

Central Bank Operations

III. Central Bank Operations

1. Overview

For the year 2016, the global economy expanded at a slower pace, and uncertainties over the international economy remained, thus putting a drag on the domestic economic recovery. Against such a backdrop, along with a widened negative output gap and subdued inflation expectations, the CBC lowered policy rates twice on March 25 and July 1, respectively, by a total of 25 basis points to foster economic growth.

In response to economic and financial conditions, the CBC continued to issue certificates of deposit (CDs) to manage market liquidity, maintain reserve money at appropriate levels, and sustain steady growth in monetary aggregates. Moreover, the CBC increased the bidding amounts of 364-day CDs. The outstanding balance of CDs issued by the CBC was NT\$7,587.3 billion at the end of the year, rising by NT\$42.6 billion or 0.56% from the end of the previous year. In terms of money supply, M2 growth averaged at a pace of 4.51% for the year as whole, within the CBC's target range of 2.5% to 6.5%, indicating there was sufficient liquidity to support economic activity.

Since the CBC introduced targeted macroprudential measures on the real estate sector, financial institutions have improved credit risk management associated with real estate lending. On the other hand, the government gradually rolled out relevant taxation schemes and implemented measures to sustain housing market soundness, both helping to dampen speculative demand. Based on these developments, the CBC announced in March 2016 to repeal the rules imposed on home mortgage loans and land loans, except for high-value housing loans.

With respect to foreign exchange management, the CBC steadily promoted the internationalization of capital markets and revised relevant foreign exchange regulations in continual cooperation with the FSC. In 2016, adjustments to forex business made by the CBC included easing regulations governing foreign exchange business performed by insurance companies, approving the issuance of negotiable certificates of deposit denominated in Australian dollars, and continuously streamlining electronic forex business application procedures for banking enterprises amid a rising wave of financial digitization.

In order to enhance the safety and efficiency of payment system operation, the CBC stepped up efforts to reinforce financial infrastructure. During 2016, the CBC enhanced further the foreign currency clearing platform by launching services for Australian dollar clearing and foreign currency fee collection via the platform. The new functions markedly reduces foreign currency remittance fees.

2. Monetary Management

In 2016, moderation in global economic growth and uncertainties surrounding the international economy hampered domestic growth. Taking into account a lingering negative output gap and mild inflation expectations, the CBC judged that policy rate cuts would be conducive to economic growth. The CBC continued to absorb excess funds from financial markets to maintain liquidity at an appropriate level. In addition, the CBC revised targeted macroprudential measures and continued to closely monitor financial institutions' management of real estate-associated credit risks to ensure financial stability. The CBC also continued to enhance the financing mechanism for small and medium-sized enterprises (SMEs) in order to expand banks' lending to SMEs.

Lowering Policy Rates to Promote Economic Growth

In view of both international and domestic economic and financial conditions, the CBC kept monetary conditions accommodative to foster economic growth. The CBC cut policy rates in March and July, respectively, by a total of 0.25 percentage points. At the end of 2016, the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral were 1.375%, 1.750%, and 3.625%, respectively.

The four policy rate cuts since the second half of 2015 have brought the cumulative reduction to 0.5 percentage points, and maintaining such an accommodative monetary policy stance has helped to boost economic growth.

CBC Policy Rates

Unit: % (percent per annum)

Effective Date	Discount Rate	Accommodation Rate with Collateral	Accommodation Rate Without Collateral
2015 / Sep. 25	1.750	2.125	4.000
Dec. 18	1.625	2.000	3.875
2016 / Mar. 25	1.500	1.875	3.750
Jul. 1	1.375	1.750	3.625

Source: *Financial Statistics Monthly*, CBC.

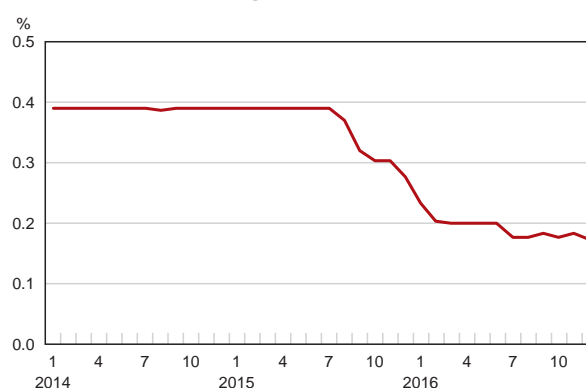
Continuing Open Market Operations to Absorb Excess Liquidity

In 2016, the CBC continued to conduct open market operations by issuing certificates of deposit (CDs) to maintain reserve money and overnight call loan rates at appropriate levels. The average annual growth rate of reserve money in 2016 was 5.92%, while M2 recorded an annual growth rate of 4.51%, within the CBC's target range of 2.5% to 6.5%.

In response to the demand for asset allocation of financial institutions, the monthly amount of 364-day CDs issued increased from NT\$150 billion to NT\$160 billion from February onwards. The total value of CDs issued amounted to NT\$66,995 billion in 2016, and the total outstanding amount of CDs issued by the CBC was NT\$7,587 billion at the end of the year.

Against a backdrop of a slow recovery for the domestic economy and sluggish credit demand, along with two policy rate cuts, the non-competitive bidding rates on CDs also changed. Consequently, in 2016, the rates on 1-30 day CDs fluctuated for the first eight months within the range of 0.579% to 0.699% until hitting a plateau in the last four months, and ended the year at 0.580%. Furthermore, the rates on 31-91 day and 92-182 day CDs both exhibited steady downtrends from 0.790% and 0.910% in January to 0.650% and 0.770% at the end of the year, respectively. On the other hand, the rates on 274-364 day CDs swung between 0.338% and 0.375% for the first eleven months, and then rose sharply to 0.583% in December because of a stronger demand for funds. Meanwhile, the rates on 2-year CDs generally displayed a similar pattern, staying within the range of 0.405% to 0.502% for the first eleven months, and then climbed to 0.705% at the end of the year.

Overnight Call Loan Rate



Source: Financial Statistics Monthly, CBC.

Open Market Operations

Unit: NT\$ Billion; %

Year/ Month	Amount Absorbed	Amount Offered	Weighted Average Rate on CDs Issued				
	Issues of CDs	Redemptions of CDs	1-30 Days	31-91 Days	92-182 Days	274-364 Days	2 Years
2014	67,187	66,955	0.870	0.930	1.050	0.575	0.786
2015	68,418	67,877	0.842	0.911	1.031	0.502	0.617
2016	66,995	67,103	0.619	0.701	0.823	0.375	0.458
2016/ 1	5,750	5,799	0.682	0.790	0.910	0.351	0.427
2	5,471	5,438	0.699	0.790	0.910	0.349	0.428
3	6,759	6,813	0.664	0.781	0.899	0.363	0.436
4	5,235	5,195	0.654	0.720	0.840	0.375	0.442
5	5,503	5,587	0.608	0.720	0.840	0.370	0.437
6	6,061	5,994	0.625	0.720	0.840	0.360	0.434
7	5,219	5,130	0.583	0.650	0.770	0.344	0.413
8	5,877	5,835	0.579	0.650	0.770	0.338	0.405
9	5,217	5,265	0.581	0.650	0.770	0.342	0.421
10	5,439	5,393	0.581	0.650	0.770	0.356	0.449
11	5,241	5,326	0.580	0.650	0.770	0.371	0.502
12	5,224	5,327	0.580	0.650	0.770	0.583	0.705

Source: Financial Statistics Monthly, CBC.

Average overnight call loan rates gradually declined, dropping from 0.233% in January to 0.178% in August. Afterwards, average overnight call loan rates stayed at relatively low levels, recording 0.174% at the end of the year.

Revising Targeted Macroprudential Measures Governing Real Estate Loans

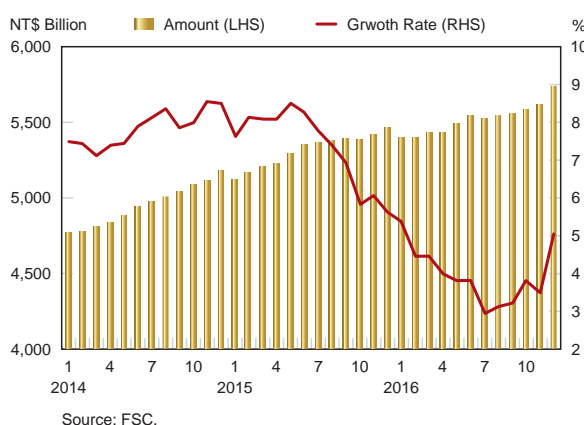
1. Since the CBC introduced targeted macroprudential measures on the real estate sector in June 2010, banks' management of real estate-associated credit risks has improved. In addition, as the government rolled out several relevant taxation schemes and implemented measures to sustain housing market soundness, speculative demand has tapered off. However, given that largely volatile high-value housing prices may raise banks' real estate-associated credit risks, the CBC repealed most rules imposed on home mortgage loans and land loans in March, except for high-value housing loans. The CBC also urged banks to exercise self-discipline on risk management of home mortgage loans and land loans.
2. The CBC will continue to keep watch on banks' real-estate lending and developments in the housing market. Appropriate monetary policy actions will be adopted in a timely manner so as to achieve the operational objectives for the CBC to sustain financial stability.

Enhancing the SME Financing Mechanism

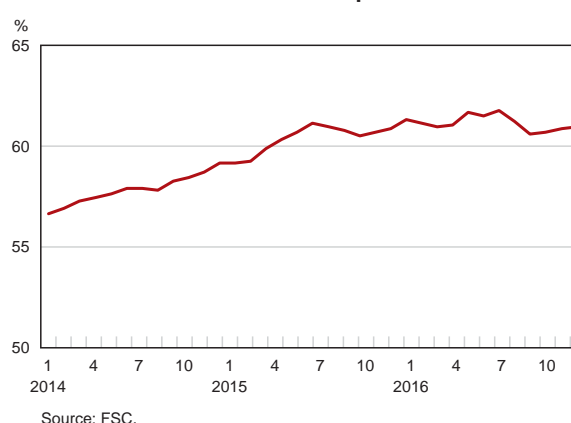
To sufficiently meet SME's funding needs, the Financial Supervisory Commission (FSC) continued the program of encouraging lending to SMEs by domestic banks. Meanwhile, the CBC urged commercial banks to increase lending to SMEs.

At the end of 2016, the outstanding loans extended to SMEs by domestic banks amounted to NT\$5,727 billion, increasing by NT\$274 billion from the end of the previous year. The ratio of the outstanding loans extended to SMEs to those extended to private enterprises rose slightly from 61.32% at the end of 2015 to 61.56% at the end of 2016.

Outstanding Loans Extended to SMEs



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



Redeposits of Financial Institutions

Accepting redeposits from Chunghwa Post, the Agricultural Bank of Taiwan and commercial banks is another instrument for the CBC to influence banks' reserve positions to promote financial stability. At the end of 2016, the outstanding redeposits of Chunghwa Post and the Agricultural Bank of Taiwan stayed unchanged at NT\$1,624 billion and NT\$165 billion, respectively. Commercial banks' redeposits also stayed unchanged to NT\$384 billion.

3. Foreign Exchange Management

For the year 2016, the CBC followed the established managed float regime to maintain an orderly foreign exchange (FX) market. Sufficient seed funds were provided by the CBC for the Taipei Foreign Currency Call Loan Market. The CBC's foreign exchange reserves increased by US\$8.2 billion mainly owing to returns on investments. With the addition of foreign currency fee collection services, the function of the foreign currency clearing platform is nearly complete. Moreover, from February 6, 2013, when domestic banking units (DBUs) were allowed to conduct renminbi (RMB) business, up to the end of 2016, the total amount of DBUs' cross-strait RMB remittances was RMB1,872.4 billion, and DBUs and OBUs recorded a combined balance of RMB311.4 billion on RMB deposits.

Foreign Exchange Market Management

Taiwan's exchange rate is in principle guided by the market mechanism. The CBC conducts "leaning against the wind" operations when there is excessive exchange rate volatility. Indeed, according to behavioral macroeconomic analysis, "leaning against the wind" policies can effectively eliminate excessive exchange rate fluctuations and enhance FX market efficiency. In recent years, frequent and massive capital movement has replaced trade or economic fundamentals to become the major factor affecting short-term exchange rate variation. This development increases the need for the CBC to maintain foreign exchange market order. Therefore, Taiwan has adopted a managed float regime, which allows exchange rate flexibility and FX intervention and helps diminish or prevent speculative attacks.

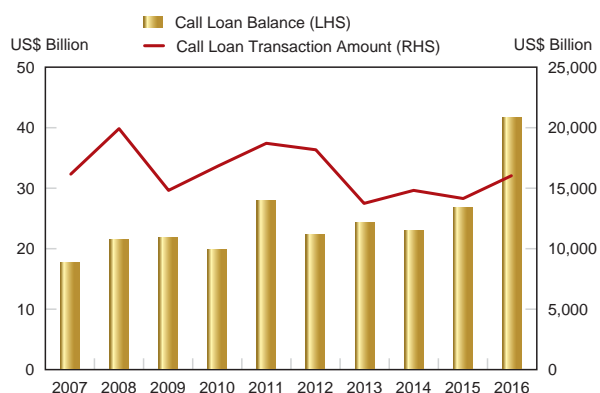
In 2016, the CBC continued to implement the Real-Time Reporting System for Large-Amount Foreign Exchange Transactions to keep the market orderly. Moreover, reinforced examination efforts were made to ensure that forward transactions were based only on actual transactions. The CBC also urged authorized banks to enhance their exchange rate risk management.

Management of Foreign Currency Call Loan and Swap Markets

In order to provide the financial system with sufficient foreign currency liquidity to meet funding needs, including those for corporations to venture into overseas markets, the CBC provided seed funds for the Taipei Foreign Currency Call Loan Market, including US\$20 billion, €1 billion and ¥80 billion.

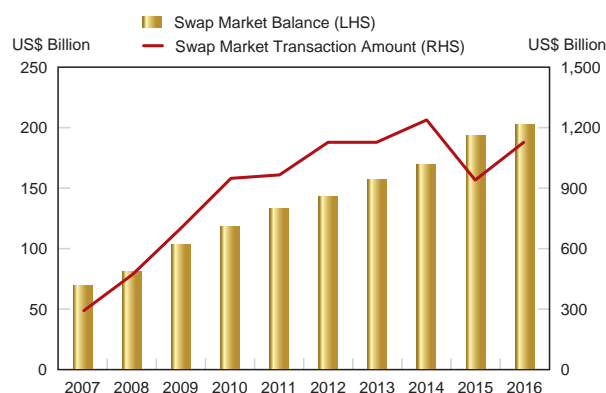
Furthermore, the CBC continued to conduct foreign currency swap transactions with banks and offered foreign currency call loans to banks so as to facilitate smooth corporate financing. During 2016, the volume of foreign exchange call loan transactions reached US\$1,593.4 billion, 13.2% more than that of 2015, while the balance at the end of 2016 was US\$41.4 billion. The volume of

Call Loan Market Transaction Amount and Balance



Source: Department of Foreign Exchange, CBC.

Swap Market Transaction Amount and Balance



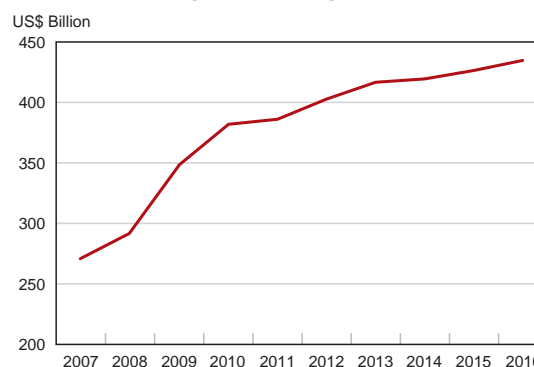
Source: Department of Foreign Exchange, CBC.

foreign currency-NTD swap transactions reached US\$1,130.5 billion, 20% more than 2015, while the balance was US\$205.4 billion at the end of 2016.

Foreign Exchange Reserve Management

At the end of 2016, total foreign exchange reserves stood at US\$434.2 billion, a US\$8.2 billion increase (or 1.9%) from the end of 2015, mainly attributable to returns from foreign exchange reserve investments.

Foreign Exchange Reserves



Source: Department of Foreign Exchange, CBC.

Capital Flow Management

The CBC's foreign exchange management mainly relies on the market mechanism, and capital can, in principle, flow freely in and out of Taiwan. As of 2016, foreign currency capital not involving NT dollar conversion has 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. However, regulation exists for short-term remittances. 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 CBC. Each transaction for a non-resident within US\$0.1 million can be settled by banks directly, whereas any transaction amount above that threshold requires the approval of the CBC.

Key measures with regard to the management of capital flows in 2016 included:

1. Promoting the internationalization of Taiwan's capital market

CBC-Approved Fund-Raising by Domestic and Foreign Institutions

Institution	Method	Number	Amount
Foreign companies	IPO on TWSE & TPEX and registration on the Emerging Stock Board	15	NTD 7.85 billion
	NTD convertible bonds	7	NTD 4.45 billion
	International bonds	54	USD 47.92 billion RMB 8.22 billion AUD 0.18 billion ZAR 0.45 billion NZD 0.06 billion
Domestic companies	Overseas convertible bonds	7	USD 1.16 billion

Note: TWSE (Taiwan Stock Exchange) ; TPEX (Taipei Exchange) .
Source: Department of Foreign Exchange, CBC.

2. Approving residents' investments in foreign securities

Residents' investments in Foreign Securities Approved by the CBC

Institution	Method/Instrument	Amount
Securities investment trust enterprises (SITEs)	78 domestic SITE funds (including 42 NTD-foreign multiple currency SITE funds)	NTD 1,476.5 billion (multiple currency funds: NTD 781 billion)
	5 SITE private funds	NTD 8.9 billion
	3 domestic futures trust funds for qualified persons	NTD 125 billion
Life insurance companies	Non-discretionary money trusts managed by financial institutions	USD 0.3 billion
	Investment for their own accounts	USD 4.1 billion
	Lowering overseas investment hedge positions	USD 0.7 billion
Five major government pension funds and employment insurance fund	Investment for their own accounts	USD 11 billion
Chunghwa Post	Presell forward FX in order to hedge own investment interest	USD 0.12 billion

Source: Department of Foreign Exchange, CBC.

3. Loosening the regulations regarding foreign exchange remittances

To promote the development of Taiwan as a key offshore renminbi market and to aid the

internationalization and product diversification of the futures market, starting from June 27, 2016, banks were allowed to conduct FX settlement declarations for transactions of renminbi/USD exchange rate options listed on the Taiwan Futures Exchange (TFE) conducted by the TFE or futures firms.

Management of the Foreign Exchange Business of Financial Institutions

1. Authorized FX banks

Pursuant to *The Central Bank of the Republic of China (Taiwan) Act* and the *Foreign Exchange Regulation Act*, the CBC reviews and authorizes banks to conduct FX business and be supervised accordingly. In 2016, the CBC continued to approve bank branches as authorized FX banks and loosened restrictions on FX derivative product business in order to promote authorized FX banks' competitiveness and quality of services. Related developments in 2016 are as follows:

(1) Number of authorized FX banks and overseas branches increased:

- A. At the end of 2016, there were 3,427 authorized FX banks in total, which included 39 head offices and 3,389 branches of domestic banks, 35 branches of 26 foreign banks, three branches of Mainland Chinese banks, as well as 1,265 authorized money exchangers, post offices, and financial institutions authorized to engage in basic foreign exchange business.
- B. The CBC also approved two cases for authorized FX banks to establish branches in Mainland China, and 12 cases for domestic banks to set up branches abroad.

(2) The CBC prudently approved new FX products:

- A. In terms of new FX products, 15 derivatives were approved in 2016 after prudent review.
- B. On September 20, the CBC revised the *Directions for Issuance of Foreign-Currency Denominated Negotiable Certificates of Deposit by Banks*, adding the Australian dollar in the currency denomination of the said product type.

(3) The CBC actively assisted banks to take advantage of business opportunities in the digital age, and promoted related businesses:

- A. On May 16, the CBC announced that customers of authorized FX banks may use internet banking to pre-designate foreign currency deposit accounts, including others' accounts in the same bank or the same person's accounts in other banks, to conduct FX related business.
- B. On June 6, the CBC announced that authorized FX banks may conduct FX ATM business, including cardless same-bank foreign currency withdrawals.

(4) The CBC continued to improve the operating procedures for FX business conducted by authorized FX banks through two amendments of relevant directions:

- A. On April 28, the CBC revised the *Directions Governing Banking Enterprises for Operating Foreign Exchange Business* to be in line with the directions of the Financial Action Task Force (FATF) regarding FX electronic remittances. The amendment stipulated that banks managing FX business should ensure know your customer (KYC) procedures and the electronic messages for FX remittances should include the required information about the payers and the payees.
- B. On September 9, the CBC revised the *Regulations Governing Foreign Exchange Business of Banking Enterprises* so that prior application was required for authorized banks to conduct new, complex, high risk FX derivatives business for customers except professional institutional investors and high net worth corporate investors.

2. Insurance companies

- (1) Up to the end of 2016, 21 insurance companies were allowed to engage in foreign currency investment-linked insurance business, and 22 insurance companies were permitted to conduct business in relation to traditional foreign currency insurance products. The 2016 foreign currency premium revenue was US\$22.9 billion, 1.7% less than that of 2015.
- (2) In order for a timely review and improvement of FX business of the insurance industry, the *Regulations Governing Foreign Exchange Business of Insurance Enterprises* was revised twice within 2016:
 - A. On March 23, the CBC removed the restriction that the subject matter insured of a non-life insurance policy denominated in foreign currency should exclude domestic real estate, and allowed insurance companies to engage in foreign currency loans made as one of the participants of a foreign-currency syndicated loan.
 - B. On December 30, the CBC announced the exceptions where NTD receipt and payment may be used for foreign currency-denominated non-life insurance policies and the relevant settlement matters.

3. Securities firms, bills finance firms, securities investment trust and consulting firms and futures firms

- (1) On May 11, in response to the TWSE's plans to offer foreign currency beneficiary certificates under the corresponding ETFs, the CBC stipulated how the TWSE, the Taiwan Deposit and Clearing Corporation, and securities firms should apply for related FX business, as well as the supporting rules. On May 23, the TWSE was granted the approval to conduct the above business.
- (2) The approved cases granted by the CBC for securities firms, bills finance firms, investment trust and investment consulting firms and futures firms to manage FX business as of 2016, are shown in the following table:

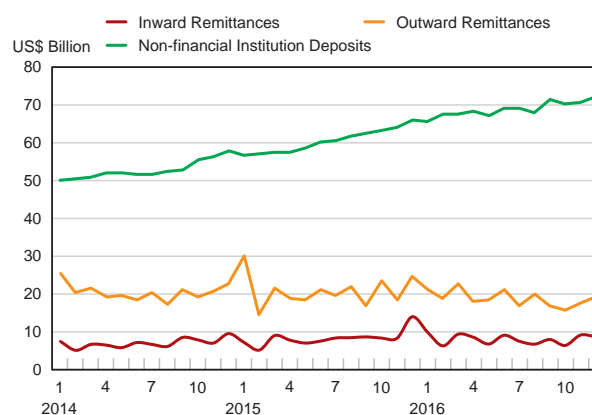
Institution	FX business	Number
Securities firms	Agents for foreign bond trading	2
	Underwriting international bonds	2
	Proprietary foreign securities trading neither belonging to investment with their own funds nor for hedging needs	3
	Non-discretionary individually managed money trust wealth management	1
	FX spot transactions	1
	FX forward transactions	1
	FX SWAP transactions	1
	Brokerage trading of onshore and offshore funds	1
	Domestic foreign currency ETF liquidity providers	2
Bills finance firms	Foreign currency bills certification, underwriting, brokerage and dealing	1
investment trust and investment consulting firms	Mandated institution of private offshore funds	8
	Foreign currency discretionary investments in foreign securities	3
	Conducting public offer or private placement of foreign currency-denominated funds	1
Futures firms concurrently operating leverage transaction merchants	Foreign currency margin trading	1

Source: Department of Foreign Exchange, CBC.

4. Offshore Banking Units (OBUs)

- (1) At the end of 2016, all OBU assets totaled US\$186.0 billion, which was US\$4.1 billion or 2.3% more than the previous year end. Domestic banks owned 88.1% of the OBU assets, while foreign banks owned 11.9%.
- (2) In 2016, the total OBU FX trading amount was US\$683.5 billion, down by 36% from 2015.
- (3) In 2016, the performance of cross-strait OBU financial business was mixed:

OBUs' Non-financial Institution Deposits and Cross-Strait Remittances



A. The cross-strait remittances decreased by 7.6% from a monthly average of US\$28.53 billion in 2015 to US\$26.36 billion in 2016.

B. At the end of 2016, non-financial institutions' deposits reached US\$72.24 billion, a 9.2% increase from a year ago.

5. Offshore Securities Units (OSUs)

At the end of 2016, 17 OSUs were approved and established, and total OSU assets reached US\$3.58 billion; total OSU pretax net profits in 2016 were US\$52 million.

6. Offshore Insurance Units (OIUs)

Up to the end of 2016, 20 insurance firms were approved to establish OIUs, and 18 of the approved cases were set up. Total OIU assets reached US\$0.21 billion; total OSU pretax net profits in 2016 were US\$1.6 million.

RMB Exchange Business Slowed During 2016

1. Since February 6, 2013, when authorized FX banks or DBUs began to conduct RMB business, domestic RMB business has been flourishing. However, the pace of progress slowed during 2016.

2. By the end of 2016, there were 68 DBUs and 59 OBUs engaging in RMB business. The balance of RMB deposits amounted to RMB311.4 billion, 2.5% lower than the end of 2015; RMB remittances totaled RMB1,872.4 billion in 2016, 38.5% lower than 2015; and RMB settlement through the Taipei Branch of the Bank of China totaled RMB4,036.6 billion, 21.4% lower than 2015.

3. RMB investment business conducted by financial institutions as of the end of 2016 is shown in the following table.

RMB Business Conducted by Financial Institutions

Unit: RMB Billion

Business items	Amount
Deposit balance (include NCDs, end of 2016)	311.4
Total remittances (February 2013 till December 2016)	6,889.1
Total settlement through the Taipei Branch of the Bank of China (February 2013 to December 2016)	14,675
Total value of 109 RMB-denominated bonds issued (up to the end of 2016)	70.8
Accumulated premium receipts from RMB-denominated investment-linked insurance business (up to the end of 2016)	1.8
Accumulated premium receipts from RMB-denominated traditional insurance business (up to the end of 2016)	1.7

Source: Department of Foreign Exchange, CBC.

Expanding Foreign Currency Clearing Platform

1. The CBC began efforts to establish a domestic USD clearing mechanism in September 2008 and officially launched the system on December 6, 2010. Afterwards, the CBC cosigned the Financial Information Service Co. to set up a foreign currency clearing platform, which started operating in March 2013. The platform also began services for domestic and cross-border US dollar and RMB remittances, and adopted a payment-versus-payment (PVP) mechanism among banks and a liquidity-saving mechanism for foreign currency remittances. In 2015, the CBC made domestic and cross-border yen and euro remittances available on the platform, as well as a delivery-versus-payment (DVP) mechanism for foreign currency bonds and bills.
2. By the end of 2016, the scope of services provided by the platform was nearly complete. It helps to promote the efficiency of foreign currency remittances, significantly reduces the remittance fees, improves the safety and efficiency of payment systems, and boosts the development of financial services.

The Development of Domestic Foreign Currency Settlement Business

Currency	Domestic participating units	Settlements in 2016	
		Transactions	Amount
US dollar	70	999,765	USD1,000.8 billion
Renminbi	61	183,145	RMB 401.1 billion
Yen	42	26,144	JPY 967.5 billion
Euro	41	15,678	EUR 3.8 billion
Australian dollar	29	1,387	AUD 137 million

Source: Department of Foreign Exchange, CBC.

4. Financial Inspection

Pursuant to the objectives and duties stipulated in *the Central Bank of the Republic of China (Taiwan) Act*, the CBC conducts targeted examinations to ensure that monetary, credit, and foreign exchange policies are implemented effectively. The CBC has also established an off-site monitoring system and a financial stability assessment framework to systematically monitor and assess potential risks and their possible sources. Once sources of problems are identified, appropriate policies can be adopted in a timely manner to achieve the operational goal of financial stability.

On-Site Examination

Targeted examinations in 2016 included 921 earthquake reconstruction loans, commercial banks' offered interest rates, required reserves, checking deposits account file creation, counterfeit money detection, foreign exchange derivatives transactions, foreign exchange remittances, and correctness of reporting to the CBC, etc.

Follow-up on Examination Findings

Based on the findings from the CBC's targeted examinations as well as the results of the Financial Supervisory Commission's financial examinations that are related to the CBC's operations or regulations, the CBC continued to track whether the financial institutions under inspection had improved their operations to ensure the effectiveness of the CBC's policies.

Off-Site Monitoring

To reflect changing financial conditions and regulatory amendments and to fully understand the dynamics of financial institutions' business operations, the CBC reviews and revises as necessary all relevant reporting forms and contents of statistical data submitted by financial institutions. Developments related to off-site monitoring in 2016 included the following:

- (1) To fully understand associated default risks of commercial banks' business operation in financial derivatives, the CBC reviewed the related reporting format and content for domestic banks and local branches of foreign banks and Mainland Chinese banks in Taiwan.
- (2) The reporting format and content of "interest rate sensitivity analysis" and "domestic bank lending to Mainland Area" were modified to meet the needs for comprehensive financial supervision.
- (3) Additional indicators for domestic banks' asset quality, namely "non-performing ratio of house-purchasing loans" and "non-performing ratio for construction loans," were included. The statutory minimum for Capital adequacy indicators, including "eligible capital to risk-weighted assets

ratio," "tier 1 capital ratio," and "common equity ratio," were also adjusted.

- (4) A new indicator, "ratio of amount due from the head office and overseas branches to total assets," was added to better inform the assessment of management soundness in local branches of foreign banks and Mainland Chinese banks. In addition, the weights and classification standards of relevant assessment criteria were also adjusted.
- (5) In response to pertinent regulatory changes, grading criteria of the asset quality indicator "non-performing loan ratio" of credit departments of farmers' associations were adjusted.

Improving Information Transparency of Financial Institution Operations

The CBC regularly compiles and publishes financial institution statistics, such as Condition and Performance of Domestic Banks (Quarterly) and Major Business Statistics of Financial Institutions, as well as the latest financial regulations. It also discloses related information on its website. As a result, operational transparency of financial institutions has strengthened, and market self-discipline has been reinforced.

Financial Stability Assessment

The CBC compiles financial soundness indicators and develops a macro model based on the Basel III framework for evaluating banks' market risks, so that the relevant authorities, market participants, and the public are kept informed of the status and sources of financial system risks in Taiwan. In 2016, the tenth Financial Stability Report was issued. These publications help promote cross-border communication and information sharing with regard to Taiwan's financial stability and surveillance.

International Cooperation in Financial Supervision

In 2016, the CBC continued to actively engage in international cooperation related to financial supervision, such as the seventh SEACEN Meeting of Deputy Governors in Charge of Financial Stability and Banking Supervision.

5. Payment and Settlement Systems

The CBC Interbank Funds-Transfer System (CIFS) is the backbone of Taiwan's payment and settlement system, linking payment and remittance systems operated by the Financial Information Service Co., Ltd. (FISC), the Taiwan Clearing House (TCH), the National Credit Card Center of R.O.C. (NCCC), the Taiwan Depository and Clearing Corporation (TDCC), the Taipei Exchange (TPEX), and the Taiwan Stock Exchange Corporation (TWSE), as well as the Central Government Securities Settlement System (CGSS), together to construct a comprehensive system.

In addition, the CBC 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

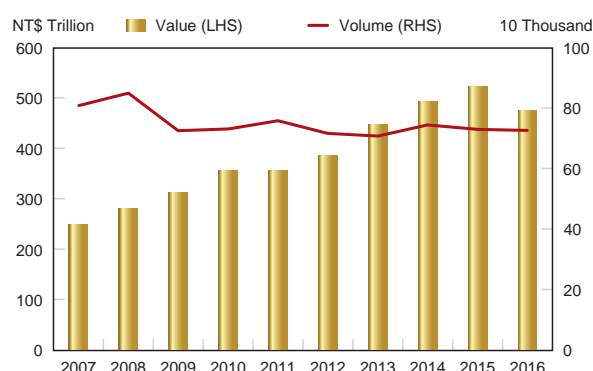
The CIFS is a large-value electronic funds-transfer system. In addition to dealing with interbank funding, reserve requirement adjustments and funds settlements in financial markets, the CIFS also provides interbank final settlement services to each clearing institution.

At the end of 2016, participants of the CIFS included 68 banks, eight bills finance companies, and seven other institutions including Chunghwa Post, Taipei Post Office, the FISC, the TCH, the TWSE, the TPEX, and the NCCC. In the year 2016, the number of transactions via the CIFS was 723,955, and the amount of funds transferred totaled NT\$477 trillion. Meanwhile, the daily average number of transactions via the CIFS reached 2,943, and the daily average amount of funds transferred was NT\$1,939 billion, decreasing by 8.97% over the previous year. The decline was primarily because the CBC reduced the issuance of short-term certificates of deposit (CDs), leading the maturities of CDs to extend.

(2) Transactions via the CGSS

The CGSS was established in September 1997. It 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

Transaction Value and Volume of the CIFS



Source: Department of Banking, CBC.

form. In October 2001, treasury bills were included in this system and have been issued in book-entry form ever since.

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

There were 17 clearing banks with 1,690 branches that handled the registration of central government securities transfers at the end of 2016. During 2016, 258,000 transfers with a total amount of NT\$31.2 trillion were processed by this system.

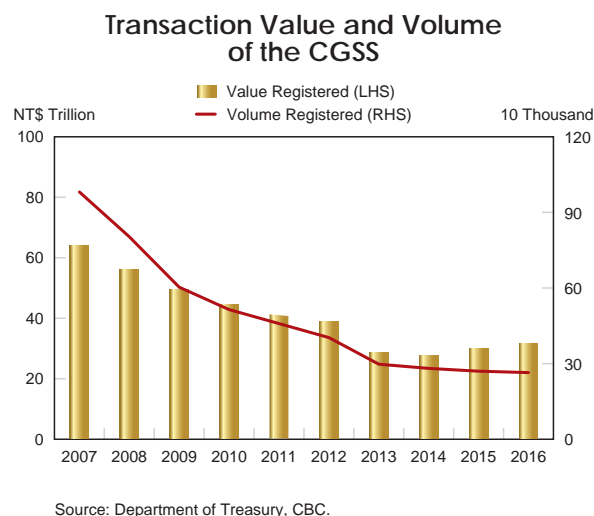
Monitoring Payment and Settlement Systems

The CBC monitors the payment and settlement systems on a periodic basis to maintain their safety and efficiency. In 2016, the CBC's monitoring activities in this regard included the following:

- (1) Requiring payment system operators and payment instrument issuers to provide detailed information on their operations and activities as a basis for monitoring payment systems.
- (2) Supervising clearing institutions to perform regular drills on operating backup systems and implementing contingency plans in case of emergency to ensure business continuity.
- (3) Inviting the Financial Supervisory Commission and clearing institutions such as the FISC, the TDCC, and the TCH to jointly hold conferences on "Promoting Sound Operation of the Payment Systems" with themes of "How to Respond to the Possible Impacts and Challenges Posed by Financial Technology Development" in May and "Strengthening Information Security Management and Improving System Security and Efficiency" in November, in order to urge clearing institutions to better prepare for the impacts and challenges arising from the development of financial technology.

Expanding the Foreign Currency Clearing Platform

To further reinforce Taiwan's payment systems, and in line with the establishment of the cross-strait RMB clearing mechanism, the CBC consigned the FISC in 2012 to set up a foreign currency



clearing platform. Domestic and cross-strait remittances in foreign currencies such as the US dollar and the renminbi can be settled directly through the platform, without being transferred to the third country (e.g., European countries, the U.S., or Hong Kong) for settlement.

The foreign currency clearing platform was launched in March 2013, and the functions of the platform were gradually expanded. Up to the end of 2015, remittances of the US dollar, the renminbi, the Japanese yen, and the euro were available on the platform. This platform was connected with offshore clearing systems in Mainland China, Japan, and the euro area to provide cross-border remittances. Furthermore, being linked up with the domestic central depositories and clearing systems enabled the platform to be connected with international depositories such as Euroclear and Clearstream to offer settlement service for international bonds. Progress achieved in the foreign currency clearing platform helped to facilitate the development of Taiwan's financial services industry. In 2016, the platform continued to be expanded with the new services below:

- (1) Domestic remittances of the Australian dollar were launched in October.
- (2) Foreign currency collection services were available from December.

Disclosing Results of Payment and Settlement System Assessment in Line with BIS Principles

In order to ensure that Taiwan's payment and settlement systems comply with international standards, the CBC required the units in charge of operating major payment and settlement systems to conduct self-assessments against the Principles for Financial Market Infrastructures designed by the BIS. In 2016, the CBC started to request all participating units (including the Department of Banking of the CBC, the FISC, and the TCH) to publish assessment reports both in English and Chinese on their respective official websites after the assessments were completed.

Keeping Watch on Financial Technology Trends and Assisting Financial Institutions to Develop Innovative Services

In response to the possible impacts brought about by rapidly developing financial technology on the banking industry and financial supervision in recent years, the CBC continued to keep close watch on the development of financial technology and undertook the following actions:

- (1) Urging the FISC in collaboration with financial institutions to organize the "Financial Blockchain Research and Application Development Committee" in order to plan on establishing an interconnected financial blockchain platform.
- (2) Instructing the TCH to carry out an outsourced research program with a focus on the applications of blockchain technology in financial services.

6. Currency Issuance

For the year 2016, the CBC conducted currency issuance with the aim of 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. In addition, the CBC also issued commemorative coin sets to mark national events.

Currency Issuance Rose in Response to Currency Demand

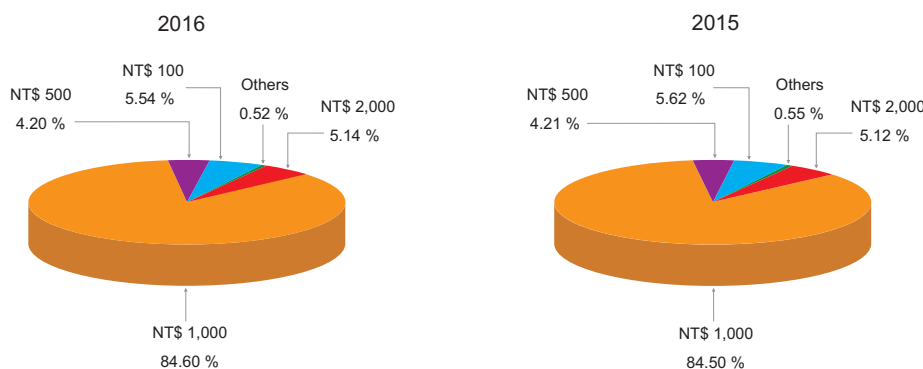
In 2016, the CBC provided an adequate amount of currency in response to currency demand. The currency issued peaked at NT\$2,233.9 billion on February 5, the business day before the Lunar New Year holidays, reflecting a temporary seasonal surge in cash demand. At the year end, the outstanding amount of currency issued was NT\$1,938.1 billion, representing an increase of NT\$133.5 billion or 7.40% over the previous year end.

At the end of 2016, the composition of NT dollar banknotes in circulation by denomination was similar to the end of 2015. The NT\$1,000 note accounted for the lion's share at 84.60%, followed by the NT\$100 (5.54%) and the NT\$2,000 (5.14%) notes.

Currency Issued



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



Source: CBC.

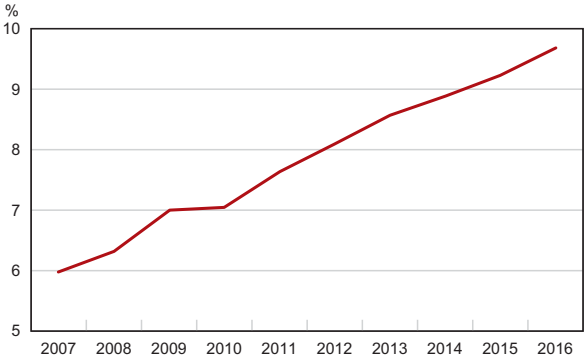
Currency in Circulation to GDP Ratio Increased

Owing to the low interest rate environment since September 2008, the public began to increase their currency holdings, and the ratio of currency in circulation to GDP continued to rise. It stood at 9.68% in 2016, a 0.46 percentage point gain over the previous year.

Three Commemorative Coin Sets Were Issued

The CBC may also issue gold and silver coins and commemorative notes and coins from time to time, such as for important ceremonies, national holidays, major international events or other significant national events. During 2016, the CBC issued a casting set of coins for the Chinese Zodiac Year of the Monkey, the commemorative gold and silver coins for the inauguration of the Fourteenth President and Vice President of the Republic of China (Taiwan), and the fifth coin set of the National Parks of Taiwan series - Shei-Pa National Park.

The Ratio of Currency Held by the Public to GDP



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

7. Fiscal Agency Functions

The CBC acts as a banker to the central government as well as to financial institutions. As the fiscal agent of the government, the CBC provides various services for the national treasury, including handling the treasury deposit account (TDA), managing 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 CBC manages the TDA on behalf of the Ministry of Finance (MOF), processing receipts and disbursements of the central government. In order to provide convenient services for government agencies and taxpayers, the CBC delegates the handling of treasury business to 14 financial institutions and their 359 branches, including three overseas branches located in New York, Los Angeles, and Paris. In addition, there are another 4,728 tax collection agencies set in financial institutions. In 2016, the CBC received a total of NT\$3,339.2 billion in treasury deposits, increasing by NT\$74.9 billion or 2.29% from 2015. Payments made on behalf of the national treasury were NT\$3,333.5 billion, an increase of NT\$80.8 billion or 2.48% over the previous year. At the end of 2016, the TDA balance was NT\$27.3 billion, an increase of NT\$5.6 billion or 25.81% from the end of 2015.

Handling Central Government Agency Deposits

Central government agencies are required to make their deposits with the CBC or other delegated banks. However, the delegated banks are required by law to redeposit 60% of the deposits with the CBC, except those in interest-bearing accounts. At the end of 2016, the balance of central government agencies' deposits with the CBC amounted to NT\$173.4 billion, an increase of NT\$3.9 billion or 2.30% over the previous year. Deposits with other delegated banks were NT\$526.3 billion at the end of 2016, increasing by NT\$68.6 billion or 14.99%. Among them, redeposits with the CBC registered NT\$11.0 billion, decreasing by NT\$0.4 billion or 3.51% from the previous year end.

Managing Central Government Bonds

As a fiscal agent, the CBC performs services related to the issuance, transfer and registration, redemption, and interest payment of central government bonds. The CBC also conducts the auctions of central government bonds. There are 57 domestic dealers qualified to directly participate in the auctions, including 24 banks, 19 securities companies, eight bills finance companies, five insurance companies, and Chunghwa Post.

In 2016, the CBC handled 19 issues of central government bonds in book-entry form worth

NT\$563.5 billion and paid NT\$500 billion in principal and NT\$113.9 billion in interest for central government bonds. At the end of 2016, the outstanding amount of central government bonds was NT\$5,542.3 billion, an increase of NT\$63.5 billion or 1.16% from the end of 2015.

Managing Treasury Bills

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

In 2016, the CBC handled eight issues of book-entry treasury bills with a total amount of NT\$217.3 billion. At the end of 2016, the outstanding amount of treasury bills was NT\$89.95 billion, slightly decreasing by NT\$0.05 billion or 0.06% from the previous year end.

8. Participation in International Activities

The CBC actively took part in international activities during 2016. As a member, the CBC hosts conferences, provides training courses, and attends numerous forums, including the annual meetings organized by the Asian Development Bank (ADB), the Central American Bank for Economic Integration (CABEI), and the South East Asian Central Banks (SEACEN) group. In addition, the CBC also maintains close relationships with the Inter-American Development Bank (IDB), the European Bank for Reconstruction and Development (EBRD), the Bank for International Settlements (BIS), and the Asia/Pacific Group on Money Laundering (APG). Furthermore, the CBC strengthens its ties with other central banks and related institutions to exchange views and share policy experience on macroeconomic and financial issues.

The CBC is a member of SEACEN. In November 2016, the CBC attended the 52nd annual conference of governors held in Nay Pyi Taw, Myanmar. At this conference, the CBC shared views on the impact of financial globalization on monetary policy strategies and operations and offered opinions on stable financial targets within the monetary-policy operation framework. The world economic outlook and emerging international financial issues were also discussed among member banks. Moreover, the CBC hosted the SEACEN Intermediate Course on Payment and Settlement Systems during May 15 to 20.

In addition, the CBC participated in the meetings held by other international organizations, such as the IDB's annual meeting of the Board of Governors held in Nassau, the Bahamas, during April 7 to 10, the CABEI's Ordinary Meeting of the Board of Governors in Panama city, Panama, on April 28 and 29, the ADB's annual meeting in Frankfurt, Germany, during May 2 to 5, the EBRD's annual meeting of the Board of Governors held in London, the United Kingdom, on May 11 and 12, the BIS annual general meeting in Basel, Switzerland, on June 25 and 26, and the APG annual meeting in San Diego, the United States, on September 6 to 8.

