

IV. ANNEX

1. Recent Reforms in the CBC's Interbank Funds Transfer System: The Implementation of Real-Time Gross Settlement

The CBC Interbank Funds Transfer System (CIFS) in Taiwan was established in 1995. It is operated and governed by the Bank and participated in by local banks, investment and trust companies, and bills finance companies. Those who maintain transaction accounts with the Bank may directly use the CIFS to transfer funds. Payments are settled over the CIFS for check clearing, reserve account balance adjustment, interbank loans, and short-term bills and bond transactions. Prior to September 2002, participants might choose to transfer funds through the CIFS system either on a real-time gross settlement (RTGS) basis or on a designated-time net settlement (DNS) basis. To minimize settlement risk and to comply with international standards, the Bank abolished the DNS and adopted a new RTGS system since September 2002. This Annex provides a brief review of the recent reforms in the Bank's CIFS.

The Importance of the Real-Time Gross Settlement System

Payment systems operate mainly on a RTGS basis and/or a DNS basis. The distinction between the two lies in the form and timing of settlements. Once payment orders are accepted by the system, the RTGS system settles immediately on a transaction-by-transaction basis, while the DNS system settles in batches on a net basis at designated times or at the end of the business day.

From the viewpoint of participants, the RTGS system eliminates the time lag between acceptance of a payment order for settlement and its actual settlement, and thus reduces credit risks. However, intra-day liquidity needs may increase as a result and participants have to improve their liquidity management for cost consideration. From the viewpoint of regulators and overseers, the RTGS system may rectify the practice of delaying payments that prevails under the DNS system. Thus, it may reduce settlement risks, as well as systemic risks, and enhances the safety and soundness of payment systems.

With the recent rapid progress in financial liberalization and automation, cross-border funds transfers are conducted more frequently and financial transactions are growing rapidly. The value and volume of transactions that are settled via payment systems increase day by day. For the effective control of risks, more and more central banks have overhauled their large-value funds transfer systems into RTGS systems, or set the introduction of the RTGS system as one of their main objectives of payment system reforms. For this purpose, most central banks have developed their own networks of computer-to-computer linkages and extended RTGS services to participating banks, especially for large-value funds transfers.

Recent Developments in the CIFS

In Taiwan, there are three important payment systems for the time being, the Taiwan Clearing Houses System (TCHS), the Interbank Remittance System operated by the Financial Information Service Co., Ltd. (FISC-IRS) and the CIFS. Their combined value of transactions in 2002 amounted to NT\$ 263.8 trillion, of which 58 percent was ascribed to the CIFS.

In addition to providing final settlements for the TCHS and FISC-IRS, the CIFS also offers settlement services for the following transactions:

- (1) Funds transfers that arise from the Bank's open market operations, short-term accommodations, and swap transactions with local banks, as well as Treasury transfers, and government bonds issuance and redemptions, in which the Bank acts as the fiscal agent.
- (2) Funds transfers that arise from interbank payments, and transactions in the call loan market, short-term bills market and foreign exchange market.

Originally, participants might choose to complete funds transfers through the CIFS system either on a RTGS basis or a DNS basis. Such an arrangement conformed to banks' conventional practices of using checks as the main means of interbank payments. However, to comply with international standards, the Bank reshaped the CIFS into a new RTGS system, which has been in operation since September 16, 2002.

To assist banks in maintaining sufficient balances in their settlement accounts with the Bank to meet their settlement needs, the Bank provides banks with intra-day overdraft facilities. Liquidity for settlement purposes mainly come from banks' Reserve Account A with the Bank and from the call loan market. Furthermore, banks may access intra-day overdraft facilities with eligible collateral, such as government bonds, Treasury bills, NCDs or CDs issued by the

Bank. To promote the smooth functioning of the new RTGS system, two mechanisms were added:

- (1) **Throughput guidelines:** To enhance smooth system flows and prevent payment delays, the Bank requires participating banks to accomplish at least 50 percent of their daily payments (30 percent for bills finance companies) before 14:30 p.m. and 80 percent before 16:30 p.m. To encourage banks to pay as early as possible, the Bank also offers a 50 percent discount on the fees charged for those payments completed before 12:00 a.m.
- (2) **Transactions queues mechanism:** Since the RTGS system settles on a transaction-by-transaction basis, a payment order may be revoked if the financial institution's settlement account lacks sufficient funds to cover the payment. To avoid repeated data key-in work the transactions queues mechanism is designed to keep the payment order in the queue instead of revoking it until the account balance shortage is filled up. Another purpose of such an arrangement is to help financial institutions control their liquidity positions on a real-time basis.

Since the operation of payment systems also involves securities transfers, to promote the safety and efficiency of domestic payment systems, the Bank is planning to link the CIFS with the Central Government Securities Settlement (CGSS) system and the Short-term Bills Central Depository and Clearing System (currently under construction by the Ministry of Finance). The purpose is to achieve simultaneous delivery versus payment (DVP) for the clearing and settlement of securities transactions.

Recent Performance in the CIFS

The CIFS has functioned smoothly since the RTGS began operation on September 16, 2002. Its performance can be characterized as followed:

- (1) In the new RTGS system, local financial institutions may acquire real time information about their funds positions and payment orders in process, which may help financial institutions manage their funds more effectively.
- (2) The new RTGS system also generates timely information that facilitates the Bank to monitor the liquidity positions of both individual financial institutions and the financial system as a whole.
- (3) Domestic payment systems have been upgraded in terms of safety and soundness, as well as compliance with international standards.