

Indonesia: CPSS Core Principles for Systemically Important Payment Systems

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FINANCIAL SECTOR ASSESSMENT PROGRAM

INDONESIA

CPSS CORE PRINCIPLES FOR SYSTEMICALLY IMPORTANT
PAYMENT SYSTEMS

DETAILED ASSESSMENT OF OBSERVANCE

NOVEMBER 2010

THE WORLD BANK
FINANCIAL AND PRIVATE SECTOR
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PRESIDENCY

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GLOSSARY

ATM	Automated Teller Machine
BI	Bank Indonesia
BI-RTGS	Bank Indonesia Real Time Gross Settlement System
BI-SSSS	Bank Indonesia Scripless Securities Settlement System
Bapepam-LK	Capital Market and Financial Institution Supervisory Agency
CP	Core Principle
CPSIPS	Core Principles for Systemically Important Payment Systems
CPSS	Committee on Payment and Settlement Systems
DASP	Directorate of Accounting and Payment Systems
DR	Disaster Recovery
DVP	Delivery versus Payment
FSAP	Financial Sector Assessment Program
HKD	Hong Kong Dollar
HKMA	Hong Kong Monetary Authority
IMF	International Monetary Fund
MOU	Memorandum of Understanding
PVP	Payment versus Payment
Rp	Rupiah
RTGS	Real Time Gross Settlement
SKNBI	Sistem Kliring Nasional Bank Indonesia (Bank Indonesia's National Clearing System)
SLA	Service Level Agreement
SNA	Systems Network Architecture
SRO	Self Regulation Organization
SWIFT	Society for Worldwide Interbank Financial Telecommunication

I. SUMMARY, KEY FINDINGS AND RECOMMENDATIONS

Introduction

1. **This assessment forms part of the joint International Monetary Fund (IMF) and World Bank Indonesia Financial Sector Assessment Program (FSAP) which is being undertaken during 2009-2010.** The assessment which covers the Bank Indonesia's real time gross settlement (BI-RTGS) system's observance of the CPSS Core Principles for Systemically Important Payment Systems (SIPS) and the Central Bank's Responsibilities in applying the Core Principles was conducted during the first mission (6-16 October 2009).

Information and methodology used for assessment

2. **The assessment which was conducted with the cooperation of the Bank Indonesia and other key players in the payment systems area was undertaken by Alice Zanza, Senior Payment Systems Specialist, World Bank with the assistance of Bruce Summers, Senior Payment Systems Advisor, World Bank.** Although there are several systems in operation in Indonesia, BI considers the Bank Indonesia Real Time Gross Settlement (BI-RTGS) system to be the only systemically important payment system in the country. BI-RTGS is owned by BI and operated by the Payment Systems Department in the Directorate of Accounting and Payment Systems. To date, the assessment team does not have any information to expand the scope of systemically important payment systems in Indonesia and has conducted the assessment of the RTGS system, as the sole SIPS in the country.

3. **The sources of information gathered during the course of this assessment were varied,** and included interviews held with relevant officials from the Bank Indonesia (BI); several participants in the BI-RTGS, bank and non bank; representatives of the Bankers Association; Artajasa, an ATM switching company with indirect participant status in BI-RTGS; the Bankers Association By-Laws Committee responsible for enforcing members' code of conduct in the BI-RTGS operations; the post office; telecommunications companies and mobile service providers.

4. **Several documents were provided by the authorities prior to the commencement of the mission, including a detailed self-assessment of the BI-RTGS, and information posted on the website of BI.** The other main sources of information were: (i) the BI Act 23 of 1999 (ii) Bankruptcy and Suspension of Obligation for Payment of Debts Act, (iii) various regulations, rules and circular letters relevant to the operations of payment systems and issued by BI in its capacity as the overseer of payment systems.

5. **The tools used to assist and guide the assessors in achieving the objectives of this assessment were the standards report itself** (–CPSS Core Principles for Systemically Important Payment Systems”, January 2001) –Guidance Note for Assessing Observance of Core

Principles for Systemically Important Payment Systems and the Structure and Scope of the Assessment Report” produced by the IMF and World Bank in collaboration with the Committee on Payment and Settlement Systems.

6. **The assessors wish to express their appreciation to the BI, banking industry representatives and all the payment systems stakeholders for their cooperation and willingness to meet with the assessors at the times requested.** Special appreciation must be expressed for the assistance rendered by the Accounting and Payment System Directorate (DASP) who were the assessors’ main counterparts and facilitated follow up meetings within BI and externally.

Institutional and market structure

7. **Bank Indonesia is at the apex of the payment system in Indonesia and is empowered by the BI Act 23 of 1999 to supervise banks and other financial institutions, conduct monetary policy and oversee the payments system.** Using its spread of forty (40) branches BI facilitates interbank clearing and the distribution of cash throughout the country. BI also provides settlement in central bank money for the RTGS system it operates, the government securities system and the national clearing system.

8. **The main players in the payment system in Indonesia are banks who comprise state banks, private banks, regional development banks and sharia banks.** Most of these banks have a deliberate policy to extend payment services by establishing branches throughout the country.

9. **Cash remains a dominant means of payment in Indonesia despite the various innovative products and instruments introduced by banks in the provision of payment services.** According to available statistics, the cash utilization levels have maintained an upward trend over the last 6 years and reached the highest point in 2008. Other means of payment used in Indonesia include cheques, drafts, and direct debit and credit transfers. Various payment cards are issued by banks and these are switched through different networks which are not interlinked. The biggest of these networks (Artajasa) in terms of number of banks it services, has access to the BI- RTGS in order to facilitate settlement of card and other retail transactions by member banks.

10. **The BI-RTGS system is the main system for handling payments, and is also used for the settlement of obligations arising from the other payment streams.** The system was introduced in 2000 as part of BI’s strategy to address risks inherent in the cheque clearing system, arising from the ever increasing volumes and values. The BI-RTGS links 149 participants to the central bank, using a designated network. The forty branches of BI connect to the system using the Bank’s intranet. Of the 149 participants, 144 are banks of which 2 are indirect participants; the remaining 5 are non bank participants who include Artajasa (ATM switching company), Posindo (the post office), Lintas Arta (a switching company) Finnet (an e-money switching company) and more recently, the Indonesia Eximbank. The indirect participant

status is offered to participants who handle small volumes; they are required to hold a demand deposit account at the BI.

11. **BI RTGS settles transactions in real time, using central bank money. Participants to the system use a front end (provided for interfacing with BI), to input instructions that are sent through a dedicated network to the central bank's central system.** Since the system works on a credit push basis, the settlement account has to be adequately funded before a transaction can be settled. Once a payment is successfully processed in BI-RTGS-one account debited and the other credited-it is deemed to be final and cannot be reversed. This position is clearly provided for in the BI-RTGS regulations.

12. **In the event that a settlement account is not adequately funded, payment transactions are held in a queue until sufficient funds are available on the participant's account.** Participants have the facility to manage outgoing payments held in queue, and prioritize them as appropriate. Items still held in the queue at the system cut off time are automatically cancelled.

13. **To facilitate settlement as well as ensure a smooth flow within the system, BI provides a collateralized intraday credit facility to all bank participants.** Participants are also encouraged to process their payments early in the day using the throughput guidelines provided. The system's pricing is designed around two windows with the first window being the cheapest (at Rp 7,000 per transaction) to encourage early payments. The second window which runs from 3 pm to end of day attracts a fee of Rp 14,000 per transaction. In terms of value, about 93 percent of all interbank transactions in Indonesia are settled through the BI-RTGS, which as at end of June 2009 recorded average daily transaction activity of 39,250 by volume and Rp 174 trillion by value.

14. **BI also administers the national clearing system, SKN-BI in terms of the powers granted by the BI statute.** The system handles the clearing of debit-pull and credit-push instruments throughout the country. In areas where BI is not represented, agents in the form of commercial banks have been appointed to carry out the clearing function on behalf of the central bank. SKN-BI was established in 2005, and handles clearing through over 100 clearing facilities established throughout the country. The debit clearing within SKN-BI involves paper based instruments including cheques and debit notes. The arrangements are localized with the clearing operator having the responsibility of ensuring that obligations are calculated correctly before they are sent to BI for settlement through the BI-RTGS system. There is no threshold imposed on debit clearing; hence cheques of a high value nature can still be issued by customers in this regard. Unlike debit clearing, the credit clearing process is non-paper based and involves the clearing of credit instructions between banks before settlement takes place. A threshold of Rp 100 million is imposed in credit clearing. Any amounts exceeding this threshold must be processed through the RTGS system. The transactions cleared through SKN-BI have maintained an upward trend over the years 2006 to 2008 in both value and volume terms.

15. **Over the last decade, BI has been involved in collaborative efforts to reform the payment system in Indonesia.** The existing blueprint that provides guidance to this process is currently being revised in response to the ever changing payments environment and to set strategic direction for the critical international linkages being envisaged by BI.

Main Findings

Legal Framework (CP I)

16. **The legal foundation for payment systems in Indonesia is generally sound with explicit provisions for the central bank's involvement in payment systems.** A number of statutes have been enacted and these are supported by regulations and circular letters that the BI issues from time to time. The authorities should however consider enacting a specific law that governs payment systems as well as address any areas that need further strengthening and clarity. For example, in order to eliminate ambiguity and uncertainty, there is need to explicitly recognize netting as a legal process. In this regard, it should be noted that reference to the term in the circulars or rules does not translate to recognition of “netting” as a legal term.

Management of Risk (CP II-III)

17. **The BI-RTGS generally functions well and is recognized as the only SIPS in Indonesia.** System participants have a good understanding of the financial risks and the need to contain these in accordance with operating rules. The rules cover various aspects which include systems operation and oversight; consumer protection, system features. Participants are well informed and have a clear understanding of the risk of participation and the need to manage the same. Authorities must be commended for the “observed” rating allocated to all risk related CPs in this assessment

Settlement (CPIV-VI)

18. **Over and above the clarity of BI-RTGS rules, the system design is such that once a transaction is accepted in the system, and the respective accounts debited and credited it is deemed final and cannot be revoked.** This position is also supported by explicit provision in the regulations. The operating schedule is adhered to and any interruptions are communicated to the participants. The system has a queuing mechanism and participants fully understand that queued transactions are not settled and have to be discarded at the end of the day if they are not funded.

Operational Reliability and Efficiency (CPVII-VIII)

19. **BI has adequate contingency plans in place to address any technical problems; a general security policy that is set by the Board is applied across applications used by the Bank.** The business continuity procedures are well documented and the disaster recovery site which is manned by a small contingency of staff is tested periodically to ensure its ability to take over the primary production environment in the event of a challenge. The 40 kilometer separation between the production site and the DR site is however minimally acceptable particularly for an environment that is prone to natural disruptions. The two main systems operated by BI, (BI-RTGS and BI-Securities Settlement System) and linking external

participants are based on legacy technologies which have been replaced by modern technology. BI has advanced plans to implement a new second generation system in 2011. In allocating the “observed” rating to CP IV, these advanced plans were taken into account and must therefore be realized within the stipulated time in order to maintain full observance of the two CPs in future.

Access and Governance (CP IX-X)

20. **There is absence of clear, documented access criteria based on specific indicators.** This position appears to have been influenced by the historic position taken by BI requiring all banks to be direct participants in the system. Hence any bank that is licensed has direct access to the system on application. The BI would benefit from access criteria that are based on specific indicators agreed between the Payment Systems Department and the Banking Supervision Department. While not being restrictive and stifling competition, such criteria should act as a risk management tool by ensuring that weak banks that are likely to pose systemic risk to the system are not automatically granted access. Limiting access to banks only is increasingly becoming an exception for most central banks. In considering the option of granting access to non banks, BI will need to give attention to the final settlement needs of the market, as well as clearly distinguish between the access to settlement account only and access to central bank credit and settlement account.

Central Bank Responsibilities (CBRs) A-D

21. **BIs payment systems objectives are clearly documented and publicly disclosed via the website and communication with the National Payment System Communication Forum.** There is scope for broadening and deepening BI’s communication with key stakeholders in the payment system. Such communication should incorporate the explicit pronouncement of the direction being taken at national level to achieve the objectives identified in the blueprint. The revision of the blueprint provides a good opportunity for BI to strengthen consultation with banks and other stakeholders. BI has defined its payment system oversight narrowly and focuses on overseeing only the systems it operates with an operator’s perspective. Rapid developments of the financial system will likely raise the profile of a number of systems and it is important for BI to anticipate pressure on the oversight function by ensuring adequate resources both in terms of staff levels and skills. BI cooperates with other central banks in the region and also gets technical assistance from other central banks. Cooperation with domestic authorities and regulators could be improved and structured by signing formal MOUs and creating joint working groups, when appropriate. This applies to cooperation with other functions of BI (e.g. the Bank Supervision Department) and other external authorities and regulators (e.g. Bapepam, and the telecommunications regulatory authority).

Table 1 Summary Observance of the CPSIPS and Central Bank Responsibilities in Applying the CPs—ROSCs

Core Principle/Responsibility	Comments
Legal foundation	

<p>CP I – The system should have a well-founded legal basis under all relevant jurisdictions</p>	<p>The legal foundation generally provides a basis for the development of payment systems in Indonesia. It consists of various statutes, regulations, agreements and circular letters. However, there is no explicit recognition of the practice of “netting” as a legal term even though it is referred to in the rules and circular letters. This aspect needs to be addressed if BI is to fully observe this Principle.</p>
<p>Understand and management of risks</p>	
<p>CP II – The system’s rules and procedures should enable participants to have a clear understanding of the system’s impact on each of the financial risks they incur through participation in it.</p>	<p>System rules and procedures are clear to the participants. The formation of the banking industry By Laws Committee and the dialogue with BI promote understanding of risks and participants’ obligations. The “credit push” feature of the system, prefunding and intraday facility help in ensuring flow of payments within the system. However, the lack of a hybrid feature in the system design might mean liquidity is not being optimized and can lead to queue build up.</p>
<p>CP III – The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.</p>	<p>See comments under CP II above. In addition, credit risk in the system is minimized by system design, use of collateralized intraday credit facilities, throughput guidelines and queue management system.</p>
<p>Settlement</p>	
<p>CP IV – The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.</p>	<p>Participants understand when finality takes place and system operating hours are followed as far as possible. However, items can be discarded from the queue at the end of the day if funding capacity (cash or collateral sufficient for central bank overnight repo lending) is lacking. While this has implications for payment system effectiveness, especially for the certainty of cash settlement in the secondary market for government securities, for RTGS purposes, this CP is observed.</p>
<p>CP V – A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation</p>	<p>Not Applicable</p>
<p>CP VI – Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.</p>	<p>BI-RTGS settles in central bank money. A collateralized intraday credit facility is in place to ensure smooth flow of payments in the system.</p>
<p>Operational reliability and efficiency</p>	
<p>CP VII – The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing</p>	<p>The technologies supporting the current RTGS application have been superseded. System availability is very good although SLAs could be strengthened. Telecommunications support appears to be generally sufficient although continuing attention is needed</p>

	regarding connectivity in outlying areas. It is crucial that BI migrate to the new second generation RTGS (and SSSS) platform in 2011 as planned in order to further strengthen reliability and security as well as maintain observance of this CP in future. The number and skills of technical staff need to be evaluated in preparation for this migration.
CP VIII – The system should provide a means of making payments, which is practical for its users and efficient for the economy.	While the current system design generally supports the financial efficiency needs of the payment system, the second generation hybrid design will improve it. In addition, there are opportunities, including benchmarking, to ensure that cost efficiency meets needs and expectations.
Access and governance	
CP IX – The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.	Clear, explicit, well documented access criteria are needed. The criteria should take into account the BI's broader plans as envisaged in the new RTGS and SSSS systems and the final settlement needs of the financial markets.
CP X – The system's governance arrangements should be effective, accountable and transparent.	Separation of duties especially between operations and oversight, and collaborative engagement with RTGS stakeholders provide a good governance foundation. Going forward there may be opportunities to strengthen further the oversight of securities settlement and the proactive role of BI as an overseer.
Central bank responsibilities	
Responsibility A – The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.	The development of objectives and plans could benefit from the addition of some "top down" consultation as well as from a payment system research agenda.
Responsibility B – The central bank should ensure that the systems it operates comply with the core principles	The BI oversight function is carried out on the RTGS system, which BI recognizes as the only SIPS in Indonesia currently. Placement of responsibility for BI-SSSS oversight is not clear, although there are plans to have the BI-SSSS under the ambit of the Payment Systems Unit. BI has subjected itself to four self assessments since 2005; two of these were peer reviewed.
Responsibility C – The central bank should oversee observance with the core principles by systems it does not operate and it should have the ability to carry out this oversight.	Oversight is carried out on the BI RTGS. However, there is no formal oversight on other settlement systems, with the potential of being systemically important or of a system-wide importance.
Responsibility D – The central bank, in promoting payment system safety and efficiency through the core principles, should cooperate with other central banks and with any other relevant domestic or foreign authorities.	BI cooperates with other central banks in the region and is currently getting technical assistance from the Bundesbank. BI follows international practices in payment systems and liaises with international bodies on payment systems. The prospective link with the HK dollar clearing system is a useful case study of cooperation with the community of concerned central banks under the CPSS cooperative oversight framework. Scope

	remains for increasing domestic cooperation with other regulatory authorities.
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Recommended Actions and Authorities Response

Table 2 Recommended Actions to Improve Observance of the CPSIPS and Central Bank Responsibilities in Applying the CPs—BI-RTGS

<i>Reference principle</i>	<i>Recommended action</i>
Legal foundation <i>CP I</i>	Consider enacting specific law to govern payment systems operations and taking steps to explicitly recognize netting as a legal process.
Criteria for participation <i>CP IX</i>	Consider introducing clear documented access criteria based on specific indicators, for both direct and indirect participants.
Governance of the payment system <i>CP X</i>	Consider setting up BI-RTGS User Group to encourage dialogue on system specific issues. Extend oversight activities to RTGS participants and broaden communications with stakeholders.
Central Bank Responsibilities in applying the CPs <i>Responsibilities B,C,D</i>	Consider measures to meet full compliance for all CPs. Widen scope of oversight and strengthen activities through formal arrangements. Improve and structure cooperation with other domestic authorities and regulators by signing formal MOUs and creating joint working groups, where appropriate. This applies to cooperation with other functions of BI (e.g. the Bank Supervision Department) and other external authorities and regulators (e.g. Bapepam, and the telecommunications regulatory authority).

Authorities' response

22. **The recommended action on CP I (Legal Foundation) was for authorities to consider enacting a specific law to govern payment systems operations as well as take steps to explicitly recognize netting as a legal process.** BI noted that currently there are regulations in existence governing netting settlement e.g. in BI regulations on national clearing system. While agreeing that it is necessary to have an Act or statute that governs payment and settlement systems, (including netting) BI pointed out that the process of enacting a statute is time consuming and involves many parties.

23. **The recommended action on CP IX (Access and Governance) was for authorities to consider introducing clear, documented access criteria based on specific indicators, for both direct and indirect participants.** BI agreed with this recommendation and advised that access criteria are being reviewed to give clear and explicit indicators.

24. **In response to the recommendation under CP X to set up a BI-RTGS User Group to encourage dialogue on system specific issues, extend oversight activities to RTGS participants as well as broaden communications with stakeholders, BI advised that the operator of BI-RTGS already conducts on site examination of several members as a tool for**

oversight. BI noted that the oversight function needs to extend activities to operational activities of securities settlement system.

25. **With regard to central bank responsibilities (CBRs) in applying the core principles (CBR B, C and D), the recommended actions were for BI to consider employing measures that would help in achieving full observance of all CPs; widening the scope of oversight and strengthening activities through formal arrangements; and lastly, improving the structure and cooperation with other domestic authorities and regulators by signing formal MOUs and creating joint working groups, where appropriate.** This applies to cooperation with other functions of BI (e.g. the Bank Supervision Department) and other external authorities and regulators (e.g. Bapepam, and the telecommunications regulatory authority).

26. **BI fully agrees with taking appropriate measures to ensure full observance of all CPs.** The oversight of the BI-SSSS will commence in 2010 in accordance with the consolidation of BI-RTGS and BI-SSSS under the Payment Systems Directorate. BI further advised that coordination with Banking Supervision Department has been conducted in the form of information exchanges and joint teams in on-site examination. Cooperation with other authorities (Bapepam-LK and Ministry of Information and Communication) will be discussed and followed up.

II. DETAILED ASSESSMENT

Table 3 Summary observance of CPSS Core Principles and Central Bank Responsibilities in applying the CPs—Detailed Assessments

Core Principle/Responsibility	Grading	Comments
Legal foundation		
CP I – The system should have a well-founded legal basis under all relevant jurisdictions	BO	The legal framework is supported by statutes, regulations, agreements and circular letters which provide a basis for BIs involvement in payment systems and for taking the leading role in modernization efforts. There is no explicit recognition of the practice of “netting” in the statutes.
Understand and management of risks		
CP II – The system’s rules and procedures should enable participants to have a clear understanding of the system’s impact on each of the financial risks they incur through participation in it.	O	System rules and procedures are clear to the participants. The formation of the industry By Laws Committee and the dialogue with BI promote understanding of risks and participants’ obligations. The “credit push” feature of the system, prefunding and intraday facility help in ensuring flow of payments within the system. However, the lack of a hybrid feature in the system design might mean liquidity is not being optimized and can lead to queue build up.
CP III – The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.	O	See comments under CP II above.
Settlement		
CP IV – The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.	O	Participants understand when finality takes place. System operating hours are followed. However, items can be discarded from the queue at the end of the day if funding capacity (cash or collateral sufficient for central bank overnight repo lending) is lacking. This has implications for payment system effectiveness, especially for the certainty of cash settlement in the secondary market for government securities.
CP V – A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation	N/A	Not Applicable

CP VI – Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.	O	BI-RTGS settles in central bank money. A collateralized intraday credit facility is in place to smoothen the flow of payments in the system.
Operational reliability and efficiency		
CP VII – The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing	O	The technologies supporting the current RTGS application have been superseded. System availability is very good although SLAs could be strengthened. Telecommunications support appears to be generally sufficient although continuing attention is needed regarding connectivity in outlying areas. It is crucial that BI migrate to the new second generation RTGS (and SSSS) platform in a timely manner to further strengthen reliability and security. The number and skills of technical staff need to be evaluated in preparation for this migration.
CP VIII – The system should provide a means of making payments, which is practical for its users and efficient for the economy.	O	While the current system design generally supports the financial efficiency needs of the payment system, the second generation hybrid design will improve it. In addition, there are opportunities, including benchmarking, to ensure that cost efficiency meets needs and expectations.
Access and governance		
CP IX – The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.	BO	Clear, explicit, well documented access criteria are needed. The criteria should take into account the BI's broader plans as envisaged in the new RTGS and SSSS systems and the final settlement needs of the financial markets.
CP X – The system's governance arrangements should be effective, accountable and transparent.	BO	Separation of duties especially between operations and oversight, and collaborative engagement with RTGS stakeholders provide a good governance foundation. Going forward there may be opportunities to strengthen further the oversight of securities settlement and the proactive role of BI as an overseer.
Central bank responsibilities		
Responsibility A – The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.	O	The development of objectives and plans could benefit from the addition of some "top down" consultation as well as from a payment system research agenda.
Responsibility B – The central bank should ensure that the systems it operates comply with the core principles	BO	The BI oversight function is carried out on the RTGS system, which BI recognizes as the only SIPS in Indonesia currently. Placement of responsibility for BI-SSSS oversight could be clarified. BI has subjected itself to four self assessments since 2005; two of these were

		peer reviewed.
Responsibility C – The central bank should oversee observance with the core principles by systems it does not operate and it should have the ability to carry out this oversight.	PO	Oversight is carried out on the BI RTGS. However, there is no formal oversight on other settlement systems, with the potential of being systemically important or of a system-wide importance.
Responsibility D – The central bank, in promoting payment system safety and efficiency through the core principles, should cooperate with other central banks and with any other relevant domestic or foreign authorities.	BO	BI cooperates with other central banks in the region and is currently getting technical assistance from the Bundesbank. BI follows international practices in payment systems and liaises with international bodies on payment systems. The prospective link with the HK dollar clearing system is a useful case study of cooperation with the community of concerned central banks under the CPSS cooperative oversight framework. Scope remains for increasing domestic cooperation with other regulatory authorities.
<i>Legend:</i> Observed (O) 7 – , Broadly observed (BO) 5 – , Partly observed (PO) 1 – , Not observed (NO) 0 – , Not applicable (N/A) 1 – .		

Table 4 Detailed Assessment of BI-RTGS Observance of the CPSS CPSIPS and the BI Responsibilities in Applying the CPSIPS

CP I - The system should have a well-founded legal basis under all relevant jurisdictions.	
Description	<p><i>General legal framework</i> The Bank Indonesia (BI) Act No.23 of 1999 gives the BI powers to “regulate and safeguard the smoothness of the payment system.” The Elucidation relating to this Act substantiates this by stating that, in order to achieve this objective, the BI has to ensure “an efficient, speedy, safe and robust or capable payment system.” Since the Elucidation is part of law, it can safely be assumed that the BI has a clear mandate to achieve the public key objectives of safety and soundness in the payment system.</p> <p>Article 15 of the Act also explicitly authorizes the BI to: i) implement, and grant approval and license of, the arrangement of the payment system service; ii) require the operator of the payment system service to submit reports on its activities; and iii) determine the use of payment instruments.</p> <p>These explicit provisions are supported by regulations, various circular letters, and agreements between the BI and system participants.</p> <p>Therefore, BI’s involvement in payment systems as operator and overseer is legally provided for.</p> <p>BI’s mandate to issue regulations, circular letters and contractual agreements, is specifically provided for under the Elucidation of Article 15 of the Act which allows BI to regulate on all aspects of the payment systems including imposition of sanctions to enforce its regulations. Article 14 of The BI Regulation Number 10/6/PBI/ 2008 dated February 18, 2008 states that “the provisions for implementation of this Bank Indonesia Regulation shall be stipulated further in Circular Letters of Bank Indonesia”.</p> <p>There are a number of circular letters that have been issued by BI in this regard to regulate the operations and oversight of the BI-RTGS specifically and the payment system in general, and these include the following:</p> <ul style="list-style-type: none"> • Circular Letter No. 10/9/DASP dated March 5, 2008 concerning the principles for operation and oversight of the BI-RTGS System • Circular Letter No.10/10/DASP dated March 5, 2008 addressed to the participants of the BI-RTGS System concerning Protection for Customers • Internal Regulation No. 10/86/Intern dated December 23, 2008 regarding the reorganization of the Accounting and Payment Systems Directorate (DASP). This reorganization included the introduction of good governance principles for the SIPS administrator through the separation of the reporting line for the work unit that handles payment system oversight and the work unit responsible for the operational BI-RTGS system. <p>Through BI’s initiative and encouragement, the Indonesian Bankers’ Association has established a By Laws Committee which promulgates rules of conduct governing the various practices of the banking industry participants in the payment system. The By Laws Committee functions similar to and is evolving towards a self-regulatory organization (SRO) for the payment system.</p> <p><i>Finality</i> BI has designated the BI-RTGS as a systemically important payment system (SIPS) with its operations guided by the CP-SIPS. Under Chapter VI, Article 7 of the Bank Indonesia Regulation Number 10/6/PBI/ 2008, and Circular Letter 10/9/DASP, that states that the</p>

	<p><i>Operation of the BI-RTGS System must have well founded legal basis, among other providing for the following: (...) Finality of settlement” and that the Operator shall guarantee that the BI-RTGS System design is able to provide assurance of the following: a. All transactions processed for Settlement in the BI-RTGS System are final and irrevocable”.</i></p> <p><i>Zero hour rule and insolvency</i> Under Article 1 of the Bankruptcy and Suspension of Obligation for Payment of Debts Act 37/2004, the petition to wind up a bank in the event of insolvency, can only be submitted by BI, who is also the operator of the SIPS. In addition there is also clear exclusion of zero hour rule in the RTGS regulation.</p> <p>Given that participation in RTGS includes non banks whose bankruptcy can only be declared by the courts, the BI therefore has no control over the declaration of bankruptcy of a non bank participant.</p> <p>The new bankruptcy law has however made it clear that if before the declaration of bankruptcy: 1) a fund transfer has been made through a bank or other financial institution, such transfer must be continued (this is to guarantee the legal certainty of the fund transfer to be conducted through the bank); and 2) a security exchange transaction has been conducted on the stock exchange, then such transaction must also be continued.</p> <p><i>Netting</i> Although netting is referred to in the regulations, there is no explicit provision for its recognition.</p> <p>Article 52 of the Bankruptcy Act states that - both the debtor and creditor shall be permitted to make a comparison between the debts and credits, if claims on the debts and credits occurred and the legal action was taken prior to the declaration of bankruptcy being resolved. The practice being referred to here is set-off which may not necessarily be recognized as netting in a court of law.</p> <p><i>Legal basis for electronic transactions</i> The Electronic Information and Transactions Act of 2008 provides the legal basis for the validity and admissibility of electronic evidence for payment transactions in a court of law.</p> <p><i>Enforceability of collateral arrangements</i> The arrangements relating to assets used as collateral in the provision of the intraday credit facility for RTGS operations are clearly stipulated in the regulations and relevant circular letters. Specifically , the following regulations govern the enforceability of arrangements in this regard:</p> <ul style="list-style-type: none"> • Bank Indonesia Regulations 10/29/PBI/2008 and No. 7/24/PBI/2005) for Intraday Liquidity Facility for conventional and sharia banks respectively. • BI Regulations No. 10/26/PBI/2008 and No. 5/3/PBI/2003 for Short Term Funding Facility for conventional and sharia banks <p>In the event of default, the immediate liquidation of assets pledged as collateral in repurchase agreements is guaranteed.</p>
Assessment	Broadly Observed

Comments	<p>The powers of the central bank related to its operating and oversight responsibilities are, as a result of various amendments made over time, scattered throughout pieces of legislation. It would be useful to enact a specific law that governs the national payment system that brings all of these powers together in a single place.</p> <p>The bilateral agreement between BI as RTGS operator (and SSSS operator) and the system participants appears somewhat duplicative with the requirements contained in the regulations and circular letters. Also, the bi-lateral agreement sometimes refers to “participants” not specifically to the bank signatory, as if it were a general circular letter as opposed to a bi-lateral contract. In the interest of clarity, it may be useful to compress the length of the bi-lateral agreement to the minimum needed to formally accept banks as system participants.</p> <p>In order to eliminate ambiguity and uncertainty, there is need to explicitly recognize netting as a legal process. Set-off may not be recognized as netting, depending on the circumstances.</p>
CP II - The system’s rules and procedures should enable participants to have a clear understanding of the system’s impact on each of the financial risks they incur through participation in it.	
Description	<p>The rules and procedures for the operations of the BI-RTGS are very clear, written in the official language, Bahasa Indonesia and circulated to all participants. The rules offer clarity on various aspects which include the operations and oversight of the system; consumer protection, features of the system, inter alia. The participants understand the basic design of the system and the need for them to ensure that transactions continuously flow through the system to avoid gridlock.</p> <p>The participants are generally aware of their rights and obligations and those of the BI as system operator. In order to ensure better understanding of their rights, obligations and collectively assist in understanding the rules and managing risks, the Bankers Association has, at the initiation of BI, set up a By Laws Committee that acts as a conduit between the BI as operator and the participants. This Committee promotes dialogue amongst members and self regulates to complement BI’s regulatory efforts.</p> <p>BI provides training to all new participants and responds positively to any requests for refresher training that may be required by participants. Proactively, BI as operator also monitors the system for any red flags that may indicate training needs for participants. For example, a high rate of error messages recorded by a participant may be a sign of labor turnover which has to be addressed through training.</p> <p>In providing intraday credit facilities to the system participants, BI follows its mandate as stipulated in the BI Act and specific provisions of the Intraday Liquidity Regulations and Circular Letters. The provision of this facility is also underpinned by the written contractual agreement that each of the participants has with BI.</p> <p>There are no netting arrangements in BI-RTGS; hence the credit risk is reduced in comparison to a system operating on an unprotected deferred net settlement basis. Participants are required to prefund their RTGS settlement accounts in order to meet obligations arising from the cheque clearing and other retail payments streams.</p> <p>The petition to wind up a bank in the event of insolvency can only be submitted by BI, who is also the operator of the SIPS. Hence in the event of insolvency of a bank participant BI would be in a position to manage the exclusion of the participant in a manner that minimizes the systemic contagion.</p>
Assessment	Observed
Comments	
CP III - The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which	

provide appropriate incentives to manage and contain those risks.	
Description	<p>BI-RTGS is a pure gross settlement system without any liquidity saving mechanisms. Participants are required to pre-fund their settlement accounts in an amount that reflects their likely payment needs. For the clearing obligations settled through this system, the pre-funding amount is based on the largest net debit check clearing position incurred by a bank over a rolling twelve month period. All transactions <u>accepted</u> in the BI-RTGS system are transferred with finality, to the receiver on a –credit push” basis and do not pose any liquidity or credit risk for the receiver. The BI as system operator has credit risk to manage in that it allows senders to originate transactions using collateralized intra-day credit; in the event that intra-day credit is not repaid by the end of the day, the intra-day credit extension is automatically converted to an overnight repo.</p> <p>The system has a –ifst-in-first-out” queue management facility that handles payments that cannot be processed immediately because the sender does not have sufficient cash or collateralized credit capacity at the central bank.</p> <p>Re-sequencing of queuing transactions assigned normal level can be performed by the participant. Participants are able to monitor their transfers sent and received in real-time during the course of the day using the system terminals provided as part of the BI-RTGS service. Participants can only see and manage their outgoing payments in the queue. The facility for resolving gridlock is triggered every 30 minutes, based on specific queuing parameters which include queuing time and total value of transaction pending.</p> <p>In addition, BI-RTGS provides time-of-day pricing incentives to encourage participants to originate transfers early in the operating day and enhance the smooth flow of payments. Current morning session fee (starting from 07.00 until 15.00) is Rp 7,000.00 whilst afternoon session fee (from 15.01 until cut off time) is Rp 15,000.00 as announced to all participants.</p> <p>BI has also set throughput guidelines as follows:</p> <ul style="list-style-type: none"> • 30 percent of outgoing transactions should be processed by 10:30am • the next 30 percent should be processed between 10:30 hours and 14:30 hours • the remaining 40 percent is apportioned to the remaining window up to about 14:30 hours. <p>At the time BI-RTGS was introduced, BI required all banks to participate in the system. The central bank’s management of its credit risks as system operator has been hampered by the initial policy of requiring all banks to join BI-RTGS as direct participants without explicit regard to their creditworthiness. This position has been relaxed, and current policy allows banks to participate as indirect participants through a correspondent bank relationship. A rigorous credit review is made once a year in collaboration with the banking supervision function.</p>
Assessment	Observed
Comments	<p>BI still faces the difficult –announcement effect” problem whereby a bank’s reputation in the market is damaged as a consequence of a decision by the central bank to exclude it from the RTGS as a result of creditworthiness concerns. It would be desirable for BI to adopt a more intensive and on-going credit review of the participants in collaboration with the banking supervision function, with the goal of anticipating participant credit risk problems. Further, the new policy should provide a policy framework for dealing with banks whose creditworthiness deteriorates, in a manner that takes account of the announcement effects and consequence impact on the effective functioning of the financial system; this policy should also be developed in close cooperation with the banking supervision function.</p>
CP IV - The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.	
Description	<p>BI-RTGS provides final settlement in real-time. Extensions to the regular operating hours are a rarity.</p> <p>The rules are clear regarding the acceptance of payments into the RTGS processing stream and about the point at which finality occurs -when the participants’ accounts held at the</p>

	<p>central bank are debited and credited for a specific transfer. Once this happens the transaction is considered final and cannot be revoked. This moment of finality is clearly defined in the regulations and circular letters relevant to the operations of the RTGS system.</p> <p>Transactions held in a queue do not constitute settled transactions and this position is clearly understood by the system participants. Queued transactions can be settled eventually; removed from the queue by the sender; reordered or consequently discarded from the system at the end of the day due to liquidity deficiencies in the system. As indicated in CP III there is a queue management mechanism in place that allows participants to manage their queues in the most efficient manner.</p> <p>Transactions remaining in the queue at the end of the day are automatically removed to allow the system to close. There is no back valuing of transactions in the system. Participants have to ensure that they clear any negative balances in the Settlement Account of BI-RTGS before system cut off time. A participant in violation of this requirement is automatically suspended from the system and the suspension advised to the rest of the members. The system operating hours are adhered to as defined in the Regulations and operational manual. Any interruptions to the schedule due to operational/ maintenance exceptions are communicated to the participants in a timely fashion through administrative message function in the system.</p>
Assessment	Observed
Comments	Liquidity saving mechanisms in RTGS system designs can contribute to greater efficiency in RTGS operations. Discarded payments can lead to failed settlements in the BI-SSSS (the failure rate for securities transactions is understood to be 2-4 percent) and ultimately impacts on bank customers.
CP V - A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.	
Description	BI-RTGS is a gross settlement system operating on a real-time basis.
Assessment	Not Applicable
Comments	-
CP VI - Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.	
Description	BI-RTGS transfers are final transfers in central bank money. BI provides intra-day credit facilities to system participants, allowing them to increase their capacity to make transfers in central bank money by pledging acceptable collateral.
Assessment	Observed
Comments	-
CP VII - The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.	
Description	<p>BI-RTGS is classified as a mission critical application by the central bank. A dedicated team of IT staff are assigned to the RTGS system. Formal policies and procedures are in place covering business continuity and security. There is a formal capacity plan, and the IT function has executed a service level agreement (SLA) with the business application owners.</p> <p>The RTGS application is provided by a Singapore-based vendor (BCSIS) with level-one troubleshooting support provided by the vendor's partner in Jakarta, Braweda. Main production takes place at BI headquarters in Jakarta and a disaster recovery (DR) site is located approximately 40 kilometers from Jakarta. RTGS data are replicated at the DR site, which is supported by a small number of full-time staff. The BI takes responsibility for providing end-to-end network connectivity to all RTGS participants (the bank participants are connected through a dedicated SNA network, while BI branches are connected through the central bank's intranet). Network connectivity consists of leased communications lines with dial back-up. At the request of some high volume participants, two leased lines have been provisioned.</p>

	<p>Business continuity and disaster recovery are tested in two ways: by moving production to the DR site for a three day period once each year and in weekend tests involving up to twenty bank participants several times each year. The time to recovery committed to in the SLA is 2 hours, and the historical availability of the system is 99.97 percent.</p> <p>In general, the applied technologies supporting the current RTGS application are legacy technologies that have been replaced in the marketplace (for example, IP as the network protocol). Moreover, some of the processes on which BI relies to ensure high reliability and security have been replaced by newer methods; a case in point is the authentication method for gaining access to the RTGS application, which in BI's system is based on single-factor (password) authentication, whereas the accepted minimum standard for mission critical and highly secure applications is now two-factor authentication (password plus physical token).</p> <p>Although there is an SLA in place that obliges the IT function to provide agreed to levels of support, the RTGS business function and its IT partner could benefit from a richer description of service levels. For example, in addition to just application level up time of XX.XX percent, the service level contract could include additional indicators such as system responsiveness and performance, and tailored reliability indicators such as up-time for certain high level participants, reliability during critical hours during the day (for example, the settlement window for securities or clearings).</p> <p>The plan to implement a new, second generation system that combines the RTGS and SSSS businesses into one integrated application, at the same time that major upgrades are made to the network and other supporting elements of the IT infrastructure, will require both the business and IT staff to apply new professional knowledge and skills. With respect to IT in particular, there is a question whether the current staff can reasonably be expected to acquire all of the new knowledge and skills required to implement and support the new system given the ambitious implementation schedule. It may be that the IT function needs to import certain professional capabilities through the acquisition of new staff. The BI should give serious attention to its manpower requirements in connection with implementation of the second generation system and ensure that it has the right number and type of staff available to support the transition to and then operation of the new system.</p> <p>Like any network-intensive application, the effectiveness and reliability of BI-RTGS depends critically on a widely available, affordable, and responsive telecommunications infrastructure. Overall, our impression is that Indonesia is well served with telecommunications, although clearly availability in some areas is problematic. The central bank's plans for the RTGS system should give due consideration to technical access issues raised by telecommunications limitations, including the potential for providing service to hard to reach endpoints and the cost implications for individual institutions located in outlying areas and for the system as a whole.</p>
Assessment	Observed
Comments	<p>The general reliance on legacy technologies would be a cause for concern were it not for the BI's plans to implement a new, second generation RTGS in 2011. It is critical that the new application be implemented within the planned timeframe so that BI-RTGS reliability and security are strengthened.</p> <p>The 40 kilometer separation between BI and the DR site is minimally acceptable especially in an environment where there is potential for geographically widespread disruption. Our conversations with BI staff indicate that serious consideration is being given to locating a new DR site at greater distance from the BI. We agree with and encourage serious consideration of more geographically disparate production and back-up processing for BI-RTGS.</p>
CP VIII - The system should provide a means of making payments, which is practical for its users and efficient for the economy.	

Description	<p>The principal reasons for the introduction of BI-RTGS in 2000 related to the need to: i) control settlement risks in the national payment system and at the same time move away from the implicit central bank guarantee of settlement, ii) help unify the payment system across Indonesia, and iii) provide support for the development of financial markets in Indonesia.</p> <p>The RTGS system was therefore launched as part of the national drive to reform the payment system in Indonesia. The key driver then was to address risks inherent in the cheque payment stream which was used as the main system for settlement. The creation of a large value payment stream in the form of BI-RTGS basically introduced an avenue for processing high value high risk items, reduced exposures in the cheque payment stream and substantially addressed the systemic concerns of the central bank that was prepared to pay anything in exchange for systemic risk containment. In pursuing the goal for risk reduction, BI then made it mandatory for all banks to be direct participants in the RTGS system, a position which has since been reviewed to allow for indirect participation.</p> <p>Accordingly, the practicality and efficiency objectives for BI-RTGS were driven by the needs of the national payment system. The central bank judges the cost efficiency of BI-RTGS against these broad national payment system efficiency and effectiveness needs. The system features, including liquidity and risk management issues have been covered in detail under CP II, III, and IV.</p> <p>Currently, the BI aims to recover its fixed costs for operating BI-RTGS but not variable costs. It is estimated that the fixed cost component accounts for approximately 90 percent of total cost.</p> <p>The introduction of BI-RTGS and related policies that allow the use of all cash balances held with BI including required reserves to make payments contribute to the financial efficiency of the payment system. An additional aspect of efficiency is the real cost of providing RTGS services and it is important to take account of these types of costs as well in gauging the overall efficiency of an RTGS. In addition, maintaining a high level of operational performance is important to the efficiency of the financial system. BI is currently achieving the right balance between cost of operation and levels of operational performance.</p>
Assessment	Observed
Comments	Generally, participants interviewed were satisfied with the service level of BI-RTGS.
CP IX - The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.	
Description	<p>It would appear that explicit, documented criteria (based on indicators such as risk, capital ratios or other) for gaining access to BI-RTGS do not exist. Commercial banks are eligible for settlement accounts and intra-day credit. Nonbanks are eligible to hold settlement accounts only, as a credit risk management measure. Access is either direct or indirect through correspondent banks. Participants can be suspended for violations or if there is a change in their creditworthiness.</p> <p>The Regulation outlines the following as conditions that a prospective direct and indirect participant must fulfill:</p> <ul style="list-style-type: none"> • Hold a demand deposit account at BI • Provide hardware for RTGS system • Sign an agreement with BI-RTGS operator • For non –banks eligibility will also be based on assessment conducted by the operator • Indirect participant to sign agreement with direct participant <p>Clearly the above are stipulations within the Regulations which participants have to comply with.</p> <p>Limiting RTGS access solely to commercial banks is increasingly becoming an exception</p>

	<p>among central banks. Providing access to a central bank account, funds transfer and other services to nonbank financial institutions is consistent with national policies intended to strengthen the financial markets. Also, providing access to specialized risk management organizations through which settlement in important markets that give rise to large transactions, including the securities and derivatives markets, can contribute to the stability of the financial system. At this stage in the evolution of Indonesia's financial markets, it is desirable that the central bank analyze the implications of broader access to central bank services, including RTGS for the effective and safe functioning of the financial system. This analysis would appropriately consider whether access should include accounts only or accounts and central bank credit, and give particular attention to the final settlement needs of the financial markets through the settlement and risk management organizations on which those markets rely.</p>
Assessment	Broadly Observed
Comments	<p>Clear, documented access criteria based on specific indicators should be introduced in order to fully observe this principle.</p> <p>The criteria should distinguish the type of access that BI provides, and the factors that make an organization eligible. The types of access that should be distinguished are for participants with settlement accounts only, or those with settlement accounts and access to central bank credit. These criteria should be consistently and fairly applied and should include detailed provisions for the exclusion of participants.</p>
CP X – The system's governance arrangements should be effective, accountable and transparent.	
Description	<p>BI-RTGS is owned and operated by the central bank through the Payment Systems Unit of the DASP Directorate. DASP Directorate is responsible for decisions that affect the day to day operations, including customer support services. By virtue of the fact that DASP is a Directorate within BI, it is bound by BI's statutory provisions, and any procedures governing the operations of the RTGS system therefore, have to be in line with the broader policies of BI as formulated by the Board of Governors.</p> <p>There is a clear separation of duties between the RTGS operations function and the payment system oversight function under the DAPS Directorate. BI is also a participant in the system through its various operating departments and, as such, is required to follow operating rules and circular letters analogous to those followed by private sector participants.</p> <p>Like other functional units within BI, the system's operations are subjected to internal audit every year.</p> <p>There is transparency in the administration of the system. Documentation pertaining to the operations of the system is readily available and posted on the website of BI.</p> <p>The BI oversight function concentrates its attention on the BI-RTGS operator but not beyond the operator to the participants in the system. While the operator currently does not formally oversee the participants, it is important that large RTGS participants in particular do not fall outside the ambit of central bank oversight, and the BI oversight function should assess the need for a more formal delineation of responsibilities.</p> <p>There appears to be scope for bolstering communications with payment system participants, key infrastructure providers, and financial regulators. This is particularly the case as BI moves toward major changes in BI-RTGS such as the second generation system scheduled for implementation in 2011.</p>
Assessment	Broadly Observed
Comments	<p>Our sense is that consultation with the industry has to date focused primarily on technical change. It is equally if not more important that the industry be engaged on changes to business functions as well.</p> <p>In order to fully observe this principle, oversight of the BI-RTGS should be extended to</p>

	<p>participants and communication with stakeholders broadened and deepened. The revision of the blueprint provides a good opportunity for enhanced communication.</p> <p>It may be prudent establish a specific BI-RTGS User Group as a means of encouraging dialogue amongst users on specific user issues. Membership of this Group would be confined to business and technical operatives.</p>
Central Bank Responsibilities in applying the CPSIPS	
Responsibility A – The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.	
Description	<p>The Bank Indonesia (BI) Act No.23 of 1999 gives the BI powers to “regulate and safeguard the smoothness of the payment system.” The Elucidation relating to this Act further requires BI to ensure “an efficient, speedy, safe and robust or capable payment system”. Drawing from this mandate, BI has clearly defined its objectives and publicly disclosed its role and major policies in SIPS. This disclosure is evidenced by the relevant regulations, rules, circular letters that have been issued by BI and made available to the public through the website.</p> <p>BI created a payment system blueprint in 1995 and revised it in 2004. This and other information on the payment system is also publicly available on the web. Consultative mechanisms are in place with major financial sector stakeholders.</p> <p>Central bank activities related to the payment system often include a research agenda and sponsorship of conferences and symposia on payment system issues. The type of research agenda is often supported by the central bank’s research economists.</p>
Assessment	Observed
Comments	<p>BI’s approach to leading change in the payment system appears to be heavily a “bottom s up” engagement with the financial industry and with the industry itself to creating the momentum for change. Discussions with banking industry representatives suggest that BI staff regularly serve on the working groups of the By Laws Committee and that BI lodges providing ideas regarding improvements. However, it may be desirable for BI to consider whether a more proactive oversight role is desirable when pressing changes are identified, and whether senior level engagement with financial industry leaders should become a regular part of the communications program.</p> <p>BI may wish to consider the benefits of investing in payment system research in order to raise public awareness of the importance of payment system development, and as a means of acquiring as much outside input as possible from various communities that could contribute to public policy development, including supply-side participants and their trade associations, consumer groups, and the academic community.</p>
Responsibility B – The central bank should ensure that the systems it operates comply with the core principles.	
Description	<p>The BI oversight function has subjected itself and the RTGS to four self assessments since 2005 and two of these were given peer review by the HKMA and RBA. The BI’s attention to its oversight responsibilities and benchmarking to best practice through self assessments is commendable.</p> <p>The Payment Systems unit oversees the operations of the RTGS as an ongoing activity.</p>
Assessment	Broadly Observed
Comments	In order to observe the issues relating to CPs not fully observed should be addressed.
Responsibility C – The central bank should oversee observance with the core principles by systems it does not operate and it should have the ability to carry out this oversight.	
Description	<p>BI has defined the scope of its oversight under the core principles narrowly, including only BI-RTGS in the ambit of its formal payment system oversight under the core principles.</p> <p>The rapid development of the Indonesian financial system will raise the profile of a number of payment and securities settlement systems. It is important that the BI oversight function anticipate the expanding role of clearing and settlement systems in addition to the BI-RTGS</p>

	and adjust the scope of its oversight interest accordingly. In this regard, the BI oversight function needs to ensure that it has the appropriate types and amount of skills necessary to perform an expanded set of responsibilities.
Assessment	Partly Observed
Comments	In order to fully observe this principle BI needs to widen the scope of its oversight and strengthen its activities through formal arrangements for oversight.
Responsibility D – The central bank, in promoting payment system safety and efficiency through the core principles, should cooperate with other central banks and with any other relevant domestic or foreign authorities.	
Description	<p>The BI cooperates with other central banks in the region. It has also sought technical assistance from other central banks. As operational linkages are established between the Indonesian and other national or international payment systems, the BI oversight function needs to ensure that it is well positioned to exercise its oversight responsibilities vis-à-vis these systems. A current example is that which is planned with the HK dollar clearing system for the PVP settlement of IRD/USD foreign exchange transactions. In this case, the BI's cooperative oversight would include advanced consultations with the central bank of issue for the foreign currency in question (the Federal Reserve System), and formal agreement with the HKMA on the BI's participation in cooperative central bank oversight of the privately operated settlement system in question.</p> <p>Cooperation with other regulatory authorities is informal and not structured.</p>
Assessment	Broadly Observed
Comments	Cooperation with other domestic authorities and regulators could be improved and structured by signing formal MOUs and creating joint working groups, when appropriate. This applies to cooperation with other functions of BI (e.g. the Bank Supervision Department) and other external authorities and regulators (e.g. Bapepam, and the telecommunications regulatory authority).