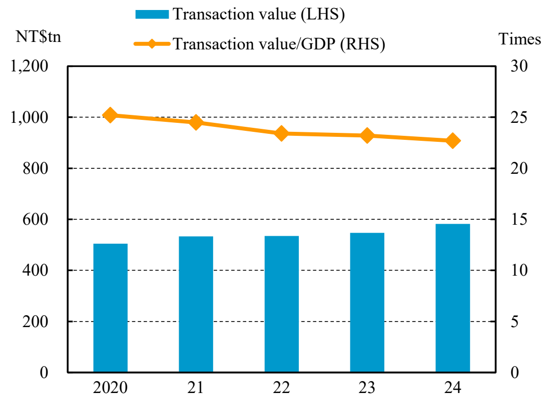
3.3 Financial infrastructure

In 2024, Taiwan's payment and settlement systems operated smoothly. Continued progress was made in advancing shared infrastructure for retail payments; for instance, the promotion of the TWQR (common QR code payment standard) has helped drive the widespread adoption and innovative development of electronic payments. The Bank and the FSC also undertook timely regulatory revisions and adopted supervisory measures to facilitate the sound and stable development of the financial sector. Meanwhile, appropriate measures were implemented to address climate-related risks, aiming to mitigate their potential impacts. Furthermore, to position Taiwan as an Asian asset management center, the FSC formulated five major initiatives and proposed 16 implementation strategies, while the Bank supported this effort by amending relevant FX regulations.

Chart 3.58 Funds transferred via the CIFS



Note: GDP in 2024 was published by DGBAS on May 28, 2025.
Sources: CBC and DGBAS.

3.3.1 Payment and settlement systems

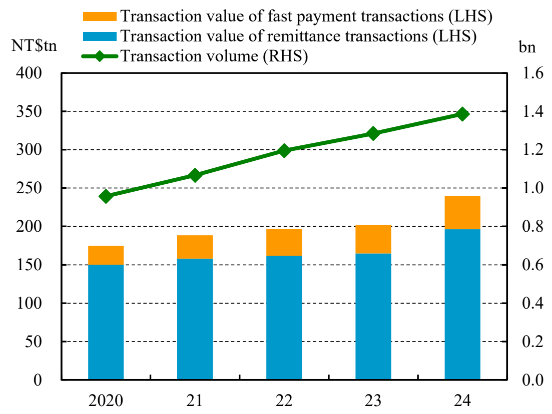
The Bank's CIFS and the FISC's IFIS functioned well in 2024, accompanied by steady growth in transaction values. Meanwhile, the FISC continued to strengthen the shared infrastructure for retail payments. With an increase in public adoption of e-payment instruments, consumer spending via electronic payment continued expanding.

Overview of the CIFS's operation

The CIFS handles large-value interbank funds transfers (e.g., FX, interbank lending, and related transactions) and provides the final settlement of interbank transfers by connecting with various clearing systems, such as those for domestic securities, bills, bonds and retail payments. In 2024, the total value of funds transferred via the CIFS reached approximately NT$582 trillion, nearly 22.7 times the size of the GDP for the year (Chart 3.58).

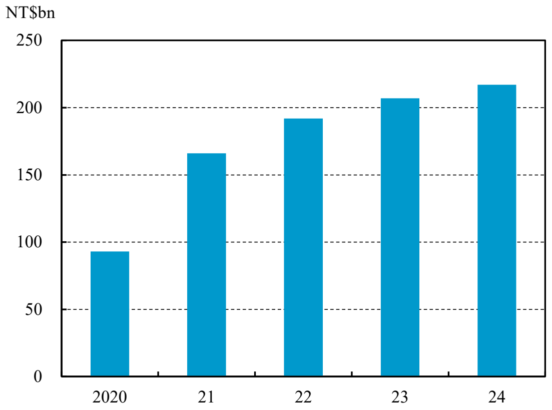
In terms of retail payments, transactions are primarily processed through the IFIS, which utilizes the funds deposited by financial institutions in the Interbank Funds Transfer Guarantee Special Account (hereinafter the Guarantee Account)[56] under the CIFS to clear and settle interbank payment transactions on a trade-by-trade basis,[57] with final settlement completed through the CIFS. In 2024, approximately 1.39 billion transactions were processed by the IFIS, with the value totaling around NT$240 trillion, representing year-on-year increases of 7.93% and 18.88%, respectively. Among these, fast payment transactions[58] amounted to approximately NT$43 trillion, reflecting a 17.53% increase from the previous year (Chart 3.59). The average end-of-day balance of retained clearing funds in the Guarantee Account stood at about NT$217 billion, an annual increase of 4.88% (Chart 3.60), which was deemed sufficient to support 24-hour fast payment transactions.

Chart 3.59 Transaction value and volume processed by the IFIS



Source: CBC.

Chart 3.60 Average end-of-day balance of retained clearing funds in the Interbank Funds Transfer Guarantee Special Account



Source: CBC.

Development of shared infrastructure for retail payments

To address the fragmentation of the e-payment market, the FISC established a shared platform for cross-institution e-payments in October 2021. This platform enables interconnectivity both among e-payment institutions and between e-payment and financial institutions, facilitating the seamless flow of information and funds across these institutions. Through apps set up by e-payment institutions, users can conveniently conduct fund transfers, pay bills and taxes, and

[56] The Guarantee Account, established jointly by financial institutions with the Bank, adopts a pre-funding mechanism. During the operating hours of the CIFS, financial institutions may allocate and deposit clearing funds required for interbank transactions. When the public makes interbank withdrawals or transfers, the FISC system promptly deploys these funds to clear transactions between financial institutions.

[57] Interbank payment transactions include remittances, automated teller machine (ATM) withdrawals, transfers (including online and mobile transfers), tax payments and corporate funds transfers.

[58] A "fast payment transaction" refers to a payment transaction in which funds become available to the payee in real time or near real time, excluding remittance transactions that do not operate on a 24/7 basis.

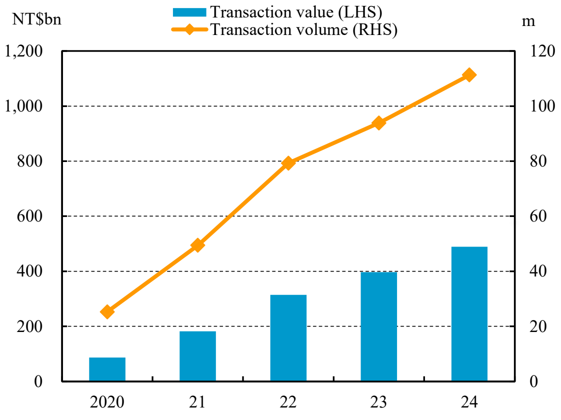
make purchases across various service providers, thereby enhancing overall payment efficiency.

In addition, efforts to promote the use of the TWQR system are ongoing, along with continued expansion of its application scenarios. For example, the TWQR Transit Code,[59] designed to enable cross-sector interoperability between the payment and transportation industries, was officially launched in March 2025, further contributing to the sound development of a nationwide integrated payment ecosystem.

By the end of 2024, 42 banks, nine e-payment institutions, and over 590,000 affiliated merchants had adopted the TWQR system. Over the year, TWQR processed approximately NT$489.5 billion in value across 111 million transactions (Chart 3.61). Compared to the previous year, the transaction value and volume grew by 23.28% and 18.58%, respectively.

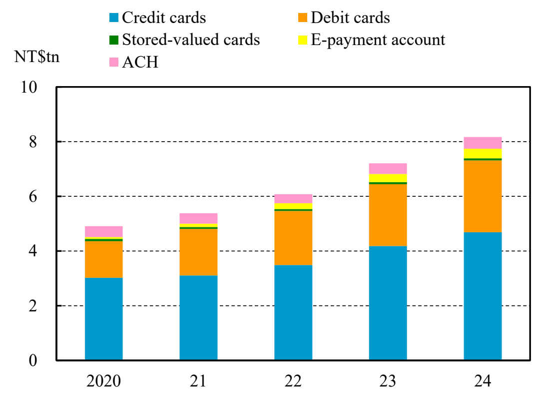
The FISC also expanded the system to promote the development of cross-border payments, launching TWQR cross-border shopping services in 2021 with an initial focus on outbound transactions. The service is currently available in Japan and South Korea for Taiwanese travelers via mobile payment. Going forward, the FISC plans to launch a "TWQR Cross-Border Platform for Inbound Transactions" that will enable merchants in Taiwan to accept payments from foreign tourists using their home-country e-wallets, thereby further expanding the TWQR cross-border mobile payment ecosystem.

Chart 3.61 Transaction value and volume via TWQR



Source: CBC.

Chart 3.62 Consumption via non-cash payment tools



Notes: 1. The consumption statistics of debit cards include consumer purchases with domestic chip bank cards, VISA and other international debit cards, UnionPay cards, and ATM transfers for shopping payments.
2. ACH interbank collection refers to the handling by payment institutions of funds deducted from and transferred to the relevant accounts through the ACH system of the TCH on behalf of customers.

Sources: CBC, FSC and FISC.

[59] The TWQR Transit Code was developed by the FISC via integrating Taiwan's Common QR Code Payment Standard with the Transportation Ticket QR Code Data Format Standard by the Ministry of Transportation and Communications. Utilizing the "Common Platform for Electronic Payment Institutions," the payment systems of the financial institutions and the e-payment institutions are connected, allowing users to conveniently access and use public transportation services simply by presenting the TWQR Transit Code on a payment app.

Domestic consumption via e-payment instruments

In 2024, total domestic spending through e-payment instruments reached NT$8.17 trillion (Chart 3.62), marking a year-on-year increase of 13.37%. Among these instruments, spending via credit cards, debit cards, and e-payment continued to rise, with annual increases of NT$498.4 billion, NT$369.3 billion, and NT$62.6 billion, respectively. This growth was primarily driven by improved user convenience, supported by the ongoing enhancement of shared infrastructure for retail payments.

3.3.2 Amendment to domestic banks' capital regulations in line with international standards

In line with the risk management framework under the finalized reforms of Basel III, the FSC amended the *Methods for Calculating Bank's Regulatory Capital and Risk-Weighted Assets* (RWA) (hereinafter referred to as the *Methods*) in December 2023 and January 2025, respectively (Table 3.3). The *Methods* were implemented in phases starting from January 1, 2025, with the aim of strengthening the resilience of Taiwan's financial system.

Table 3.3 Main amendments of the *Methods for Calculating Bank's Regulatory Capital and RWA*

Items	Main amendments
The first amendment in December 2023	
Standardized Approach for credit risk	● Amended the risk weights for corporate, equity, and retail exposures, as well as the credit conversion factors for off-balance sheet items. The risk weights for equity exposures will be increased gradually through a five-year linear phase-in arrangement ● Introduced due diligence requirement mandating that banks using external credit ratings to calculate capital must conduct reviews at least annually. In addition, the definitions of defaulted exposures were clarified, and related regulations on credit risk mitigation techniques were amended
Internal Ratings-Based (IRB) Approach	● Excluded exposures not eligible for the IRB Approach (e.g., equity exposures), adjusted risk components – including probability of default, loss given default, exposure at default – and improved the internal model validation framework ● Adjusted the qualifications and procedures of application for banks. Following completion of the pilot program, banks must prepare relevant audit reports, obtain approval from the board of directors, and submit the required documents to the FSC for review
New output floor regulations	Required that RWA calculated by banks under the IRB Approach shall be no less than 72.5% of those calculated under the Standardized Approach. If this requirement is not met, capital shall be calculated based on 72.5% of the RWA derived from the Standardized Approach
Operational risk	Revised the capital calculation method by replacing the existing Basic Indicator Approach, Standardized Approach, and Advanced Measurement Approach, with the New Standardized Approach
Leverage ratio	Enhanced the exposure measurement for the leverage ratio and introduced new regulations regarding the treatment of clearing services

Items	Main amendments
The second amendment in January 2025	
Market risk	● Defined the scope and criteria for distinguishing between banking and trading books, and, in principle, prohibited the transfer of positions between the two books ● Introduced a New Standardized Approach for capital calculation to enhance risk sensitivity of RWA measurements ● Outlined the eligibility requirements for banks applying the New Standardized Approach. Banks that do not meet the requirements shall apply the Simplified Standardized Approach. In addition, prior approval from the FSC is required to adopt the Internal Model Approach
Counterparty credit valuation adjustment (CVA) framework	● Classified the capital calculation for CVA risk into two methods: the Basic Approach and the Standardized Approach. Banks intending to adopt the Standardized Approach shall obtain prior approval from the FSC ● Specified that, if the notional amount of a bank's non-centrally cleared derivatives is less than NT$4 trillion, the CVA capital requirement may be set equal to the capital requirement for counterparty credit risk
Securitization exposure	● Amended the definition of securitization transactions to clarify that the cash flows generated from the underlying asset pool must be used to service at least two distinct, stratified risk positions or tranches ● Revised the hierarchy of approaches for calculating capital requirements, which shall follow the order of the Internal Ratings-Based Approach, the External Ratings-Based Approach, and the Standardized Approach. Banks intending to adopt the Internal Ratings-Based Approach shall obtain prior approval from the FSC ● Enhanced the risk sensitivity of the capital calculation method by expanding the set of input parameters used to determine capital requirements
Batch credit guarantees	Raised the portion of batch credit guarantees eligible for a 20% risk weight from half of the guaranteed amount to the actual guaranteed coverage ratio. Banks are also required to comply with the due diligence requirements in accordance with the Standardized Approach for credit risk

Source: FSC.

To assess the impact of the amended *Methods* on banks, the FSC requested 38 domestic banks to conduct trial calculations, of which the results showed a limited impact on domestic banks' relevant financial health indicators.

3.3.3 Localization and transitional measures for the new-generation solvency regime of the insurance industry

To assist domestic insurers in transitioning smoothly to the new-generation solvency regime and to facilitate the adoption of IFRS 17 Insurance Contracts starting 2026, the FSC has introduced a series of localization and transitional adjustment measures to be implemented in four phases. Accordingly, these measures were rolled out successively in July and November 2023, and in April and December 2024.[60]

[60] For details on the localization and transitional adjustment measures introduced in the previous three phases, please refer to Chapter 3.3, "Financial Infrastructure," in the CBC (2024), *Financial Stability Report*, published in May.

The Phase 4 adjustment measures were formulated by the FSC with reference to the Insurance Capital Standard (ICS) issued by the International Association of Insurance Supervisors (IAIS) on December 5, 2024. The FSC also took full account of international practices, feedback from domestic insurance-related organizations and insurers, and the current conditions of Taiwan's insurance market.

The key elements of the Phase 4 adjustment measures include: (1) incorporation of the latest ICS calculation formulas for estimating the present value of insurance liabilities, interest rate risk, non-default spread risk (NDSR),[61] and the tax allowances on RBC; (2) for insurers approved to adopt transitional measures, the RBC set aside before the adoption will serve as the cap on the calculation of Tier 1 Limited (T1L) and Tier 2 (T2) capital; (3) the capital charge ratio for NDSR will follow a 15-year linear phase-in mechanism, increasing in equal annual increments from 0% to 100%; and (4) the capital requirement rates under localized risk test scenarios were revised downward to 10% for mortality, 10% for longevity, 7.5% for morbidity, and 35% for lapse risk.

Regarding the capital charges for interest rate risk, the adjustment of confidence level for VaR, and the criteria for identifying high-interest-rate policies, the FSC will conduct a thorough assessment of the feasibility and appropriateness of related measures after all insurers have completed their trial calculations. Moreover, the FSC will continue revising the capital adequacy regulations for the insurance sector by incorporating all relevant transitional adjustment measures. It will also closely monitor international practices in solvency regimes to facilitate timely review and refinement of the domestic framework.

3.3.4 Latest developments in efforts by domestic and foreign supervisory authorities to address climate risks

Given that climate risks may affect the financial system through their impact on the real economy, the Network for Greening the Financial System (NGFS) recommends that national authorities should strengthen existing prudential supervisory measures to address the adverse effects of climate change.[62] However, owing to the lack of sufficient climate-related data, the challenges in quantifying climate risks, and the risk heterogeneity across sectors, most central banks and financial regulators currently prioritize stress testing, scenario analysis, and enhanced information disclosure as their main tools for assessing and addressing climate-related risks. The FSC continues to refine its climate change scenario analysis model (Table

[61] This refers to the risk that arises even in the absence of default of assets such as bonds. Changes in interest rates may cause shifts in their credit ratings and in turn affect the valuation of both assets and liabilities of the insurer, ultimately leading to volatility in its equity.

[62] NGFS (2020), "Guide for Supervisors Integrating Climate-related and Environmental Risks into Prudential Supervision," May.

3.4) and has required domestic banks to conduct trial calculations. As for climate-related macroprudential instruments, most national authorities are still in the research and review phase.

The Bank continues to collect and study information on key international practices for assessing climate-related risks in the financial sector and on the macroprudential tools employed to address such risks. This information will serve as a valuable reference for future assessments and the potential applications of relevant macroprudential instruments.

Table 3.4 Central banks'/regulators' measures to assess climate risks

Sovereignty	Central banks/regulators	Measures to assess climate risks
US	Fed	Requires the six largest banks to submit the results of their climate risk scenario analyses to gain insights into their strategies and challenges in managing climate-related financial risks
Canada	The Office of the Superintendent of Financial Institutions (OSFI)	1.Collaborates with the Bank of Canada to conduct climate risk scenario analysis 2.Issues climate risk management guidelines for financial institutions 3.Collects climate-related exposure data from financial institutions
Euro area	ECB	1.Assesses the impact of climate change on financial institutions in the euro area through scenario analysis and stress testing 2.Develops macroeconomic models to monitor the effects of climate change on the economy, the financial system, and the transmission channels of monetary policy 3.Publishes statistical indicators related to climate risk – such as carbon footprints of financial institutions' portfolios, physical risk exposures, and green financial instruments – to enhance climate risk data analysis capabilities
UK	BoE	1.Adopts forward-looking approaches to calibrate climate-related risks 2.Has conducted biennial climate change stress tests since 2021 3.Collaborates with relevant government agencies to enhance climate-related information disclosure
Hong Kong	Hong Kong Monetary Authority (HKMA)	1.Revises the CAMEL framework to incorporate climate-related risks and enhance climate risk management assessments 2.Integrates climate-risk stress testing into the HKMA's supervisor-driven stress testing framework 3.Plans to embed climate risk considerations into the

Sovereignty	Central banks/regulators	Measures to assess climate risks
		HKMA's banking supervisory review processes to encourage institutions to enhance their own risk management capabilities
Japan	BoJ	1.Encourages financial institutions to enhance their disclosures in line with the Task Force on Climate-related Financial Disclosures (TCFD) framework, which has been incorporated into Japan's revised Corporate Governance Code 2.Conducts climate-related scenario analysis and stress testing in collaboration with the Financial Services Agency (FSA) 3.Collects climate-related data and refines analytical tools to strengthen research and the assessment of climate change impacts
Australia	Australian Prudential Regulation Authority (APRA)	Carries out climate vulnerability assessments for Australia's five largest banks
Taiwan	FSC	A climate change scenario analysis framework has been established for domestic banks. The 2024 version focuses primarily on the addition of short-term scenarios, updates to medium- and long-term scenario settings, adjustments to methodologies and parameters, inclusion of physical risk assessments for overseas counterparties, and providing the option for banks to adopt dynamic balance sheets upon prior application

Sources: Official websites of central banks or supervisory authorities.

3.3.5 Policies for developing an Asian asset management center and further relaxation of FX regulations

FSC's strategy for developing Taiwan into an Asian asset management hub

To promote Taiwan as an Asian asset management center, the FSC unveiled a strategic development blueprint in September 2024, comprising five major initiatives: (1) strengthening asset management business, (2) integrating financial inclusion and sustainability, (3) promoting wealth management, (4) facilitating investments in public infrastructure, and (5) expanding Taiwan-bound investment. These are supported by 16 detailed implementation strategies. Through regulatory easing and cross-agency collaboration, the FSC aims to achieve two core objectives: (1) retaining domestic capital while attracting foreign investment, and (2) channeling investment into Taiwan to support industrial development. The initiative outlines key milestones to guide implementation – "achieving tangible results within two years, making significant progress within four years, and realizing substantial success within six years." As of April 2025, an array of regulatory relaxations and market-opening measures had already been implemented.

As part of the efforts to strengthen asset management, the FSC has focused on expanding the scale of domestic asset management business, collaborating with Kaohsiung City Government to establish an asset management hub, and encouraging financial institutions to set up operations and collectively conduct pilot runs of related businesses. Under the initiative to integrate financial inclusion and sustainability, the FSC is promoting the Taiwan Individual Saving Account (TISA), a locally tailored financial instrument that encourages long-term investment. In parallel, efforts are underway to develop green financial instruments and cultivate talent in sustainable finance.

In terms of promoting wealth management, the FSC has amended relevant regulations to remove the asset size threshold for banks applying to engage in high-asset management business. Additionally, it is actively supporting the development of family office services and related initiatives. To foster investment in public infrastructure, the FSC has lowered the risk coefficients for fund and venture capital investments in public infrastructure projects, encouraged the insurance sector to increase such investments, and steered capital toward the government-designated "5+2" innovative industries and Taiwan's six core strategic industries. With regard to expanding investment in Taiwan, the FSC is also promoting legal amendments to enable the issuance of Real Estate Investment Trusts (REITs) under a fund structure.

The Bank's adjustments to FX-related regulations in support of asset management policy

To support the FSC's initiative to position Taiwan as an Asian asset management center, the Bank has continued to revise or refine relevant FX regulations. Key measures are as follows:

- In October 2024, the Bank amended the *Regulations Governing the Declaration of Foreign Exchange Receipts and Disbursements or Transactions*, raising the annual cumulative FX settlement threshold for nationals. Specifically, the threshold was increased from US$5 million to US$10 million for associations and individuals, and from US$50 million to US$100 million for companies and firms.

- In December 2024, the Bank authorized securities firms to conduct FC-denominated securities trust business. It also clarified that when banks accept high-asset clients' holdings

– such as foreign bonds, offshore structured products, or FC-denominated structured bonds – as collateral for FC loans, such transactions are exempt from the documentation requirements under the *Directions Governing Banking Enterprises for Operating Foreign Exchange Business*. Additionally, the previous annual quota of US$50 million for discretionary investment in FC-denominated securities was abolished.

- In January 2025, the Bank amended the *Directions Governing Banking Enterprises for Operating Foreign Exchange Business* to relax restrictions for authorized banks to grant loans secured by the beneficial rights of specific money trusts denominated in FCs. Specifically, authorized banks may now grant such loans on behalf of the trustors with no restriction on the currency denomination of the loan proceeds.