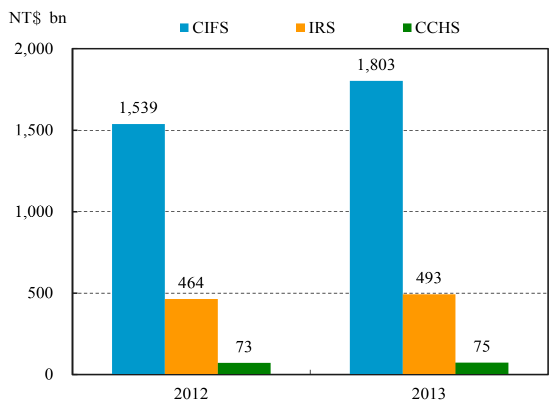
3.3 Financial infrastructure

3.3.1 Payment and settlement systems

Overview of systemically important payment systems in 2013

The three systemically important payment systems (SIPSs),[67] which process domestic interbank payments, operated soundly in 2013, with an increase of average daily transaction value compared to the previous year (Chart 3.53). Among them, the CBC's CIFS, which handles large payments and the final settlement of interbank fund transfers, continued to be the most important one, with average daily transaction value reaching NT$1.80 trillion and accounting for 76% of the total.

Chart 3.53 Average daily transaction value of the three SIPSs



Source: CBC.

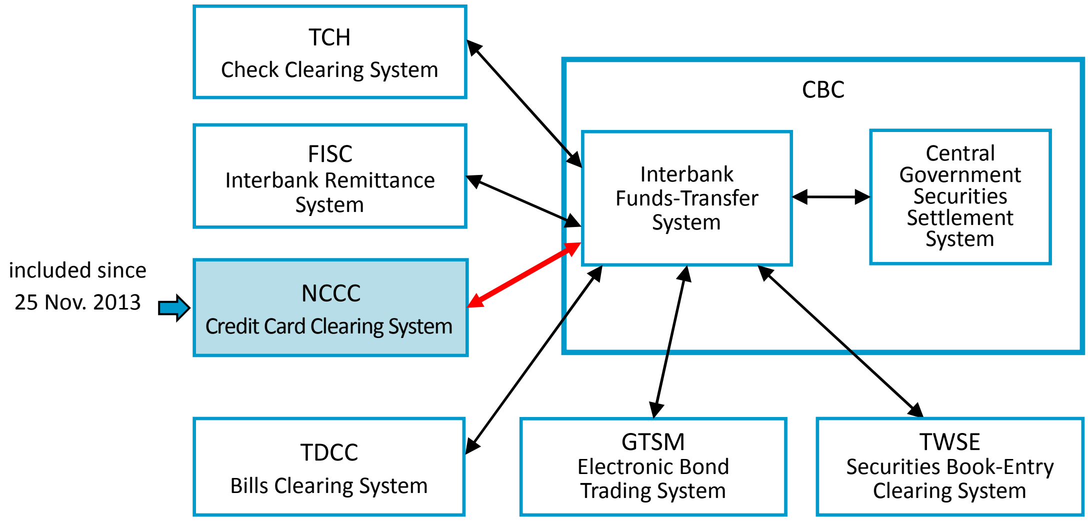
Incorporating credit card settlement into the CIFS

In the past, the NCCC opened clearing accounts in Mega Bank, Cathay United Bank and CTBC Bank, respectively, for credit card payments and settlements. It meant that the NCCC had to deposit funds in three banks and transfer funds between them through the Interbank Remittance System (IRS), resulting in inconvenient operations. Therefore, the CBC allowed the NCCC to open a clearing account in the CIFS to centrally process the payments of credit card acquirers and issuers to facilitate interbank settlements of credit card transactions.

The NCCC started to settle credit card transactions through the CIFS on 25 November 2013 and its operation has worked smoothly since then. Participant banks of the NCCC can transfer the funds of credit card payments through reserve accounts in the CIFS, which not only enhances the efficiency of credit card settlements but also contributes to the banks' fund management operations. In addition, incorporating credit card settlements into the CIFS has further strengthened the security and efficiency of domestic retail payment systems (Chart 3-54).

[67] The three SIPSs include the CBC Interbank Funds-Transfer System (CIFS), the Interbank Remittance System (IRS) and the Check Clearing House System (CCHS).

Chart 3.54 Framework of payment and settlement systems in Taiwan



Note: TCH = Taiwan Clearing House; TDCC = Taiwan Depository and Clearing Corporation; GTSM = GreTai Securities Market; TWSE = Taiwan Stock Exchange Corporation.
Source: CBC.

Establishing the foreign currency clearing platform

The foreign currency clearing platform planned by the CBC and established by the FISC was launched on 1 March 2013, with the aim to reinforce domestic financial infrastructure. The platform was scheduled to expand its function in four phases. Initially, the platform only processed domestic US dollar remittances. After that, domestic and cross-border RMB remittances were included in the platform on 30 September 2013, followed by cross-strait USD remittances and the PVP mechanism for NTD/USD transactions introduced on 14 February and 17 February 2014, respectively. The establishment and development of the foreign currency clearing platform is detailed in Box 6.

In the future, the CBC will continuously expand the functions of the platform, including the incorporation of Japanese yen and euro payments, and the setup of a delivery-versus-payment (DVP) mechanism for foreign currency-denominated bonds to reduce their settlement risk. The platform not only centralizes the process of foreign currency payments with the benefits of effectively simplifying banks’ operations and achieving economies of scale, but also adopts SWIFT standards and processes both domestic and cross-border foreign currency payments, with the benefit of facilitating the development of the domestic financial services industry.

Strengthening the management mechanism of the certificates of bonds for RP transactions

For the purpose of promoting the efficiency of government bonds settlement, the CBC proposed to adopt a book-entry central government bond scheme and set up the Central Government Securities Settlement System (CGSS) in September 1997. Subsequently, the CBC linked the CGSS and the CIFS on a DVP mechanism in April 2008, so as to improve settlement security and reduce settlement risk.

The settlement of central government bond repurchase (RP) transactions between investors and securities firms requires the transfer of bonds through book-entry accounts or delivery of RP certificates issued by the clearing bank. Originally, for the latter, the clearing bank issued two copies of RP certificates and debited the disposable account of the securities firm. The original of RP certificate was delivered to the investor by the securities firm, while the duplicate was held by the securities firm. When the RP transaction came due, the securities firm could apply to the clearing bank with the duplicate for crediting its disposable account and cancelling the certificate, and the original certificate would become invalid automatically, no matter whether the firm made the payments or not. This increased the settlement risk for investors when securities firms defaulted and failed to make the payments to investors.

To reduce the settlement risk, the CBC and the FSC set up a working group in September 2010 to jointly deliberate the proposal of strengthening the management mechanism of certificates for bond RP transactions, and subsequently improved the CGSS as well as amended related regulations which became effective in January 2012. Accordingly, securities firms should submit both the duplicate certificate and proof of fund payment to the clearing bank for certificate cancellation when the RP transaction is due. Otherwise, the investor may apply to the clearing bank with the original certificate for bond transfers. This significantly reduces settlement risk and protects investors' interests. Furthermore, the CBC has conducted on-site audits on the settlement operations of RP certificates at clearing banks since 2012 to ensure their compliance with the new regulations. In 2013, the amount of book-entry CGSS transfers reached NT$28.7 trillion. Among them, transfers by way of issuance and cancellation of RP certificates accounted for a share of 46.61% of the total, all of which complied with the regulations.

3.3.2 Securities firms permitted to conduct FX business

Internationalization and liberalization of the foreign exchange (FX) business has further evolved toward a mature stage over recent years. The FX-related activities conducted by securities firms already have a certain scale as well. In view of these positive developments, the CBC decided to duly grant securities firms authorization to conduct specified FX business so as to spur continued growth of their activities. Moreover, to subject the conduct of securities firms' FX business to clearer requirements and effective supervision, the CBC consolidated relevant rules into a single regulation and thereby promulgated the *Regulations Governing Foreign Exchange Business of Securities Enterprises* on 26 December 2013.

Highlights of the opening-up of FX business

- The FX transactions not involving NT dollars undertaken by securities firms with customers should be based on the actual needs in connection with their securities business.
- Foreign currency financial products and credit derivatives.
- Structured products linked with foreign currency-denominated international bonds.

Overview of Securities firms' FX business approved by the CBC

As of the end of 2013, FX dealings approved for securities firms to conduct mainly included accepting orders to trade foreign securities, underwriting of international bonds, and interest rate-related products denominated in foreign currencies.

3.3.3 Policies in response to Basel III Liquidity Standards

The BCBS published *Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring* in December 2010. It developed two minimum standards in liquidity risk management (i.e., the LCR and the Net Stable Funding Ratio (NSFR)), especially focusing on internationally active banks. These two standards are expected to be put into effect in 2015 and 2018, respectively.

In January 2013, the BCBS further published *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools*, which made amendments to the calculation of the LCR and its implementation schedule. Major changes include loosening the definition of high-quality liquid assets, adjusting the assumptions made in various scenarios for stress tests, and introducing a phased timetable for its implementation (Table 3.3). As for the NSFR, due to its later implementation date, the BCBS has already published a consultative document in January 2014 to invite comments from the public.

Table 3.3 Phase-in timetable of LCR implementation

	2015	2016	2017	2018	2019
Minimum LCR	60%	70%	80%	90%	100%

Source: BCBS.

The contents of the LCR and the NSFR

The LCR and the NSFR were developed to meet two separate but complementary objectives for liquidity risk management. The aim of the LCR is to promote short-term resilience of a bank under adverse liquidity shocks. It requires banks to maintain a sound funding structure during normal times and have enough high-quality liquid assets to survive a significant stress scenario lasting for 30 days. As for the purpose of the NSFR, it requires banks to fund their activities with more stable sources so as to enhance their long-term resilience in the face of a crisis (Table 3.4).

Table 3.4 Definitions and implications of the LCR and the NSFR

	LCR	NSFR
Objectives	Requiring banks to retain adequate high-quality liquid assets (HQLA) to cope with liquidity needs for a 30-day time horizon under a liquidity stress scenario.	Requiring banks to raise funds from stable sources (over 1 year) on the basis of continuous operation to enhance long-term resilience.
Definition	$\frac{\text{Stock of HQLA}}{\text{Total net cash outflow over the next 30 calendar days}} \geq 100\%$	$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} \geq 100\%$
Implications	To measure short-term resilience of a bank under liquidity stress; the higher the LCR, the higher the resilience.	To measure the funding source stability of a bank; the higher the NSFR, the higher the stability of funding sources.

Source: BCBS.

Implementation of the LCR and the NSFR in Taiwan

To strengthen financial institutions' liquidity risk management, the FSC, the CBC, and the Bankers Association jointly established a sub-group on liquidity risk under the Basel III working group in 2012. It aimed to formulate Taiwan's LCR and NSFR regulations, based on the BCBS's liquidity risk framework and domestic banks' practices.

Referring to the methodology of the LCR standard revised by the BCBS in 2013, the working group completed the first draft of the LCR's calculation tables and explanations in December 2013. The Bankers Association then held a seminar to explain LCR calculation in March

2014. The FSC also required all banks to conduct quantitative impact studies for LCR regulations. In addition, to be consistent with international standards and with the benefit of facilitating international comparisons, Taiwan's LCR implementation schedule is set to follow the recommended timeframe set by the BCBS. As for the implementation of the NSFR, it is still under discussion before the BCBS publishes the final document.

3.3.4 Taiwan scheduled to switch to 2013 TIFRSs in 2015

Converging with global trends of financial supervision, the FSC has announced a two-phase timetable[68] for entities in Taiwan to adopt the IFRSs from 2013 onwards and endorsed the 2010 TIFRSs as the adopted version. However, because the International Accounting Standards Board (IASB) continuously amended or issued new accounting standards, the 2010 TIFRSs were significantly different from the latest IASB accounting standards. Moreover, adopting the new version of IFRSs not only could enhance the quality and transparency of financial reports, but also could facilitate cross-country comparison of financial statements. Therefore, on 29 January 2014, the FSC announced the Roadmap to Full Adoption of the Upgraded IFRSs with the aim to continuously converge local accounting principles with international standards via a two-phase process.

- Phase 1: From 2015 onwards, entities that adopt the 2010 TIFRSs, credit card companies and unlisted public companies should adopt the 2013 TIFRSs.

- Phase 2: From 2017 onwards, each subsequently issued IFRS will be adopted after being endorsed by the FSC.

The 2013 TIFRSs contain 41 standards and 24 interpretations. Compared to the 2010 TIFRSs, 24 standards and interpretations were either issued, amended or abolished in the 2013 TIFRSs. Among them, changes in pension recognition, consolidation accounting and disclosure requirements, which are elaborated below, are expected to have greater impacts on local entities. However, due to differences in business strategies and industry features, the impacts of changes in the version of TIFRSs on individual entities may be different.

- Abolish amortization of actuarial gains and losses and past service cost for pension recognition. Both should be recognized immediately in the period they occur. The actuarial gains and losses should be recognized in other comprehensive income, while the

[68] First-phase adopters, including the companies listed on the stock exchange, OTC market or emerging stock markets and financial institutions supervised by the FSC (except for credit cooperatives, credit card companies, insurance brokers and insurance agents), were required to prepare TIFRSs-based financial statements from 2013. As for second-phase adopters, including unlisted public companies, credit cooperatives and credit card companies, they should apply TIFRSs from 2015.

past service cost should be recognized in profit and loss.

- Revise definitions of control and the type of joint arrangements and prohibit using proportionate consolidation for joint ventures. Moreover, if an investment in a joint venture becomes an investment in an associate, the entity should continue to apply the equity method to the remaining interests instead of remeasuring the investment at its fair value.

- Require extensive disclosure of information. For example, entities should (1) provide more comprehensive information on interests in subsidiaries, joint arrangements, associates and unconsolidated structured entities; (2) begin to disclose information on the offsetting of financial assets and liabilities, and transfers of financial assets.

The 2013 TIFRSs is significantly different from current accounting treatments in Taiwan. Its impacts will not only be on accounting, but also on entities' information systems, funding management and investor relations. Therefore, entities shall be well-advised to study thoroughly the 2013 TIFRSs, evaluate potential impacts and develop responsive measures in order to mitigate the impacts.

Box 6
Setup and development of foreign currency clearing platform

In the past, the domestic USD payments by banks were wired to their correspondent banks in the US for clearing. Because the time zone difference between Taiwan and the US is about 12 hours, it could cause delays in transaction payments on some occasions, with potential risks of settlement default. On top of that, customers had to bear additional costs incurred from the process of remittance transfer by intermediary banks both in extra time and higher charges. For the purpose of improving the process for domestic USD remittance, the CBC embarked on launching a domestic USD dollar settlement system in September 2008 and thereby selected Mega International Commercial Bank (Mega Bank) as the settlement bank. Accordingly, Mega Bank established a domestic USD settlement system which officially began operations in December 2010.

On 31 August 2012, the CBC and the People's Bank of China jointly signed the *Memorandum on Cross-Strait Currency Clearing Cooperation*. The Executive Yuan subsequently approved the Program to Develop Financial Services with Cross-Strait Characteristics on 6 September 2012, including a modern cross-strait money remittance platform that would be jointly planned by the CBC and the FSC. As a result of the policy initiatives, the need for RMB settlement domestically in addition to the USD arose. Thus, the CBC further programmed a multi-currencies clearing platform which expanded the existing framework and function of domestic USD settlement and adopted the globally-accepted SWIFT message format, network and international settlement mechanism, with a view to gearing towards international practices.

In order to smooth the proceedings of setting up the new platform, the CBC together with the Financial Information Service Co. (FISC) and Mega Bank organized a task force in October 2012. After the CBC reported the proposal to the Premier on 12 December 2012, the new platform was approved to be established and operated by the FISC. The Executive Yuan also resolved to shift the equity of the FISC, which was entirely held by the Ministry of Finance, to the CBC on 1 January 2014, so as to facilitate supervision of the FISC's liquidity provided by the CBC.

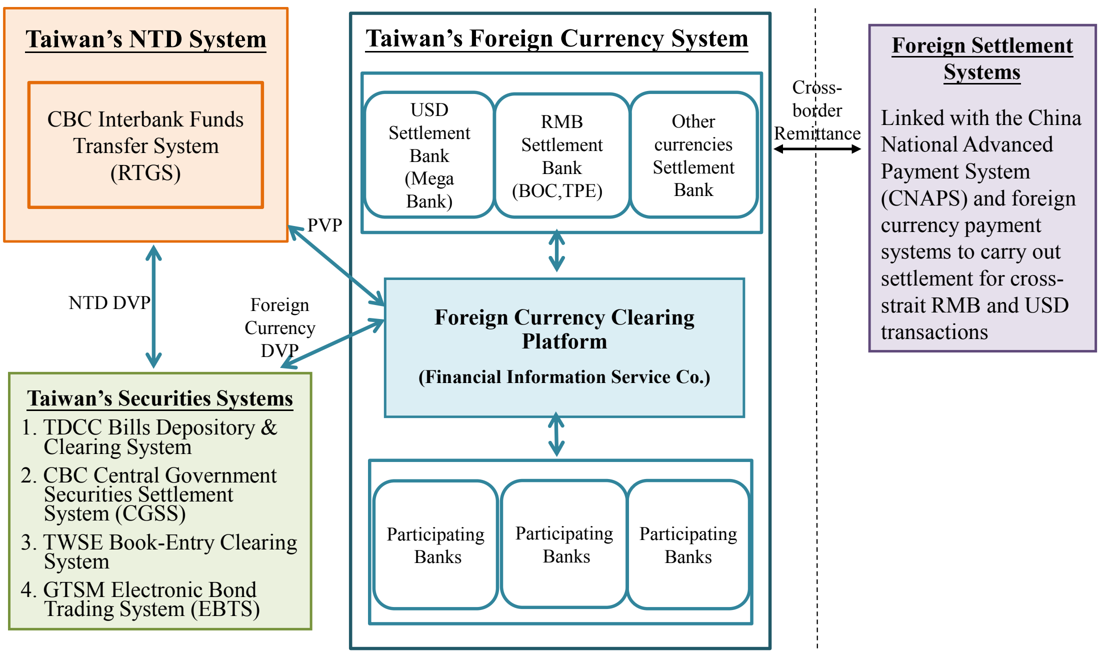
The foreign currency clearing platform was scheduled to expand its function in four phases (Table B6.1). When the relevant functions are set in position, the platform's framework will become further integrated (Chart B6.1). This will significantly upgrade the function of the financial payment system as a whole and thereby give an advantage for building a much more competitive financial environment in Taiwan.

Table B6.1 Phased timetable for the foreign currency clearing platform

Phases	Function	Effective date
Phase 1	1. Adoption of SWIFT message format and network. 2. Origination of domestic USD remittances.	1 March 2013
Phase 2	Inception of domestic and cross-border RMB remittances.	30 September 2013
Phase 3	1. Launch of cross-strait USD remittances; linking with the CBC's CIFS; augmentation of the mechanism of payment-versus-payment (PVP) settlement for NTD/USD transactions. 2. Addition of the mechanism for reduction of USD liquidity needs to lower the costs of USD settlement.	1. 14 February 2014 17 February 2014 2. Expected to be completed in July 2014
Phase 4	1. Addition of clearing and settlement services for other foreign currencies (such as euro and yen) transactions. 2. Provision of delivery-versus-payment (DVP) settlement mechanism for foreign currency-denominated bonds.	1. Expected to be finished in December 2014 2. Under construction

Source: CBC.

Chart B6.1 Framework of foreign currency clearing platform



Source: CBC.

The setup of the foreign currency clearing platform offers several advantages as follows:

(1) Centralized processing of various currency transactions by a single platform allows

efficacious use of resources to achieve economies of scale.

(2) Domestic USD and RMB remittances can be exempted from fees charged by intermediary banks, with the full amount arriving in the beneficiary's account the same working day. Banks' relevant operational costs and risks can also be reduced.

(3) Centralized settlement of transactions between different currencies through the PVP mechanism can not only avoid delay in settlement by correspondent agents abroad due to time zone differences, but eliminate default risk as well.

(4) Centralized processing of foreign currency transactions is able to prevent settlement banks from acquiring customer information from participating banks and thereby help maintain fair competition in the market.