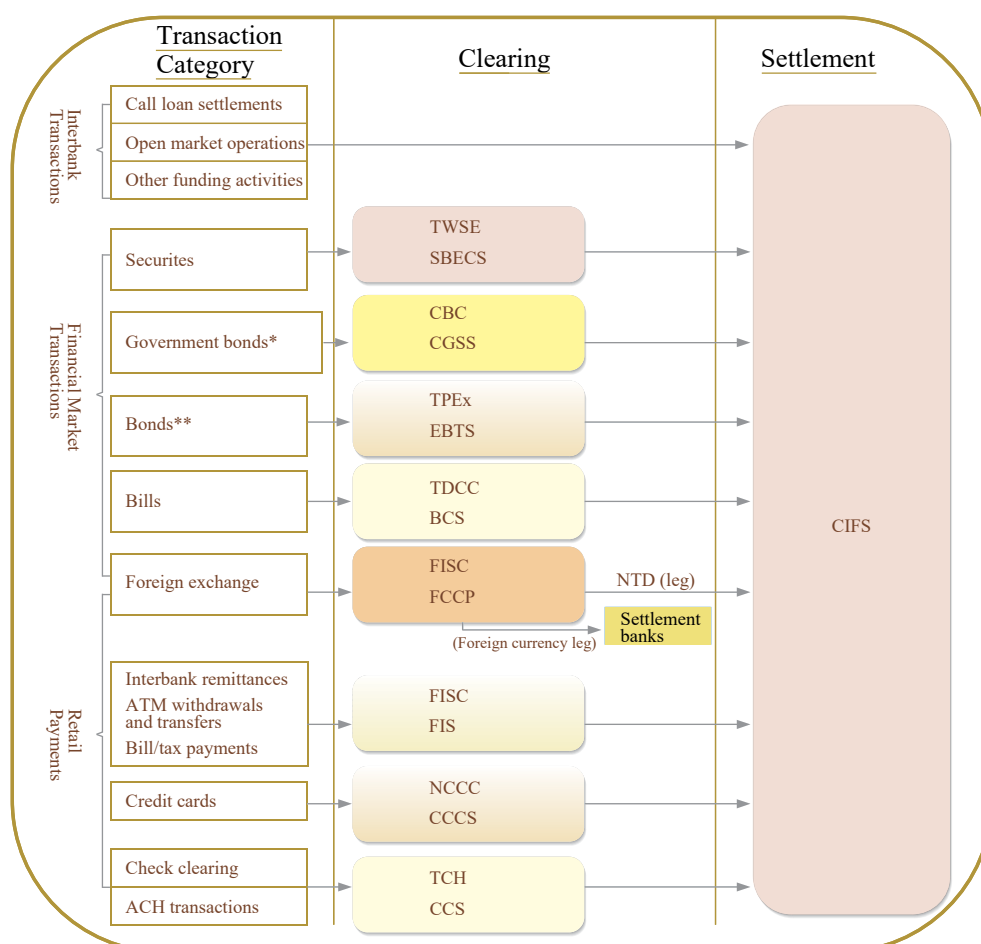


## 4. Payment and Settlement Systems

Serving as the hub of Taiwan's payment and settlement system, the Bank's CBC Interbank Funds Transfer System (CIFS) links the interbank clearing 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.

### CIFS Settlement Services



Notes: \* Including DVP settlements for interbank transactions of central government bonds and treasury bills.

\*\* Including netting settlements for outright trades of government bonds, corporate bonds, and financial bonds.

Source: 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

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

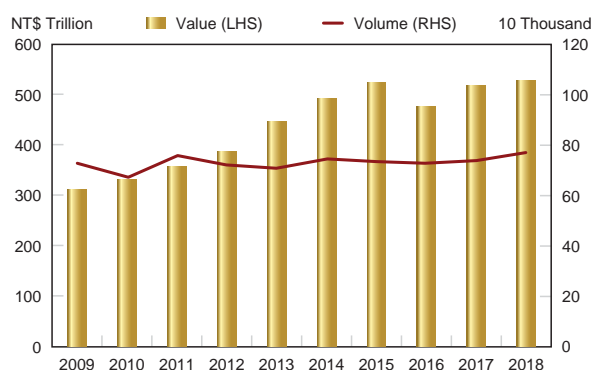
At the end of 2018, participants of the CIFS included 67 banks, eight bills finance companies, and seven other institutions including Chunghwa Post, the FISC, the TCH, the TWSE, the TPEX, the TDCC, and the NCCC. In the year 2018, the number of transactions via the CIFS was 766,419, and the amount of funds transferred totaled NT\$526 trillion. Meanwhile, the daily average number of transactions via the CIFS was 3,078 and the daily average amount of funds transferred was NT\$2,113.7 billion, increasing by 3.87% and 1.30% over the previous year, respectively.

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

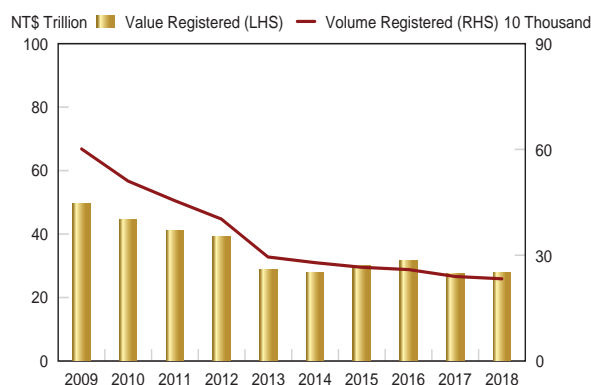
The CGSS linked up with the CIFS in April 2008. Since then, fund settlements, principal redemptions, and interest payments have been handled through the CIFS using a delivery-versus-payment (DVP) mode. The DVP mode, promoted by the BIS, is an arrangement in a securities settlement system

Transaction Value and Volume of the CIFS



Source: Department of Banking, CBC.

Transaction Value and Volume of the CGSS



Source: Department of Treasury, CBC.

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 2018, there were 17 clearing banks with 1,694 branches that handled the registration of central government securities transfers. In 2018 there were 229,983 transfers with a total amount of NT\$27.6 trillion were processed by this system.

### **Oversight of Payment and Settlement Systems**

The Bank monitors the payment and settlement systems on a periodic basis to maintain their safety and efficiency. In 2018, the Bank's monitoring activities in this regard included the following:

- (1) Continuing to monitor the operation of the payment and settlement systems. In 2018, 14 applications for the CIFS operation time extensions were filed by participating institutions owing to system malfunctions or other contingencies. The Bank required these institutions to submit improvement reports.
- (2) Requiring payment system operators and payment instrument issuers to provide information about their operations and activities on a regular basis.
- (3) Supervising clearing institutions to perform dry runs on remote backup operations to ensure business continuity in case of emergency. For year 2018, the FISC conducted its drill in July, while the TDCC held its drills in May and November.
- (4) Inviting the Financial Supervisory Commission (FSC) and clearing institutions to jointly hold two conferences on “Promoting Sound Operation of the Payment Systems,” through which the Bank urged clearing institutions to closely monitor the development of financial technology (fintech), strengthen information security, and put backup systems in place.  
The conferences were convened separately by type of business. The meeting in May 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.
- (5) Enacting and revising rules and regulations associated with the *Foundations Act*, which was promulgated on August 1, 2018, and would be effective from February 1, 2019. Relevant regulations and amendments made by the Bank aimed to reinforce the oversight of the TCH and would come into force on February 1, 2019, to be in line with the *Act*.

### **Improving Financial Market Infrastructures to Promote Financial Inclusion**

To foster the development of financial inclusion, the Bank continued to strengthen financial market infrastructures and undertook the following actions:

- (1) Raising the ceiling on the amount of financial institutions' end-of-day balances in the "Interbank Funds Transfer Guarantee Special Accounts" to be counted as part of the required reserves from 4% of the current month's required reserves to 8%, effective from January 4, 2019. This was to meet rising prefunding needs of financial institutions arising from significantly increased instant interbank funds transfers.
- (2) Urging the FISC to reduce service fees charged to banks for its interbank information service after the FSC requested the FISC and related banks to collaboratively consider lowering processing fees for small-value ATM interbank funds transfers. The preferential processing fees for interbank transfers under NT\$1,000, approved by the FSC, would go into effect on April 1, 2019.
- (3) Keeping close watch on fintech trends and assisting financial institutions to develop innovative services. For example, the Bank suggested the FISC construct a blockchain-based platform for financial audit verification, which was officially launched at the end of 2018. Meanwhile, the Bank continued to assist financial institutions to promote the adoption of Taiwan Pay, a QR code based mobile payment service. In addition, the Bank instructed the TCH to carry out an outsourced research program with a focus on the applications of distributed ledger technology (DLT) in the CGSS.