

THE BANK INDONESIA NATIONAL CLEARING SYSTEM (SKNBI)



**Bank Indonesia
Directorate of Accounting and Payment Systems
August 2005**

INTRODUCTION

Indonesia now has 105 local clearing operators, which consist of units managed directly by Bank Indonesia and third parties appointed by Bank Indonesia. Transactions processed through the clearing system include debit transfers and credit transfers accompanied by exchange of paper debit instruments (cheques, *bilyet giro*, debit notes, etc.) and credit instruments. Credit transfers may be processed in clearing only in amounts below Rp 100,000,000.00. If the amount is Rp 100,000,000.00 or more, the transaction must proceed through the Bank Indonesia Real Time Gross Settlement System (BI-RTGS System).

To perform the clearing operations, 4 (four) different systems are used:

- a. The Electronic Clearing System, known as the SKEJ and used in Jakarta;
- b. The Automatic Clearing System, used in Surabaya, Medan and Bandung;
- c. The Semi-Automatic Local Clearing System, known as SOKL and used in 33 clearing areas operated by Bank Indonesia and 37 other clearing areas operated by third parties appointed by Bank Indonesia, and
- d. The Manual System (at 31 non-BI operators).

Progress in information technology has been matched by the need for greater efficiency in clearing operations. With

average daily volume at about 300,000 transaction items, it has become necessary to re-examine the use of paper instruments for interbank funds transfers, particularly in regard to printing costs and the processing procedures for the instruments themselves. On the other hand, processing of interbank credit transfers through the BI-RTGS system is paperless. Additionally, the different forms of clearing systems currently in use and the restriction on clearing of interbank credit transfers to the local area (transfers only between banks within the same clearing area) mean that interbank funds transfers outside the local region must be processed by the bank itself using other mechanisms.

Concerning the management of risks arising in clearing based on multilateral netting, hitherto there has been no mechanism in place to anticipate the possibility that members may default on settlement of clearing results. Responding to this issue, Bank Indonesia has launched the SKNBI to accommodate paperless interbank credit transfers throughout Indonesia as part of the effort to build an efficient, rapid, secure and reliable payment system. In a related action, Bank Indonesia introduced the Failure to Settle (FtS) mechanism designed to minimise risks to Bank Indonesia arising from its clearing operations.

With the SKNBI slated to replace the clearing system currently in use at the 105 clearing operators in Indonesia,

the changeover to the SKNBI will take place in stages. In the first phase, the SKNBI was launched in Jakarta on 29 July 2005.

OBJECTIVES AND BENEFITS

The objectives of implementing the SKNBI for clearing in Indonesia are to improve efficiency in the retail payment system and achieve compliance with the principles of risk management in clearing operations.

The benefits from implementing the SKNBI are as follows:

1. For Bank Indonesia

a. Time and cost savings, particularly in regard to:

- 1) clearing operations without the use of paper-based credit instruments;
- 2) maintenance of clearing applications, achieved by use of an integrated system for all clearing areas.

b. Broader coverage of interbank transfers through the clearing system with the ability to process credit transfers between different clearing areas.

c. Compliance with the risk management principles for clearing based on multilateral netting as specified in the Core Principles issued by the Bank for International Settlements (BIS).

2. For Banks

- a. Improved cost efficiency for the bank from savings on printing and administrative processing of credit items.
- b. Broader outreach of bank services to customers.

DEFINITIONS

Clearing and the SKNBI are defined as follows:

1. Clearing is the exchange of paper instruments or electronic financial data (EFD) among clearing members, in favour of members and in favour of customers of members, in which settlement takes place at a specified time.
2. The SKNBI is the Bank Indonesia clearing system encompassing debit clearing and credit clearing with settlement conducted for all banks nationwide.

CHARACTERISTICS

Operators

The SKNBI is operated by:

- a. The National Clearing Operator (PKN), a unit at the Bank Indonesia Head Office assigned the task of the nationwide management and operation of the SKNBI; and
- b. Local Clearing Operators (PKLs), comprising units at Bank Indonesia and at banks appointed by Bank Indonesia to perform the management and operation of the SKNBI within specified clearing areas.

Members

Any bank may become a member of the SKNBI within a single clearing area, subject to the following requirements:

1. Has obtained an operating licence or approval for office opening from Bank Indonesia.
2. The location of the bank office supports orderly participation in the operation of the SKNBI at the Local Clearing Operator location in keeping with the official schedule.
3. The bank has signed an SKNBI usage agreement made between Bank Indonesia and the bank as member.
4. The bank office intending to become member has acquired the necessary clearing hardware and software, including but not limited to the Clearing Member Terminal and the main and backup data communication lines.

Operation

The SKNBI consists of 2 (two) sub-systems:

1. Debit Clearing

- a. This encompasses the stages of incoming clearing¹ and return clearing² and is used for processing interbank debit transfers accompanied by presentation of paper instruments (cheques, *bilyet giro*, debit notes, etc.)

¹ "Incoming clearing" is defined as the netting activity for settlement of debit EFD presented by sending members to receiving members through the Local Clearing Operator.

² "Return clearing" is defined as the netting activity for debit EFD rejected by receiving members and returned to the sending members for reasons as prescribed in the Bank Indonesia regulatory provisions.

- b. Debit clearing is conducted locally by the Local Clearing Operator in each clearing area.
- c. The Local Clearing Operator performs the debit clearing calculation based on debit EFD sent in by members.
- d. The results of the local debit clearing are then transmitted to the Central Clearing System (SKK) for nationwide processing by the National Clearing Operator.

2. Credit Clearing

- a. Used for paperless interbank credit transfers.
- b. Credit clearing is operated on a nationwide scale by the National Clearing Operator.
- c. The credit clearing results are calculated by the National Clearing Operator on the basis of credit EFD sent in by members.

Restriction on Amount

The limits on transfer amounts within the SKNBI are as follows:

1. Interbank credit transfers may be processed in credit clearing only in amounts below Rp 100,000,000.00 (one hundred million rupiahs).
2. No limit on amount applies to debit instruments, except in the case of debit notes, which are restricted to no more than Rp 10,000,000.00 (ten million rupiahs) per debit note. The amount limit for debit notes is waived

if the debit note is issued by Bank Indonesia in favour of a bank or bank customer.

Prefund

Following the introduction of the FtS mechanism, banks are required to provide a prefund before participating in debit clearing and credit clearing. The prefund is intended to anticipate the need to settle potential liabilities for all offices of the Bank that participate in debit clearing and credit clearing, subject to the following provisions:

1. The debit clearing prefund and the credit clearing prefund are treated separately.
2. Minimum prefund:
 - a. For Debit Clearing, the largest daily incoming debit during the last 12 (twelve months) after removal of outlier data.
 - b. For Credit Clearing, a minimum amount of Rp 1.00 (one rupiah).
3. Types of prefund:
 - a. Debit Clearing, cash prefund and/or collateral prefund. Collateral may consist of Bank Indonesia Certificates (SBIs)/Bank Indonesia *Wadiah* Certificates (SWBIs), Government Securities (GS) and/or other securities and other claims as determined by Bank Indonesia.
 - b. For Credit Clearing, only cash prefund is permitted.

4. The deadline for provision of prefund is 08:00 hours local time in Jakarta.
5. If the bank does not provide one or both forms of prefund, it will be barred from participating in debit clearing and credit clearing.
6. Before calculating the final clearing result, the Clearing Central Computer will perform an FTS simulation for both debit clearing and credit clearing.

CHARACTERISTICS

[legend in graphic]

TPK	Clearing Central System	
Host Bank System		
EFD	TCP/IP BI Extranet	
Online TPK	BI Intranet	
Manual Entry	Clearing Operator Computer	Other Systems
Internal Bank Processing Database	Legend:	Payment System
Branch Office TPK	TPK: Clearing Member Terminal	SSSS
	EFD: Electronic Financial Data	
	SSSS: Scripless Securities Settlement System	
Branch Office Offline TPK	RTGS: Real Time Gross Settlement System	RTGS
	SIKJJ: Remote Clearing Information System	SIKJJ

Major Components

The SKNBI consists of 3 (three) major components as follows:

1. The Clearing Central System (SSK), i.e. the hardware and software used by the National Clearing Operator.

2. Clearing Operator Computers (KPKs), i.e. the hardware and software used by Local Clearing Operators.
3. Clearing Member Terminals (TPKs), i.e. the hardware and software used by members.

Data Communication Lines

All Clearing Operator Computers must be connected to the Clearing Central System by means of data communications lines, which may be leased line or dial up. In the case of Clearing Member Terminals, each bank is required to have 1 (one) Clearing Member Terminal connected to the Clearing Operator Computer.

EFD Transmission

EFD may be transmitted as follows:

1. For Clearing Member Terminals connected online with Clearing Operator Computers (online TPKs), EFD may be transmitted over data transmission lines; and
2. For Clearing Member Terminals not connected online with Clearing Operator Computers (offline TPKs), EFD may be transmitted by means of electronic data media (diskette, flash disk or CD) delivered to the Local Clearing Operator.

EFD Downloads and Reports

In order to book clearing results to customer accounts, members may obtain inward EFD and the clearing report. The inward EFD and clearing report may be obtained as follows:

1. Members with online TPKs may download inward EFD and the clearing report from the Clearing Central Computer; and
2. Members with offline TPKs may obtain inward EFD from the Local Clearing Operator only on electronic data media (diskette, flash disk or CD), while the clearing report will be provided in hard copy.

CLEARING SCHEDULE

To ensure rapid processing of credit transfers for economic actors in all of Indonesia’s 3 (three) time zones, credit clearing operates in 2 (two) clearing cycles. Transmission of credit EFD in the first cycle takes place from 08:15 to 11:30 hours local time in Jakarta, while transmission of credit EFD in the second cycle takes place from 12:45 to 15:30 hours local time in Jakarta.

For debit clearing, transmission of debit EFD is scheduled by the individual Local Clearing Operator. However, local clearing results must reach the Clearing Central Computer by 15:30 hours local time in Jakarta.

Debit Clearing

Member Bank (TPK)	Local Clearing Operator (KPK)	National Clearing Operator	BI-RTGS System
1. Prefund	4. ? Collate EFD ? Sort debit instruments (automatic/manual)	8. Collate all local clearing results—National collation	10. Settlement
2. Create EFD	5. Calculate local clearing result	9. RS Simulation	

3. Send to Local Clearing Operator ? Online/offline EFD ? Debit instruments	6. Send local clearing result to National Clearing Operator		
Customer Accounts			
11. Inward EFD: ? Via Local Clearing Operator ? Download from Clearing Central System	7. Distribute Inward Clearing and Reports: ? Soft copy (EFD) ? Hard copy (report)		

Described briefly, the debit clearing mechanism is as follows:

1. Before commencement of debit clearing, banks are required to provide the prefund.
2. Members prepare debit EFD on the basis of debit instruments to be processed in clearing.
3. The debit EFD and debit items are transmitted to the Local Clearing Operator. Debit EFD may be transmitted online or offline, depending on the type of Clearing Member Terminal used by the member.
4. Following this, the Local Clearing Operator will collate and record the debit EFD that has passed the validation process. Debit items will be sorted by destination bank:
 - a. automatically, using an image-technology reader-sorter machine in the case of a Local Clearing Operator using the automated item sorting system;
 - or

- b. manually by individual members in the area of the Local Clearing Operator, for Local Clearing Operators not using the automated item sorting system.
5. Based on the debit EFD received, the Local Clearing Operator calculates the debit clearing result.
6. The Local Clearing Operator transmits the local debit clearing result to the Clearing Central Computer.
7. The debit clearing report is printed for subsequent distribution to all members together with the debit items.
8. After the local clearing results from all clearing operators are received by the Clearing Central Computer, the debit clearing result will be calculated on a nationwide basis.
9. The Clearing Central Computer then performs an FtS simulation.
10. If in the outcome of the national debit clearing,
 - a. The bank has a clearing surplus or credit position, the entire cash prefund advanced before clearing shall be returned to the settlement account of the bank, added to which is the crediting of the clearing result.

b. The bank has a clearing deficit or a debit position, the system will automatically settle the bank's obligations in the following order:

? First, the system will apply the cash prefund provided by the bank;

? If the bank liabilities are nevertheless greater than the cash prefund, the shortfall will be met from funds in the settlement account held by the Bank;

? If the bank liabilities are still greater than the cash prefund and the settlement account balance, the shortfall in the settlement account balance will be covered by the system through the use of the Clearing Intraday Liquidity Facility (FLI-Kliring) or Clearing Sharia Intraday Liquidity Facility (FLIS-Kliring), based on the collateral prefund provided by the bank.

? If the shortfall in the bank settlement account still cannot be covered with the use of the FLI-Kliring/FLIS-Kliring facility, the shortfall will be made up from securities held by the bank in the FLI-RTGS/FLIS-RTGS account.

? Repayment for FLI-Kliring/FLIS-Kliring and FLI-RTGS/FLIS-RTGS facilities must be settled before the BI-RTGS System shutdown.

? If an FLI-Kliring/FLIS-Kliring facility cannot be repaid at end of day, it will be converted to a Short-Term Funding Facility (FPJP) or Sharia Short-Term Funding Facility (FPJPS).

11. After completion of the debit clearing process, members may obtain download inward EFD from the Clearing Central Computer or from a Clearing Member Computer using electronic data media (diskette, flash disk or CD).

Credit Clearing

Member Bank (TPK)	Local Clearing Operator (KPK)	National Clearing Operator	BI-RTGS System
1. Prefund	4. ? Collate EFD ? Send EFD to Clearing Central System	5. Collate EFD from all clearing areas	
2. Create EFD	9. Download inward EFD	EFD	
3. Send EFD (online or offline)		6. National Credit Clearing Result	
Customer Accounts		7. RS Simulation	8. Settlement
11. Inward EFD: ? Via Local Clearing Operator ? Download from Clearing Central System	10. Distribute Inward Clearing and Reports: ? Soft copy (EFD) ? Hard copy (report)		

1. Before commencement of credit clearing, banks are required to provide the prefund.

2. Members prepare credit EFD based on transfer applications.
3. The credit EFD is transmitted to the Clearing Central Computer. Credit EFD may be transmitted online or offline, depending on the type of Clearing Member Terminal used by the member.
4. Members using offline Clearing Member Terminals may deliver the credit EFD on electronic data media (diskette, flash disk or CD) to the Local Clearing Operator and the EFD will be transmitted by the Local Clearing Operator to the Clearing Central Computer.
5. The Clearing Central Computer will collate and record all credit EFD received.
6. Based on the credit EFD that is received, the Clearing Central Computer calculates the credit clearing result on a nationwide basis.
7. The Clearing Central Computer then performs an FtS simulation. If the FtS simulation result is negative, the bank may make up the shortfall in the prefund within the prescribed deadline.
8. After the deadline for addition to the prefund, the Clearing Central Computer calculates the nationwide credit clearing result. The result of this calculation is then booked to the settlement account of the bank in the BI-RTGS system.

9. After the Clearing Central Computer has completed the nationwide processing of credit clearing, Clearing Operator Computers may download inward EFD and credit clearing reports from the Central Clearing Computer.
10. The Local Clearing Operator then distributes inward EFD and credit clearing reports by means of electronic media (diskettes, flash disks or CDs) to the members equipped with offline Clearing Member Terminals.
11. After the Clearing Central Computer has completed the nationwide processing of credit clearing, members using online Clearing Member Terminals may download inward EFD and credit clearing reports from the Central Clearing Computer.

CLEARING CHARGES

In the operation of the SKNBI, Bank Indonesia charges processing fees from members as follows:

1. Debit Clearing
 - a. The debit clearing charge for clearing areas using automatic sorting of debit items is Rp 1,500.00 (one thousand five hundred rupiahs) per transaction, divided into Rp 1,000.00 (one thousand rupiahs) for debit EFD processing and Rp 500.00 (five hundred rupiahs) for processing of the debit instrument.

The debit clearing processing charge in clearing areas with manual sorting of debit instruments is Rp 1,000.00 per transaction, which represents the charge for Debit EFD processing.

2. Credit Clearing

The processing charge for credit clearing is Rp 1,000.00 (one thousand rupiahs) per transaction.

SKNBI Helpdesk
Tel: 021-3818000, 021-3817575
Fax: 021-34830155
Email: skn@bi.go.id