Central Bank Operations

III. Central Bank Operations

1. Overview

Given that higher-than-usual domestic price gains in recent years could buoy inflation expectations, the Bank raised the policy rates by 0.125 percentage points in March 2023. Later in the year, the domestic inflation rate gradually came down from the levels of 2022 and is expected to decline to around 2% in 2024. In addition, the global economic outlook still faced a myriad of risks that could in turn dampen Taiwan's economic recovery. On the other hand, the Bank estimated that Taiwan would have a negative output gap in both 2023 and 2024. Based on these assessments, the Bank kept the policy rates on hold till the end of 2023, helping foster sound economic and financial development on the whole.

With the aim of promoting financial stability and sound banking operations, implementing the cross-ministry Healthy Real Estate Market Plan initiated by the government, and preventing excessive bank credit resources from gushing into the real estate sector, the Bank continued with the selective credit control measures during 2023. In June, the Bank decided to amend the *Regulations Governing the Extension of Mortgage Loans by Financial Institutions* to introduce a 70% cap on the loan-to-value (LTV) ratio for a second home loan of a natural person for housing in a "specific area," and adopted relevant support measures to further strengthen management of bank credit resources and contain related credit risk.

Furthermore, from March 2022 to March 2023, the Bank implemented policy rate hikes five times and increased the reserve requirement ratios on NT dollar demand deposits and time (savings) deposits twice. These measures were also conducive to enhancing the effectiveness of the selective credit controls.

In response to economic and financial conditions, the Bank continued with open market operations by issuing CDs to manage market liquidity and reserve money so as to maintain liquidity in the banking system and market rates at appropriate levels. For the year 2023, reserve money posted an annual growth rate of 5.55%. Meanwhile, the monetary aggregate M2 grew by 6.25% year on year, falling back to the Bank's M2 growth reference range of 2.5% to 6.5%.

With respect to the foreign exchange (FX) market, in the beginning of 2023, as US stocks rebounded from the previous downturn, the TAIEX also swung back up, resulting in net foreign capital inflows and NT dollar appreciation against the US dollar. Thereafter, despite the TAIEX registering a continuous uptrend, foreign investor net sales on the TWSE for profit-taking induced net foreign capital outflows and NT dollar depreciation against the US dollar. For the second half of the year, a surge in US government bonds yields led to the strengthening of the US dollar, and the NT dollar thus depreciated markedly. Nevertheless, with US Treasury yields trending lower and a weaker US dollar, the NT dollar exchange rate reversed to appreciate in November.

The NT dollar exchange rate fluctuated significantly for the entire year, reflecting substantial foreign investor net sales and purchases of Taiwanese stocks as well as international economic impacts. Consequently, the Bank, in line with its statutory mandates, continued to conduct two-way smoothing operations in the forex market as warranted to maintain dynamic stability of the NT dollar, with a net selling of US$2.8 billion in 2023. Compared with other major currencies such as the SGD, EUR, KRW, and JPY, the NT dollar experienced lower volatility in its exchange rate vis-à-vis the US dollar in 2023.

Meanwhile, in addition to approving more bank branches as authorized FX banks, the Bank reviewed the laws and regulations governing FX business as seen fit so as to facilitate authorized FX banks' competitiveness and service quality.

In order to ensure security and efficiency of the functioning of Taiwan's payment and settlement systems, the Bank continued urging financial institutions to strengthen information security of the systems and to perform drills on system backup and contingency procedures in case of emergency. Moreover, the Bank continuously required the Financial Information Service Co., Ltd. (FISC) to reinforce mobile payment infrastructure, such as the introduction of the shopping e-payment service on the "Common Inter-Institutional Electronic Payment Platform" in 2023. The Bank also urged the FISC to collaborate with financial institutions and electronic payment institutions to promote the use of TWQR, a common QR code payment specification. It is expected to help address the fragmentation of the domestic retail payment market.

In the meantime, to assist in cash disbursements for the government's "Universal Cash for All" project, the Bank and the Ministry of Finance instructed the FISC to provide, in collaboration with financial institutions, multiple easy and convenient channels for the public to claim their cash payments through the interbank payment infrastructure.

In response to emerging innovations in digital payment, the Bank has conducted research on central bank digital currencies (CBDCs). The Bank completed the study on wholesale CBDC techical feasibility study in 2020 and the project on retail CBDC technology experimentation in 2022. The videos showcasing the results of the retail CBDC technology experimentation have been released in both Chinese and English on the Bank's official website. Currently, the Bank is carrying out the following tasks to reinforce CBDC-related research and preparations: conducting opinion surveys, enhancing platform technology, and deliberating relevant regulations.

2. Monetary Management

Raising Policy Rates to Foster Price Stability

In March 2023, the Bank raised the policy rates by 0.125 percentage points to curb domestic inflation expectations. Therefore, the discount rate, the rate on refinancing of secured loans, and the rate on temporary accommodations were raised to 1.875%, 2.25%, and 4.125%, respectively.

Afterward, the domestic inflation rate gradually declined from the levels of 2022, and was expected to fall back to around 2% in 2024. The global economic outlook was still facing many risks, which could further dampen the domestic economic recovery. In addition, the domestic output gap was estimated to be negative in both 2023 and 2024. Based on these assessments, the Bank kept the policy rates unchanged in June, September, and December 2023, which would help foster sound economic and financial development on the whole.

Continuing Open Market Operations to Adjust Market Liquidity

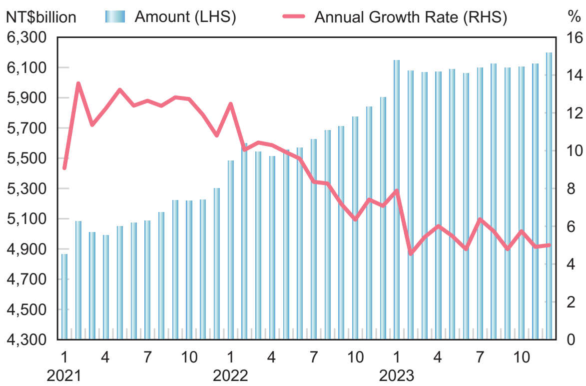
In 2023, the Bank continued to affect money supply through open market operations by issuing CDs in response to domestic economic and financial conditions, which helped to maintain market liquidity and market interest rates at appropriate levels.

(1) Appropriately Managing Reserve Money

The Bank continued to conduct open market operations by issuing CDs. At the end of 2023, the total outstanding amount of CDs issued by the Bank was NT$8,135.9 billion.

In 2023, reserve money grew at a slower pace at 5.55% year on year, 3.36 percentage points lower than the previous year's figure. The annual average excess reserves of financial institutions were NT$59.8 billion, lower than the previous year's NT$71.8 billion.

Reserve Money (Averages of Daily Figures)



Source: *Financial Statistics Monthly* (February 2024), CBC.

In terms of the monthly movements of reserve money, the annual growth rates of reserve money for January and February are often more volatile because of the shift in the exact timing of the Lunar New Year holidays (e.g., the holidays occurred from the end of January to early February in 2022, yet in late January in 2023). For the first two months of 2023, reserve money posted an annual growth rate of 6.20%. From March onwards, the annual growth rate of reserve money was relatively stable.

On the demand side, reserve money, measured on a daily average basis, increased by NT$455.8 billion over the previous year. Of the components, net currency increased by NT$230 billion and the annual growth rate fell to 8.07% from 12.40% the previous year; reserves held by financial institutions expanded by NT$225.8 billion, with the annual growth rate down to 8.08% from 8.94% the previous year.

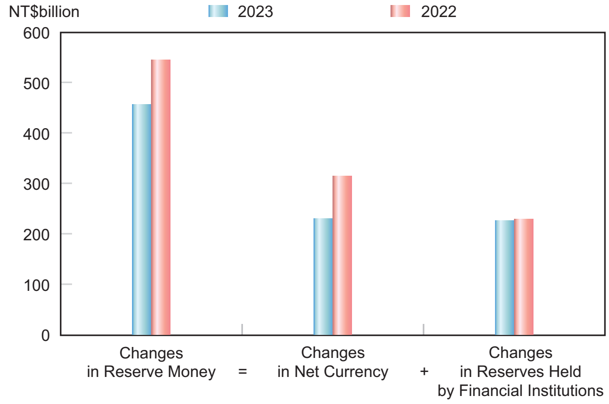
Owing to a slowdown in global economic growth, shrinking exports, and weaker corporate demand for funds, net currency recorded a smaller increase than the previous year. As for reserves held by financial institutions, slower growth in demand deposits reduced banks' demand to deposit reserves, resulting in a slightly smaller increase in reserves held by financial institutions compared to the previous year.

From the supply side perspective, reserve money increased by NT$274.8 billion at the end of 2023. According to the balance sheet of the Bank revealing the sources of changes in reserve money, increases were mostly attributable to the decrease in the outstanding balance of CDs issued by the Bank and the growth in foreign assets held by the Bank, whereas decreases were due to the Bank's reduced claims on financial institutions.

(2) Overnight Call Loan Rate Moving Up with the Bank's Policy Rate Hike

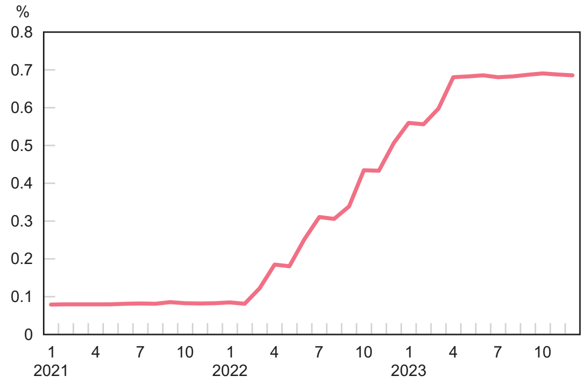
The Bank's 0.125 percentage point rate increase in March 2023 drove up the overnight call loan rate by nearly 0.125 percentage points throughout the year. As of the end of December 2023, the annual average overnight call loan rate was at 0.692%.

Changes in Reserve Money (Averages of Daily Figures)



Source: *Financial Statistics Monthly* (February 2024), CBC.

Overnight Call Loan Rate



Source: *Financial Statistics Monthly* (February 2024), CBC.

(3) Conducting Regular Small-Scale Repo Operations

The Bank conducted small-scale test repo operations on CDs and government bonds in April and October 2023 to improve operational readiness and ensure resilience of open market operations. In December 2023, the Bank conducted a new small-scale test repo operation on sustainable bonds issued by banks to help promote the development of sustainable finance.

(4) Continuous Growth in Monetary Aggregates, with M2 Growth Falling Back to within the Reference Range

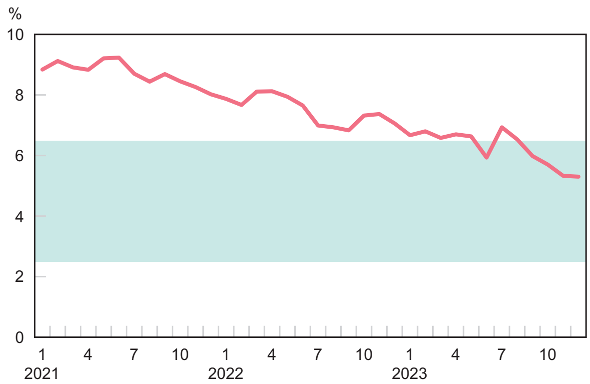
Measured on a daily basis, the annual growth rate of M2 fell by 1.23 percentage points from the previous year to 6.25% in 2023. The slowdown brought it back to the Bank's reference range of 2.5% to 6.5%, mainly reflecting a higher base effect and slower growth in bank loans and investments.

With regard to the monthly movements in 2023, weak corporate funding needs amid a tepid global economy led to a lower annual growth rate of current operations loans, while loans to the real estate sector also declined over the same period in 2022, resulting in a slower pace of year-on-year growth in bank loans and investments. Consequently, the M2 annual growth rate dropped from 7.06% in December 2022 to 6.58% in March 2023.

The M2 annual growth rate rose to over 6.60% in April and May as a result of the government's universal surplus tax rebate program (NT$6,000 per person). With the growth in bank loans and investments registering a downtrend before an uptrend around mid-year, the M2 growth rate declined to 5.93% in June, and then rebounded to an all-year high of 6.93% in July.

Subsequently, net foreign capital outflows brought the M2 annual growth rate down to 5.70% in October. Although net foreign capital outflows turned into inflows in November, the magnitude of inflows was still smaller than that of the same period of the previous year, sending the M2 growth rate further down to 5.33%. Later in December, the M2 annual growth rate fell slightly to an all-year low of 5.30%.

Annual Growth Rate of M2



Note: Light blue area is the reference range for M2 growth (2.5% to 6.5%).
Source: *Financial Statistics Monthly* (February 2024), CBC.

The annual growth rate of the monetary aggregate M1B, measured on a daily average basis, went down by 4.99 percentage points to 2.82% in 2023, mainly owing to a higher base effect and weaker growth in demand deposits resulting from decelerated growth in bank loans and investments.

As for the monthly movements in 2023, from January to March, softer expansion in bank loans and investments and a higher base effect led to slower growth in demand deposits. As a result, the M1B annual growth rate showed a downtrend, dropping from 4.14% in December 2022 to an all-year low of 2.01% in March 2023.

In subsequent months, as growth in demand deposits rebounded, the M1B annual growth rate rose to 3.27% in May. Affected by changes in bank loans and investments, the M1B annual growth rate slipped to 2.35% in June but moved back up to a yearly high of 3.69% in July, before staying broadly stable from August onwards.

Annual Growth Rate of M1B

Source: *Financial Statistics Monthly* (February 2024), CBC.

Continuing the Selective Credit Control Measures and Adopting Supporting Measures to Strengthen Their Effectiveness

To promote financial stability and sound banking operations, to carry on with the Bank's policy efforts under the government's Healthy Real Estate Market Plan, and to prevent bank credit from excessively flowing towards property and land hoarding, the Bank continued to implement the selective credit control measures.

1. Making rolling adjustments to credit control measures

(1) February 2023: The Bank revised the Q&A for the provisions of land loans to include an exemption from the restriction on the commencement of construction within a specific time frame if there are factors that are not attributable to the borrower.

(2) June 2023: The Bank amended the regulations to introduce a 70% loan-to-value (LTV) ratio cap for a second outstanding home loan of a natural person for housing in a "specific area."

(3) July 2023: The Bank added a new Q&A on the regulations for a second outstanding home loan of a natural person for housing in a "specific area," specifying assistance measures provided to second-home buyers whose intentions are to replace their current homes.

2. Adopting supporting measures

(1) Evaluating the effectiveness of the Bank's selective credit control measures on a regular basis to serve as a reference for policymaking.

(2) Inviting banks to participate in seminars and urging them to comply with regulations and implement credit risk-based interest rate pricing principles.

(3) Conducting on-site financial examinations to urge financial institutions to conform to relevant regulations.

(4) Performing monthly reviews on the extension of mortgage loans by financial institutions and changes in credit terms, and releasing related statistics on the Bank's website.

(5) In June and July 2023, the Bank issued press releases stating that the Bank's regulations on a second outstanding home loan of a natural person for housing in a "specific area" had taken into account the interests of second-home buyers replacing current homes, and had provided relevant assistance measures in response.

(6) In November 2023, the Bank called on the National Federation of Credit Cooperatives, R.O.C. (NFCC) and the Agricultural Bank of Taiwan to inform community financial institutions about strengthening the implementation of the regulations.

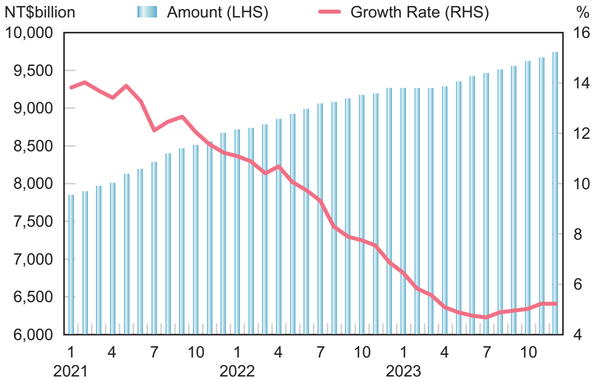
Since the Bank's selective credit controls took effect, real estate lending growth has seen a significant downtrend, which has helped enhance banks' risk management associated with real estate lending, and banks' real estate loans have maintained good credit quality as indicated by the continuously low non-performing loan ratio of this loan bracket. The Bank has continued to closely monitor the possible impacts of real estate-related policies on the housing market, keep watch on banks' real estate lending, review the outcomes of the selective credit controls, and make timely adjustments as needed in order to promote financial stability and sound banking operations.

Facilitating SME Funding

To assist SMEs in obtaining necessary funds for their operations, the Bank regularly tracked banks' lending to SMEs and participated in the formulation of the annual lending growth target under the FSC's "Program to Encourage Lending by Domestic Banks to SMEs" to urge banks to enhance their lending to SMEs.

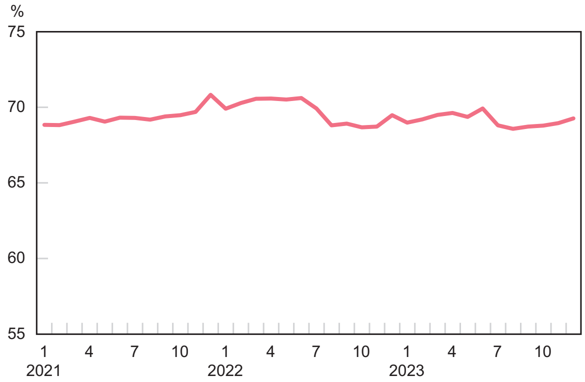
At the end of 2023, the outstanding loans extended to SMEs by domestic banks amounted to NT$9,766.4 billion, an increase of NT$483.1 billion from the end of the previous year to a level that exceeded the annual lending growth target of NT$380 billion set by the FSC for 2023 under the "Program to Encourage Lending by Domestic Banks to SMEs." At the end of 2023, the ratio of SME loans to loans extended to all private enterprises reached 69.26%, slightly lower than the 69.48% recorded at the previous year end.

Outstanding Loans Extended to SMEs



Source: FSC.

Ratio of Outstanding Loans Extended to SMEs to Those Extended to Private Entreprises



Source: FSC.

Raising the Remuneration Rates on Financial Institutions' B Reserve Accounts

The Bank raised policy rates in March 2023, and the remuneration rates on financial institutions' B reserve accounts held with the Bank increased accordingly. Effective March 31, 2023, reserves from demand deposits and time deposits would receive interest at 0.646% and 1.334% per annum, respectively.

Accepting Redeposits from Financial Institutions

Accepting redeposits from Chunghwa Post, the Agricultural Bank of Taiwan, and commercial banks is another instrument for the Bank to influence banks' reserve positions in order to promote financial stability. At the end of 2023, the outstanding redeposits of Chunghwa Post stayed broadly unchanged at NT$1,623.7 billion, while the outstanding redeposits of the Agricultural Bank of Taiwan and of commercial banks were NT$127 billion and NT$235.8 billion, respectively.

Box

Updated Review of the Bank's Selective Credit Control Measures

Beginning in December 2020, the Bank introduced a round of selective credit controls (see Appendix) through amendments to the relevant regulations five times – in December 2020, March, September, and December 2021, and then in June 2023. Judged to be in line with two of the Bank's operational objectives, namely promoting financial stability and sound banking operations, these actions were taken to help curb excessive credit allocation to the real estate market as per the directive of "efficient allocation and proper use of credit resources" under the government's Healthy Real Estate Market Plan. Moreover, the Bank implemented five policy rate hikes and two increases in the required reserve ratios between March 2022 and March 2023. These tightening moves could also strengthen the effectiveness of selective credit control measures.

1. Implementation of the selective credit control measures

The Bank made five adjustments to its selective credit control measures through relevant regulatory amendments since December 2020. The primary considerations and key changes are as follows.

(1) **December 2020:** Strengthening regulation on high-risk real estate borrowers

The Bank noticed several anomalies: Housing loans and construction loans in banks had recorded faster growth; there had been increasing cases of a single natural person taking out multiple housing loans and a rising number of housing loans taken out by corporate entities; bank credit had become a profiting-making tool as some borrowers took out land-collateralized loans to hoard idle land or non-owner occupied housing; banks had been applying overly loose lending standards to loans for unsold housing units of construction firms. In this view, the Bank decided to introduce new selective credit controls, imposing restrictions on housing loans taken out by corporate entities, the third (or more) outstanding housing loan by a natural person, land-collateralized loans and loans for unsold housing units, such as capping the loan-to-value (LTV) ratios and removing grace periods.

(2) **March 2021:** Enhancing regulation on housing loans of corporate entities, third (and more) outstanding housing loans by natural persons, and high-value housing loans; Stipulating new regulations on loans collateralized against idle land in industrial districts

Seeing that banks' real estate lending still posted strong growth and there arose sizable increases in property hoarding and flipping by corporate entities, while also aiming to encourage development of idle land in industrial districts, the Bank implemented the following measures: Lowering the LTV ratio caps on housing loans taken out by corporate entities, adjusting the LTV ratios on natural persons' housing loans according to the number of outstanding ones, lowering the LTV ratio caps on high-value housing loans, and imposing a new LTV ratio cap on loans collateralized against idle land in industrial districts.

(3) **September 2021:** Imposing new restrictions on the second outstanding housing loan(s) taken out by a natural person for homes in the designated "specific areas;"[1] reinforcing restrictions on land loans and loans collateralized against idle land in industrial districts

Against the backdrop of still strong growth in banks' real estate lending, the Bank sought to prevent excessive credit flow from moving into the real estate sector and to encourage borrowers to expedite land development. Therefore, the Bank imposed new restrictions by removing grace periods from the second outstanding housing loans taken out by a natural person for homes in the designated "specific areas," and lowering the LTV ratio caps on land loans and on loans collateralized against idle land in industrial districts.

(4) **December 2021:** Tightening regulation on high-value housing loans, the third (or more) outstanding housing loan(s) of a natural person, land loans, loans collateralized against idle land in industrial districts, and unsold housing units loans

In view of the still large share of real estate lending in banks' total lending, the Bank decided to lower the LTV ratio ceilings for all the abovementioned loan types and to introduce a new regulation that requires borrowers of land loans to commit in writing to commencing construction within a specific time frame (which would be 18 months in maximum according to a later rule stipulated in January 2022).

(5) **June 2023:** Enhancing regulation on the second outstanding housing loan of a natural person for homes in the "specific areas"

In addition to the persistently high concentration of real estate lending in banks' total lending, the number of newly-extended natural persons' second outstanding housing loans increased in the first quarter of 2023 from the previous quarter, while also taking up a larger share. Meanwhile, the average LTV ratio of natural persons' second outstanding housing loans for homes in the "specific areas" remained high and even continued rising. In response, the Bank imposed a new LTV cap on that loan bracket, stipulating that lenders could only grant loans worth no more than 70% of the value of "specific area" homes to natural persons taking out a second outstanding housing loan.

2. These credit controls are non-retrospective, do not affect loan applications by same-household members, and are equipped with separate support measures for homeowners in transition

(1) With no retroactivity, the selective credit controls do not have effect on loan applications

[1] The "specific areas" prescribed herein refer to Taipei City, New Taipei City, Taoyuan City, Taichung City, Tainan City, Kaohsiung City, Hsinchu County, and Hsinchu City.

submitted to and registered by financial institutions prior to the relevant statutory amendments, with their loan conditions still following the applicable rules at the time of loan case registration.

(2) The selective credit controls are applicable to the individual borrower, not the entire household, so they would not hinder the rights of other members in the same household to take out housing loans.

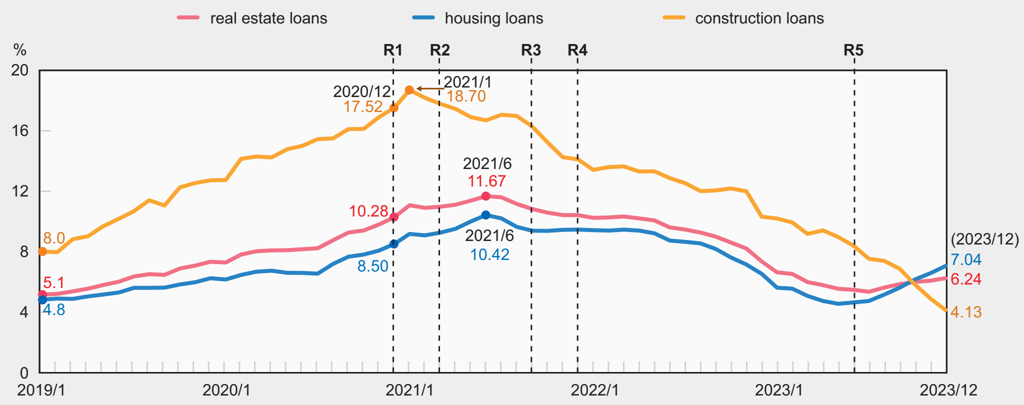
(3) For homeowners in transition between current and new housing, the Bank has provided relevant support measures[2] to help them take out housing loans as needed.

3. Results and effectiveness

(1) Remarkable decline in real estate lending growth rate, slowing the bank credit flow to the real estate market

As of December 2023, the annual growth rates of banks' real estate loans, housing loans, and construction loans were 6.24%, 7.04%, and 4.13%, all lower than the levels prior to December 2020 when the Bank began implementing selective credit controls, with these measures continuing to work and more results expected to show.

Annual Real Estate Loan Growth Rates of All Banks



Notes: 1. Real estate loans = housing loans (house-purchasing loans) + house-repairing loans + construction loans.
2. R1-R5 represent the five amendments to the selective credit controls with R1 referring to the Dec. 2020 amendment.

Source: Department of Economic Research, CBC.

(2) LTV ratios came down, related loans posted low non-performing loan (NPL) ratios, and banks exhibited good real estate credit risk management

A. The LTV ratios of the loans under restriction all came lower.

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[2] According to the Q&As compiled by the Bank in July 2023 on natural persons' second housing loans for "specific area" homes, if borrowers do have actual needs in the home-transition period to take out a new loan before full repayment of the outstanding one, they need to, through Affidavit of Undertaking, promise to sell and complete ownership transfer of the collateralized property of the existing loan (along with debt and lien cancellation) within one year, with the result that the borrowers may be exempt from the relevant 70% LTV ratio cap.

LTV Ratios of Real Estate Loans Before and After Rule Tightening (Domestic Banks)

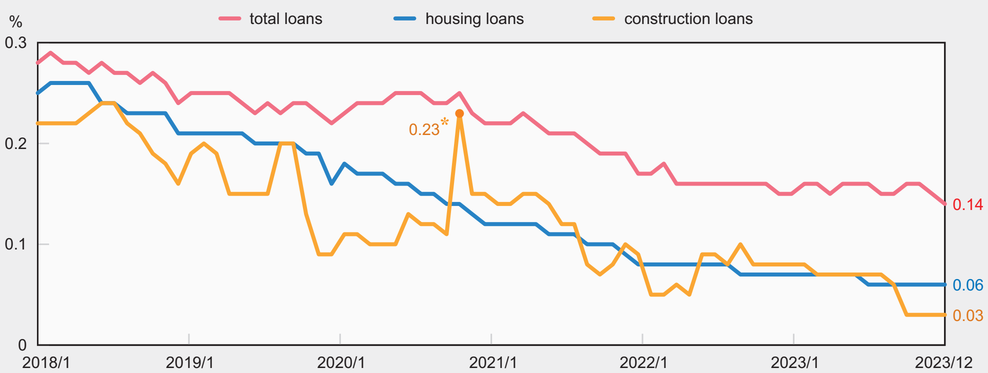
(unit: %)

Type of loans			Before (average; mainly Jan.-Sept. 2020)	After (average; Dec. 2023)	Current cap (Jun. 16, 2023 onwards)
Housing loans	Corporate entity (regardless of the number of outstanding housing loans)		63.97	39.28	40
	Natural person	2nd outstanding housing loan, specific areas	77.16	68.05	70
		3rd (and more) outstanding housing loan	63.97	39.46	40
		High-value housing	71.00	39.09	40
Land loans			69.19	48.79	50
Loans for unsold housing units			51.03	38.67	40
Loans collateralized against idle industrial district land			n.a.	49.78 (Oct. 2021)	40

Notes: 1. The "before" data are based on the information for the Jan.-Sept. 2020 period as reported by the 14 banks when they came to meet with the Bank in November 2020; the "before" data on high-value housing loans taken out by natural persons are based on data reported by banks before the Bank first imposed credit controls on this type of loan in June 2012; the "before" data on the second housing loans of "specific area" homes of natural persons are based on data reported during Jan.-May 2023.
2. The "after" data are compiled by the Bank based on the reports submitted by 37 domestic banks. For data on loans collateralized against idle industrial district land, the latest available data was October 2021 (when the LTV ratio cap was still 50%).
3. "n.a." there was no statistical compilation.
Source: Department of Banking, CBC.

B. The NPL ratios of domestic banks' real estate-related loans all remained low, and below the NPL ratio of total loans, indicating good credit quality that is conducive to the management of banks' real estate credit risk.

Non-performing Loan Ratios of Domestic Banks



Note: The NPL ratio of construction loans reached 0.23% in October 2020; this was caused by a surge in one bank's single month non-performing construction loan ratio, attributable to one corporate borrower.

Source: Department of Financial Inspection, CBC.

4. Promoting awareness of the control measures and their effectiveness

The Bank has continued to enhance policy promotion and public communication through various channels, in order to encourage understanding of the execution and results of the abovementioned selective credit control measures.

(1) Whenever the selective credit control measures were adjusted, they were accompanied by a press release and presentation materials for the press conference post the Bank's quarterly Board Meeting, explaining the considerations behind the policy adjustment, changes made, and future outlook. Supplementary materials for the post-meeting press conference were also provided to give more details on the status and results of the previously-enforced credit controls.

(2) On several occasions the Bank issued press releases to urge banks to comply with the control measures and the principle of credit risk-based interest rate pricing, to formulate internal rules, to actively require borrowers to fulfill the promise on construction work commencement, to provide homeowners in the midst of home transition with the Bank's relevant support measures, etc.

(3) The Bank has since made several reports to the Parliament[3] on the implementation and related issues of the selective credit control measures.

(4) Governor Yang, at the invitation of a seminar, gave an account of the related issues of the housing market and the Bank's selective credit control measures undertaken in accordance with the government's Healthy Real Estate Market Plan.

(5) On multiple occasions the Bank responded to the suggestions of private sector groups (such as the real estate development associations of various municipalities) and released related information on social media platforms (such as the Bank's Facebook page) to strengthen policy communication.

(6) The Bank set up a dedicated page on its official website about the Bank's efforts under the government's Healthy Real Estate Market Plan, providing details on the regulations, frequently asked questions and answers, and related press releases, as well as a regular update on data regarding domestic banks underwriting the regulated types of real estate loans.

[3] Including the Apr. 19, 2021 report on the implementation status of the Bank's selective credit control measures; the Nov. 22, 2021 report on how to prevent bank and non-bank credit from being used to fuel property speculation; the May 12, 2022 report on a review of whether to tighten further amid major central banks' tightening moves and to adjust the selective credit control measures; the Mar. 30, 2023 report related to the government's social housing projects and relevant measures under the government's newly-amended tax measures to rein in high housing prices.

5. Conclusion

To foster financial stability and sound banking operations, and to attain the goal of "efficient allocation and proper use of credit resources" as per the government's Healthy Real Estate Market Plan, the Bank launched a series of efforts with five amendments to the selective credit controls beginning December 2020. With these measures, the real estate loan growth rates have declined and their NPL ratios have stayed low, pointing to good credit quality. The data have demonstrated how the Bank's housing credit policy measures have helped reinforce banks' credit risk management associated with the real estate sector and kept bank credit resources from flowing unreasonably to the real estate market.

In implementing the selective credit controls, the Bank paid attention not to affect existing loan applicants or other homebuying household members of the borrowers whose housing loans come under restriction. The Bank also made a point of ensuring the rights of housing loan borrowers in transition between current and future owner-occupied homes.

In the process, the Bank continued to strengthen communication through various channels to promote public understanding of how these measures were conducted and how much they had achieved. Going forward, the Bank will continue with a rolling review across financial institutions regarding the underwriting of real estate loans and the execution of the selective credit controls and will adjust the measures as needed to promote sound banking operations and foster financial stability.

Appendix: Key Points of the Adjustments to Selective Credit Control Measures

<table>
<tr><th colspan="2" rowspan="2">Type of loans</th><th colspan="5">LTV ratio caps and others (date: mm/dd/yyyy)</th></tr>
<tr><th>12/08/2020 - 03/18/2021</th><th>03/19/2021 - 09/23/2021</th><th>09/24/2021 - 12/16/2021</th><th>12/17/2021 - 06/15/2023</th><th>06/16/2023 -</th></tr>
<tr><td rowspan="2">Corporate entity</td><td>First housing loan</td><td>LTV cap: 60%; No grace period</td><td rowspan="2">LTV cap: 40%; No grace period</td><td rowspan="2">(unchanged)</td><td rowspan="2">(unchanged)</td><td rowspan="2">(unchanged)</td></tr>
<tr><td>Second (or more) housing loan(s)</td><td>LTV cap: 50%; No grace period</td></tr>
<tr><td rowspan="5">Natural person</td><td>High-value housing loan in addition to two (or less) housing loans</td><td rowspan="2">LTV cap: 60%; No grace period</td><td>LTV cap: 55%; No grace period</td><td>(unchanged)</td><td>LTV cap: 40%; No grace period</td><td>(unchanged)</td></tr>
<tr><td>High-value housing loan in addition to three (or more) housing loans</td><td>LTV cap: 40%; No grace period</td><td>(unchanged)</td><td>(unchanged)</td><td>(unchanged)</td></tr>
<tr><td>Second housing loans for a home in one of the "specific areas"</td><td>(nil)</td><td>(nil)</td><td>No grace period</td><td>(unchanged)</td><td>LTV cap: 70%; No grace period</td></tr>
<tr><td>Third housing loan</td><td rowspan="2">LTV cap: 60%; No grace period</td><td>LTV cap: 55%; No grace period</td><td>(unchanged)</td><td rowspan="2">LTV cap: 40%; No grace period</td><td>(unchanged)</td></tr>
<tr><td>Fourth (or more) housing loans(s)</td><td>LTV cap: 50%; No grace period</td><td>(unchanged)</td><td>(unchanged)</td></tr>
<tr><td colspan="2">Land loans</td><td>LTV cap: 65%, with 10% withheld for disbursement until construction commences;

Borrower required to submit a substantive development plan for the land purchased</td><td>(unchanged)</td><td>LTV cap: 60%, with 10% withheld for disbursement until construction commences;

Borrower required to submit a substantive development plan for the land purchased</td><td>LTV cap: 50%, with 10% withheld for disbursement until construction commences;

Borrower required to submit a substantive development plan and undertake that construction would begin within a specific time frame</td><td>(unchanged)</td></tr>
<tr><td colspan="2">Loans for unsold housing units</td><td>LTV cap: 50%</td><td>(unchanged)</td><td>(unchanged)</td><td>LTV cap: 40%</td><td>(unchanged)</td></tr>
<tr><td colspan="2">Idle industrial district land mortgage loans</td><td>Internal rules of banks</td><td>LTV cap: 55%;

Exemption condition:
(1) commencement of construction, or
(2) submission of a substantive development plan and an affidavit stating that construction would take place within a specific time frame</td><td>LTV cap: 50%;

Exemption condition:
(1) commencement of construction, or
(2) submission of a substantive development plan and an affidavit stating that construction would take place within one year</td><td>LTV cap: 40%; Exemption conditions unchanged</td><td>(unchanged)</td></tr>
</table>

Note: This is a translated, simplified table. In the event of any inconsistency or ambiguity, the official Chinese version of relevant regulations shall prevail.
Source: Department of Banking, CBC.

3. Foreign Exchange Management

Promoting the Sound Development of the Foreign Exchange Market

(1) Flexible foreign exchange rate management to maintain dynamic stability of the NT dollar exchange rate

As Taiwan is a small open economy with high dependence on foreign trade, the Bank suitably adopts a managed float exchange rate regime to contain sharp exchange rate fluctuations. Under this regime, the NT dollar exchange rate is in principle determined by market forces. However, in the event of disorderly movements (such as mass inflows and outflows of short-term capital) and seasonal factors, the Bank would conduct appropriate smoothing operations to stave off adverse effects for economic and financial stability and to maintain an orderly foreign exchange market.

In recent years, massive and frequent movement of international short-term capital has become the main driving force of exchange rate changes. To mitigate excessive exchange rate volatility and to improve market efficiency, the Bank has adopted "leaning against the wind" operations to prevent erratic flows from disrupting the foreign exchange market. The dynamic stability of the NT dollar exchange rate is viewed as conducive to long-term economic stability and sound development.

As Taiwan's stock market was buoyed by the US stock rally amid easing inflation and slower Fed rate hikes, foreign portfolio capital inflows thus drove the NTD up against the USD in early 2023. The AI boom and the Fed's pause in interest rate hikes from June onwards pushed global and Taiwan stock market indices up, but the resultant profit-taking trades by foreign investors and outward remittances of the gains led to NTD depreciation.

The NTD depreciated significantly in the second half of 2023 because the US 10 year treasury yield jumped and the USD strengthened. As the Fed became somewhat dovish in November because of a sharp tightening in US financial conditions and the easing of labor market and inflation pressures, a consequent decrease in US treasury yields and the USD caused the NTD to rebound and appreciate.

Overall, in 2023, the NTD exchange rate fluctuated significantly, reflecting not only foreign portfolio investment flows but also international economic impacts. To maintain the dynamic stability of the NT dollar exchange rate, the Bank continued to conduct two-way smoothing operations in the forex market. For the year as a whole, net sales by the Bank amounted to US$2.8 billion. NTD exchange rate volatility was lower compared to the SGD, EUR, KRW, and JPY in 2023.

(2) Maintaining an orderly forex market and promoting sound market development

A. Implementing the Real-Time Reporting System for Large-Amount Foreign Exchange Transactions.

B. Strengthening off-site monitoring management to ensure that forward transactions were based on real transactions to curb foreign exchange speculation.

C. Urging authorized banks to enhance their exchange rate risk management in order to reduce market exposure of individual banks and to contain systemic risks.

D. Strengthening targeted examinations on foreign exchange business to help ensure a sound foreign exchange market.

Foreign Currency Call Loan and Swap Market Management

(1) To provide the financial system with sufficient foreign currency liquidity to meet funding needs, including those for corporations to venture into overseas markets, the Bank appropriated seed capital for the Taipei Foreign Currency Call Loan Market, including US$20 billion, €1 billion and ¥80 billion.

(2) Through foreign currency call loans and swaps conducted by authorized foreign exchange banks, the Bank continued to support corporations and insurance companies by meeting the needs for foreign currency liquidity and exchange rate hedging.

Foreign Exchange Reserve Management and Foreign Currency Liquidity of the Bank

The Bank manages its foreign exchange reserves based on the considerations of liquidity, safety, and profitability. The Bank keeps a close watch on the global economic and financial situation and adjusts the portfolio of foreign exchange reserves accordingly. Currently, financial assets denominated in US dollars make up a larger share in Taiwan's foreign exchange reserves than the COFER (Currency Composition of Official Foreign Exchange Reserves) average published by the IMF. As of the end of 2023, Taiwan's total foreign exchange reserves stood at US$570.6 billion, an increase of US$15.7 billion or 2.8% compared to the end of 2022 mainly attributable to returns from foreign exchange reserve investments. Combining the reserves held in gold valued at US$5.0 billion, the Bank's reserve assets totaled US$575.6 billion at the end of the year.

Foreign exchange reserves are the Bank's foreign currency claims on nonresidents. On the other hand, foreign currency claims on residents consist of US dollars held under swap agreements and foreign currency deposits with and loans to domestic banks, which amounted to US$86.8 billion, US$28.8 billion, and US$7.8 billion, respectively, at the end of 2023.

In terms of foreign currency liquidity, the total amount (including foreign currency claims and gold) reached US$704.3 billion at the end of 2023.

Capital Flow Management

In line with the efforts to promote financial liberalization and internationalization, the Bank's foreign exchange management has mainly been focusing on maintaining the market mechanism, and financial capital can, in principle, flow freely in and out of Taiwan. Financial capital flows not involving NT dollar conversion have been able to flow freely. Additionally, there are no restrictions on financial flows involving NT dollar conversion for goods and service trade, nor for direct and securities investments approved by the competent authorities.

Regulation only exists for short-term remittances. The amount of accumulated annual remittances for an individual resident within US$5 million and for a juridical person within US$50 million can be settled by banks directly, while annual remittances above the aforementioned amounts require the approval of the Bank. For a nonresident, each transaction within US$0.1 million can be settled by banks directly, whereas any transaction amount above that threshold requires the approval of the Bank. Measures with regard to the management of capital flows in 2023 included:

(1) Promoting the Internationalization of Taiwan's Capital Market

Cases of fund-raising by domestic and foreign institutions through securities issuance, approved by or filed for record to the Bank in 2023, are shown in the following table.

Institution	Fund-Raising Method	Number	Amount
Foreign Companies	IPO on TWSE & TPEx and registration on the Emerging Stock Board	14	NTD 11.4 billion
	NTD convertible bonds	8	NTD 2.45 billion
	Foreign currency-denominated bonds	59	USD 6.77 billion
		1	RMB 0.29 billion
		8	AUD 0.31 billion
		1	ZAR 0.82 billion
	Overseas depositary receipts	2	USD 0.69 billion
	Overseas convertible bonds	1	USD 0.40 billion
Domestic companies (and domestic branches)	Overseas depositary receipts	3	USD 1.35 billion
	Overseas convertible bonds	2	USD 0.80 billion

Note: TWSE stands for the Taiwan Stock Exchange; TPEx stands for the Taipei Exchange.
Source: Department of Foreign Exchange, CBC.

(2) Approving Residents' Investments in Foreign Securities

Institution	Method/Instrument	Amount
Securities investment trust companies (SITEs)	36 domestic SITE funds (including 27 NTD-foreign multiple currency SITE funds)	NTD 647 billion (including 470 billion in multiple currency funds)
Life insurance companies	Non-discretionary money trusts managed by financial institutions	USD 0.34 billion
	Investment in their own accounts	USD 0.23 billion
Five major government pension funds and employment insurance funds	Investment in their own accounts	USD 6.55 billion

Source: Department of Foreign Exchange, CBC.

Management of Foreign Exchange Business of Financial Institutions

(1) Authorized foreign exchange banks

Under *The Central Bank of the Republic of China (Taiwan) Act* and the *Foreign Exchange Regulation Act*, the Bank reviews, authorizes, and supervises banks to conduct foreign exchange business accordingly. In 2023, the Bank continued to approve bank branches as authorized foreign exchange banks and loosened restrictions on foreign exchange derivative product business in order to facilitate authorized foreign exchange banks' competitiveness and service quality.

At the end of 2023, there were 3,468 authorized foreign exchange banks in total, which included 36 head offices and 3,392 branches of domestic banks, 37 branches of foreign banks, three branches of Mainland Chinese banks, as well as 4,622 authorized money exchangers, post offices, and financial institutions authorized to engage in basic foreign exchange business.

(2) Insurance Companies

As of the end of 2023, the numbers of insurance companies allowed to engage in traditional and in investment-linked foreign currency insurance business were both 21. The foreign currency premium revenue decreased by US$4.98 billion, or 18.0%, from the previous year to US$22.73 billion in 2023.

(3) Securities Firms

The approved cases for securities firms to conduct foreign exchange business in 2023 are listed in the following table.

Institutions	Foreign Exchange Business	Number
Securities Firms	Underwriting of international bonds denominated in foreign currency	1
	Proprietary foreign securities trading neither belonging to investment with their funds nor for hedging needs	1
	NTD and foreign currency spot exchange rate	1
	Accepting orders to trade foreign securities	1
	Foreign bond trading agency business	1
	Structured products	3

Source: Department of Foreign Exchange, CBC.

(4) Investment Trust/Consulting Firms and Futures Firms

The approved cases granted by the Bank for investment trust and investment consulting firms and futures firms (concurrently operating as a leverage transaction merchant) to conduct foreign exchange business as of 2023 are shown in the following table.

Institutions	Foreign Exchange Business	Number
Investment trust and investment consulting firms	Serving as mandated institutions of private offshore funds	2
	Serving as master agents of offshore funds	1
	foreign currency discretionary investment business	2
	Conducting public offers or private placement of foreign currency-denominated funds	2
Futures firms (concurrently operating as a leverage transaction merchant)	Contracts for differences linked to foreign stocks or ETFs	1

Source: Department of Foreign Exchange, CBC.

Foreign Currency Clearing Platform

(1) Taiwan's foreign currency clearing platform was consigned by the Bank and established by the Financial Information Service Co. The platform offers services for domestic and cross-border (including cross-strait) remittances of the Chinese renminbi and the Japanese yen, and domestic remittances of the US dollar, the euro, and the Australian dollar. The platform adopts a payment-versus-payment (PVP) mechanism among banks, a liquidity-saving mechanism for foreign currency remittances, and a delivery-versus-payment (DVP) mechanism for foreign currency bonds and bills.

(2) Domestic Development of Foreign Currency Settlement Business in 2023

Currency	Domestic Participating Units	Settlements in 2023	
		Number of Transactions	Amount
US dollar	71	1,340,787	USD 1,983.2 billion
Renminbi	60	281,680	RMB 574 billion
Yen	38	42,782	JPY 1,471.7 billion
Euro	39	21,058	EUR 8.1 billion
Australian dollar	29	27,230	AUD 1.8 billion

Source: Department of Foreign Exchange, CBC.

Offshore Banking

(1) Regulatory amendments

A. In order to enhance banks' competitiveness in wealth management business, the Bank collaborated with the FSC to amend the renamed *Directions Governing the Custody and Disposal of Clients' Equity-Type Foreign Securities Obtained Through Physical Delivery of Domestic and Offshore Structured Products or Structured Notes by Banks (Including OBUs)*. The amendment relaxed the range of eligible products and participants, effective August 9, 2023.

B. In order to facilitate compliance of securities firms, the Bank collaborated with the FSC to amend the rules regarding the financial standards for a securities firm applying to establish an offshore securities unit (OSU) by lifting the upper limit of its total debts, so as to be consistent with the limit in Article 13 of the *Regulations Governing Securities Firms*. The amendment was effective November 1, 2023.

(2) Financial Status

A. Offshore Banking Units (OBUs)

At the end of 2023, the number of OBUs came to 59, and total OBU assets increased by US$11.16 billion, or 4.2%, over the previous year to US$277.29 billion. The net income after tax of all OBUs amounted to US$1.8 billion, decreasing by US$0.54 billion or 23.1% from a year before.

B. Offshore Securities Units (OSUs)

At the end of 2023, the number of OSUs stood at 18, and total OSU assets increased by US$1.75 billion, or 38.5%, over the previous year to US$6.28 billion. The net income after tax of the business also decreased by US$11.2 million, or 41.4%, to minus US$38.1 million for 2023.

C. Offshore Insurance Units (OIUs)

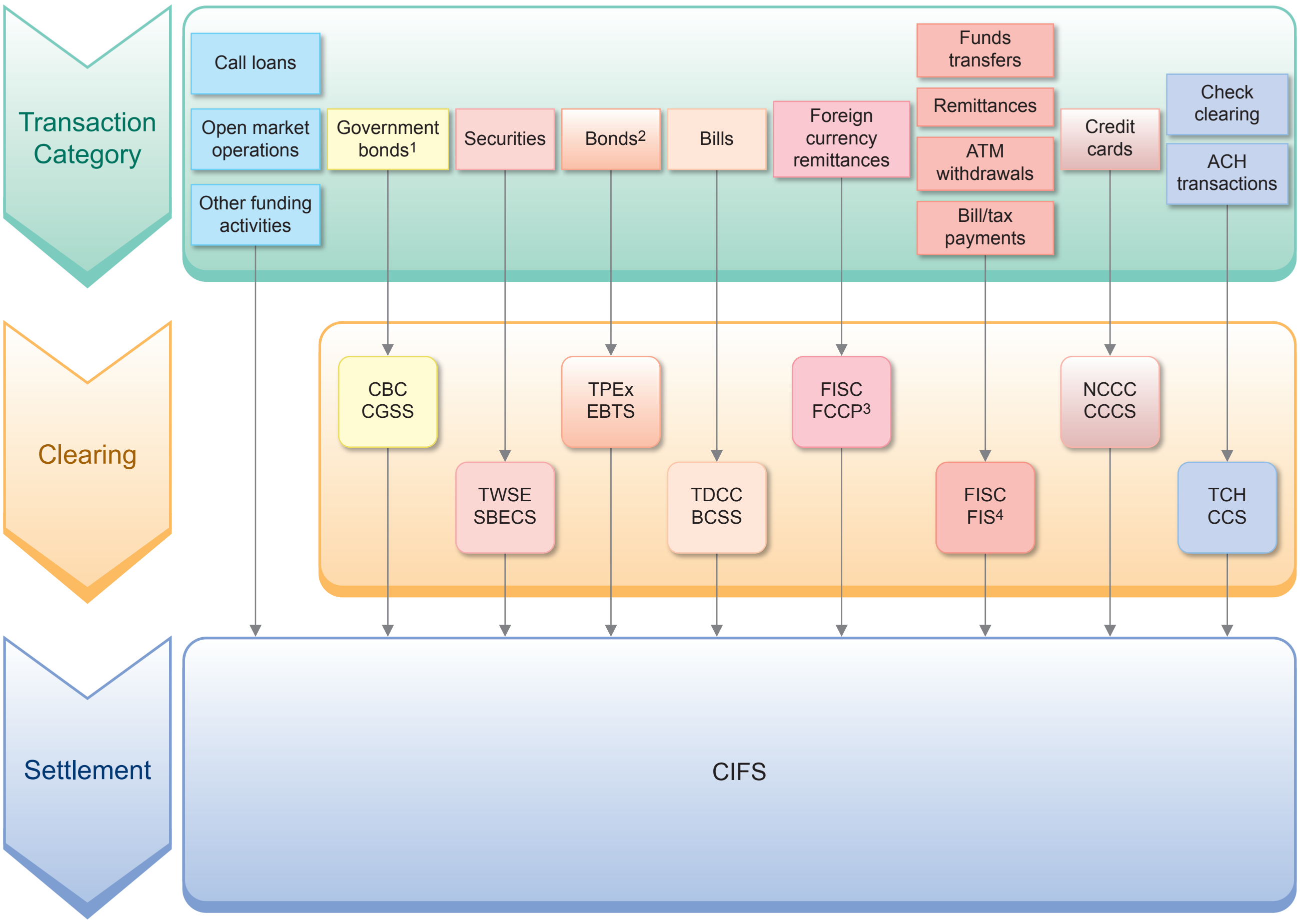
As of the end of 2023, the number of OIUs was 20, with a total amount of assets of US$0.88 billion, which was US$0.1 billion or 10.2% less than the previous year end. The net income after tax of all OIUs decreased by US$23.9 million, or 80%, to US$6 million from the previous year.

4. Payment and Settlement Systems

The Bank plays a crucial role in the functioning of Taiwan's payment and settlement systems, and operates the CBC Interbank Funds Transfer System (CIFS) and the Central Government Securities Settlement System (CGSS).

The CIFS serves as the hub of Taiwan's payment and settlement systems, linking the interbank clearing systems operated by the FISC, the Taiwan Clearing House (TCH), the National Credit Card Center of R.O.C. (NCCC), the Taiwan Depository and Clearing Corporation (TDCC), the TPEx, and the TWSE, as well as the CGSS, together to construct a comprehensive system.

Payment and Settlement System Infrastructure



Notes: 1. Including DVP settlements for interbank transactions of central government bonds and treasury bills.
2. Including netting settlements for outright trades of government bonds, corporate bonds, and bank debentures.
3. The CIFS is responsible for settlements involving NT dollars, while settlements involving foreign currencies are performed by designated commercial banks.
4. The FISC's Financial Information System (FIS) provides fast payment service on a 24/7 basis.
Source: Department of Banking, CBC.

In addition, the Bank monitors major payment systems based on the *Principles for Financial Market Infrastructures* released by the Bank for International Settlements (BIS) to ensure sound operation of these systems and to promote stability of the financial system.

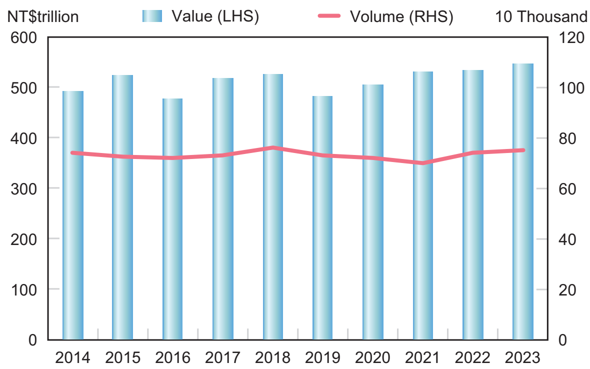
Operation of Payment and Settlement Systems

(1) Funds Transfers via the CIFS

As a large-value electronic funds transfer system, the CIFS not only deals with interbank funding, open market operations, and funds settlements in financial markets, but also provides interbank final settlement services for each clearing institution.

At the end of 2023, there were 85 participants of the CIFS, which included 70 banks, eight bills finance companies, Chunghwa Post, and six clearing institutions, namely the FISC, the TCH, the TDCC, the TWSE, the TPEx, and the NCCC. In 2023, the number of transactions via the CIFS was 753,017, and the amount of funds transferred totaled NT$547 trillion. Meanwhile, the daily average number of transactions via the CIFS was 3,049 and the daily average amount of funds transferred was NT$2.2 trillion, increasing by 2.36% and 3.1% from a year before, respectively.

Transaction Value and Volume of the CIFS



Source: Department of Banking, CBC.

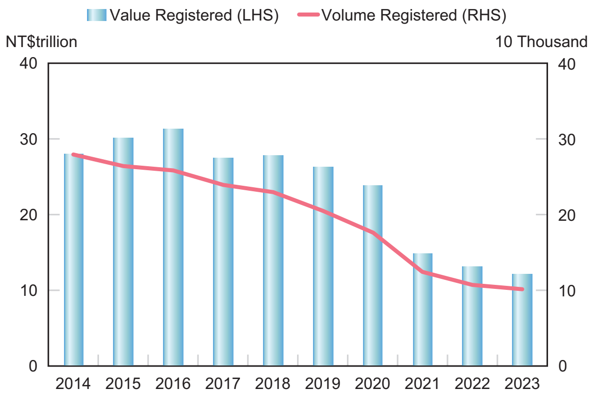
(2) Transactions via the CGSS

Established in September 1997, the CGSS is a system for issuance, transfer, redemption, and interest payment of book-entry central government securities. Since its inception, central government bonds have been issued in book-entry form. Treasury bills were included in this system in October 2001 and have been issued in book-entry form ever since.

Since April 2008, when the CGSS linked up with the CIFS, fund settlements, principal redemptions, and interest payments have been handled through the CIFS using a DVP mode. The DVP mode, promoted by the BIS, is an arrangement in a securities settlement system to ensure that securities delivery occurs at the same time as the funds transfer, effectively eliminating potential principal risk during the transaction process.

As of the end of 2023, there were 19 clearing banks with 1,679 branches that handled the registration of central government securities transfers. During the year, market expectations of the policy rate hike cycle nearing an end led central government bond yields to fluctuate within a narrow range, weighing on dealers' willingness for bond transactions. As a result, transaction value and volume of the CGSS in 2023 continued the downtrend, falling to NT$12.1 trillion and 101 thousand transfers, respectively.

Transaction Value and Volume of the CGSS



Source: Department of Treasury, CBC.

Oversight of Payment and Settlement Systems

To ensure sound operation of domestic payment and settlement systems, the Bank conducted the following oversight activities in 2023:

(1) Monitoring the Operation of the Large-Value Payment Systems

The Bank continued to monitor the operation of the large-value payment systems in 2023, and required participating institutions which applied for the CIFS operation time extensions because of system malfunctions or other contingencies to improve the time extension issue.

(2) Requiring Payment Institutions to Submit Information on Payment Business

Clearing institutions and electronic payment institutions were required by the Bank to submit information about their operations and activities on a regular basis. The Bank also kept close watch on the development of innovations in the payment industry, and assisted in providing sound retail payment infrastructure.

(3) Supervising Contingency Drills Performed by Clearing Institutions

To ensure business continuity of payment and settlement systems, the Bank supervised clearing institutions conducting testing of business continuity plans and remote backup operations in case of emergency. Furthermore, the Bank, together with participants of the CIFS, performed system-wide testing of the operating procedures to ensure that the backup systems would operate smoothly when an emergency occurs and relevant personnel would be familiar with contingency procedures in response to disruptions to the system network.

(4) Performing Backup Drills with Clearing Banks

Since 2019, the Bank has supervised all clearing banks performing backup drills in the event of malfunction or line interruption of a CGSS participant's mainframe system. In September 2023, this drill was conducted successfully with 19 clearing banks.

(5) Organizing Conferences to Enhance Payment System Operation

The Bank invites the FSC and clearing institutions to jointly hold two conferences on "Promoting Sound Operation of the Payment Systems" every year. The conferences are convened separately by type of clearing institution. For instance, the May conference was held for securities clearing institutions such as the TDCC, the TPEx, and the TWSE, while the one in November was attended by payment clearing institutions including the FISC, the TCH, and the NCCC. During the conferences, the Bank urged the clearing institutions to reinforce the resilience of payment systems, strengthen business contingency planning, and adopt financial technology to enhance operational efficiency and risk management.

Continuing to Urge the FISC to Provide Sound Mobile Payment Infrastructure

To foster the development of mobile payment and electronic payment, the Bank instructed the FISC to reinforce mobile payment infrastructure and assist payment service providers in promoting new payment methods through the following actions:

(1) To enhance information transmission and to facilitate transfer of funds between electronic payment institutions and between e-payment institutions and financial institutions, the Bank consigned the FISC to establish a "Common Inter-Institutional Electronic Payment Platform," inaugurated in October 2021. Later, the shopping e-payment service was introduced on the platform in October 2023. Therefore, the platform has now facilitated services in four areas including funds transfer, tax and bill e-payment, and shopping e-payment,[8] and is expected to offer a cross-border QR Code payment service.

(2) The Bank urged the FISC to develop a common QR code payment specification, named as TWQR and launched on the "Common Inter-Institutional Electronic Payment Platform." With TWQR, merchants and consumers could complete shopping payment by using one common QR code. This could help address the fragmentation of the domestic retail payment market.

Assisting in Cash Disbursements for the Government's "Tax Rebate Universal Cash for All" Project

The government rolled out the "Tax Rebate Universal Cash for All" project in 2023, sending out a one-off NT$6,000 cash handout to every citizen from surplus tax revenue. In order to assist in cash

[8] The 37 participating financial institutions have provided all four services, whereas electronic payment institutions provide the type(s) of services they see fit. At the end of 2023, there were 4 electronic payment institutions providing shopping e-payment service, while the remaining electronic payment institutions were in the preparation stage to launch the service.

disbursements for this project, the Bank instructed the FISC to offer multiple distribution channels through the interbank payment infrastructure, comprising the CIFS, the FISC's Financial Information System, and financial institutions. This enabled 23.55 million recipients to obtain their payments in easy and convenient ways, and the overall operation of the universal cash handout has run smoothly.

Proceeding with the CBDC Research Project

The Bank completed "wholesale CBDC technical feasibility study" in 2020 and the "retail CBDC technology experimentation" in 2022. The videos showcasing the results of the retail CBDC technology experimentation[9] have been released on the Bank's official website.[10]

The Bank is currently conducting opinion surveys, enhancing platform technology, and deliberating regulations.

(1) Conducting opinion surveys: To understand public demand for CBDC and their thoughts on relevant design, a professional research institution has been commissioned to conduct opinion surveys on various aspects of CBDC with participants including end-users, government agencies, industries, and academia. Subsequently, based on the survey results, extensive communication will be conducted through forums and in other forms.

(2) Strengthening platform technology: Continuously adjusting and refining platform design to enhance processing capacity,[11] and conducting research on offline payments and cross-border payments.

(3) Regulatory deliberation: Continuously gathering information on the regulatory trends of CBDC in major countries, deliberating on Taiwan's legal framework in a timely manner, and taking stock of relevant regulations that may need to be stipulated or revised to facilitate the issuance of CBDC.

[9] The experimentation simulated various retail payment scenarios in a closed environment, which included funding and defunding, conducting transfers and purchases, and utilizing digital vouchers.

[10] The videos are available at https://www.cbc.gov.tw/en/cp-448-164955-c745e-2.html.

[11] The transaction processing capacity of the CBDC prototype platform has increased to 20,000 transactions per second.

5. Currency Issuance

For the year 2023, the Bank, as the sole agency with the authority to issue banknotes and coins, continued to conduct currency issuance with a focus on maintaining an adequate supply of currency to meet public demand, which is dependent on domestic economic conditions, seasonal factors, and the development of noncash payment instruments. The Bank also issued a commemorative coin set featuring the Chinese zodiac of the year.

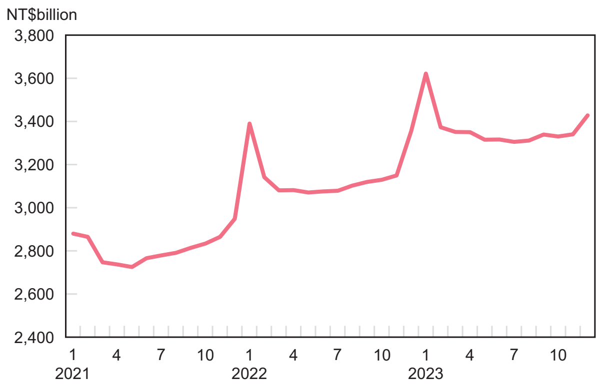
Furthermore, the Bank continued to promote public awareness of counterfeit deterrence and encourage the use of circulating currency through various channels.

Currency Issuance Increased to Meet Currency Demand

In 2023, the Bank provided an adequate amount of currency in response to currency demand. The currency issued peaked at NT$3,687.3 billion on January 19, the last business day before the Lunar New Year holidays, reflecting a temporary seasonal surge in cash demand. At the year end, the outstanding amount of currency issued was NT$3,428.4 billion, rising by NT$71.5 billion or 2.13% over the previous year end.

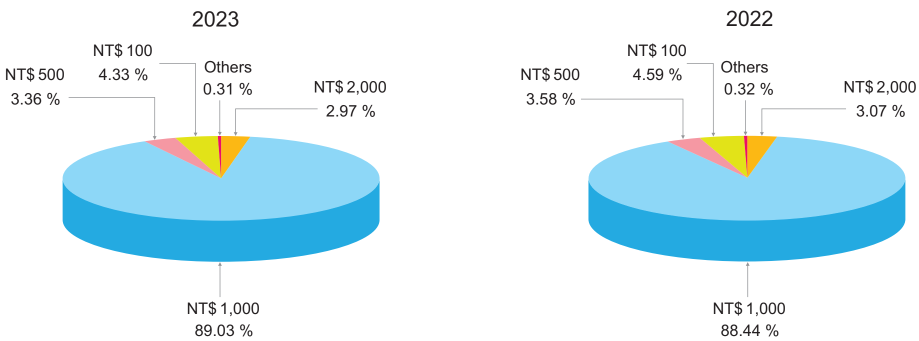
By denomination, the composition of NT dollar banknotes in circulation at the end of 2023 was similar to the end of 2022. The majority of circulating banknotes went for the

Currency Issued



Source: CBC.

Composition of NT Dollar Banknotes Issued
(Year-End Figures)



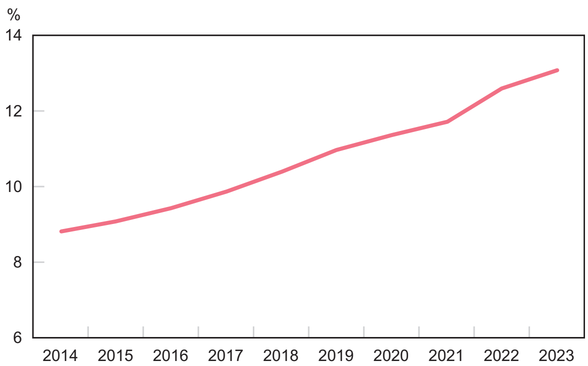
Source: CBC.

NT$1,000 note with a share of 89.03%, followed by the NT$100 and NT$500 notes with shares of 4.33% and 3.36%, respectively.

Ratio of Currency in Circulation to GDP Rose Steadily

As domestic interest rates stayed at relatively low levels and cash was still frequently used for small-value transactions, the public's demand for currency remained high. The ratio of currency in circulation to GDP has continued to rise steadily in recent years and reached 13.08% in 2023, 0.51 percentage points higher than 12.57% the previous year.

The Ratio of Currency Held by the Public to GDP



Sources: 1. CBC.
2. DGBAS, Executive Yuan.

One Commemorative Coin Set Was Issued

In addition to currency issuance, the Bank may issue gold and silver coins and commemorative coins from time to time, such as for important ceremonies, national holidays, major international events, or other significant national events. During 2023, the Bank issued a

Commemorative Coin Set for the Chinese Zodiac Year of the Rabbit

Source: CBC.

casting set of coins for the Chinese Zodiac Year of the Rabbit.

Efforts to Encourage the Use of Circulating Currency and Raise Public Awareness of Counterfeit Money Continued in 2023

With the aim of deterring and preventing counterfeiting, reducing currency issuing costs, and protecting the environment by maximizing existing resources, the Bank launched several advertising campaigns during 2023 to enhance public understanding on the security features of NT dollar notes and coins and to promote the use of circulating currency.

While striving to improve the cleanliness of currency by ins pecting returned banknotes and destroying damaged ones, the Bank also continued to urge the public to help maintain the cleanliness of circulating notes and coins.

Educational materials for these campaigns were provided through multiple channels. For example, relevant videos were broadcasted on media such as the Bank's website, the Virtual Money Museum, YouTube, and the Bank's official mobile app. Information was also posted on the Bank's Facebook page and displayed on public transportation. Leaflets were distributed to the public and relevant institutions.

A Virtual Exhibition was Held on the Theme of Ancient Currency

The Bank's Virtual Money Museum has been running smoothly since it came online in June 2013.

Annual Exhibition 2023 Titled "History of Ancient Coins" on the Virtual MoneyMuseum Website

Source: CBC.

In response to increased use of mobile technologies and with the aim of providing optimal viewing experiences across devices, the Bank launched the upgraded version of the Virtual Money Museum website in August 2020. For instance, the Virtual Exhibition Hall of the above website allowed viewers to browse banknotes from around the world classified into various themes. During 2023, the Bank held an annual exhibition titled "History of Ancient Coins."

The Bank Continued to Promote the Visually Impaired-Friendly NT Dollar Banknote Identification Service

To help visually impaired people to better identify banknotes, the Bank has made multifaceted efforts from 2020 onwards, such as producing video material to introduce how to identify banknotes and distinguish the different denominations. The video is available on the Bank's website and local visually impaired support groups are encouraged to download it for educational purposes. Meanwhile, the Bank has developed the NT dollar banknote gauge card and instructed the Central Engraving and Printing Plant to conduct mass production. The Bank has also sent relevant personnel to local support groups to promote the use of the card and to distribute it for free to the visually impaired.

Raised-Dot Tactile Feature of NTD Banknotes (Left) and NTD Banknote Gauge Card (Right) for the Visually Impaired

Source: CBC.

6. Fiscal Agency Functions

As banker to the central government, the Bank fulfills its responsibilities by managing the treasury deposit account (TDA), handling central government agency deposit accounts, and undertaking the issuance, transfer and registration, redemption, and interest payment of central government bonds and treasury bills.

Managing the Treasury Deposit Account

The Bank manages the TDA on behalf of the Ministry of Finance, processing receipts and disbursements of the central government. In order to provide convenient services for government agencies and the general public, the Bank delegates the handling of treasury business to 14 financial institutions and their 365 branches, including three overseas branches located in New York, Los Angeles, and Paris. In addition, there are another 4,703 national tax collection agencies set in financial institutions. In 2023, the Bank received a total of NT$4,745.0 billion in treasury deposits, increasing by NT$108.2 billion or 2.33% from 2022. Payments made on behalf of the national treasury were NT$4,828.5 billion, an increase of NT$268.1 billion or 5.88% over the previous year. At the end of 2023, the TDA balance was NT$60.5 billion, decreasing by NT$83.6 billion or 58.02% from the end of 2022.

Handling Central Government Agency Deposits

Central government agencies are required to make their deposits with the Bank or other delegated banks. At the end of 2023, the balance of central government agencies' deposits with the Bank amounted to NT$232.3 billion, an increase of NT$33.4 billion or 16.79% over 2022. Deposits with other delegated banks were NT$793.6 billion at the end of 2023, increasing by NT$30.2 billion or 3.96%.

Managing Central Government Bonds

As a fiscal agent, the Bank provides services related to the issuance, transfer and registration, redemption, and interest payment of central government bonds. The Bank also conducts the auctions of central government bonds. There are 56 domestic dealers qualified to directly participate in the auctions, including 23 banks, 18 securities companies, eight bills finance companies, six insurance companies, and Chunghwa Post.

In 2023, the Bank conducted 17 issues of central government bonds in book-entry form worth NT$478.0 billion in total. Of this amount, 10-year bonds accounted for the lion's share of 41.42%, worth NT$198.0 billion, followed by 5-year bonds, representing a share of 30.33% with an amount of

NT$145.0 billion.

In addition, the Bank paid NT$365.0 billion in principal and NT$80.2 billion in interest for central government bonds. At the end of 2023, the outstanding amount of central government bonds was NT$5,912.5 billion, an increase of NT$113.0 billion or 1.95% from the end of 2022.

Managing Treasury Bills

The Bank also handles the auctions of treasury bills. Currently, direct bidders include banks, insurance companies, securities companies, bills finance companies, and Chunghwa Post.

In 2023, the Bank conducted eight issues of book-entry treasury bills with a total amount of NT$260.0 billion. The majority of the issuance went for 91-day and 182-day bills, each with a value of NT$100.0 billion and accounting for a respective share of 38.46%. At the end of 2023, the outstanding amount of treasury bills was NT$30.0 billion, the same as the previous year end.

7. Financial Inspection

Pursuant to the objectives and duties stipulated in *The Central Bank of the Republic of China (Taiwan) Act*, the Bank conducts targeted examinations to ensure the effective implementation of monetary, credit, and foreign exchange policies. The Bank has also established a report auditing system and a financial stability assessment framework to systematically monitor and assess possible sources of potential risks. The Bank adopts appropriate policies accordingly, in a timely manner to achieve the operational goal of financial stability. The following are the main tasks conducted in 2023.

Targeted Examination

Targeted examinations in 2023 were conducted on real estate mortgage loans and related fund flows and loan concentration, foreign exchange derivatives business involving the NTD exchange rate, inward and outward foreign exchange remittances, operations of foreign currency exchange counters, procedures for handling counterfeit notes denominated in NTD and foreign currencies, etc.

Follow-up on Examination Findings

To ensure the effectiveness of the Bank's policy implementation, the Bank continued to track whether the financial institutions under inspection had improved their operations based on the findings from the Bank's targeted examinations as well as the results of the FSC's financial examinations related to the Bank's operations or regulations. The financial institutions violating the *Regulations Governing the Extension of Mortgage Loans by Financial Institutions* were subjected to administrative actions by the Bank.

Strengthening Off-Site Monitoring

The report auditing system was utilized to evaluate financial performance, business status and legal compliance of individual financial institutions as a reference for the supervision and inspection by the Bank and relevant authorities. Moreover, to reflect changes in the evolving financial environment and recent regulatory amendments, the Bank reviewed and modified relevant content requirements for the report auditing. The Bank also leveraged visualization tools to improve the efficacy of data processing and analysis.

Improving Information Transparency of Financial Institution Operations

The Bank regularly compiles and publishes statistics on financial institutions, such as *Condition and Performance of Domestic Banks (Quarterly)* and *Business Overview of Financial Institutions (Yearly)*. All related information is disclosed on the Bank's website and available for inquiry and download, with the aim of strengthening information transparency of financial institutions' operations and to reinforce market discipline.

In line with the government's open data policy, the financial and operational performance datasets of financial institutions are also regularly uploaded to the designated open government data platform.

Financial Stability Assessment

The Bank regularly conducts an analysis of financial institutions' business operations and their risk exposures so as to identify potential risks to the stability of the overall financial system. It also compiles financial soundness indicators and publishes the *Financial Stability Report* to keep the public updated on the state of the domestic financial system and sources of potential risks and to aid cross-border communication and information sharing.

To enhance analytical effectiveness regarding financial stability, in 2023 the Bank continued to improve the graphical user interface of credit and market risk models and estimated domestic banks' value at risk (VaR) and unexpected losses from related risks. The Bank also compiled the Taiwan Financial Vulnerability Index to identify vulnerabilities in the financial system. Moreover, the Bank collected and studied the methodologies of major central banks in assessing climate change-related risks of the financial industry, using them as a basis for developing an in-house model for climate risk assessment in the future.

International Cooperation in Financial Supervision

In 2023, the Bank continued to actively engage in international cooperation related to financial supervision, such as participating in the 14^{th} SEACEN Meeting of Deputy Governors in Charge of Financial Stability and Banking Supervision, the 25^{th} SEACEN-FSI Conference of the Directors of Supervision of Asia-Pacific Economies, and the 36^{th} Meeting of Directors of Supervision of SEACEN Members.

8. Participation in International Activities

The Bank is committed to engaging in international activities and continues to enhance collaboration with international financial organizations and other central banks. The Bank is a member of the Asian Development Bank (ADB), the Central American Bank for Economic Integration (CABEI), and the South East Asian Central Banks (SEACEN) group. Moreover, the Bank continually strengthens its ties with international forums and institutions such as the Asia-Pacific Economic Cooperation (APEC) and the Bank for International Settlements (BIS). Through participation in international conferences, training courses, and forums, the Bank endeavors to maintain close relationships with other central banks by exchanging views and sharing policy experience on current financial and economic issues.

The Bank continued its efforts in taking part in international activities during 2023. The Bank attended the 22nd SEACEN Executive Committee Meeting in Siem Reap, Cambodia, during September 18 to 19. This two-day event included a high-level seminar focusing on monetary tightening and financial sector stability implications in Asia. The Bank and other member banks also discussed how Asia and the Pacific was vulnerable to the effects of monetary tightening in advanced countries and to geopolitical risks.

In addition, the Bank attended the 14th SEACEN High-Level Seminar and Meeting of Deputy Governors of Financial Stability, Supervision, and Payments in Kuala Lumpur, Malaysia, during August 23 to 24.

The Bank also participated in the meetings held by other international organizations, such as the ADB's 56th Annual Meeting of the Board of Governors in Incheon, South Korea, during May 2 to 5, the CABEI's 63rd Ordinary Meeting of the Board of Governors in Punta Cana, the Dominican Republic, on May 12, the BIS' 93rd Annual General Meeting in Basel, Switzerland, on June 24 and 25, and the APEC Finance Ministers' Meeting in San Francisco, the US, during November 10 to 13.