIBs are 7%, 8.5% and 10.5%, respectively. D-SIBs are required to set aside an additional 2% of buffer capital and 2% of internal management capital according to the requirement of the FSC. The additional capital must be achieved before the end of each of the four years equally starting from the next year after the designated date.

[39] BICRA is scored on a scale from 1 to 10, ranging from the lowest-risk (group 1) to the highest-risk (group 10), which indicates the assessment results by Standard & Poor's of economic and industry risks of a country's banking system.

(BSI/MPI)[40] also remained unchanged at level bbb/2 (Table 3.2).

The weighted average credit rating index[41] went up slightly compared to the previous year owing to the upgrading of five banks, indicating that domestic banks generally had the capability to deal with the impact of the pandemic (Chart 3.31).

Chart 3.31 Credit rating index of domestic banks

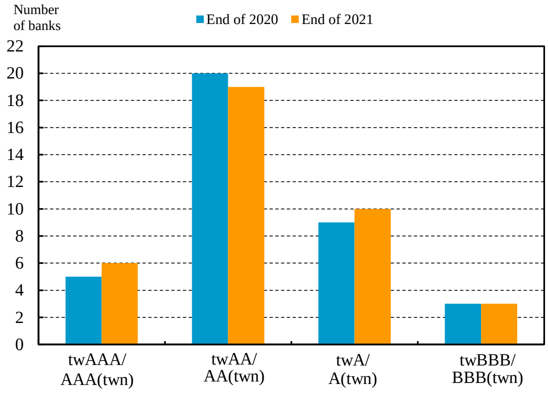


Sources: Taiwan Ratings, Fitch Ratings and CBC.

Rating outlooks for most domestic banks remained stable

Most domestic banks maintained credit ratings of twAA/twA (Taiwan Ratings) or AA(twn)/A(twn) (Fitch Ratings) and none had credit ratings lower than twBB/BB(twn) at the end of 2021 (Chart 3.32). Only four banks received Negative or Evolving Rating Outlooks,[42] while rating outlooks for the other banks remained Stable or Positive.

Chart 3.32 Number of domestic banks classified by credit ratings



Sources: Taiwan Ratings and Fitch Ratings.

Taiwan Ratings announced that Taiwan's banking industry outlook remained stable in 2022, and indicated that domestic banks' adequate capital levels could absorb credit costs which may arise from the phasing out of government relief loan schemes.[43]

[40] Fitch Ratings assesses banking system vulnerability with two complementary measures, the BSI and the MPI. These two indicators are brought together in a Systemic Risk Matrix. The BSI represents banking system strength on a scale from aaa, aa, a, bbb, bb, b, ccc, cc, c and f. The MPI indicates the vulnerability of the macro environment on a scale from 1, 2, 2* and 3.

[41] 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.

[42] Standard Chartered Bank (Taiwan) and Shin Kong Commercial Bank received Negative Rating Outlooks at the end of 2021. Citibank Taiwan Ltd. and EnTie Commercial Bank received Evolving Rating Outlooks, while Fitch Ratings revised Citibank's outlook to Stable in February 2022.

[43] Press releases by Taiwan Ratings on January 6 and April 20, 2022.

Box 2
Credit risk management of domestic banks in undertaking pandemic relief loans

When the COVID-19 pandemic broke out in early 2020, governments around the world successively launched large-scale relief measures to help corporations and individuals out of their financial predicaments. As the global economy gradually recovered, international organizations, such as the Bank for International Settlements (BIS), the Financial Stability Board (FSB) and the International Monetary Fund (IMF),* have sequentially issued press releases or research reports on the possibility that prolonged relief measures could increase the risk of financial instability and on the impact arising from the withdrawal of relief measures on banks' credit risk. Meanwhile, domestic banks in Taiwan have provided various types of relief loans for corporations and individuals affected by the COVID-19 pandemic since 2020. The Bank visited some of those domestic banks with larger scales of self-run relief loan schemes to have a good grasp of their credit risk management in extending such loans.

1. Relief loans extended by domestic banks

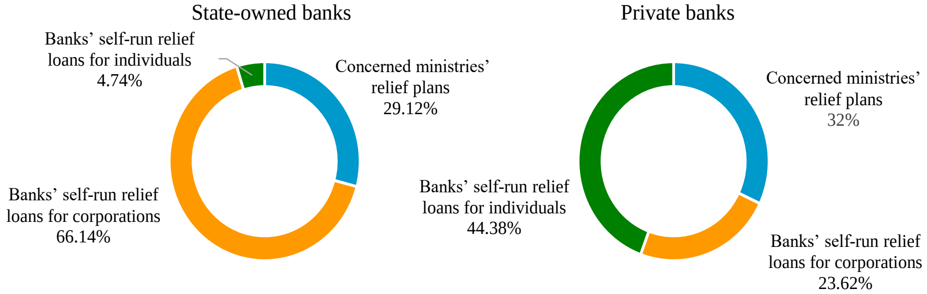
1.1 State-owned banks had played a more active role in relief loan programs

Since relief loan programs were introduced in 2020, domestic banks had approved 572,700 applications with the amount totaling NT$4,884.5 billion as of December 27, 2021. Among them, state-owned banks had approved 388,100 applications totaling NT$4,126 billion, indicating that they had been more active in extending relief loans in coordination with government policies.

1.2 Corporations were the major borrowers of relief loans; lending exposure differed between state-owned and private banks

Corporate loans accounted for the primary shares of the relief loans. The proportions of corporate loans (including those provided under concerned ministries' relief plans and banks' self-run relief loans for corporations) extended by state-owned and private banks were 95.26% and 55.62%, respectively. As for self-run relief loans for individuals, 44.38% of them were extended by private banks, a much larger share than the 4.74% extended by state-owned banks (Chart B2.1).

Chart B2.1 Relief loans by counterparty



Note: Figures are as of December 27, 2021.
Source: FSC.

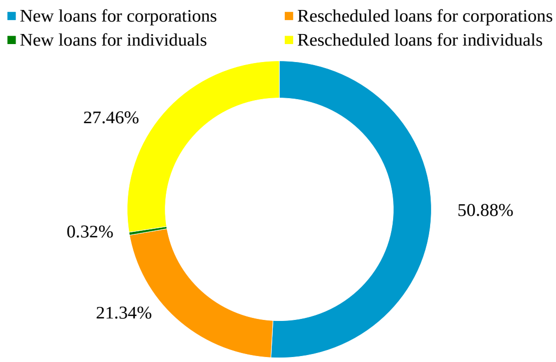
1.3 Banks' self-run relief loans were held in almost equal proportion between rescheduled loans and new loans

Among visited banks' self-run relief loans, the proportion of rescheduled loans granted with a grace period (both those for corporations and individuals) was 48.8% (Chart B2.2), mainly because these banks, with the aim of customer retention, offered loan forbearance solutions to help viable customers get through pandemic hardship. In addition, most of these new loans were provided for corporations, which accounted for 50.88% of visited banks' self-run relief loans.

1.4 Relief loans for corporations were chiefly for those in manufacturing and wholesale & retail trade

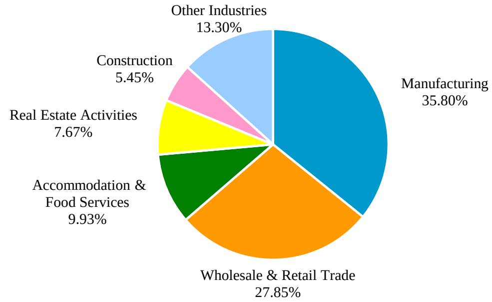
The top three industry borrowers in terms of relief loans for corporations were manufacturing (35.80%), wholesale & retail trade (27.85%) and accommodation & food services (9.93%). These three industries combined to account for more than 70% of visited banks' self-run relief loans for corporations (Chart B2.3), reflecting the fact that these industries were more significantly impaired by the pandemic.

Chart B2.2 Banks' self-run relief loans by type



Note: Figures are as of the end of 2021.
Source: Visited banks.

Chart B2.3 Banks' self-run relief loans for corporations by industry



Note: Figures are as of the end of 2021.
Source: Visited banks.

1.5 More than 80% of the relief loans were guaranteed by Taiwan SMEG or secured by real estate

More than 80% of visited banks' relief loans for corporations were guaranteed by the Small and Medium Enterprise Credit Guarantee Fund of Taiwan (Taiwan SMEG) or secured by real estate, while more than 90% of their relief loans for individuals were secured by real estate.

2. Credit approval and loan review of the relief loans

2.1 Loan forbearance was applicable to borrowers who had paid interest regularly; several banks had temporary measures for credit review

To accelerate the review process and improve operational efficiency in extending the relief loans, several of the visited banks laid down loan forbearance measures including payment moratorium, applicable to individuals paying interest regularly or corporations that were willing to continue operations and paid interest normally. They would agree to defer repayment of principal or lower the interest rates depending on borrowers' situations. New loans or incremental loans, except for the loans applicable for small-scale business entities under Program C of the Bank's Special Accommodation Facility that would be undertaken using a simplified credit score sheet, were handled according to the banks' existing internal credit score mechanisms. In addition, some of the visited banks formulated temporary measures for credit review, lowering credit authorization levels depending on the loan amount and collateral quality.

2.2 Most banks conducted post-lending reviews of the relief loans in accordance with existing internal rules while several banks also performed stress testing

Visited banks conducted post-lending reviews of the relief loans in accordance with their existing internal rules and early warning reporting procedures, while paying special attention to the impact of the pandemic on borrowers' revenues. Moreover, they regularly monitored the lending condition of the relief loans, status of non-performing loans and non-accrual loans, and their exposures to borrowers affected by the pandemic. Several banks also voluntarily conducted stress testing for the relief loans, and the results showed that they maintained sound risk bearing capacities.

3. Credit quality of the relief loans

To ensure that banks prudently evaluate credit risk of the relief loans, the FSC required banks to earnestly classify credit assets and assess expected credit losses in accordance with the IFRS 9 and the five-category classification method stipulated in the relevant regulations. Among visited banks' relief loans, the NPL ratios of rescheduled loans ranged between 0.13% and 0.81%, while the NPL ratios of new loans were below 0.5% as of the end of 2021. These two NPL ratios were below 1%, indicating that the credit quality of the relief loans remained sound.

4. While credit risk remained under control, the impact of the exit of relief measures on banks' asset quality warrants close attention

Given that over 80% of domestic banks' relief loans were guaranteed by Taiwan SMEG or secured by real estate, coupled with ample liquidity in the banking system and the recent housing market boom, the overall credit risk in the banking system remained controllable. In addition, most of the visited banks had planned relevant response measures in advance, tracked changes in the exposures to the relief loans continuously, adjusted credit policies as needed, and reverted to the regular debt collection or negotiation mechanisms, so as to protect their debt claims. As many of the relief loans are still in the principal moratorium period, any overdue cases could show at a later time. Therefore, domestic banks should strengthen post-lending tracking, conduct risk assessments or stress testing of their relief loan exposures, and develop response measures where necessary. The Bank will also pay close attention to the impact of the withdrawal of COVID-19 relief measures on domestic banks' asset quality in the future.

Note: *BIS (2022), "Newsletter on Covid-19 related credit risk issues," March; FSB (2021), "COVID-19 support measures: Extending, amending and ending"; IMF (2021), "Unwinding COVID-19 Policy Interventions for Banking Systems," *Special Series on COVID-19*, March.

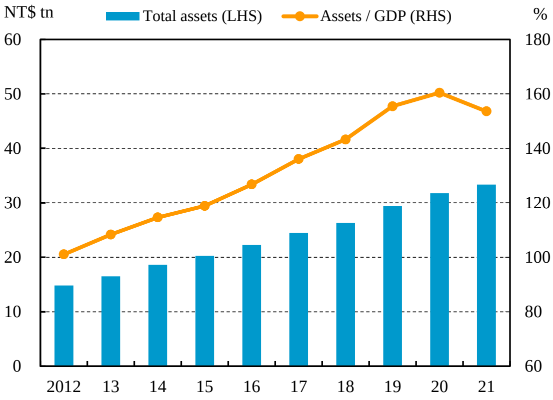
3.2.2 Life insurance companies

In 2021, the total assets of life insurance companies continued to increase but at a slower pace. Their pretax income reached a record high, while the average RBC ratio further improved and overall credit ratings remained stable. However, owing to the expansion of foreign investment positions, life insurance companies still faced higher FX risk, interest rate risk and equity risk.

Assets grew at a slower pace

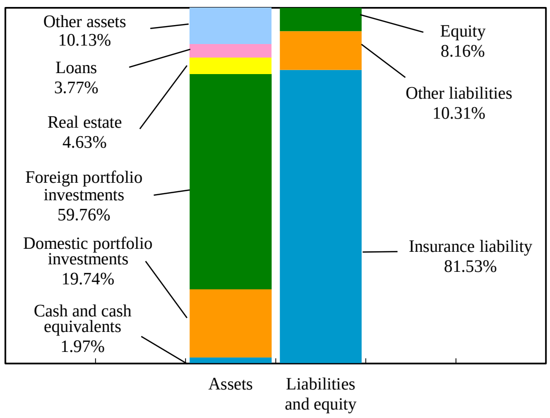
The total assets of life insurance companies reached NT$33.34 trillion at the end of 2021, equivalent to 153.58% of annual GDP (Chart 3.33). The annual growth rate of total assets slowed to 5.00% from 8.03% a year earlier. The top three companies in terms of assets made up a combined market share of 55.25%. The market structure of the life insurance industry remained roughly unchanged in 2021.

Chart 3.33 Total assets of life insurance companies



Sources: FSC and DGBAS.

Chart 3.34 Asset/liability structure of life insurance companies



Note: Figures are as of the end of 2021.
Source: FSC.

Foreign investments remained the primary usage of funds

In terms of the usage of funds of life insurance companies as of the end of 2021, foreign investments and domestic portfolio investments continued to take up the primary shares of total assets. Among them, the share of foreign investments rose to 59.76%, whereas that of domestic portfolio investments decreased to 19.74%. As for the sources of funds, insurance liabilities accounted for 81.53%, ranking the largest share, while the share of equity increased to 8.16%, mainly supported by a substantial expansion of profit (Chart 3.34).

Pretax income continued to reach a record high

Life insurance companies reported a record-high net income before tax of NT$388.5 billion in 2021 from NT$206.1 billion a year earlier, a substantial year-on-year increase of 88.50% (Chart 3.35). This mainly resulted from an increase in investment revenue as life insurance companies actively realized their capital gains of stock and bond investments. Accordingly, their average ROE and ROA increased markedly to 14.83% and 1.19% from 9.27% and 0.67% a year earlier (Chart 3.36).

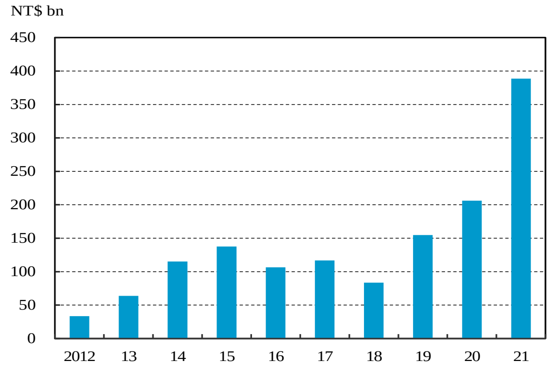
Average RBC ratio and equity to asset ratio continued to rise

In 2021, total capital in life insurance companies rose because of increases in profits and higher valuations of their stock holdings. As a result, the average RBC ratio increased to 335.17% [44] at the end of the year from 299.13% a year earlier (Chart 3.37). Furthermore, the average equity to asset ratio continued to rise to 8.87% from 8.57% at the end of the previous year (Chart 3.38).

Overall credit ratings remained stable

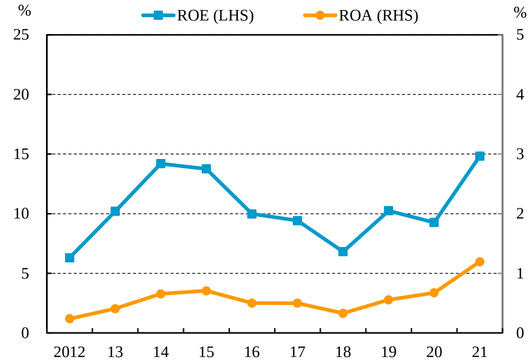
Among the 12 life insurance companies rated by credit rating agencies, none received rating adjustments in 2021. As of the end of the year, all rated life insurance companies

Chart 3.35 Net income before tax of life insurance companies



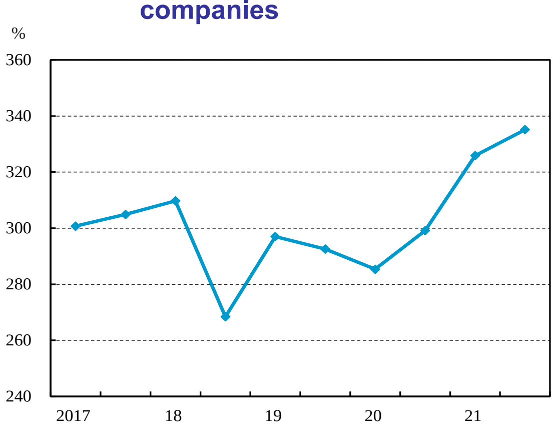
Source: FSC.

Chart 3.36 ROE & ROA of life insurance companies



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

Chart 3.37 RBC ratio of life insurance companies



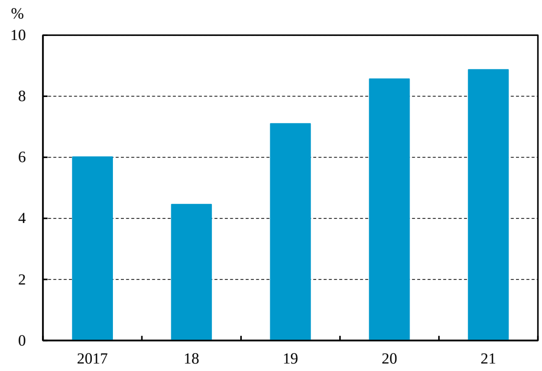
Notes: 1. RBC ratio = regulatory capital/risk-based capital.
2. Figures are exclusive of life insurance companies in receivership.
Source: FSC.

[44] RBC data is reported on a semiannual basis.

maintained credit ratings above twA or its equivalent, with the ratings of the top three companies in terms of assets holding at twAA. Moreover, the prospects of most companies were rated with a positive or stable outlook, except for three companies being rated with a negative outlook.

Taiwan Ratings indicated[45] that Taiwan's life insurers improved capitalization, driven by satisfactory profitability and adequate risk control and monitoring, which could help to support the ratings outlook to remain stable in 2022.

Chart 3.38 Equity to asset ratios of life insurance companies



Notes: 1. Equity is unaudited figures.
2. Assets are exclusive of the assets of investment-linked insurance products in separate accounts.
Source: FSC.

Foreign investment positions faced higher interest rate risk and equity risk

Foreign investment positions of life insurance companies grew continually and reached NT$19.92 trillion at the end of 2021. Securities investments constituted the largest share, of which about 90% were invested in bills and bonds and 10% in equities. With respect to bond investments, since the beginning of 2022, US government bond yields had trended upwards significantly amid the Fed's interest rate hike cycle that potentially could exert an impact on the revaluation of bond investments. Furthermore, the Russia-Ukraine conflict resulted in a sharp rise in volatility in global financial markets. As a result, life insurance companies will likely face higher interest rate risk and equity risk.

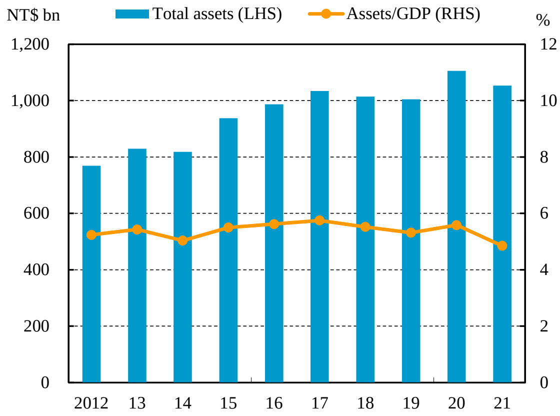
In addition, more than 90% of foreign investment positions of life insurance companies were denominated in US dollars. In order to alleviate the impacts of exchange rate fluctuations, life insurance companies actively used derivative financial instruments for FX hedging while they also built up FX valuation reserves in compliance with the relevant regulations. However, the FX risk inherent in large-value open FX positions of life insurance companies still warrants close attention.

According to the statistics of the FSC, eight life insurance companies held a combined Russian exposure of NT$104.6 billion as of the end of March 2022, most of which was Russian government bonds denominated in US dollars. As the three major international credit

[45] Taiwan Ratings (2022), "Robust Economy Underpins Stable Credit Outlook for Taiwan in 2022," *Media Release*, January.

rating agencies successively downgraded Russia's sovereign credit rating to non-investment grades, these eight life insurance companies recognized provisions of about NT$14.2 billion for their Russian exposures. Furthermore, the FSC required these life insurance companies to report the risk management enhancement measures to their board of directors and to adjust their investment positions within six months. Taiwan Ratings also pointed out [46] that Taiwan's life insurance companies have sufficient buffers to absorb the adverse impacts from price fluctuations of the above investment exposures even in the least-favorable scenario; therefore, the risk from their Russian exposures is still manageable.

Chart 3.39 Total assets of bills finance companies



Sources: CBC and DGBAS.

3.2.3 Bills finance companies

In 2021, the total assets of bills finance companies decreased, but their guarantee business expanded and credit asset quality remained sound. Moreover, their pretax income reached the highest recorded in recent years, with rising profitability. However, the average capital adequacy ratio edged down, while liquidity risk and interest rate risk remained high.

Total assets decreased

The total assets of bills finance companies decreased by NT$52.2 billion or 4.72% in 2021 and stood at NT$1,053.2 billion at the end of the year, mainly owing to reductions in positions of bond investments and negotiable certificates of deposit. The ratio of their total assets to annual GDP also dropped to 4.85% over the same period (Chart 3.39).

With respect to the asset and liability structure of bills finance companies, bill and bond investments constituted the largest share of 96.39% of total assets as of the end of 2021. On the liability side, bills and bonds sold under repo transactions as well as borrowings accounted for 84.75% of total assets, while the proportion of equity accounted for 13.08% (Chart 3.40). The

[46] Taiwan Ratings (2022), *Taiwan Life Insurers' Russia Exposures Look Manageable*, February.

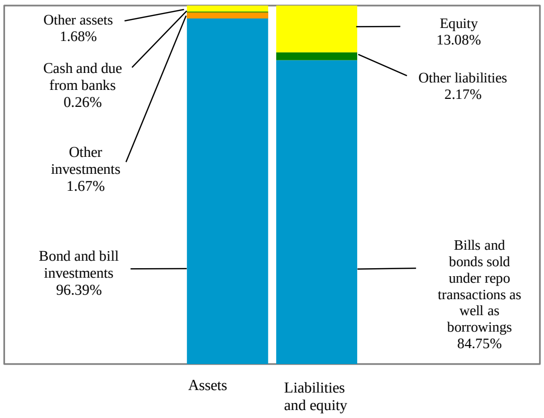
asset and liability structure remained roughly unchanged compared to the previous year.

Credit risk

Guarantee liabilities expanded and the share of credit secured by real estate remained high

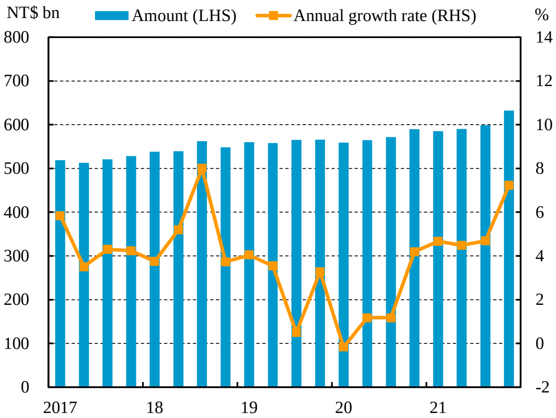
CP guaranteed by bills finance companies registered NT$631.6 billion at the end of 2021, increasing by 7.22% year on year (Chart 3.41) to a new record high. The increase was mainly because corporates increased CP issuance to raise funds on the back of a low level of interest rates in the bill market. Although the amount of CP guaranteed rose, the average ratio of guarantee liabilities to equity decreased slightly to 4.88 times owing to a greater increase in equity, and the ratio for each company remained below the regulatory ceiling of 5 or 5.5 times.

Chart 3.40 Asset/liability structure of bills finance companies



Note: Figures are as of the end of 2021.
Sources: CBC and FSC.

Chart 3.41 Outstanding CP guaranteed by bills finance companies



Source: CBC.

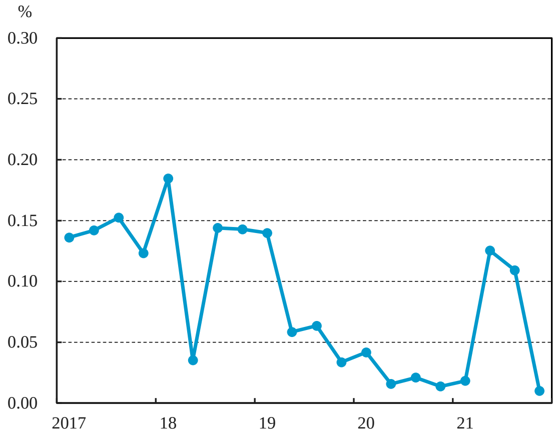
At the end of 2021, guarantees granted to the real estate and construction industries and credit secured by real estate stood at 31.42% and 40.61%, respectively, of the total credit of bills finance companies. Both ratios remained at recent high levels. Moreover, as a large overhang of unsold new residential housing units could restrain prices and the government continued with rigorous policy efforts to curb housing speculation, the prospects of the domestic real estate market may be affected. Bills finance companies should closely monitor those impacts on the asset quality of mortgage-related credit.

To prevent excessive credit resource allocation to the real estate market, in December 2021, the FSC announced the implementation of enhanced supervision measures governing bills finance companies' guarantee business for the real estate industry, including a ceiling of 30% for the share of guarantees granted to the real estate industry. As of the end of 2021, the average share of guarantees granted by bills finance companies to the real estate industry was 28.18%, staying below the aforementioned regulatory ceiling.

Guaranteed advances ratio remained relatively low, showing sound credit quality

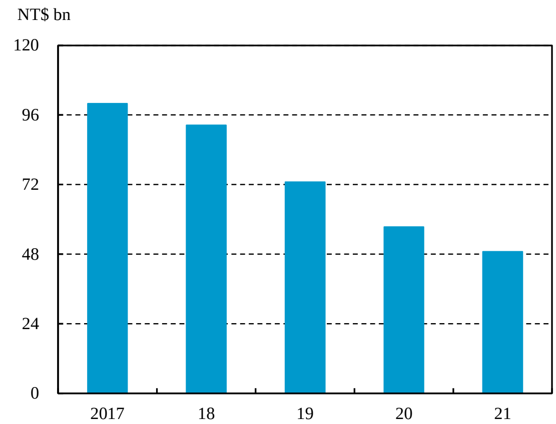
At the end of 2021, the guaranteed advances ratio of bills finance companies stayed at 0.01%, the same as a year before (Chart 3.42), reflecting satisfactory credit quality. Moreover, the credit loss reserves to guaranteed advances ratio [47] expanded to 219.95 times, indicating sufficient reserves to cover potential credit losses. However, the recent resurgence of domestic COVID-19 pandemic cases might impact the credit quality of bills finance companies going forward, and thus warrants close attention.

Chart 3.42 Guaranteed advances ratio of bills finance companies



Note: Guaranteed advances ratio = overdue guarantee advances/(overdue guarantee advances + guarantees)
Source: CBC.

Chart 3.43 Outstanding amount of non-guaranteed CP investments of bills finance companies



Source: CBC.

Investment in non-guaranteed CP issued by the leasing industry expanded substantially and its potential credit risk warrants attention

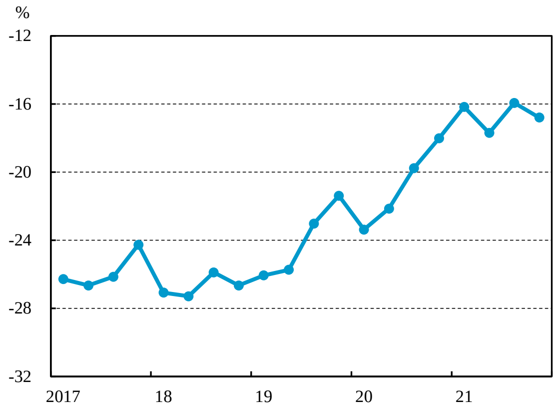
The outstanding amount of non-guaranteed CP investment held by bills finance companies stood at NT$48.8 billion at the end of 2021, decreasing by 14.92% year on year (Chart 3.43). Each company's ratio of non-guaranteed CP investment to equity remained below the self-disciplinary ceiling of 2 times. However, the outstanding amount of non-guaranteed CP investment issued by the leasing industry expanded substantially by 91.32% to NT$17 billion over the same period. The leasing industry has higher potential credit risk owing to the fact that it tends to rely on short-term sources for funding long-term investments, hence warranting continuous attention.

In April 2022, the Bills Finance Association amended the *Self-disciplinary Rules Governing*

[47] Credit loss reserves to guaranteed advances ratio = (provisions + loss reserves to guarantees)/guaranteed advances

Non-guaranteed Commercial Paper Business Conducted by the Members of Bills Finance Association. It stipulated that when underwriting non-guaranteed CP, bills finance companies should observe industry caps and ensure the outstanding amount of non-guaranteed CP issuance of each issuer stay within 3 times of its net worth, so as to promote the sound development of the bill market.

Chart 3.44 0-30 day maturity gap ratio of bills finance companies

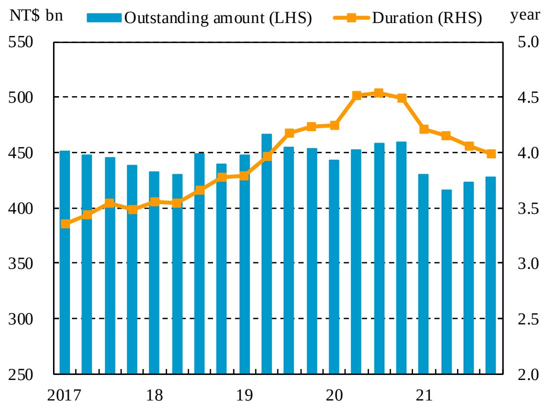


Note: 0-30 day maturity gap ratio = net NTD cash flow within 0-30 days/total assets denominated in NTD.
Source: CBC.

Liquidity risk remained high

In 2021, bills finance companies still faced a significant maturity mismatch between assets and liabilities. More than 90% of their assets were invested in bills and bonds as of the end of the year, 43.65% of which were long-term bonds. Meanwhile, more than 80% of their liabilities were from short-term interbank call loans and repo transactions. Nevertheless, bills finance companies' 0-30 day maturity gap to total assets denominated in NTD shrank further and registered -16.80% at the end of the year (Chart 3.44), reflecting a declining but still high liquidity risk.

Chart 3.45 Outstanding amount of fixed-rate bond investments and bond duration of bills finance companies



Source: CBC.

The outstanding amount of major liabilities[48] decreased by 5.41% to NT$897.3 billion at the end of 2021, owing to the fact that bills finance companies reduced bill and bond investments and, in turn, required less interbank borrowing or bill and bond repo transactions to meet funding needs. The average ratio of major liabilities to equity also decreased to 6.93 times from 7.88 times registered at the end of the previous year, reflecting a lower degree of financial leverage. Moreover, the leverage ratios of all bills finance companies stayed below the regulatory ceilings of 10 or 12 times.

[48] Major liabilities include call loans, repo transactions, as well as issuance of corporate bonds and CP.

Interest rate risk of bond investments remained high

In 2021, the outstanding amount of fixed-rate bond investments of bills finance companies decreased by 6.91% to NT$428.2 billion with average duration shortening to 3.99 years (Chart 3.45). Considering that 10-year Taiwan government bond yields continued rising recently and global bond yields might face upward pressure because of the tightening of monetary policies in major countries, domestic government bond yields could rise further. The interest rate risk of bills finance companies' bond investments remains high, which warrants close attention.

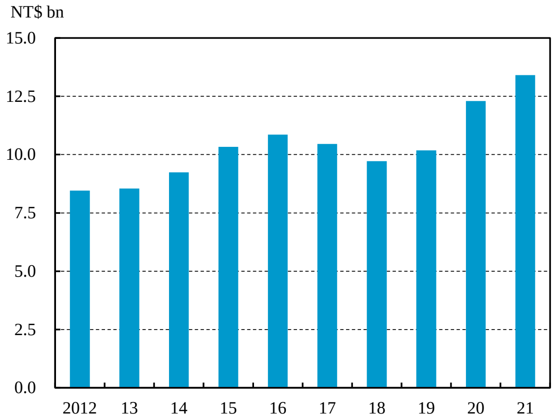
Pretax income hit a recent high and profitability improved further

In 2021, the net income before tax of bills finance companies increased by 9.01% year on year to NT$13.4 billion (Chart 3.46), a new high since 2006, mainly owing to a substantial decrease in interest expenses of bill and bond repo transactions and an expansion in underwriting fee income. The average ROE and ROA thus rose to 9.78% and 1.27% (Chart 3.47), respectively, reflecting improving profitability.

Average capital adequacy ratio declined marginally

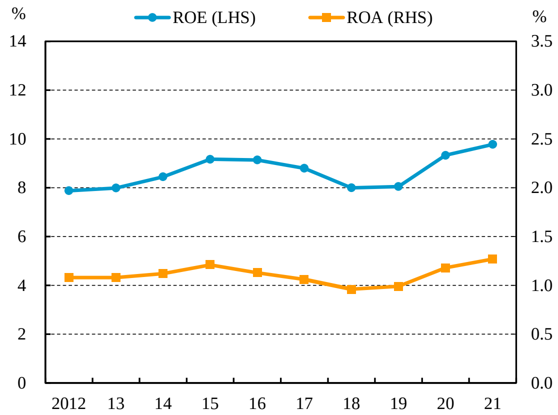
At the end of 2021, the average Tier 1 capital ratio of bills finance companies rose marginally to 12.88%, while their average

Chart 3.46 Net income before tax of bills finance companies



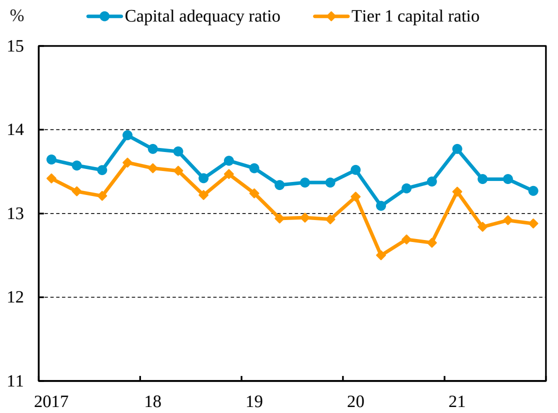
Source: CBC.

Chart 3.47 ROE & ROA of bills finance companies



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

Chart 3.48 Average capital adequacy ratios of bills finance companies



Source: CBC.

capital adequacy ratio declined slightly to 13.27% (Chart 3.48). Moreover, the capital adequacy ratio for each company remained well above the statutory minimum of 8%.