# 14th ASEAN+3 Bond Market Forum (ABMF) Meeting
6-7 November 2013, Jeju, Korea

<table>
<thead>
<tr>
<th>DATE &amp; TIME</th>
<th>PROGRAM</th>
</tr>
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<tbody>
<tr>
<td><strong>6 NOV 2013</strong></td>
<td><strong>DAY 1: Sub-Forum 1 (SF1)</strong></td>
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<tr>
<td>08:30 – 09:00</td>
<td>Registration</td>
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<tr>
<td>09:00 – 09:10</td>
<td><strong>Welcoming Remarks</strong> Mr. Kyung-Dong Kim, Chairman &amp; CEO, KSD</td>
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<tr>
<td>09:10 – 09:30</td>
<td><strong>Key Note Speech</strong> Mr. Sung-Soo Eun, Deputy Minister for International Affairs, MOSF</td>
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</table>
| 09:30 – 09:40 | *Opening Remarks* by Mr. Shunzo Kayanuma, SF1 Chair  
*Reporting and Key messages to ABMF* by JMOF |
| 09:40 – 10:40 | **Session 1: Review of Phase 1 SF1 Report (I)**  
– Progress reporting (ADB secretariat, Prof. Inukai)  
– Progress in ADRB (Barclays and TSE) |
| 10:40 – 11:00 | Coffee break |
| 11:00 – 12:00 | **Session 2: Review of Phase 1 SF1 Report (II)**  
– Q and A |
| 12:00 – 13:30 | **Lunch** *(Venue: Omi Market Grill, R Floor, Hyatt Regency Jeju)* |
| 13:30 – 14:30 | **Session 2-2 (Optional Session): Progress and Issues in AMBIF (III)**  
– Q and A  
*This session is optional depending on the remaining issues to discuss on AMBIF. If no issues left, then the Session will not be held* |
| 14:30 – 15:50 | **Session 3: Discussion on AMBIF Information Platform (IP)**  
– Update on the proposal on AMBIF IP (KCMI)  
– Regulatory process and information flows of Malaysia (CIMB and BPAM)  
– Regulatory process and information flows of Thailand (Thai BMA)  
– Q and A  
(In case of the Session 2-2 is not being held) |
| 15:50 – 16:10 | Coffee break  
(In case of the Session 2-2 is not being held) |
| 16:10 – 17:40 | **Session 4 (Special Session): Bond markets of Korea**  
– Bond transactions through exchange (KRX)  
– Development and prospects of OTC market (KOFIA)  
– Book entry system and depository system (KSD)  
– Bond market system and IT of Korea (KOSCOM)  
– Auction system for government bonds (BOK)  
– Local currency trade settlement (KCMI and Wooribank)  
– Q and A  
(In case of the Session 2-2 is not being held) |
| 17:40 – 18:00 | **Session 5: Work Plan and other issues of SF1**  
– Work plan and other issues (ADB secretariat)  
– Q and A  
(In case of the Session 2-2 is not being held) |
| 18:00 – 18:10 | **Wrap up** by ADB Secretariat  
(In case of the Session 2-2 is not being held) |
| 18:10 – 18:20 | **Closing Remarks** by Mr. Shunzo Kayanuma, SF1 Chair  
(In case of the Session 2-2 is not being held) |
<table>
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<tr>
<th>DATE &amp; TIME</th>
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| 19:50 ~     | Dinner *(Venue: Regency Ballroom, R Floor, Hyatt Regency Jeju)*  
| 18:50 ~     | *(In case of the Session 2-2 is not being held)* |
| 7 NOV 2013  | DAY 2: Sub-Forum 2 (SF2) |

| 08:30 ~ 09:00 | Registration |

| 09:00 ~ 09:10 | Opening Remarks by Mr. Jong Hyung Lee, SF2 Chair |

| 09:10 ~ 10:20 | Session 6: Progress and Issues of SF2 (I)  
|               | – Progress and reports of SF2 (ADB secretariat, Dr. Inui)  
|               | – CSIF and SF2 (ADB secretariat, Mr. Kawai) |

| 10:20 ~ 10:40 | Coffee break |

| 10:40 ~ 12:00 | Session 7: Progress and Issues of SF2 (II)  
|               | – Q and A |

| 12:00 ~ 13:30 | Lunch *(Venue: Omi Market Grill, R Floor, Hyatt Regency Jeju)* |

| 13:30 ~ 14:40 | Session 8 (Information session): Cross-border collateral services  
|               | – Issues and experiences of Europe (OREI, ADB)  
|               | – Challenges in developing Cross border collateral in the region (SMBC and others)  
|               | – Q and A |

| 14:40 ~ 15:10 | Session 9 (Information session): Securities numbering and assignment of ISIN  
|               | – Role and function of ANNA and ISIN (Clearstream)  
|               | – The experience of Japan on securities numbering (JASDEC)  
|               | – Q and A |

| 15:10 ~ 15:30 | Coffee break |

| 15:30 ~ 16:20 | Session 10 (Information session): Discussion on T2S  
|               | – Discussion on T2S and implications for Asia (ECB)  
|               | – Q and A |

| 16:20 ~ 16:40 | Session 11: Work Plan and other issues of SF2  
|               | – Work plan and other issues (ADB secretariat)  
|               | – Q and A |

| 16:40 ~ 16:50 | Wrap up by ADB Secretariat |

| 16:50 ~ 17:00 | Closing Remarks by Mr. Jong Hyung Lee, SF2 Chair |
1. **Agenda**

   1. Updating Phase 2 Report of ABMF SF2
      A) Preliminary draft of Part 1
      B) Draft of Part 2 (country reports)
      C) Final draft of Part 3 (charts and diagrams)

   2. Work Items of Phase 3 Activities
      A) Work on Harmonizing Message Flows
      B) Work on Standardizing Message Items & Numbering
         - Standardization of message items
         - Standardization of securities numbering (ISIN)
      C) Study on Cross-border Collateral and Repo Services

   3. Other Issues
      A) Transaction flows of AMBIF
      B) BCLM Knowledge Support
1. Phase 2 Report of ABMF SF2

Phase 2 report consists of three parts, Part 1, Part 2, and Part 3.

Part 1: Overview of bond markets and infrastructures in ASEAN+3

- Update Part 1 of Phase 1 report based on the Interim Report submitted to ABMI TF3 in April 2013 adding Phase 2 activities of ABMF SF2
- Preliminary draft is uploaded to the ABMF site

Part 2: Bond markets and infrastructures of 14 economies in the region.

- Adding Phase 2 activities such as corporate bond transactions and interest/redemption flows to Phase 1 report.
- Comments for the preliminary draft are reflected.

Part 3: Bond market diagrams and flows based on the templates of ABMF SF2.

- Almost fixed.
### Work Schedule of Phase 2 Report

<table>
<thead>
<tr>
<th>Month</th>
<th>Overall</th>
<th>Part 1</th>
<th>Part 2</th>
<th>Part 3</th>
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<tbody>
<tr>
<td>July</td>
<td>Draft report</td>
<td>Tab. of cont.</td>
<td>Draft Part 2</td>
<td>Final draft</td>
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<td>Aug.</td>
<td>Final draft</td>
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<td>Final draft</td>
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### Phase 3 Activities (for members’ discussion)

**Purpose of harmonization:** to enhance cross-border STP in ASEAN+3
2. Work Items of Phase 3 Activities

A) Harmonizing Message Flows

1. Develop a reference model of DVP flow of ASEAN+3 bond settlement by harmonizing message (DVP) flows
   - Bond settlement flows for both government and corporate bonds are expected to be harmonized based on consistent basic conditions

2. Each market infrastructure owner and operator is expected to follow the Model when re-constructing the infrastructure in the future.

2. Work Items of Phase 3 Activities

A) Harmonizing Message Flows

- **Goal of SF2**: Harmonization of Message Flows
  - Enhance cross-border STP
  - **Ph3 Activity**: Develop Model DVP Flow

- **Harmonization of Message Flows**
  - a. Basic Conditions
  - b. Key Elements
  - c. Points to be considered
Draft of reference DVP Flow (a model to start discussions)

1. Settle. Instruction
   - Sell side
     - Broker
     - Matched result
     - Trade Data
     - TS/PTMS
     - Custodian
     - CSD System
     - Correspondent Bank

   - System infrastructures
     - Trade
     - Post Trade Matching
     - Add SSI

   - Buy side
     - Broker
     - Matched result

   - Custodian
   - Matched result
   - 5a Matched result

   - Matched result
   - 4 Pre-settlement Matching

5b. Matched result

6. Matched result

7. Lock seller’s Bond
   - CSD System
   - 14. Bond Settlement

   - 11. Cash Settlement

9b. Cash Settlement inst.

10. Affirmation

11. Cash Settlement

12b. Cash Settlement Confirmation

Draft of reference DVP Flow (an alternative model)

1. Settle. Instruction
   - Sell side
     - Broker
     - Matched result
     - Trade Data
     - TS/PTMS
     - Custodian
     - CSD System
     - Correspondent Bank

   - System infrastructures
     - Trade
     - Post Trade Matching
     - Add SSI

   - Buy side
     - Broker
     - Matched result

   - Custodian
   - Matched result
   - 5a Matched result

   - Matched result
   - 4 Pre-settlement Matching

5b. Matched result

6. Matched result

7. Lock seller’s Bond
   - CSD System
   - 14. Bond Settlement

   - 11. Cash Settlement

9b. Cash Settlement inst.

10. Affirmation

11. Cash Settlement

12b. Cash Settlement Confirmation
Basic conditions to harmonize message flows

1. Real time gross settlement is to be used for both bond settlement and cash settlement.
2. DVP (delivery versus payment) is to be secured.
3. Central bank money is to be used for cash settlement.
4. Data are to be transferred from upstream infrastructure to downstream infrastructure where and when possible.
5. Quality of data transferred and processed is to be confirmed when the data are entered by different party.
6. Results of processes in infrastructures are to be informed to participants appropriately.
Draft of reference DVP Flow

Possible key elements

1. Transferring settlement instruction from upstream system to PSMS
2. Forwarding instruction to sell and buy sides, then affirmed by both sides. Also, enter settle. Instruction when there is no transfer from upstream system
3. Matching method and items
4. Settlement Matching Notice
5. Transferring matched results from PSMS to CSD system
6. Forwarding the result neither sell side nor buy side
7. Locking bond
8. Transferring cash settlement instruction
9. Forwarding the instruction and affirmation from buy side
10. Cash settlement (transfer fund from buy side to sell side)
11. Cash settlement confirmation to sell side and buy side
12. Cash settlement confirmation to CSD system
13. Bond settlement
14. Bond settlement confirmation
## Possible Key elements (message flow)

### A. Messages between Bond market infrastructures (BMIs) and their participants
1. Messages between Bond market infrastructures (BMIs) and their participants
   2. Forwarding Instruction to sell and buy sides, then affirmed by both sides. Also, enter settle. Instruction when there is no transfer from upstream system
   4. Settlement Matching Notice
   6. Forwarding the result neither sell side nor buy side
   8. Transferring cash settlement instruction
   9. Forwarding the instruction and affirmation from buy side.
   11. Cash settlement confirmation to sell side and buy side
   14. Bond settlement confirmation

### B. Messages between BMIs
1. Transferring settlement instruction from upstream system to PSMS
5. Transferring matched results from PSMS to CSD system
12. Cash settlement confirmation to CSD system

### C. Processes in BMIs
3. Matching method and items
7. Locking bond
10. Cash settlement (transfer fund from buy side to sell side)
13. Bond settlement

## Points to be considered of each key element

1. **Transferring settlement instruction from upstream system to PSMS**
   - Direct online linkage between upstream system and PSMS is desired where possible. Whereas, if a broker automates its system and has direct connection with custodians, custodian can enter settlement instructions to PSMS adding necessary information to trade data sent from the broker.

2. **Forwarding Instruction to sell and buy sides, then affirmed by both sides. Also, enter settle. Instruction when there is no transfer from upstream system**
   - Settlement instruction data transferred from upstream infrastructure to the PSMS need to be forwarded to sell side or buy side since the party (broker) which entered the data to PSMS is different for the party (custodian) which is supposed to receive the forwarded data. Message items for settlement instructions need to be standardized.
   - Maximum limit of time to return affirmation to CSD may better be agreed as a market practice. How to return the affirmation including message items need to be harmonized. The practices when data are not correct may also need to be harmonized.
Points to be considered of each key element

3. Matching method and items
   ① Pre-settlement matching for cross-border transactions need to be completed by S-1.
   ② Message items to be pre-matched need to be discussed. Integrity of data matched needs to be guaranteed. Also, adoption of tolerance matching needs to be discussed and harmonized.
   ③ Status control such as matched, unmatched, and mismatched needs to be harmonized.
   ④ Both central matching and local matching for PSMS need to be accepted.
   ⑤ Using post dated transaction of CSD system instead of developing PSMS may need to be discussed.

4. Settlement Matching Notice to sell side and buy side
   ① Message items for settlement matching notice need to be standardized.

Points to be considered of each key element

5. Transferring matched results from PSMS to CSD system
   ① Message items of matched results may need to be standardized when PSMS and CSD are operated in different platform.
   ② Processes such as queuing function and partial settlement when balance of bond in sell side account is insufficient need to be harmonized.

6. Forwarding the result neither sell side nor buy side
   ① Since the participants of PSMS and CSD are same custodians, it may not be necessary to forward matched results transferred from PSMS to either sell side or buy side.

7. Locking bond
   ① Ideal way of DVP settlement is that bond and fund are settled simultaneously. But, when CSD system and RTGS system are operated in different platforms, it is not realistic to settle securities leg and cash leg simultaneously from technological perspective. Therefore, firstly, traded bond needs to be locked (earmarked) by debiting from seller’s account and securing in a neutral account, then transfer fund from buyer’s account to seller’s account.
   ② When locking bond of sell side, legal status such as who owns the bond as well as how it is processed such as blocking and earmarking may need to be discussed and harmonized.
Points to be considered of each key element

8. Transferring cash settlement instruction
   ① Message items of cash settlement transactions from CSD to RTGS need to be standardized. Message items for the settlement instruction need to be standardized.

9. Forwarding the instruction and affirmation from buy side.
   ① Cash settlement instruction transferred from CSD to RTGS need to be forwarded to buy side of participant for affirmation. How to send back affirmation including maximum time limit of affirmation (market practice) needs to be harmonized. Queuing when balance of cash account of buy side is insufficient needs to be provided. Message items for settlement instructions need to be standardized.

10. Cash settlement (transfer fund from buy side to sell side)
    ① Settlement processes when balance is insufficient need to be harmonized.

Points to be considered of each key element

11. Cash settlement confirmation to sell side and buy side
    ① Whether the cash settlement confirmation is necessary or not need to be decided.
    ② Message items for settlement instructions need to be standardized. Latest cash balance need to be included to the message items.

12. Cash settlement confirmation to CSD system
    ① Message items for settlement instructions need to be standardized.

13. Bond settlement
    ① After completing cash settlement, locked bond is to be credited to buy side account. DVP settlement is to become final.

14. Bond settlement confirmation
    ① Completing notice of DVP settlement will be sent to sell side and buy side. Message items for settlement confirmation need to be standardized.
2. Possible Work Items of Phase 3 Activities

B) Work on Standardizing Message Items & Securities Numbering

In order to enhance cross-border interoperability of bond market infrastructures, messages related to the infrastructures including numbering are expected to be compliant with international standard. More specifically, relevant messages in the Model DVP flow will be chosen to be standardized. Also, International Securities Identification Number (ISIN) will be promoted to reduce fails because of wrong securities numbering.

B-1) Standardizing Message Items in order for ISO 20022 migration
B-2) Utilizing ISIN as Unique Numbering and Establishing Common Rules on ISIN for Cross-border STP

B-1) Standardizing Message Items in order for ISO 20022 migration

Each bond market infrastructure is expected to migrate to International standards taking opportunity of reconstructing the systems. In such a case, ISO 20022 may be adopted as a message standard. Essential messages consisting Model DVP flow will be identified. Then, message items composing the messages will be standardized. This standardization of message items will be a good reference for planning ISO 20022 migration. Fit & gap analysis conducted during phase 2 will be fully utilized.
B-1) Work on Standardizing Message Items

A) Settlement instruction messages need to be standardized including message items and communication protocols.
   - Settlement instructions both from upstream infrastructures such as post-trade matching system and trading system as well as the instructions from participants (buy side and sell side) will be discussed.

B) The message informing matching results both from PSMS or CSD to participants (sell side and buy side) as well as from PSMS to CSD (if PSMS and CSD are different entities) needs to be standardized.

C) Cash settlement instructions from buy side to RTGS need to be standardized including message items.

D) Cash settlement confirmation from RTGS to participants (sell side and buy side) will be standardized.

E) Bond settlement confirmation message will be standardized.
Draft of reference DVP Flow (a model to start discussions)

Message types to be discussed

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<th>ISO20022</th>
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<tbody>
<tr>
<td>1. Settlement Instruction</td>
<td>MT541, MT543</td>
<td>sese.023</td>
</tr>
<tr>
<td>3. (Affirmation) Settlement Instruction</td>
<td>MT541, MT543</td>
<td>sese.023</td>
</tr>
<tr>
<td>5. Matched result</td>
<td>MT548</td>
<td>sese.024</td>
</tr>
<tr>
<td>10. Affirmation of Cash Settlement Instruction</td>
<td>MT202</td>
<td>pacs.009</td>
</tr>
<tr>
<td>12. Cash Settlement Confirmation</td>
<td>MT900</td>
<td>camt.054</td>
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<tr>
<td>10. Affirmation of Cash Settlement Instruction</td>
<td>MT202</td>
<td>pacs.009</td>
</tr>
<tr>
<td>15. Bond Settlement Confirmation</td>
<td>MT545, MT547</td>
<td>sese.025</td>
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</table>

Note: possible message types between bond market infrastructures are shown in parentheses.
B-2) Utilizing ISIN as Unique Numbering and Establishing Common Rules on ISIN for Cross-border STP

Key observations of the Interim Report
➢ ISIN is not widely used as a standard in the economies yet.
➢ There remain differences in numbering convention and the period of disseminating the ISIN in the economies. For example, it takes a number of days in some economies.
➢ There are two different ISINs for single domestic securities number in an economy.

Discussions with ANNA and NNAs

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Securities numbering (ISIN: International Securities Identification Number)

<table>
<thead>
<tr>
<th>Country</th>
<th>Securities numbering</th>
<th>Allocation and availability of ISIN</th>
<th>National Numbering Agency (NNA)</th>
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<td>CN</td>
<td>Proprietary</td>
<td>(to be confirmed)</td>
<td>China Securities Regulatory Commission</td>
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<tr>
<td>HK</td>
<td>Partly use ISIN. Mostly proprietary, ISIN and proprietary numbering do not always uniquely match.</td>
<td>(to be confirmed)</td>
<td>Hong Kong Exchanges and Clearing Ltd.</td>
</tr>
<tr>
<td>ID</td>
<td>Partly use ISIN. Mostly proprietary</td>
<td>(to be confirmed)</td>
<td>Indonesian Central Securities Depository (KSEI)</td>
</tr>
<tr>
<td>JP</td>
<td>Currently partly use ISIN. ISIN will be unique securities numbering after 2016</td>
<td>Yes</td>
<td>Tokyo Stock Exchange</td>
</tr>
<tr>
<td>KR</td>
<td>Partly use ISIN. Mostly proprietary</td>
<td>(to be confirmed)</td>
<td>Korea Exchange</td>
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<tr>
<td>MY</td>
<td>Proprietary</td>
<td>(to be confirmed)</td>
<td>Bursa Malaysia</td>
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<tr>
<td>PH</td>
<td>Proprietary</td>
<td>(to be confirmed)</td>
<td>Philippine Stock Exchange, Inc.</td>
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<tr>
<td>SG</td>
<td>ISIN and proprietary numbering do not always uniquely match.</td>
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<td>Singapore Exchange Limited</td>
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<td>TH</td>
<td>ISIN</td>
<td>(to be confirmed)</td>
<td>Thailand Securities Depository</td>
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<tr>
<td>VN</td>
<td>Proprietary</td>
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Note: National Numbering Agency (NNA) should allocate ISIN within 24 hours following the request and making the ISIN available to users at the same time in each economy. Proprietary securities number is generally allocated by each CSD.
C) Discussion on Harmonization of Market Practices

Harmonization of market practices is an important issue to promote cross-border STP in ASEAN+3.

Note: Cooperation with SROs and other related organizations would be explored. Also, best practices proposed by organizations such as ISITC and SMPG may need to be referred and utilized.

D) Study on Cross-border Collateral and Repo Services

Since cross-border collateral and repo are the typical and important services from cross-border STP perspective. Cross-border collateral and repo services currently available in the market and possible future services directly linking bond market infrastructures will be studied.

① Study the current market practices, related legal and regulatory aspects, and infrastructures, with an aim to identifying best practices (and barriers) and providing policy recommendations.

② Cross-border collateral and repo services linking CSD and RTGS systems.
D) Study on Cross-border Collateral and Repo Services

① Study current services
Survey main services provided by private sector and try to find barriers for the services.

② Cross-border collateral and repo services linking CSD and RTGS systems.
- Survey on possible services of cross-border collateral and repo linking FMIs.
- Interest payment flows related to cross-border collateral and repo services linking CSD and RTGS systems will also be studied. Differences of roles and functions of PA will also studied.
Possible Roadmap of phase 3

<table>
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<tr>
<td>Harmonize Message flows</td>
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<tr>
<td>Discuss reference model</td>
<td>Propose reference model</td>
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<tr>
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<tr>
<td>Standardize message items</td>
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<tr>
<td>Discuss message items</td>
<td>Discuss message items</td>
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<tr>
<td>Standardize message items</td>
<td>Standardize message items</td>
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<tr>
<td>Propose basic requirements of G/W</td>
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<td>Discussion with ANNA</td>
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<tr>
<td>Discuss how to disseminate ANNA rule</td>
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<tr>
<td>Develop roadmap</td>
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<tr>
<td>Study cross-border collateral and repo</td>
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<tr>
<td>Survey current services</td>
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<tr>
<td>Identify barriers</td>
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<tr>
<td>Discuss the barriers from cross-border STP perspective</td>
<td>Discuss the barriers from cross-border STP perspective</td>
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<tr>
<td>Propose policy recommendations</td>
<td>Propose policy recommendations</td>
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<td>Compile phase 3 report</td>
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<td>Draft interim report</td>
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Outline of Activities of ABMF-SF2

Implementation of cross-border STP in ASEAN+3

**Phase 1**
1. Survey on bond market infrastructures in ASEAN+3
2. Survey on DVP flows from trade to settlement of government bonds

**Phase 2**
1. Survey on not only government but also corporate bond
2. Add interest payment and redemption flows in addition to DVP flows
3. Conduct fit & gap analyses with the international standard
4. Propose policy recommendation and roadmap

**Phase 3**
1. Harmonize and standardize bond trade and settlement flows and message items in ASEAN+3
2. Survey on cross-border DVP, collateral, and repo
Possible future image of ASEAN+3 bond markets in ASEAN+3

Standardization of bond settlement related messages and items
↓
Implementation cross-border STP
↓
Decrease manual operations (efficiency )
Decrease process time (settlement period)↓
Cost and risk reduction↓
Increase bond trade and settlement transactions↓
Realize thick and liquid bond markets

3. A Transaction flows of AMBIF

1. Typical flows of issuance and subsequent settlement of AMBIF Bond
2. Typical flows of possible cross-border settlement of ABMIF Bond
3. B BCLMV Knowledge Support

- May 2013 KS to Cambodia
- August 2013 KS to Lao PDR
- October 2013 KS to Myanmar
Thank you so much
ASEAN+3

Information on Transaction Flows and Settlement Infrastructures

ASEAN+3 Bond Market Forum Sub-Forum 2 (ABMF SF2)

December 2013

Asian Development Bank
Statement from SF2 Chars

The Chair and Vice-chair express their heartfelt gratitude to members and experts of the ABMF SF2 for their contributions to make this initiative fruitful. The Chair and Vice-chair hope to have the continuous support of the members and experts for this initiative since this report is only the first stage to bring the objectives of ABMF to fruition. The Chair and Vice-chair also express their heartfelt gratitude to ADB Secretariat Team in particular ADB Consultant for ABMF-SF2 and his team for drafting this report.

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Preface

There has been a significant development in bond markets in Asia since the early 2000s. The local currency (LCY) bonds outstanding in emerging East Asia has grown sharply from less than $1.0 trillion at the end of 2001 to $6.5 trillion by the end of 2012. LCY bond markets became an effective alternative source of financing for government and corporations during the recent global financial crisis, with more diversified issuance and broader investors, including non-residents. Regional channeling of regional resources to regional investment needs improved from 2.8% in 2001 to 8.4% in 2011 when measured by the relative share of debt portfolio outflow from the region that was re-invested into the region.

However, there still remain various issues to be addressed in the future: The bond market size is still small with dominance of the banking sector, regional resource channeling should be further enhanced, volatile capital flows should be appropriately managed, and there is a need to improve market efficiency with lower transaction costs by implementing cross-border straight through processing (STP) by harmonizing and standardizing message flows and items as well as streamlining the regulations and market practices.

For more efficient discussion on implementing cross-border STP and streamlining the regulations and market practices, the ASEAN+3 Bond Market Forum (ABMF) was established in 2010 endorsed by the ASEAN+3 Finance Ministers at the 13th ASEAN+3 Finance Ministers’ Meeting on 2 May 2010 in Tashkent, Uzbekistan, as a common platform to foster standardization of market practices and harmonization of regulations relating to cross-border bond transactions in the region.

The members of ABMF, appointed or endorsed by Asian Bond Market Initiative (ABMI) Task Force 3, include regulatory bodies, stock exchanges, depositories, SROs, market associations, international market institutions, and Asian Development Bank (ADB) as the secretariat. ABMF is expected to contribute to the market development being a regional platform to enhance standardization by incorporating both public and private entities.

Since the first meeting in September 2010 in Tokyo, Japan, ABMF members and experts met quarterly: in December 2010 in Manila, Philippines; February 2011 in

The ABMF consisted of two forums: Sub-Forum 1 (SF1) and Sub-Forum 2 (SF2). The objective of SF1 was to close the information gap in regulations, market practices, and other areas in the region's bond markets. SF2 focuses on enhancing regional straight-through-processing (STP) by harmonization of transaction procedures and standardization of messages.

In its first phase of activity during 2010-2011 (Phase1), SF1 worked on collecting legal and regulatory information of the individual ASEAN+3 markets. SF2 worked on identifying detailed bond transaction flows.

As a key output of ABMF Phase1 activity, a comprehensive “ASEAN+3 Bond Market Guide” (the Guide) was published in April 2012, including individual market guides for economies bond markets in ASEAN+3. The Guide consisted of two volumes: Volume 1: Sub-Forum 1 · Comparative Analysis and Bond Market Guides, and Volume 2: Sub-Forum 2 · Information on Transaction Flows and Settlement. The Guide aimed to dispel misunderstanding and misperception persistently existing against ASEAN+3 markets. The Guide was expected to narrow information gaps and establishes a common understanding on how markets in the region operate.

The information and findings gathered during Phase1 became the foundation of the next phase of activity during 2012-2013 (Phase2). In Phase2, SF1 has been working on developing a regionally standardized bond issuance framework called ASEAN+3 Multi-currency Bond Issuance Framework (AMBIF), and SF2 on identifying bond transaction flows enhancing the survey from government bonds to corporate bonds, and also from DVP flows to interest payment and redemption procedures. Based on the survey results, SF2 provided policy recommendations to implement cross-border STP through harmonization and standardization of transaction flows and message items. With continued discussion and consultations, the AMBF members finalized the interim reports for both SF1 and SF2 during the 12th ABMF Meeting on 23-24 April 2013 in
Jakarta, Indonesia, describing key policy recommendations for AMBIF and standardizing bond transaction flows and message items. The interim reports were submitted to the ASEAN+3 Finance Ministers and Central Bank Governors’ Meeting (AFMCGM) on 2 May 2013 through ABMI TF3.

This report titled as “ASEAN+3 Information on Transaction Flows and Settlement Infrastructures” is results of the Phase2 studies of ABMF SF2 enhancing that of Phase1 and consists of three parts. Part 1 provides an overview of the bond markets and their infrastructures in ASEAN+3. Part 2 reports on the bond market related issues of economies in the region. Part 3 contains the bond-market infrastructure diagrams, domestic bond transaction flows, and cross-border bond transaction flows. Contents of the report are as follows:

Overview
Part 1: Bond Markets and Their Infrastructure in ASEAN+3
Part 2: Bond Markets and Their Infrastructures in Each Economy

This report was completed by joint efforts of National Members and Experts, and International Experts participating in the ABMF SF2, supported by the Asian Development Bank (ADB) secretariat team comprising Shinji Kawai (OREI, ADB), Seung Jae Lee (OREI, ADB), and Taiji Inui (ADB consultant).

Thanks also go to the Chair, Jong-Hyung Lee (Korea Securities Depository) and the Vice chairs, Margaret Mutiara Tang (Indonesian Central Depository) and Yuji Sato (Japan Securities Depository Center) for their leadership to facilitate active discussions and guiding SF2 members and the ADB secretariat team.

The members and experts kindly provided inputs by answering to questionnaires and commenting to diagrams during the market visits and thorough review to the draft.

The International Experts very kindly provided input into the report topics and freely shared their requirements and assessments, often from proprietary sources. In addition, the team thanks all interviewees who gave useful comments and responses during the Phase2 market visits. Therefore, the report should be regarded as a crystallization of
regional collaborative efforts and knowledge towards more harmonized and integrated ASEAN+3 bond markets.

Without such strong support and cooperation from the ABMF members and experts, as well as from market experts in the region, the Report could not have been published.

The team also thanks the National Members and Experts of Indonesia, Japan, Republic of Korea, Indonesia, People’s Republic of China, Singapore and Thailand for hosting the ABMF meetings in Phase2. Smooth organization of the meetings made possible the conduct of intensive discussions through multiple sessions at each meeting.

The bond markets and infrastructures are rapidly developing by adopting international standards and principles. However, the efforts for harmonization and standardization of bond markets in the region have just begun. Given large differences in economic and market developments in the region, the task is not easy. The work is inevitably gradual and step-by-step. At the same time, further harmonization and standardization of cross-border STP for bond transaction in the region still seems challenging. There are no obvious low-hanging fruits in such a field. As such, SF2 will continue to commit to add more dynamism through fostering mutual understanding towards more harmonized and standardized bond transaction. This unique regional initiative will create a momentum to push the region towards deeper, more liquid, and integrated bond markets in the future.

ABMF is expected to continue to function as a regional platform to realize and institutionalize regionalism by helping formulate regional views and opinions into a common policy framework.

Finally, it should be noted that no part of the Report represents the official views of any of the institutions, which participated as ABMF Members and Experts, and the ADB team is responsible for the contents of the Report.

ABMF Secretariat Team
Executive Summary
The ASEAN+3 Bond Market Forum (ABMF) was established in September 2010 as a common platform to foster standardization of market practices and harmonization of regulations relating to cross-border bond transactions in the region after being endorsed by the ASEAN+3 Finance Ministers’ Meeting. The ABMF aims to discuss various bond market issues in order to enhance the mobilization of regional savings for regional investments and to improve information flow in the markets. The ABMF consists of two forums: Sub-Forum 1 (SF1) and Sub-Forum 2 (SF2). The objective of SF1 is to close the information gap in regulations, market practices, and other areas in the region’s bond markets. SF2 focuses on enhancing regional straight through processing (STP) by harmonization of transaction procedures and standardization of messages.

The ABMF SF2 members and experts discussed how to enhance regional STP of bond transactions from trade to settlement. The ABMF SF2 conducted a survey on delivery versus payment (DVP) flows and interest payment and redemption flows for government bond and corporate bond.

Based on the survey results, findings on (1) bond market infrastructures, (2) DVP flows, (3) interest payment flows, (4) message standards, (5) numbering and coding, (6) market practices and other issues, and (7) cross-border DVP flows, are summarized in this report. Fit and gap analyses of the DVP flows and interest payment flows were conducted to identify the similarities and differences of the flows aiming at future harmonization in the region. Message format, numbering and coding, and market practices are also discussed for future standardization and harmonization. Some characteristics of cross-border DVP flows such as additional messages to meet FX and cash controls in each economy are identified based on the survey results.

(Observations and Policy Recommendations) Based on the findings, observations and policy recommendations are compiled aiming at fulfilling objectives of ABMF SF2 as follows.

1) Bond Market Infrastructures: Robust and sound bond market infrastructures such as Central Securities Depository (CSD) and Real Time Gross Settlement (RTGS) systems are already implemented in the 10 economies that have already developed bond markets in the

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1 Currently, ASEAN+3 Finance Ministers and Central Bank Governors’ Meeting
2 SF1 is presently focusing on ASEAN+3 Multi-currency Bond Issuance Framework (AMBIF).
3 The 10 economies comprise People’s Republic of China (CN), Hong Kong Special Administrative Region (HK),
region. However, infrastructures for further efficiency and risk reduction purposes such as Pre-Settlement Matching System (PSMS), Central Counterparty (CCP), Trade Repository (TR), and automated Trading System (TS) are not implemented yet in most of the economies. Such infrastructures may be introduced considering a variety of conditions including the level of trade value, trade volume, and number of market participants.

2) **DVP Flows**: Bond trade and settlement (DVP) flows in ASEAN+3 vary economy by economy or even CSD by CSD. The flows for residents are in some cases different from those for non-residents. It is recommended to discuss harmonization of the flows considering the impact to both the infrastructures themselves and participant systems connected with them. Such harmonization could be utilized for defining requirements of interlinking gateways and/or a hub between CSD and/or RTGS systems in the region.

3) **Interest Payment Flows**: Interest payment and redemption flows are also different economy by economy and CSD by CSD. One of key reasons for the different flows lies in the different tax regimes applied. Regarding interest payment flows, it will be difficult to simply standardize them into a single flow since there are so many fundamental differences owing to the different tax regimes such as capturing the tax status of investors and the legal interpretation of tax withholding agent, among others. In our survey, many market participants expected regulators to be able to exempt non-residents from Withholding Tax (WHT).

4) **Message Formats including Numbering and Coding**: Message formats in most economies in ASEAN+3 are not compliant with international standards yet. It is recommended that the message format be made compliant with ISO 20022. ABMF members and ASEAN+3 authorities are expected to support the migration of message standards of bond market infrastructures to ISO 20022. The numbering and coding standards which are already registered as international standards such as ISIN and BIC are recommended to be adopted in ASEAN+3.

5) **Market Practices**: It is recommended that market practices could be
harmonized across ASEAN+3, which could lead to smoother processing of cross-border trade and settlement. Also, it could increase the possibility for cross-border collateral, repo, and DVP to be used more flexibly in the region. Harmonization of market practices might be discussed where possible considering the cost and benefit of implementation in ASEAN+3.

6) **Cross-border STP and LCY Liquidity**: When executing cross-border trade, FX and cash controls have been perceived as one of the key barriers in the region. During the ABMF SF2 market survey, many market participants addressed the need of deregulation of such controls to promote cross-border trade and settlement with improved availability of local currency (LCY). On the other hand, with changing regulatory demand and collateral landscape in recent years, demands for cross-border collateral and cross-border repo services have been increasing worldwide and in the ASEAN+3 economies as well. Under such circumstances, it is recommended that ABMF SF2 would study further about cross-border collateral and repo from technological perspective including current market practices, regulatory aspects and infrastructure. The study could also include linking CSDs in ASEAN+3 aiming at utilizing central bank money.

**(Suggestions for Next Phase of ABMF Activities)** Considering the above observations and policy recommendations, the following are the suggestions ABMF SF2 to tackle as topics of the next phase.

1) **Harmonization of Message Flows**: To discuss best practices of message flows identifying commonalities and differences including underlying requirement of critical messages and to propose reference models of message flows where practical.

2) **Standardization of Messages -- Migration to international Standard**: To adopt ISO 20022 and International Securities Identification Number (ISIN) as standard of ASEAN+3 to promote cross-border trade and settlement.

3) **Harmonization of Market Practices**: To make a plan of the harmonization of market practices where it would be effective and possible.
   - Specific market practices to be discussed will be chosen from the
viewpoint of promoting cross-border STP in ASEAN+3 considering the cost and benefit of standardization.

- Settlement cycles in line with FX spot dates and time period between record date and payment date could be candidates to be studied.

4) **Study on Cross-border Collateral and Repo Services**: To study the current market practices, related legal and regulatory aspects, and infrastructures, with an aim to identifying best practices and providing policy recommendations for the benefit of further development in the cross-border collateral and repo markets.

- The study could also include cross-border collateral and repo services linking CSD and RTGS systems.
- Interest payment flows related to cross-border collateral and repo services linking CSD and RTGS systems could also be studied.

(Roadmap and Work Plan) In relation to the suggested next phase of ABMF activities, ABMF SF2 would like to propose the following roadmap and work plan, subject to the approval by the ABMI TF3 members.

1) **Phase 3 activities (2014-2015)**: Providing proposals for the harmonization of ASEAN+3 bond markets.

- Proposal on a reference model of DVP flows
- Proposal on ISO 20022 adoption of message items
- Proposal on harmonizing market practices, where possible
- Proposal on cross-border collateral and repo services

2) **Medium to Long Term (After 2015)**: Implementation of international standards

- Upgrade or reconstruction of bond market infrastructures in accordance with International standard (ISO 20022) in some of the economies
- Progress in harmonization of market practices such as settlement cycle
- Progress in discussion on linkage of bond market infrastructures in the region.

(Submission of the Report to ABMI TF3) ABMF SF2 would like to submit this
Phase 2 Report to Asian Bond Market Initiative (ABMI) Task Force 3 (TF3) as key findings of SF2. The SF2 members expect that the information and data accumulated through ABMF SF2 activities would be utilized as substantial and practical references in pursuing the harmonization of transaction flows and market practices. ABMF SF2 members hope the suggested recommendations in this report could be a good reference for the policy authorities in designing and implementation bond market policies.

List of Members and Experts including Observers and ADB Secretariat Team are shown in Appendix 1.
Part 1

Bond Markets and Their Infrastructures in ASEAN+3
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1. Introduction

1.1. Purpose of ASEAN +3 Bond Market Forum

The ASEAN+3 Bond Market Forum (ABMF) was established in September 2010 based on the endorsement of the ASEAN+3 Finance Ministers’ Meeting\(^4\) as a common platform to foster standardization of market practices and harmonization of regulations relating to cross-border bond transaction in the region.

The ABMF is expected to discuss various bond market issues to further develop liquid and well-functioning bond markets to make cross-border bond investment and settlement both smoother and cheaper; hence, the region’s abundant savings are channeled more effectively into the region’s increasing investment needs.

The ABMF aims to: (i) assess the existing regulatory frameworks and identify recommendations on how to foster harmonization of regulations and market practices that facilitate cross-border bond transactions in the region; (ii) enhance dialogue between the private sector and ASEAN+3 officials to develop bond markets in the region and promote harmonization, standardization, and integration; and (iii) provide opportunities to exchange knowledge, expertise, and experience between the private and public sectors in the region.

The ABMF took stock of the Group of Experts (GoE) report\(^5\) on Cross-border Bond Transactions and Settlement Issues.

1.2. Organizational Structure and Governance

The ABMF is organized under Task Force 3 (TF3) of the Asian Bond Markets Initiative (ABMI). The ABMF consults with the co-chairs of TF3 occasionally in undertaking any regional activities, and reports to TF3 on a regular basis regarding the progress of its activities. The organizational structure of ABMF is shown as follows.

The ABMF consists of two sub-forums: Sub-Forum 1 (SF1) and Sub-Forum 2

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\(^4\) The Joint Ministerial Statement of the 13th ASEAN+3 Finance Ministers’ Meeting, 2 May 2010, Tashkent, Uzbekistan states that: “We [ASEAN+3 Finance Ministers] took note of the Group of Experts’ findings and suggestions on facilitating cross-border bond transactions and settlement, and welcomed the establishment of the technical working group on Regional Settlement Intermediary (RSI) to further evaluate the policy recommendations. We endorsed the establishment of ASEAN+3 Bond Market Forum (ABMF) as a common platform to foster standardization of market practices and harmonization of regulations relating to cross-border bond transactions in the region.”

The objective of SF1 is to close the information gap in regulations, market practices and other areas in the region’s bond markets. SF2 focuses on enhancing straight through processing (STP) in ASEAN+3. This report is about SF2.

Figure 1.1 Organizational Structure of the ASEAN+3 Bond Market Forum

1.3. Purpose and Position of ASEAN+3 Bond Market Forum Sub-Forum 2

The GoE report identified various settlement barriers related to messaging formats, securities numbering, matching, and settlement cycle. Thus, the ABMF SF2 addresses these problems to enhance regional STP by harmonization of transaction procedures and standardization of messages.

It is desirable to execute cross-border transaction without any manual processes or data conversion among market infrastructures in the region. This ideal
situation can be realized if all transactions are operated through a system using common standards and consistent messaging. This is not currently possible because individual countries have their own practices and standards, which is inevitable because certain transaction procedures follow national requirements to account for unique circumstances. In addition, some segments of a market may prefer ways of handling transactions, which creates differences in transaction procedures, hence, requiring additional conversion to international practices. Furthermore, differences in language remain a significant barrier as some ASEAN+3 countries use their own characters for payment systems and communication. Adopting international standards frameworks such as ISO20022 can mitigate impediments and barriers, which will enhance interoperability in ASEAN+3 bond markets.6

Phase1 studies of ABMF SF2 had mainly discussed business flows by focusing on government bond transactions, which are larger and relatively simpler compared to corporate bond transactions. The studies identified and standardized the procedures in trades and settlements, particularly Delivery versus Payment (DVP) of government bonds. In addition, the ABMF SF2 discussed other settlement-related barriers such as securities numbering, settlement cycles, and matching to improve settlement procedures.

Phase 1 Report is posted on ADB website as follows:

Phase2 studies of ABMF SF2 have succeeded the agenda from GoE report and phase1 studies of SF1. GoE report had pointed out some barriers to promote STP in ASEAN+3 bond markets. Phase2 studies have covered five barriers, which are pointed out by GoE report, messaging format, pre-matching, securities numbering, settlement cycle and physical certificate. Moreover, the studies have treated DVP flows of corporate bond, government bond flows in BCLM7 countries, flows of interest and redemption payment, message format and items, market practices and FX and cash control to implement STP.

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6 The International Standard Organization (ISO) is a worldwide federation of national standards bodies. ISO20022 provides the financial industry with a common platform for the development of messages in a standardized Extensible Markup Language (XML) syntax.

7 Brunei Darussalam, Cambodia, Lao PDR and Myanmar. Bond markets in these countries are under development.
1.3.1. Settlement Barriers Based on the Survey on the GoE Report

The GoE Report pointed out the barriers to implement STP in bond markets in ASEAN+3. Settlement-related barriers, including messaging standards, pre-matching, securities numbering, settlement cycle, and physical certificates, are discussed in the succeeding section of this report. The barriers are shown as follows.

Figure 1.3 Barriers Focused under ABMF

1) Messaging Standards

Messaging standards refer to the use (or non-use) of international standards for
securities messaging in a local market. International standards, such as ISO20022, are regarded as necessary for enabling STP in securities post-trade processing. Where local proprietary practices are implemented, this revealed the need for interface and translation either at the level of the global custodian or the local custodian. This came with associated costs of development and maintenance, as well as greater risk of error. In some cases, the local CSD does not use ISO messaging standards.

2) Trade and Settlement Matching
This refers to the matching of trade details between counterparties. Matching may take two forms: trade matching and settlement matching.

a) Trade matching. Details of the trade are compared between the counterparties to ensure that there is no misunderstanding of the terms of the trade. This should be performed as soon as after the trade is executed, and, in any event, before the end of the business day. With automated trading systems (e.g., exchange systems or electronic OTC systems) matching is done at the time of trade, so there is no need for subsequent trade matching. However, many bond trades are done by telephone.

b) Settlement matching. Details of the agreed trade are compared between the counterparties’ settlement agents (e.g., local custodian) to ensure that all information needed for settlement is in place.

Most markets in ASEAN+3 operate some form of automated matching systems but some do not. The absence of automated matching is likely to lead to increased settlement failures and make it more difficult to shorten the settlement cycle.

3) Securities Numbering
This refers to the use (or non-use) of International Securities Identification Number (ISIN) in accordance with ISO 6166 for securities numbering in a local market. As with securities messaging, non-use of ISIN makes STP more difficult and increases the risk of error. Most ASEAN+3 markets now have established local agencies for issuing and administering ISIN for locally issued securities. The limitations may be as follows:

a) ISINs are not available on the issue date of the bonds, making trading and settlement more difficult.
b) ISINs are not widely used by local market participants.

c) ISINs are not used by local CSDs, instead local securities codes are widely
used.

4) Settlement Cycle
This refers to the number of days between trade date and settlement date. Most
markets operate on a standard settlement cycle. Typically this is trade date plus 1
(T+1) for government bonds, and T+2 or T+3 for corporate bonds (and equities). A
short settlement cycle is better for local market participants, as it reduces
counterparty risk. However, non-resident investors may find it difficult to settle
on T+1 if they or their global custodian are located in a different time zone. For
this reason, such investors look for the ability to negotiate a longer settlement
period (T+2 or T+3 is the favored cycle). Settlement cycle as a market rule in the
region is yet to be established.

5) Physical Certificates
Most bonds today are in dematerialized form held in book-entry at the local
securities depository or central bank system. Some bonds are still in paper
certificate form. The disadvantage of physical certificates are obvious—the need
for manual examination, risk of loss, damage or forgery, and cost of storage.
Typically, these remaining physical bonds are not of great interest to
cross-border investors, and are unlikely to be traded at all. The ideal situation,
clearly, is dematerialization. An intermediate step is to hold physical certificates,
where they exist, in vaults of local securities depository for immobilization.

1.3.2. Outline of Phase 1 Studies by ABMF SF2
The ABMF SF2 has been discussing the survey results from the viewpoint of
enhancing cross-border STP and standardization of the messages.

The following are preliminary conclusions of the Phase 1 studies:

1) **Robust and sound bond infrastructures.** Each market in ASEAN+3 has its own
robust and sound infrastructures. Operational risk associated with the systems
is comparable with those of developed markets.

2) **Listed at exchanges and traded in over-the-counter (OTC) markets.** Bonds are
listed at stock exchanges in many markets; however, these are mostly traded over the phone or through other communication tools by negotiation among brokers and dealers. Bond markets in the region are generally OTC markets. This is common elsewhere since bond trade is mainly quote driven where brokers and dealers need to negotiate the price. In contrast, exchange trade is order-driven where all orders of buyers and sellers can be seen and matched by systems.

3) **Connection between trade system and central securities depository (CSD).** In some markets in ASEAN+3, trade data are directly transmitted to CSD from the trade system to be used for bond settlement, which is efficient and effective from an STP perspective. In order to enhance STP in the region, each market is expected to automate and connect systems between trade system and book-entry system of the CSD.

4) **Cross-border STP.** There are still comparatively small cross-border bond transactions. Almost all trade data are entered in the CSD within the borders of markets. Both trade and book-entry systems are expected to be connected multilaterally to enhance cross-border bond transactions.

5) **Cross-border delivery versus payment (DVP).** In order to enhance cross-border STP in ASEAN+3, increasing liquidity of government bonds and currencies in the region is essential. From this perspective, ABMF SF2 members and experts are expected to further discuss fit-and-gap analysis of cross-border DVP transactions.

6) **Matching.** All markets have a matching at a trade or settlement level, and even at both levels. Some markets adopted central matching and others local matching. In some markets, both central matching and local matching are used. Also, matching with additional features such as reduction of input workloads is implemented. Functions such as input of post-dated transaction for bond settlement book-entry systems and automated pre-settlement matching systems are expected to be implemented since manual pre-matching through facsimile and/or telephone in the region remains to be the mode of matching.

7) **Settlement cycle.** Settlement cycles for local bond transactions in many
markets are already realized at trade date + 1 (T+1), but market practices of cross-border bond transactions depend on each market player which seem to be more than T+2 and negotiable. As such, there is no standard settlement cycle in ASEAN+3. A settlement cycle, which is a rule for all market participants to observe, is expected, though not stipulated in regulation or law.

8) **Harmonization of terminologies and definitions.** Terminologies need to be standardized before harmonizing systems and messaging in the region.

9) **Institutional framework.** Fostering a mutual relationship among market actors and stakeholders is important to implement a cross-border bond trade and settlement facility. To this end, there is a need to establish an institutional framework involving authorities and experts in the fields of policy, payment, information technology, and business operations to facilitate efficient communication, especially in emergencies such as [system] failures and disasters.

10) **Reporting facility.** Most markets in ASEAN+3 are developing and improving the reporting facility of trade data to authorities including self-regulatory organizations (SROs). A data collection scheme will be very important for the entire ASEAN+3 to make markets more sound and transparent. Also, this kind of initiative may be coordinated with the activities of the ASEAN+3 Macro-economic Research Office (AMRO).

11) **Monitoring new issues.** New issues such as new technologies and new standards including Legal Entity Identifier will be monitored to understand market trends and possible breakthrough practices.

1.4. **Schedule of Sub-Forum 2 during Phase 2**

Members and experts, with support of ADB Secretariat including the ADB consultant for ABMF-SF2, discussed issues of cross-border bond transactions at ABMF meetings, which were held 8 times from February 2012 through November 2013 besides 6 times before then. The schedule of the SF2 is shown as follows.

Table 1.1 Schedule of Sub-Forum 2
<table>
<thead>
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<th>Year</th>
<th>Meeting Schedule</th>
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<td>2012</td>
<td>Jan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feb</td>
<td>7th ABWF SP in Hong Kong, Hong Kong</td>
</tr>
<tr>
<td></td>
<td>Mar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apr</td>
<td>8th ABWF SP in Madrid, Spain</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jul</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aug</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sep</td>
<td>5th ABWF SP in Seoul, Korea</td>
</tr>
<tr>
<td></td>
<td>Oct</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nov</td>
<td>8th MMP SP in Tokyo, Japan</td>
</tr>
<tr>
<td></td>
<td>Dec</td>
<td>8th MMP Knowledge Seminar in Shanghai, China</td>
</tr>
<tr>
<td>2013</td>
<td>Jan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feb</td>
<td>10th MMP SP in Singapore, Singapore</td>
</tr>
<tr>
<td></td>
<td>Mar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apr</td>
<td>10th MMP SP in Tokyo, Japan</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>10th MMP SP in Tokyo, Japan</td>
</tr>
<tr>
<td></td>
<td>Jun</td>
<td>Technical Assistance in Cambodia</td>
</tr>
<tr>
<td></td>
<td>Jul</td>
<td>Technical Assistance in Cambodia</td>
</tr>
<tr>
<td></td>
<td>Aug</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sep</td>
<td>Technical Assistance in Myanmar</td>
</tr>
<tr>
<td></td>
<td>Oct</td>
<td>10th MMP SP in Tokyo, Japan</td>
</tr>
<tr>
<td></td>
<td>Nov</td>
<td></td>
</tr>
</tbody>
</table>
2. Methodology and Approach of the Survey

2.1. Possible goals of SF2

One of possible goals of ABMF SF2 is to promote STP. In order to promote STP, SF2 has clarified differences among ASEAN+3 economies about DVP and interest payment flows, message items and market practices. Moreover, SF2 defines typical DVP and interest payment flows for references by operators of bond market infrastructures. Another goal is to promote ISO 20022 and related international standards in particular ISIN and BIC based on the survey results.

Through the Phase1 and 2 studies, SF2 had revealed that each economy has own DVP flow and market practices. Differences about these matters could be barriers to achieve STP. Not all of ASEAN+3 economies adopt same rules at this moment, since they have unique legal and business requirements respectively. To promote STP, each economy is expected to adopt same DVP and interest payment flows to the extent possible at the timing of replacement of their current bond infrastructures. If all ASEAN+3 economies comply with typical flows defined by ABMF SF2, barriers against STP among economies will be reduced steadily.

Concerning message format and items, and numberings and coding, ASEAN+3 proprietary practices (local standards) demonstrate differences from international standards, including ISO 20022. Also, proprietary practices of ASEAN+3 are different from country by country and market by market.

Figure 2.1 Possible Goals of Sub-Forum 2

Therefore, proprietary practices of ASEAN+3 could be changed to meet international standards. It is important to harmonize practices in the region to make the differences narrower. International standards (such as ISO 20022) should form the basis of local standards to make...
harmonization a reality. Also, practices in the ASEAN+3 that have been identified as at par with international standards should be considered as a benchmark as well.

Figure 2.2 Contribution of ASEAN + 3 to International Standard

2.2. Methodology Overview

Phase2 activities of ABMF SF2 are divided into six stages as illustrated below.

Figure 2.3 Methodology

1) **Stage A - Fact Findings**

SF2 members agreed on the scope of the survey. Phase1 activities had included market practices and DVP flows of government bond (both of
domestic and cross-border transactions). A generic model of cross-border bond transaction flow is shown as follows.

Figure 2.4 Generic Model of Cross-Border Bond Transaction Flow

In Phase2 activities, SF2 has surveyed DVP flows of corporate bonds, interest and redemption payment flows and more market practices. Details of fact finds are as follows.

ADB consultant drafted the survey questionnaire for every ASEAN+3 economies. It was then distributed to national members and experts for their responses.

ADB secretariat and consultants visited each economy to validate information and data. During such visits, discussions with each expert were held to collect more information.

2) **Stage-B: Fit & Gap Analysis**

ABMF SF2 conducted two types of fit and gap analysis: gap analysis
between proprietary practices and international standards (e.g. message items and ISO20022) and flow analysis between each other (e.g. DVP flows and interest flows). Outcomes of fit and gap analysis are divided into three types: a) practices already standardized, b) practices need to be kept in status quo, and c) practices to be standardized.

Figure 2.6 Fit and Gap Analysis and Policy Recommendation

3) **Stage - C- Definition of Typical Flow**
   There is no international standard for transaction flows. SF2 has defined two types of typical transaction flows: Model DVP Flow and Model Interest Payment Flow.

4) **Stage - D- Policy Recommendations**
   Through above stages, SF2 sets policy recommendations. Policy recommendations were submitted to the Asian Bond Markets Initiative Task Force 3 (ABMI TF3) members and then to the ASEAN+3 Finance Ministers and Central Bank Governors’ Meeting in May 2013 as the Interim Report.

5) **Stage - E- Roadmap**
   ABMF SF2 has set roadmap about possible future of ASEAN+3 bond market infrastructures. Roadmap includes Phase3 activities of ABMF SF2.

2.2.1. **Survey Questionnaire**
In order to try to reach its goals, ABMF SF2 conducted a survey on the issues related to barriers by sending a questionnaire to national members and international experts. The following are the primary categories of the questionnaire:

1) Bond market infrastructures
2) Delivery-versus-Payment (DVP) flows of corporate bond in each market
3) Interest payment and redemption
4) Fit and gap analysis for a channel using global custodians \(^8\) to settle cross-border trades
5) Fit and gap analysis for government bond DVP transaction
6) Cross-border Transaction Flow
7) Roadmap
8) Follow-up of phase 1 surveys
9) Other issues
10) Foster cross-border STP

The detailed questionnaire is shown in Part 2.

The SF2 survey revealed not only message formats but also business processes, such as message transactions and message flows, which need to be integrated in the survey.

Survey results on typical business flowchart, matching, and settlement cycles are discussed later. ISO and the local practices, transaction costs, and medium- to long-term strategy will be discussed during the next phase of the survey.

2.2.2. Fit-and-Gap Analysis

2.2.2.1. Background on Fit-and-Gap Analysis of Bond Transactions

Interoperability among bond trade, settlement systems, and infrastructures are very important to bring STP of bond transactions to fruition. In fact, some CSDs in ASEAN+3 have already decided to adopt the ISO standard as their message standard when they reconstruct or upgrade their bond settlement infrastructures.

However, not all CSDs and bond trade and settlement-related infrastructures are

\(^8\) “Channel using global custodians” means that settlement processes go through not only global custodians but also local custodians in each economy instead of directly connecting CSD with ICSD or other CSDs.
compliant with the international standard yet. Also, there remain some differences between infrastructures, which have already adopted the ISO standard for their message format.

Figure 2.7 ISO 20022 and Central Securities Depository Messages

As such, there are some differences in proprietary CSD messages and ISO 20022 messages in some markets that do not follow the international standard. Also, bond trade and settlement-related infrastructures, including CSDs that have already implemented the ISO standards as their message standard, may still have their own proprietary flows and processes which do not have to follow the international standards in some economies where they have significant domestic bond market. Therefore, a fit-and-gap analysis between bond transactions of each market and international standards is one of the most important steps to harmonize bond markets in ASEAN+3.

Figure 2.8 ISO 20022 and Proprietary Practices

Every institution has basic operations required to adapt ISO standards.

Mapping of ISO 20022 with conventional standards are shown as follows.
2.2.2.2. Scope of Fit-and-Gap Analysis

There are some levels in doing the fit-and-gap analysis of messages. A fundamental level is to check whether the business flow requiring a specific message exists. More specifically, it is to check basic messages, such as bond settlement instructions and confirmation, which will be compared with other economies. For fit-and-gap analysis, comparing bond transaction flows is also important. After conducting the basic fit-and gap analysis, message items and formats may be compared and analyzed.

As a preliminary stage of the survey, a fit-and-gap analysis of messages and their
flow were conducted. In order to do that, cross-border bond transaction flows and domestic bond transaction flows were surveyed.
3. Findings on Bond Market Infrastructures and Transaction Flows

3.1. Introduction

In-depth surveys on bond transaction flows have been conducted for the 10 economies comprising People’s Republic of China (CN), Hong Kong Special Administrative Region (HK), Republic of Indonesia (ID), Japan (JP), Republic of Korea (KR), Malaysia (MY), Republic of the Philippines (PH), Republic of Singapore (SG), Kingdom of Thailand (TH), and Socialist Republic of Viet Nam (VN). Key findings are presented in this section in respect of (1) bond market infrastructures, (2) DVP flows, (3) interest payment flows, (4) message standards, (5) numbering and coding, (6) market practices and other issues, and (7) cross-border DVP flows.

3.2. Bond Market Infrastructures

Government and corporate bond market infrastructures in ASEAN+3 from ‘trade’ to ‘settlement’ are shown in Figure 3.1 and Figure 3.2, respectively. In general, robust and sound bond market infrastructures such as Central Securities Depository (CSD) and Real Time Gross Settlement (RTGS) systems are already implemented in the surveyed 10 economies. However, infrastructure components for further efficiency and risk reduction purposes, such as Pre-Settlement Matching System (PSMS), Central Counterparty (CCP), Trade Repository (TR), and automated Trading System (TS) are not implemented yet in most of the economies. Detailed findings include the following:

1) Bond Market
   a) Most bonds (both government and corporate bonds) are not traded on exchanges as listed products but are traded in the OTC markets in ASEAN+3 (where bond markets exist).
   b) Significant volume of bonds is traded in exchange (order driven) markets only in KR and PH.
   c) Regarding bond trades, most of the trades are ordered and executed domestically.

2) Clearing and Central Counterparty (CCP)
   a) CCP has been established in some economies (CN, ID, JP, KR and MY) for bond trades. CCP for the OTC market exists in CN (SHCH) and JP (JGBCC). CCPs in CN (CSDCC), ID (KPEI), KR (KRX), and MY (Bursa...
Malaysia) are for exchange markets.

3) Pre-settlement Matching
   a) Pre-settlement matching is done manually using telephone, facsimile, e-mail, or similar in most of the economies in ASEAN+3.
   b) JP, KR and PH have implemented automated Pre-Settlement Matching Systems (PSMS) for both government and corporate bonds. SG also has implemented such kind of system for corporate bond.
   c) Pre-settlement matching is done by future dated transactions for both government and corporate bonds in some economies such as CN, HK, KR and SG.

4) Bond Settlement
   a) Regarding government bonds, central bank related CSDs mostly settle them in 6 economies (CN, HK, ID, JP, MY, and SG) out of 10 economies which have developed bond markets in ASEAN+3. Exchange related CSDs mostly settle them in 2 economies (KR and TH). Government related CSDs settle government bonds in PH and VN. At the same time, exchange related CSD settles a significant portion of government bonds as sub-registry in ID and PH.
   b) Regarding corporate bonds, both central bank related CSDs and exchange related CSD settle them in one economy (CN), and central bank related CSDs mostly settle them in 2 economies (HK and MY) out of the 10 economies which have already developed bond markets in ASEAN+3. Exchange related CSDs mostly settle them in 7 economies (ID, JP, KR, PH, SG, TH, and VN). A significant percentage of bonds remain as physical certificates except in CN and JP.

5) Cash Settlement
   a) Regarding government bonds, central bank money is used in all economies except in VN in ASEAN+3. The SBV is planning to migrate cash settlement from commercial bank money to central bank money. Commercial bank money can also be used in CN though the percentage to total settlement value is very low.

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9 Partial pre-settlement matching system
10 Partial pre-settlement matching system
11 “Related” here implies owned, operated and/or governed depending on the specific structure of each CSD.
b) Regarding corporate bonds, central bank money is used in 8 economies (CN, HK, JP, KR, MY, PH, SG, and TH). Commercial bank money is used in 4 economies (CN, ID, KR and VN). In CN, central bank money is mainly used but commercial bank money is used when bonds are settled in the exchange related CSD.

Figure 3.1a and b ASEAN+3 Government Bond Market Diagram
3.3. DVP Flows

Fit and gap analyses on typical DVP flows have been conducted in reference to a selected typical model DVP flow. More specifically, messages and the flows such as ‘settlement instruction data’, ‘settlement confirmation’, ‘cash settlement instruction data’, and ‘cash settlement confirmation’ were examined. Key
elements to be discussed are summarized as follows:

1) “Settlement Instruction Data” are transferred online from an upstream system such as PSMS or other systems including TR and TS to the CSD from the viewpoint of STP. In CN, KR, JP, PH and VN, each book entry system receives and/or can receive settlement instruction or trade data (on-line) from other systems for both government and corporate bonds. In other economies, the sell side and/or buy side enter the data.

2) In case “Settlement Instruction Data” are transferred from an upstream system to the CSD, the data are forwarded from the CSD to the sell side and buy side for affirmation. CSDs in CN, JP, and PH forward the data to the sell side and buy side for both government and corporate bonds.

3) In case “Settlement Instruction Data” are forwarded from the CSD, to the sell side and buy side, both sides affirm the data. In CN, JP, and PH, the data are affirmed and sent back to CSD for both government and corporate bonds.

4) Both central matching and local matching are used as settlement matching for both government and corporate bonds. In HK, ID, KR, TH, and VN, central matching is adopted for both government and corporate bonds. In MY, local

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12 This connection will start operation when New BOJ-NET is connected with PSMS.
matching is adopted for both government and corporate bonds. In CN, PH\textsuperscript{13} and SG, both types of matching are adopted for both government and corporate bonds. In JP, local matching is adopted for government bonds and central matching is adopted for corporate bonds.

5) All CSDs adopting central matching send a matching notice to the sell side and buy side. The CSDs adopting local matching functionally do not have such notice.

6) “Settlement Confirmation” is sent from the CSD to the sell side and buy side. CSDs send “Settlement Confirmation” except in PH\textsuperscript{14} and VN for both government and corporate bonds.

7) Definition and ownership of locked, earmarked, or blocked seller’s bond may be different CSD by CSD. A further survey will be necessary.

8) BIS DVP model\textsuperscript{15} is adopted by all economies except for VN for government bonds, and except for SG and VN for corporate bonds with respect to OTC markets. Followings are the summary of the BIS DVP models in the region.

- Model 1 is adopted in CN(OTC), HK(OTC), ID, JP, KR(OTC), MY, PH, SG and TH for government bond and in CN(OTC), HK(OTC), ID, JP, KR(OTC), MY, PH, and TH for corporate bond.
- Model 2 is adopted in CN (EX) for government bond and in CN (EX) and SG for corporate bond.
- Model 3 is adopted in HK (OTC)\textsuperscript{16}, KR (EX), and VN for both government and corporate bonds.

9) “Cash Settlement Instruction Data” are transferred online or directly to RTGS in all economies. In JP\textsuperscript{17} and MY, CSD and RTGS systems are running on the same platform.

10) “Cash Settlement Instruction Data” are not forwarded from RTGS system to the sell side and/or buy side after receiving the data from the CSD except for JP and KR.

\textsuperscript{13} Only for Free of Payment: In PH, central matching is mandatory for trades received from PDEex (government and corporate bonds). But, for FOP trades, the parties decide whether to use local or central matching.

\textsuperscript{14} For PH, settlement is notified to the counterparties via a change in the trade status which parties can view online. Reports on settled trades can also be generated and printed from the settlement system.

\textsuperscript{15} BIS DVP models as follows:

Model 1 - Systems that settle transfer instructions for both bond and funds on a trade-by-trade (gross) basis, with final (unconditional) transfer of bond from the seller to the buyer (delivery) occurring at the same time as final transfer of funds from the buyer to the seller (payment).

Model 2 - Systems that settle bond transfer instructions on a gross basis, with final transfer of bond from the seller to the buyer (delivery) occurring throughout the processing cycle, but settle funds transfer on a net basis, with final transfer of funds from the buyer to the seller (payment) occurring at the end of the processing cycle.

Model 3 - Systems that settle transfer instructions for both bond and funds on a net basis, with final transfers of both bond and funds occurring at the end of the processing cycle.

\textsuperscript{16} In HK about 10\% of transactions are settled by BIS DVP Model 1 and the rest are settlement by BIS DVP Model 3.

\textsuperscript{17} Only for government bonds
11) In case “Cash Settlement Instruction Data” are forwarded to the buy side, the data need to be affirmed. Only in KR, the sell side and buy side affirm the data for both government and corporate bonds.

12) “Cash Settlement Confirmation” is sent from RTGS system to the sell side and buyside in almost all economies. In MY and VN, RTGS system does not send “Cash Settlement Confirmation” for both government and corporate bonds. In MY, the bond settlement confirmation and cash settlement confirmation are processed in a same message. In VN, there is no cash settlement confirmation.

3.4. Interest Payment Flows

Interest payment flows as well as roles of the related entities such as PayingAgent (PA), CSD, and Tax Withholding Agent (TWA) are compared with typical flows shown in Figure 3.3. In general, interest payment flows differ economy by economy, and the role of the related entities was also different as highlighted below.

1) Regarding government bonds, central banks are PA of the issuer (MOF) for interest payment and redemption in 7 economies (HK, ID, JP, KR, MY, SG, and TH) out of the 10 economies which have bond markets in ASEAN+3. CSDs are the PA in two economies (CN and VN). The Bureau of Treasury (BTr) is the PA in PH. As for corporate bonds, commercial banks are PA of issuers for interest payment and redemption in 7 economies (HK, JP, KR, MY, PH, SG and TH). CSDs are PA in 3 economies (CN, ID, and VN).

2) Account Management Agents (AMAs) of bond holders (investors) for interest payment and redemption are CSD participants (mainly custodians) for both government and corporate bonds. Commercial banks (custodians) manage accounts to receive interest payment and redemption from PAs on behalf of investors.

3) Regarding government bonds, no withholding tax (WHT) is imposed in 4 economies (CN, HK, MY and VN). In JP and SG, only non-residents are exempt from WHT. With regards to corporate bonds, no WHT is imposed in 2 economies (HK and MY). No WHT is imposed on non-residents in JP and SG.

Identifying an investor whether the investor is “resident or non-resident” would be an issue that could influence the WHT payment process.
different economy by economy.

Summary findings are referenced as follows.

Table 3.1 Government Bond Interest Payment Related Entities

<table>
<thead>
<tr>
<th>PA of Issuer</th>
<th>CSD</th>
<th>Payment system</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>CCDC</td>
<td>CCDC</td>
<td>CNAPS Commercial Bank</td>
</tr>
<tr>
<td></td>
<td>CCDC</td>
<td>CCSDCC</td>
<td></td>
</tr>
<tr>
<td>HK</td>
<td>HKMA</td>
<td>HKMA</td>
<td>CHATS</td>
</tr>
<tr>
<td>ID</td>
<td>BI</td>
<td>BI</td>
<td>BI-RTGS</td>
</tr>
<tr>
<td>JP</td>
<td>BOJ</td>
<td>BOJ</td>
<td>BOJ-Net</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(None for non-residents)</td>
</tr>
<tr>
<td>KR</td>
<td>BOK</td>
<td>KSD</td>
<td>BOK-Wire+</td>
</tr>
<tr>
<td>MY</td>
<td>BNM</td>
<td>BNM</td>
<td>RENTAS-IFTS</td>
</tr>
<tr>
<td>PH</td>
<td>BTr</td>
<td>BTr</td>
<td>PhiPaSS</td>
</tr>
<tr>
<td>SG</td>
<td>MAS</td>
<td>MAS</td>
<td>MEPS+</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(None for non-residents)</td>
</tr>
<tr>
<td>TH</td>
<td>BOT</td>
<td>TSD</td>
<td>BAHTNET</td>
</tr>
<tr>
<td>VN</td>
<td>VSD</td>
<td>VSD</td>
<td>BIDV</td>
</tr>
</tbody>
</table>

Table 3.2 Corporate Bond Interest Payment Related Entities
Table 3.2 Corporate Bond Interest Payment Related Entities

<table>
<thead>
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<th>PA of Issuer</th>
<th>CSD</th>
<th>Payment system</th>
<th>TWA</th>
</tr>
</thead>
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<tr>
<td>CN</td>
<td>CSDCC</td>
<td>Com. Bank system CSD</td>
<td>CSDCC Bond holder</td>
</tr>
<tr>
<td></td>
<td>SHCH</td>
<td>CNAPS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CCDC</td>
<td>Com. Bank Sys</td>
<td></td>
</tr>
<tr>
<td>HK Commercial Bank</td>
<td>HKMA</td>
<td>CHATS</td>
<td>None</td>
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<tr>
<td>ID</td>
<td>KSEI</td>
<td>KSEI</td>
<td>KSEI</td>
</tr>
<tr>
<td>JP</td>
<td>Commercial Bank</td>
<td>JASDEC</td>
<td>BOJ-Net (PA/CSD partic.)</td>
</tr>
<tr>
<td>KR</td>
<td>Commercial Bank</td>
<td>KSD</td>
<td>BOK-Wire+ Com. Bank</td>
</tr>
<tr>
<td>MY</td>
<td>Commercial Bank</td>
<td>BNM</td>
<td>RENTAS-IFTS</td>
</tr>
<tr>
<td>PH</td>
<td>Commercial Bank</td>
<td>PDTC</td>
<td>PhiPaSS</td>
</tr>
<tr>
<td>SG</td>
<td>Commercial Bank</td>
<td>CDP</td>
<td>MEPS+</td>
</tr>
<tr>
<td>TH</td>
<td>Commercial Bank</td>
<td>TSD</td>
<td>BAHTNET</td>
</tr>
<tr>
<td>VN</td>
<td>VSD</td>
<td>VSD</td>
<td>Commercial Bank</td>
</tr>
</tbody>
</table>

3.5. Message Standards
3.5.1. Message Format

Proprietary format is one of critical factors of settlement barriers, and ISO 15022 has replaced proprietary formats of some ASEAN + 3 economies. ISO 15022 is the ISO standard for messaging used in securities trading. ISO 15022 sets the principles necessary to provide the different communities of users with the tools to design message types to support their specific information flows. These tools consist of a set of syntax and message design rules, a dictionary of data fields and a catalogue for present and future messages built by the industry with the above mentioned fields and rules.

ISO20022 is currently discussed in ASEAN + 3 economies broadly as a replacement of ISO15022. The ISO 20022 standard provides the financial industry with a common platform for the development of standardized messages, using:

- a modeling methodology (based on UML) to capture in a syntax-independent way, financial business areas, business transactions and associated message flows;
- a set of design rules to convert the messages into schemas, and
- a predominant syntax that is flexible and modern (currently XML)

Current world trends adopting ISO 20022 are shown as follows:
Figure 3.4 ISO20022 Current world trend – Securities MI & Treasury MI

Figure 3.5 ISO20022 Current world trend – Payments MI & initiatives

Selected message Formats (ISO 20022, ISO 15022, or proprietary format) of individual CSDs are surveyed.
1) Shanghai Clearing House (SHCH) in CN, Bank Indonesia (BI) and the Indonesian Central Securities Depository (KSEJ) in ID, and the Bank of Japan (BOJ) and the Japan Securities Depository Center (JASDEC) in JP adopted or will adopt ISO 20022 for their message formats.

2) Hong Kong Monetary Authority (HKMA) in HK, the Monetary Authority of Singapore (MAS) in SG, and the Thailand Securities Depository (TSD) in TH adopted or will adopt ISO 15022.

3) Other CSDs use proprietary formats.

3.5.2. Message Items

Typical message items of a settlement instruction and a settlement confirmation are compared with those of ISO 20022 in order to study differences among economies in ASEAN+3. An image of the mapping of message items to ISO 20022 is
shown in Table 3.4. Some typical message items of DVP flows such as (1) instruction identification, (2) trade date, (3) settlement date, and (4) place of settlement are chosen based on 10 common elements proposed by SMPG (Table 3.5) and compared with that of ISO 20022.

Table 3.5 10 common elements for settlement instruction

<table>
<thead>
<tr>
<th>ISO 15022 definition</th>
<th>ISO 20022 definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Instruction Identification</td>
<td>1. Instruction Identification</td>
</tr>
<tr>
<td>2. Trade Date</td>
<td>5.5 Trade Date</td>
</tr>
<tr>
<td>3. Settlement Date</td>
<td>5.6 Settlement Date</td>
</tr>
<tr>
<td>4. Quantity of Financial Instrument</td>
<td>8.1 Settlement Quantity</td>
</tr>
<tr>
<td>5. Financial Instrument</td>
<td>8.2 Financial Instrument</td>
</tr>
<tr>
<td>6. Place of Settlement</td>
<td>11.1, 12.1 Depoitory</td>
</tr>
<tr>
<td>7. Recieving Delivering Agent</td>
<td>11.2, 12.2 Party1</td>
</tr>
<tr>
<td>8. Client of Recieving Delivering Agent</td>
<td>11.3, 11.4, 11.5, 11.6, 12.3, 12.4, 12.5 Party2, Party3, Party4, or Party5</td>
</tr>
</tbody>
</table>

Table 3.6 Message Items of Settlement Instruction (10 common elements)

<table>
<thead>
<tr>
<th>10. Common Elements</th>
<th>CN (CH)</th>
<th>EDIC (CH)</th>
<th>CN (HK)</th>
<th>JP</th>
<th>HR</th>
<th>FR</th>
<th>GB</th>
<th>IT</th>
<th>NL</th>
<th>PH</th>
<th>SG</th>
<th>TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Instruction Identification</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2. Trade Date</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3. Settlement Date</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4. Quantity of Financial Instrument</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5. Financial Instrument</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6. Settlement Amount</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7. Safekeeping Account</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8. Place of Settlement</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>9. Recieving Delivering Agent</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>10. Client of Recieving Delivering Agent</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

- **Conditional
- *** Optional
1) In ISO15022 and ISO20022, “Instruction Identification” means sender’s message reference, but there are some exceptions. For instance, in PH, the TS of Philippine Dealing and Exchange Corporation (PDEx) assigns unique numbers as instruction identification to individual transactions. Also, in JP, the CSD system for government bonds (BOJ-Net) assigns unique numbers called “Torihiki-Number” as instruction identification to individual transactions (The new BOJ-Net will adopt a new “Torihiki ID” in accordance with ISO standards.) The message reference number is essential (mandatory) to identify individual messages.

2) Regarding “Trade Date”, some CSDs (KSD, MAS, BTr, PDTC, TSD and VSD) specify the Trade Date as mandatory. In contrast BOJ does not regard the Trade Date even as an input item. Trade Date is not necessary for settlement, but is necessary to acquire details of a transaction and tax related information.

3) “Settlement Date” is mandatory for all CSDs. VSD calculates the settlement date within their system on the basis of Trade Date instead of entering it as an input item.

4) “Place of Settlement (PSET)” is mandatory for PDEx, MAS, and TSD, but not for BOJ, KSD, and VSD. PSET would not be required in case participants of a CSD can access only to the specific CSD. But, PSET may be necessary from across-border STP perspective.

3.6. Numbering and Coding

It is important to standardize numbering and coding to promote STP of bond settlement. Numbering and codes related to bond transaction flows are:

(1) financial instrument identification (ISIN),

\[19 \text{ Definition of Trade Date in VN is trade data capturing date.} \]
(2) party identification (BIC), (3) safekeeping account, and (4) language and character code set.

Table 3.7 Numbering and Coding in ASEAN+3

<table>
<thead>
<tr>
<th>Country</th>
<th>Securities Numbering</th>
<th>Financial Institution Identification</th>
<th>Securities Account</th>
<th>Cash Account</th>
<th>Encoding Scheme and Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Unicode (UTF-8)</td>
</tr>
<tr>
<td>HK</td>
<td>ISIN and Proprietary (CMU issue)</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>ID</td>
<td>ISIN and Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>KSEI</td>
<td>ISIN and Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>JP</td>
<td>ISIN and Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>KR</td>
<td>ISIN and Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>MY</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>PH</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>SG</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>TH</td>
<td>ISIN</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
<tr>
<td>VN</td>
<td>ISIN and proprietary</td>
<td>N/A</td>
<td>Proprietary</td>
<td>Proprietary</td>
<td>Code supported by SWIFT</td>
</tr>
</tbody>
</table>

ISIN, as defined in ISO 6166, uniquely identifies securities including bonds. ISIN is a 12-character alphanumerical numbering that does not contain
information characterizing financial instruments, but serves for uniform identification of securities at trading and settlement. Figure 3.8 illustrates the ISIN code structure of Japanese government bonds. Conversion is also possible between proprietary numbering and ISIN.

Table 3.8 Use of ISIN in ASEAN+3

<table>
<thead>
<tr>
<th>ISIN Use in ASEAN+3</th>
<th>No. of ISINs for debt instruments</th>
<th>Domestic</th>
<th>Cross-border</th>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>7538</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HK</td>
<td>3346</td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>ID</td>
<td>504</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JP</td>
<td>6446</td>
<td>O</td>
<td>O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KR</td>
<td>51982</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>MY</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH</td>
<td>-</td>
<td>O</td>
<td>O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SG</td>
<td>870</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TH</td>
<td>1559</td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>VN</td>
<td>506</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E&amp;C</td>
<td>280355</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td></td>
</tr>
</tbody>
</table>

Note: E&C (Euroclear and Clearstream); O denotes use of ISINs (but not necessary entirely)
Source: ANNA as of May 2013

ISIN is not actually used yet in many economies for securities numbering. Also, numbering conventions and some other practices such as allocation of numbers and use of ISIN are not standardized yet. JP and TH will adopt or adopted ISIN as securities numbering. HK, ID, KR, SG, and VN partly use ISIN (mainly proprietary numbering). ISIN and proprietary numbering don't match uniquely in HK. Proprietary numbering is used in other economies.

Table 3.9 ANNA Members in ASEAN+3

<table>
<thead>
<tr>
<th>ANNA Members in ASEAN+3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN China Securities Regulatory Commission</td>
</tr>
<tr>
<td>HK Hong Kong Exchange and Clearing Ltd</td>
</tr>
<tr>
<td>ID PT Kustodian Sentral Efek Indonesia (Indonesian Central Securities Depository)</td>
</tr>
<tr>
<td>JP Tokyo Stock Exchange</td>
</tr>
<tr>
<td>KR Korea Exchange - KRX</td>
</tr>
<tr>
<td>MY Bursa Malaysia</td>
</tr>
<tr>
<td>PH Philippine Stock Exchange, Inc.</td>
</tr>
<tr>
<td>SG Singapore Exchange Limited</td>
</tr>
<tr>
<td>TH Thailand Securities Depository Co., Ltd</td>
</tr>
<tr>
<td>VN Vietnam Securities Depository</td>
</tr>
</tbody>
</table>

All ASEAN+3 economies that have bond markets are full members of the Association of National Numbering Agencies (ANNA). ANNA and national numbering agencies (NNAs) allocate ISIN in accordance with ISO 6166. The ANNA recommendations state that the NNAs should allocate ISINs within 24 hours following the request and also making the ISIN available to users at the same time. However, actual securities numbers are based on domestic proprietary numbering in many markets for the time being. It will be important
to promote ISIN in ASEAN+3 including timely operational procedures.

3.6.2. Business Identifier Code (BIC)

The Business Identifier Code (BIC) is a unique identification code for both financial and non-financial institutions. Its structure is defined in ISO 9362. BIC is an 8- or 11-digit code, which indicates the financial institution with the last 3 digits as an option for branch code. It is used to identify each financial institution including branch. Figure 3.9 illustrates the code structure of ISO 9362.

![Figure 3.9 Code Structure of ISO 9362](image)

Many economies don’t use BIC yet for financial institution identification. Local proprietary codes are used instead. ID, JP, SG, and TH use or will use BIC as financial institution identification. In PH, BIC is used only for cash settlement instructions sent to the central bank’s RTGS system.

3.6.3. Securities Account

All markets in ASEAN+3 use proprietary numbering for securities (safekeeping) accounts. There is currently no code structure for securities numbering as defined in ISO 20022. Securities account identification is defined as text format with a maximum of 35 texts. Figure 3.10 is an example of a securities account. Because code structures of securities accounts are influenced by the taxation structure of each country, it will be a great challenge to standardize securities account structure and numbering in the region; thus, there is also a need to harmonize the tax structure for non-residents before account structures can be standardized. When discussing standardization of securities account, standardization of cash account is also taken into consideration.

Securities account structure is proprietary in all economies in ASEAN+3.
Proprietary code is used in all economies with respect to securities and cash accounts.

There are two types of account structures for CSD, which are omnibus account structure and segregated account structure.

**Figure 3.10 Account Structure of Government Bond (example)**

An omnibus account is an account opened in the name of an account provider, where securities or collateral belonging to some or all customers of a particular participant is commingled and held in a single account. A segregated account is where securities or collateral of each customer are segregated in their names. In several cases, the legal and regulatory framework or existing market practice require accounts to be segregated on an investor/beneficial owner level.

While segregated account structure has more transparency and protection, it has difficulty in terms of operation and system. It requires every asset to be tagged by the clearing member and placed in a separate account under that customer’s name. Therefore, in general, setting up omnibus accounts is a common market practice in ASEAN + 3, and segregated account structure is adopted only by China and Korea.
Table 3.10 Securities Account of each economy

<table>
<thead>
<tr>
<th>Economy</th>
<th>Account Structure</th>
<th>Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>Segregated</td>
<td>Single Layer</td>
</tr>
<tr>
<td>HK</td>
<td>Omnibus</td>
<td>Multi Layer</td>
</tr>
<tr>
<td>JP</td>
<td>Omnibus</td>
<td>Multi Layer</td>
</tr>
<tr>
<td>KR</td>
<td>Segregated</td>
<td>Single Layer</td>
</tr>
<tr>
<td>MY</td>
<td>Omnibus</td>
<td>Multi Layer</td>
</tr>
<tr>
<td>PH</td>
<td>Omnibus</td>
<td>Multi Layer</td>
</tr>
<tr>
<td>SG</td>
<td>Omnibus</td>
<td>Multi Layer</td>
</tr>
<tr>
<td>TH</td>
<td>Omnibus</td>
<td>Multi Layer</td>
</tr>
<tr>
<td>VN</td>
<td>Omnibus</td>
<td>Multi Layer</td>
</tr>
</tbody>
</table>

Also there are two types of account layers. Single layer is an arrangement that each beneficial or direct owner of the security is known to the CSD or the issuer. Investors would either be recorded on the issuer's register or be in physical possession of bearer securities certificates. Multi-layer is an arrangement that consists of one or more tiers of intermediaries between issuer and investor. Thus, investors are identified only at the level of their custodian or intermediary. Multi-layer is broadly used in ASEAN+3 economies, and only China and Korea adopts single-layer.

3.6.4. Character Code Set and Language

All CSDs in ASEAN+3 with bond markets accept UTF-8 except KR. Local languages are still dominant as payment system language in ASEAN+3. Local languages are used for bond settlement systems in ASEAN+3 except in HK, MY, PH, and SG (English is partly used in ID and TH).

Figure 3.11 Standardization of Character Codes and Languages
3.7. Market Practices and Others

It has been found that some of market practices, which could lead cross-border trade and settlement to smoother processing, are different across economies in ASEAN+3. The key findings include the following.

3.7.1. Settlement Cycles

The settlement cycles of government bond transactions vary from T+1 to T+30 in ASEAN+3. Settlement cycles are not stipulated by regulations or law, but are mainly determined by negotiation based on proprietary business practices of market participants and restrictions of payment infrastructures, etc.

In general, the settlement cycle is a common rule in the market. The rule may not be stipulated in regulation or law but should be observed by market participants. For example, if the settlement cycle of bond trades in a market is T+3, investors must settle their government bond transactions in 3 business days. This means that when you buy government bonds, the broker must receive your payment no later than 3 business days after the trade is executed. When you sell a government bond, you must deliver to your broker your bond no later than 3 days after the sale.\(^{20}\)

As such, the settlement cycle of the market means that majority of market participants need to follow the practice as a rule, although there is no such a rule in ASEAN+3, or even in each market, except for some markets. It will be beneficial for all market participants to have a common settlement cycle in ASEAN+3.

Some markets are trying to shorten their settlement cycles. The purpose of shortening the settlement cycles of government bonds is mainly the reduction of settlement risks, and the stabilization and activation of short-term financial markets. Unsettled bonds are exposed to settlement risks, and if a settlement cycle is longer, more unsettled positions are accumulated. The purposes of shortening the settlement cycles are listed below.

1) Reduction of settlement risks
   - Eliminating the risks of not receiving securities or cash on schedule

\(^{20}\) US Securities and Exchange Commission, modified by the author.
• Reduction of the size and cost of fund raising associated with a counterparty’s default
• Mitigating replacement risks
• Preventing the degree of chain of settlement failures

2) Stabilization and activation of short-term financial markets
• Opportunities for raising funds and managing liquidity
• Mitigating market malfunctioning by speeding up the replacement of unsettled positions and the resolution of settlement failures
• Improving liquidity of government bonds to make these more attractive as financial products

To shorten the settlement cycle in a market, STP facilities of related infrastructures, such as online connection between trade systems and CSDs, need to be implemented. At the same time, all market participants need to follow the rule by automating individual internal systems.

Considering the settlement cycle in ASEAN+3, there is no institutional framework to discuss such an issue among stakeholders in the region yet. Thus, it is imperative that an institutional framework be established to have common rules and processes on settlement cycle in the region. Table 3.11 illustrates typical settlement cycles of domestic and cross-border transactions in ASEAN+3.

Table 3.11 Settlement Cycle in ASEAN+3

<table>
<thead>
<tr>
<th>Economy</th>
<th>Domestic</th>
<th>Cross-Border</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>T+1 (negotiable, market practice)</td>
<td>T+1 (market practice)</td>
</tr>
<tr>
<td>HK</td>
<td>T+2 (negotiable, market practice)</td>
<td>According to the standard cycle of the respective markets</td>
</tr>
<tr>
<td>ID Gov.</td>
<td>T+2 (negotiable, market practice)</td>
<td>T+2</td>
</tr>
<tr>
<td>ID Corp.</td>
<td>T+3 (negotiable)</td>
<td>T+3 (negotiable)</td>
</tr>
<tr>
<td>JP Gov.</td>
<td>T+2</td>
<td>T+2 to T+4</td>
</tr>
<tr>
<td>JP Corp.</td>
<td>T+3</td>
<td>T+2 to T+4</td>
</tr>
<tr>
<td>KR</td>
<td>T+1 (negotiable, market practice) T+1 to T+30 is possible</td>
<td>T+1 to T+3 (in-bound transaction) depend on the settlement cycle of designation country for investment. (out-bound transaction)</td>
</tr>
<tr>
<td>MY</td>
<td>T+1/T+2 (negotiable, market practice)</td>
<td>T+2</td>
</tr>
<tr>
<td>PH</td>
<td>T+1 (negotiable, market practice)</td>
<td>T+1 (same as domestic transaction)</td>
</tr>
<tr>
<td>SG</td>
<td>T+3 (negotiable, market practice)</td>
<td>T+1 (government bond), T+3 (corporate bond)</td>
</tr>
<tr>
<td>TH</td>
<td>T+2 (negotiable, market practice)</td>
<td>T+3 (US investor)</td>
</tr>
<tr>
<td>VN</td>
<td>T+1</td>
<td>No cross-border transaction</td>
</tr>
</tbody>
</table>

The settlement cycles of domestic bond transactions in PRC, Republic of Korea, and the Philippines are T+1, which is shorter than that of other markets. In these markets,
the trading system is directly linked with the CSD, and transmitting trade data to the CSD uses an online network. This STP may contribute to shorten the settlement cycles in the markets.

Although the cycle in VN is generally regarded as T+1, the definition of T in VN is not trade date but the date when trade data is entered to the trade system of the Hanoi Stock Exchange (HNX). Before entering the trade data into the system, an actual trade agreement should be made between a seller and buyer in the OTC market. The settlement cycle based on the trade date generally accepted in ASEAN+3 is T+2 or T+3 in VN.

3.7.2. Operating Hours

Having a common settlement cycle in ASEAN+3 will be related to operating hours in each market, particularly the cut-off time21 in the market. Operating hours and cut-off time for DVP transactions in each market from system infrastructure’s point of view is shown in Table 3.12.

Table 3.12 Operating Hour in ASEAN+3

<table>
<thead>
<tr>
<th>Country</th>
<th>CSD</th>
<th>Operating Hour based on local time</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN (+1)</td>
<td>CCDC</td>
<td>Open: 8:30, Cut off Time: 17:00, Closing Time: 18:00-19:00</td>
</tr>
<tr>
<td></td>
<td>CSDCC</td>
<td></td>
</tr>
<tr>
<td>HK (+1)</td>
<td>CMU</td>
<td>Open: 8:30, Cut off Time: 16:00, Closing Time: 18:30</td>
</tr>
<tr>
<td>ID (0)</td>
<td>BI</td>
<td>Open: 6:30, Cut off Time: 15:10 (cash settlement), Closing Time: 17:10</td>
</tr>
<tr>
<td>JP (+2)</td>
<td>BOJ</td>
<td>Open: 9:00, Cut off Time: 14:00, Closing Time: 16:30</td>
</tr>
<tr>
<td>KR (+2)</td>
<td>KSD</td>
<td>Open: 9:00, Cut off Time: 16:00, Closing Time: 17:00</td>
</tr>
<tr>
<td>MY (+1)</td>
<td>MyClear</td>
<td>Open: 8:00, Closing Time: 18:00 (13:00 on Sat)</td>
</tr>
<tr>
<td>PH (+1)</td>
<td>BTr-RoSS</td>
<td>Open: 9:30, Closing Time: 15:30</td>
</tr>
<tr>
<td>SG (+1)</td>
<td>PDTC</td>
<td>Open: 8:00, Closing Time: 18:00</td>
</tr>
<tr>
<td></td>
<td>MAS</td>
<td>Open: 5:00, Closing Time: 20:00</td>
</tr>
<tr>
<td></td>
<td>CDP</td>
<td>Open: 8:30, Closing Time: 17:30</td>
</tr>
<tr>
<td>TH (0)</td>
<td>TSD</td>
<td>Open: 7:00, Cut off Time: 17:00, Closing Time: 19:00</td>
</tr>
<tr>
<td>VN (0)</td>
<td>VSD</td>
<td>Open: 8:00, Cut off Time: 9:00 for bond settlement, 11:00 for cash settlement, Closing Time: 17:00</td>
</tr>
</tbody>
</table>

Note: Time difference from Jakarta time is shown after country code.

21 The cut-off time is the deadline for bond settlements prior to the closing time for the book-entry system as decided by market participants for the purpose of recognizing fails etc. and completing all settlements each day (source: JSDA).
3.7.3. Matching Types

The process of matching, particularly settlement matching, is categorized into two types: central matching and local matching.

1) Central Matching
Both of market participants (seller and buyer) or trading systems send the trade data to the CSD. Then, the CSD matches the data and sends back the matching confirmation to the sell side and buy side.

2) Local Matching
One side of the bond settlement, either a seller or a buyer, inputs the trade data to the CSD, and the CSD forwards the data to the counterparty (the other seller or buyer). The counterparty checks the data and sends back affirmation to the CSD, if the data is deemed as acceptable.

Table 3.13 Matching Types in ASEAN+3 Markets

<table>
<thead>
<tr>
<th>Country</th>
<th>Trade matching</th>
<th>Pre-settlement matching</th>
<th>Settlement matching</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>CFETS</td>
<td>-</td>
<td>Central/Local</td>
</tr>
<tr>
<td>HK</td>
<td>-</td>
<td>CMU</td>
<td>Central/Local</td>
</tr>
<tr>
<td>TW</td>
<td>PSMS</td>
<td>Telephone, facsimile, etc.</td>
<td>Central/Local</td>
</tr>
<tr>
<td>JP</td>
<td>PSMS</td>
<td>Telephone, facsimile, etc.</td>
<td>Local</td>
</tr>
<tr>
<td>KR</td>
<td>M-TREAS</td>
<td>-</td>
<td>Central/Local</td>
</tr>
<tr>
<td>MY</td>
<td>(BMS LIID)</td>
<td>BUPAS</td>
<td>Local</td>
</tr>
<tr>
<td>PH</td>
<td>FI trading system/RoSS</td>
<td>Telephone, facsimile, etc.</td>
<td>Central/Local</td>
</tr>
<tr>
<td>SG</td>
<td>-</td>
<td>PII, Telephone, etc.</td>
<td>Local</td>
</tr>
<tr>
<td>TH</td>
<td>-</td>
<td>Telephone, facsimile, etc.</td>
<td>Central</td>
</tr>
<tr>
<td>VN</td>
<td>HNX</td>
<td>-</td>
<td>Central</td>
</tr>
</tbody>
</table>

3.7.4. Reporting Rules

Some markets in ASEAN+3 have rules that market participants have to report trade data to authorities including self-regulatory organizations (SROs) for trade transparency. Some examples of such rules in the region are described as follows.
Table 3.14 Reporting Rules in ASEAN+3 Markets

<table>
<thead>
<tr>
<th>Economy</th>
<th>Entity Which Receive a Report</th>
<th>Reporting Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>China Foreign Exchange Trade System (CFETS)</td>
<td>The trade data are entered to CFETS for price transparency.</td>
</tr>
<tr>
<td>HK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Indonesia Stock Exchange (IDX)</td>
<td>The seller or buyer have to report trade data to Centralized Trading Platform (CTP) of Indonesia Stock Exchange (IDX) within 30 minutes of trade.</td>
</tr>
<tr>
<td>JP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KR</td>
<td>Korea Financial Investment Association (KOFIA)</td>
<td>A financial investment company engaged in bond trading should report the details to KOFIA.</td>
</tr>
<tr>
<td>MY</td>
<td>Bursa Malaysia (BM)</td>
<td>BM runs Electronic Trading Platform (ETP), and the seller and buyer have to input all trades to ETP.</td>
</tr>
<tr>
<td>PH</td>
<td>Philippine Dealing and Exchange Corporation (PDEX)</td>
<td>The seller or buyer have to report trade data to Philippine Dealing and Exchange Corporation (PDEX).</td>
</tr>
<tr>
<td>SG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TH</td>
<td>ThaiBMA</td>
<td>All debt securities trading transactions, wherever it is done, must be reported to the ThaiBMA. The ThaiBMA monitors the reported price data to ensure that disseminated prices are efficient as market reference.</td>
</tr>
<tr>
<td>VN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In ID, the Indonesia Stock Exchange (IDX) functions as a bond transaction reporting center. The seller or buyer is obliged to report trade data to the centralized trading platform (CTP) of the IDX within 30 minutes of trade.

In KR, the Korea Financial Investment Association (KOFIA) is an SRO. Financial investment companies engaged in bond trading should report the details of trade to KOFIA, and KOFIA discloses this information on its website.

In MY, Bursa Malaysia (BM) is an SRO responsible to improve trade transparency in the Malaysian bond market. BM runs an electronic trading platform (ETP), where the seller and buyer have to input all trades.

In TH, all debt securities trading transactions, wherever it is done, must be reported to the Thai Bond Market Association (ThaiBMA). ThaiBMA monitors the reported price data to ensure that disseminated prices are efficient as market reference.

Trade data collection and reporting scheme is very important issues that need to be addressed to make ASEAN+3 markets more sound and transparent. Also, this kind of initiative may be related to the activities of the ASEAN+3
Macro-economic Research Office (AMRO).

3.7.5. Physical Certificates

There are several different ways for beneficial owners to hold securities. In some economies, physical securities still circulate in particular for corporate bonds, and beneficial owners may keep securities in their possession. Generally, beneficial owners employ a custodian to hold them to reduce risks and safekeeping costs.

Table 3.15 Exchangeability of Scripless Bonds to Physical Bonds

<table>
<thead>
<tr>
<th>Country</th>
<th>Exchangeability of Scripless Bonds to Physical Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>No</td>
</tr>
<tr>
<td>HK</td>
<td>Yes</td>
</tr>
<tr>
<td>ID</td>
<td>Yes</td>
</tr>
<tr>
<td>JP</td>
<td>No</td>
</tr>
<tr>
<td>KR</td>
<td>Yes</td>
</tr>
<tr>
<td>MY</td>
<td>Yes</td>
</tr>
<tr>
<td>PH</td>
<td>Yes</td>
</tr>
<tr>
<td>SG</td>
<td>Yes</td>
</tr>
<tr>
<td>TH</td>
<td>Yes</td>
</tr>
<tr>
<td>VN</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Bonds are completely dematerialized in CN and JP.

The disadvantages of physical certificates are the needs for manual examination, risk of loss, damage or forgery, and cost of storage. They prevent cross-border investors from trading.

Thus, the immobilization or dematerialization of securities should be considered. Immobilization of physical securities is to involve concentrating the location of physical securities in a depository (or CSD). The costs and risks associated with owning and trading securities may be reduced considerably through immobilization. A global note, which represents the whole issue, is issued for immobilization. A further step away from circulating physical securities is full dematerialization of a securities issue. In this approach, there is no global note issued, as the rights and obligations stem from book entries in an electronic register.

The immobilization or dematerialization of securities and their transfer by book entry within a CSD significantly reduces the total costs associated with securities settlements and custody. By centralizing the operations associated with custody and transfer within a single entity, costs can be reduced through economies of scale. In addition, efficiency gains can be achieved through increased automation, which reduces the errors and delays inherent in manual
processing. By reducing costs and improving the speed and efficiency of settlement, book entry settlement also supports the development of securities lending markets, including markets for repurchase agreements and other economically equivalent transactions. These activities, in turn, enhance the liquidity of securities markets and facilitate the use of securities collateral to manage counterparty risks, thereby increasing the efficiency of trading and settlement.

The immobilization or dematerialization of securities also reduces or eliminates certain risks, for example destruction or theft of certificates. The transfer of securities by book entry is a precondition for the shortening of the settlement cycle for securities trades, which reduces replacement cost risks. Book entry transfer also facilitates delivery versus payment, thereby eliminating principal risks.

3.8. Cross-border DVP Flows and LCY Liquidity

Some specific characteristics of cross-border DVP flows in ASEAN+3 were studied and the key findings in reference to a typical type of cross-border flows in Figure 3.12 are summarized below:

1) To comply with “Trade Reporting” requirements, domestic brokers and/or banks send trade details to authority in order to ensure transparency in ID, KR, MY, and TH.
2) For the purpose of obtaining relevant “Tax Information”, extra messages may need to be exchanged in order to calculate appropriate capital gains tax in ID.
3) Related to the “Remittance of Funds”, foreign institutional investors may need to remit funds before settlement in CN and VN due to pre-funding requirement.
4) Global custodians and local custodians need to send additional “FX Instruction and Confirmation” messages in ID, KR, MY, PH, TH, and VN. Typical FX and cash controls in ASEAN+3 are summarized in Table 3.16 as a reference.
5) A specific “Registration Document” needs to be issued for capital repatriation and/or remittance of interest payment in PH.
Table 3.16 Typical FX and Cash Control in ASEAN+3

<table>
<thead>
<tr>
<th>FX Trades with Underlying Investment</th>
<th>Pre-funding</th>
<th>Prohibition of In-hom-parity FX</th>
<th>Prohibition of Over-craft by Non-residents</th>
<th>Prohibition of Offshore FX Trading for Investment</th>
<th>Limitation on Repatriation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>HK</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>ID</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>JP</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>KR</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>MY</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>PH</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>SG</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>TH</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>VN</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y:N</td>
</tr>
</tbody>
</table>

3.9. Communication Protocol

The communication protocol between market participants and CSDs in each
market is mostly transmission control protocol/Internet protocol (TCP/IP), while message formats vary from market to market, and do not have de facto standard. Most of the protocols between market participants and cash settlement infrastructures also use TCP/IP. Protocols and Message formats in each market are showed in Table 3.17.

### Table 3.17 Protocols and Message Formats in ASEAN+3 Bond Markets

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CN OTC</td>
<td>direct link</td>
<td>TCP/IP, HTTP, SOAP</td>
<td>XML and Text</td>
<td>TCP/IP</td>
<td>-</td>
</tr>
<tr>
<td>HK OTC</td>
<td>direct link</td>
<td>TCP/IP</td>
<td>ISO10312</td>
<td>TCP/IP</td>
<td>SWP-1</td>
</tr>
<tr>
<td>ID OTC</td>
<td>terminal access</td>
<td>SNA, TCP/IP will be adopted</td>
<td>Proprietary, SWP-1 will be adopted</td>
<td>TCP/IP</td>
<td>Proprietary, SWP-1 will be adopted</td>
</tr>
<tr>
<td>JP OTC</td>
<td>direct link</td>
<td>TCP/IP</td>
<td>Proprietary, ISO20022 will be applied (XML and XUL)</td>
<td>TCP/IP</td>
<td>-</td>
</tr>
<tr>
<td>KR OTC</td>
<td>direct link</td>
<td>TCP/IP</td>
<td>-</td>
<td>TCP/IP</td>
<td>-</td>
</tr>
<tr>
<td>MY OTC</td>
<td>terminal access</td>
<td>TCP/IP</td>
<td>-</td>
<td>TCP/IP</td>
<td>-</td>
</tr>
<tr>
<td>TH OTC CSD</td>
<td>terminal access</td>
<td>TCP/IP</td>
<td>Proprietary</td>
<td>TCP/IP</td>
<td>SWP-1</td>
</tr>
<tr>
<td>SG OTC</td>
<td>terminal access</td>
<td>TCP/IP</td>
<td>-</td>
<td>TCP/IP</td>
<td>-</td>
</tr>
<tr>
<td>TH OTC</td>
<td>terminal access</td>
<td>TCP/IP</td>
<td>-</td>
<td>TCP/IP</td>
<td>-</td>
</tr>
<tr>
<td>VN OTC</td>
<td>terminal access</td>
<td>TCP/IP</td>
<td>-</td>
<td>XML</td>
<td>-</td>
</tr>
</tbody>
</table>

Some CSDs have direct linkages with market participant’s systems. In the future, ABMF SF2 can promote to build an environment for cross-border transactions by standardizing the message format of the linkages based on international standards.
4. Key Observations and Policy Recommendations

Based on the key findings described in Section 3, the members discussed policy recommendations as a guiding reference to policies on bond market regulation and practices of individual economies and also mutual cooperation among the economies in the region in the future. The policy recommendations are identified by order of (1) bond market infrastructures, (2) DVP flows, (3) interest payment flows, (4) message standards including numbering and coding, (5) market practices and other issues, and (6) cross-border STP and LCY liquidity.

4.1. Bond Market Infrastructures

Robust and sound bond market infrastructures such as Central Securities Depository (CSD) and Real time Gross Settlement (RTGS) systems are already implemented in the 10 economies which have already developed bond markets in the region. However, infrastructures for further efficiency and risk reduction purposes, such as Pre-Settlement Matching System (PSMS), Central Counterparty (CCP), Trade Repository (TR), and automated Trading System (TS) are not fully implemented yet. Such infrastructures may be introduced considering a variety of conditions including the level of trade value, trade volume, and number of market participants. When implementing bond market polices in the future, it is also suggested that Principles for Financial Market Infrastructures (PFMI) and related principles and recommendations published by CPSS/IOSCO be observed.

1) **Implementation of Automated Pre-Settlement Matching Infrastructure**:  
Most economies have not yet developed an Automated PSMS and pre-settlement matching is conducted manually. As utilizing an automated PSMS would be conducive to STP, with decreased workload and failure compared to manual processes, it is recommended to implement automated pre-settlement matching infrastructure in each economy in a standardized manner. Pre-settlement matching utilizing forward dated transactions could also be an alternative way. Pre-settlement matching system may be considered as one of the cornerstones in improving STP in the region.

2) **Discussion on CCP with Market Development**:  
It is generally perceived that a CCP for bond transaction is currently not so urgent when considering limited need for risk reduction through a CCP compared to OTC derivatives, and the lower trading and settlement volume in
the current bond markets in the region. In this respect, it is advisable to consider discussions on CCP for the OTC market later when bond trade volumes increase to a significant level. At the same time, introduction of CCP in exchanges might be also considered in relation with other instruments such as equity.

3) **Central and Local Matching as Standard:**

Both central matching and local matching are common in ASEAN+3. Considering the market practices and other factors, it is recommended that both central and local matching types are clearly regarded as standard.

4) **Bond Settlement Using Central Bank Money:**

In most of the economies, central bank money is used to settle government and corporate bonds. For other economies, it is recommended that central bank money be used for bond settlement including cross-border bond settlement, in particular for government bond settlement to reduce settlement risk with relatively high value.

5) **Strengthening Price Discovery and Transparency:**

Trade repositories (TRs) have been established in some economies to secure price discovery and transparency and so as to enhance information flows, which could contribute to cross-border bond trades in the region. For those economies without a TR, it is advisable to consider establishing it when market develops significantly.

4.2. DVP Flows

Bond trade and settlement (DVP) flows in ASEAN+3 vary economy by economy or even CSD by CSD. The flows for residents are different from that for non-residents in some economies. It is recommended to discuss harmonization of the flows considering the impact to both the infrastructures themselves and participant systems connected with them. Such harmonization could be utilized for defining business and system requirements of interlinking gateways and/or a hub between CSD and/or RTGS systems.

1) **Enhancing STP in CSDRelated Data Flows:**

Entering settlement instruction data to CSD is not automated yet in many economies and it is recommended that CSDs be connected with upstream infrastructures such as PSMS in order to promote STP in each economy. In such a case, redundant message flows may be identified and removed where
possible.

2) Developing a Reference Model for DVP Flows for Gradual Harmonization of the Flows:
DVP flows are different economy by economy or even CSD by CSD. Whereas, standardizing DVP flows into a unique model is practically unfeasible since infrastructure, legal system and tax system vary among economies. In this respect, it is recommended that ABMF SF2 discuss best practices of DVP flows and propose a reference model of DVP flows with possible variations. When an individual economy is reconstructing bond market infrastructures, the model DVP flow could be referenced as much as possible. When developing model DVP flows, impacts to the core infrastructures such as CSD and RTGS systems should be minimized. At the same time, conversions between international standards and proprietary practices at intermediaries are also to be minimized. More harmonized DVP flows could contribute to defining requirements of interlinking gateways and/or a hub between CSD and/or RTGS systems in the future.

4.3. Interest Payment Flows
Interest payment and redemption flows are also different economy by economy and CSD by CSD. One of the major reasons for the different flows would be differences in the tax regime applied. It will be difficult to expect that the flows could be simply standardized to a single flow since there are fundamental differences based on different tax regimes such as capturing the tax status of investors and the legal interpretation of TWA, among others. The exemption from Withholding Tax (WHT) for non-residents has been one of the key expectations from market participants.

1) Survey on the Roles of PA, AMA, and TWA across economies:
In the process of interest payment from an issuer to an investor, the PA which is designated by the issuer, transfers interest to an AMA. The AMA is generally a custodian except in those economies adopting segregated account system where all investors need to open accounts with the CSD. The TWA is responsible for payment processes of WHT to the tax office on behalf of investors. Central banks, commercial banks, CSDs, issuers and the Bureau of Treasury act as TWA. However, the specific roles of PA, AMA, and TWA vary across the economies in ASEAN+3. The different roles may not be defined
uniformly since there are fundamental differences such as legal system and infrastructure in the region. In respect of cross-border STP, it is recommended that the basic roles of PA, AMA, and TWA be surveyed to find out the common elements and gaps in order to make cross-border interest payment more efficient.

2) **Continued Study on Interest Payment Flows with a View to Gradual Harmonization:**
   In addition to the survey on roles of related institutions, it is recommended that ABMF SF2 continue to discuss the differences of interest payment flows from the viewpoint of gradual harmonization. ABMF SF2 will continue to discuss commonalities and differences of interest payment flows related to cross-border collateral and repo. Also, business processes may be gradually standardized starting from less critical one such as documentation to be submitted to the authorities.

4.4. **Message Standards including Numbering and Coding**
   Message formats in most economies in ASEAN+3 are not fully compliant with international standard yet. It is recommended that the message format be compliant with ISO 20022. ABMF members and ASEAN+3 authorities are expected to support migration of message standards of bond market infrastructures to ISO 20022. The numbering and coding standards which are already registered as international standards such as ISIN and BIC are recommended to be duly adopted in ASEAN+3.

1) **Migration to ISO 20022:**
   Considering the trend of ISO 20022 implementation in major bond market infrastructures including the EU, the year around 2015-2016 could be a turning point to migrate to ISO 20022. It is recommended for ASEAN+3 economies to adopt ISO 20022 as standard message format, whenever an upgrade opportunity exists.

2) **Standardization of Message Items:**
   The definitions of message items are different economy by economy or even CSD by CSD. It is recommended that essential messages including settlement instruction and settlement confirmation be standardized in compliance with ISO 20022 in order to facilitate and enhance cross-border STP.
3) **Utilizing ISIN as Unique Number and Establishing Common Rules on ISIN:**
   All ASEAN+3 economies have National Numbering Agencies (NNAs) with full membership in the Association of National Numbering Agencies (ANNA). However, ISIN is not widely used as a standard in the economies yet. There remain differences in numbering convention and the period of allocating and disseminating the ISIN in the economies. For example, in an economy, NNA allocates an ISIN after receiving bond information from a CSD that makes the ISIN available to trustees and CSD participants on the same day by notifying it, whereas, it takes a number of additional days in other economies. There are two different ISINs for single domestic securities number in an economy. In this respect, it is recommended that ISIN be used as a unique numbering to identify bonds in each economy and that common rule be established about allocation and notification of ISIN. Cooperation with ANNA may bediscussed.

4) **Promotion of BIC:**
   Some market infrastructures still use proprietary code for financial institution identification. It is recommended that BIC be adopted taking the opportunity of re-constructing their systems. In addition, it is desirable that each economy has a common recognition on the numbering, notification and maintenance of BIC.

### 4.5 Market Practices and Other Issues

There exist differences in market practices and in other issues such as investor identification and account structure. It is recommended that market practices and other issues related to bond trade and settlement continue to be discussed in respect of enhancing efficiency of the market though the market practices are not easy to standardize and some practices do not even have specific standard.

1) **Harmonization of Market Practices:**
   Some market practices such as settlement cycle are different across the economies. The standardization of different market practices could be an important issue in enhancing cross-border STP. In this respect, it is recommended that the policy authorities, Self Regulatory Organizations (SRO), and market participants continue to discuss different market practices for the purpose of harmonization.

2) **Investor Identification:**
Identifying investors, either as residents vs. non-residents or professional investors vs. retail investors, is an important issue in some markets due to regulations on taxation, foreign exchange, and other legal and regulatory provisions. Currently, such regulations are different across the economies and it represents one of underlying factors making bond transaction flows being complicated and different across economies. In respect of STP and market efficiency, it is perceived as important to review such regulations gradually in a long term perspective together with market developments.

3) Account Structure:
Due to differences of a bond holder’s right to claims on assets, there are some types of account: own account, customer account, pledge account, trustee account and so on. In addition, taxation has influences on account structures: non-taxable account and taxable account. Omnibus account vs. segregated account and the separation of own account and customer account are important issues. It would be difficult to standardize account structures which are stipulated according to underlying laws and regulations including tax regimes in the short term. However in respect of cross border STP, it is perceived as important to review the account structures gradually in a long term perspective with market developments.

4) Language for Bond Settlement Infrastructures:
English is not a common language yet in ASEAN+3 bond markets. Some economies are using local language for settlement messages. It is advisable that English be used when possible.

4.6. Cross-border STP and LCY Liquidity
When executing cross-border bond trades, FX and cash controls have been perceived as one of the key barriers in the region. During the ABMF SF2 market survey, many market participants addressed the need for deregulation of the controls to promote cross-border trade and settlement with improved availability of LCY. On the other hand, with changing regulatory demand and collateral landscape in recent years, demands for cross-border collateral and cross-border repo services have been increasing worldwide and in the ASEAN+3 economies as well. Under such circumstances, it is recommended that ABMF SF2 would study further cross-border collateral and repo from technological perspective including current market practices, regulatory aspects and infrastructure. The study could also include linking CSD and RTGS systems in ASEAN+3 aiming at utilizing
central bank money.

1) **Promoting Cross-border Collateral and Repo Services:**
   Obtaining and maintaining local currency balances is critical to non-resident investors in cross-border bond investment. As a tool for accessing local currency liquidity, the importance of cross-border collateral and repo has been increasing in recent years. In this respect, it is recommended that policy measures be considered to promote cross-border collateral and repo services. It is also recommended that ABMF SF2 could conduct a study about cross-border collateral and repo services.

2) **FX and Cash Controls:**
   Except for HK, JP and SG, there remain some FX and cash controls for bond trade and settlement in ASEAN+3 economies. Although it would not be practical to expect significant regulation changes in the short term, it is recommendable that some of the regulations could be reviewed in respect of the bond market development in a longer term perspective. Such regulations might include FX quotas, limitations on off-shore trades, prefunding rules, regulations on overdraft, and FX reporting requirements subject to the discretion of the policy authorities.
5. Knowledge Support

Knowledge support is provided to the countries which are now trying to develop bond markets in ASEAN+3 by cooperating with ABMI Technical Assistance Coordination Team (TACT).

There has been a need to provide tailor-made knowledge supports for those economies with less developed capital markets or being at the initial stage of developing capital markets, whose interested areas and the focus of knowledge support are quite different from those with more developed capital markets. Through various knowledge events, it has been identified the economies with less developed capital markets are having a specific demand and focus for knowledge support, which could be more efficiently addressed when the knowledge events were organized focusing on such specific demand.

On this background, it is suggested to provide tailor-made knowledge supports for the ASEAN+3 economies with less developed capital markets. The target economies could include small five ASEAN members, namely Brunei Darussalam, Cambodia, Lao PDR, Myanmar, and Vietnam (BCLMV). The support could be provided in phased approach subject to specific assistance requests from each of the targeted economies.

- Phase 1 (Kick off seminar, December 2012): Organizing a kick-off seminar to provide in-depth knowledge sharing opportunity to BCLMV. Key participants would be the officials and staff in the Ministries of finance, central banks, and regulatory authorities of BCLMV. The agenda and course design would be set up focusing on the fundamental infrastructure, both software and hardware, needed for developing government bond markets. Resource persons could be sought in a broader perspective of existing network, including ADB's own resources, ABMF members and experts, and professionals involved in various ABMI TA projects.

- Phase 2 (On-site knowledge support, 2013): Conducting individual market visits to provide demand specific knowledge support to each economy. Although the kick-off seminar could cover general concerns of the participating economies at the early stage of developing bond markets, the specific assistant needs and the focus of interest could be difference depending on the status of the market.
development and policy objectives. To serve such needs, a team consists of relevant expertise would visit the individual economy and provide in-depth knowledge support help develop feasible policy action plan. The visits could be considered as one of planned market visits under Phase 2 ABMF activities. The visits will be organized only when the requested is given by respective economies with clarified specific assistant needs.

· Phase 3 (Follow up program support): Through phase 1 and phase 2, it can be identified whether continued supports are needed to help individual economies developing government bond markets. If needed, then stand-alone ADB program/project or ASEAN+3 projects could be considered. Phase 3 support would be provided only when the respective economy has strong interest and commitment for the program/project.

The knowledge support described above is currently conducted up to the middle of phase 2 targeting KH, LA, and MM. Further knowledge support may be necessary in line with the necessity and request of the target countries. The programs provided were wide range of issues related to bond market development and not limited to bond marker infrastructures.
6. Next Phase of ABMF SF2 Activities and Roadmap

6.1. Overview

Followings are the Phase 3 activities of ABMF SF2 approved by the ABMI TF3 members in April 2013 and endorsed by ASEAN+3 Finance Ministers and Central Bank Governors at the Annual Meeting on May 2, 2013 in Delhi. The Phase 3 of ABMF SF2 was scheduled to start in January 2013 and to be completed in December 2014.

Work items approved by ABMI TF3 are as follows:

1) **Work on Harmonizing Message Flows**: ABMF SF2 will develop a reference DVP model flow through the discussion of best practices in ASEAN+3. The scope of the DVP flow to be proposed as the reference model is to be from pre-settlement matching to bond and cash settlement. When discussing harmonization of message flows, regulatory barriers preventing the DVP flow from STP will also be identified.

2) **Work on Standardizing Message Items**: ABMF SF2 will discuss the standardization of the basic message items of critical messages such as settlement instruction and settlement confirmation, in reference to ISO 20022. Message items of bond trade and settlement infrastructures are to be studied to have a common understanding on each message.

3) **Discussion on Harmonization of Market Practices**: ABMF SF2 will be engaged in a study to promote harmonization of market practices in ASEAN+3. Specific market practices to be discussed will be chosen from the viewpoint of promoting cross-border STP. Settlement cycles in line with FX spot dates and time period between record date and payment date could be candidates to be studied. In carrying out the study, an institutional framework for the cooperation with SROs and other related organizations would be explored.

4) **Study on Cross-border Collateral and Repo Services**: For the benefit of further development in the cross-border collateral and repo markets, ABMF SF2 will study the current market practices, related legal and regulatory aspects, and infrastructures, with an aim to identifying best practices and providing policy recommendations. The study could also include cross-border collateral and repo services linking CSD and RTGS systems. Interest payment flows related to cross-border collateral and repo services linking CSD and RTGS systems will also be studied.
6.2. Harmonizing Message Flows

One of the most important objectives of harmonizing message flows is to develop a reference model of DVP flow of ASEAN+3 bond settlement. Bond and cash settlement flows for both government and corporate bonds are expected to be harmonized by sharing an idea of reference model DVP flows as a target flow when each operator of bond and cash settlement infrastructures reconstructs the infrastructures. In other words, each market infrastructure owner and operator is expected to follow the model flows when planning and developing new infrastructure in the future.

6.2.1. Concept of Harmonizing DVP flows is illustrated in Figure 6.1.

In order to discuss the reference model DVP flows, firstly basic principles to DVP flows will be discussed. Preliminary draft of the principles is proposed by the ADB Consultant as follows:

Figure 6.1 Concept of Harmonizing Message Flows

1) Real time gross settlement is to be used for both bond settlement and cash settlement.
2) DVP (delivery versus payment) is to be secured.
3) Central bank money is to be used for cash settlement.
4) Data are to be transferred from upstream infrastructure to downstream infrastructure where and when possible.
5) Results of processes in infrastructures are to be informed to participants appropriately.
6) Quality of data transferred and processed is to be confirmed when the data are entered by different party.

6.2.2. Initial candidates of reference model DVP flows

As a starting point of discussion, ADB consultant for SF2 proposed three types of DVP flows as initial candidates of reference model DVP flows as shown in Figures 6.2, 6.3, and 6.3.
Figure 6.2 Draft Reference Model DVP Flow (Central Matching with PSMS)

Figure 6.3 Draft Reference Model DVP Flow (Central Matching without PSMS)
In order to discuss the reference model DvP flows, key elements of the flows to be discussed are also proposed as shown as follows (refer to the Figure 3.3) which will be scrutinized by the members and experts before discussions.

1) Transferring settlement instruction from upstream system to PSMS  
   a) Direct online linkage between upstream system and PSMS is desired where possible. Whereas, if a broker automates its system and has direct connection with custodians, custodian can enter settlement instructions to PSMS adding necessary information to trade data sent from the broker.

2) Forwarding Instruction to sell and buy sides, then affirmed by both sides. Also, enter settle. Instruction when there is no transfer from upstream system  
   a) Settlement instruction data transferred from upstream infrastructure to the PSMS need to be forwarded to sell side or buy side since the party (broker) which entered the data to PSMS is different for the party (custodian) which is supposed to receive the forwarded data. Message items for settlement instructions need to be standardized.
   b) Maximum limit of time to return affirmation to CSD may better be agreed as a market practice. How to return the affirmation including message items need to be harmonized. The practices when data are not correct may also need to be harmonized.
3) Matching method and items
   a) Pre-settlement matching for cross-border transactions need to be completed by S-1.
   c) Message items to be pre-matched need to be discussed. Integrity of data matched needs to be guaranteed. Also, adoption of tolerance matching needs to be discussed and harmonized.
   d) Status control such as matched, unmatched, and mismatched needs to be harmonized.
   e) Both central matching and local matching for PSMS need to be accepted.
   f) Using post dated transaction of CSD system instead of developing PSMS may need to be discussed.

4) Settlement Matching Notice to sell side and buy side
   a) Message items of settlement matching notice need to be standardized.

5) Transferring matched results from PSMS to CSD system
   a) Message items of matched results may need to be standardized when PSMS and CSD are operated in different platform.
   b) Processes such as queuing function and partial settlement when balance of bond in sell side account is insufficient need to be harmonized.

6) Forwarding the result neither sell side nor buy side
   a) Since the participants of PSMS and CSD are same custodians, it may not be necessary to forward matched results transferred from PSMS to either sell side or buy side.

7) Locking bond
   a) Ideal way of DVP settlement is that bond and fund are settled simultaneously. But, when CSD system and RTGS system are operated in different platforms, it is not realistic to settle securities leg and cash leg simultaneously from technological perspective. Therefore, firstly, traded bond needs to be locked (earmarked) by debiting from seller’s account and securing in a neutral account, then transfer fund from buyer’s account to seller’s account.
   b) When locking bond of sell side, legal status such as who owns the bond as well as how it is processed such as blocking and earmarking may need to be discussed and harmonized.

8) Transferring cash settlement instruction
   a) Message items of cash settlement transactions from CSD to RTGS need to be standardized. Message items for the settlement instruction need to be
9) Forwarding the instruction and affirmation from buy side.
   a) Cash settlement instruction transferred from CSD to RTGS need to be forwarded to buy side of participant for affirmation. How to send back affirmation including maximum time limit of affirmation (market practice) needs to be harmonized. Queuing when balance of cash account of buy side is insufficient needs to be provided. Message items for settlement instructions need to be standardized.

10) Cash settlement (transfer fund from buy side to sell side)
    a) Settlement processes when balance is insufficient need to be harmonized.

11) Cash settlement confirmation to sell side and buy side
    a) Whether the cash settlement confirmation is necessary or not need to be decided.
    b) Message items for settlement instructions need to be standardized. Latest cash balance need to be included to the message items.

12) Cash settlement confirmation to CSD system
    a) Message items for settlement instructions need to be standardized.

13) Bond settlement
    a) After completing cash settlement, locked bond is to be credited to buy side account. DVP settlement is to become final.

14) Bond settlement confirmation
    a) Completing notice of DVP settlement will be sent to sell side and buy side. Message items for settlement confirmation need to be standardized.

6.2.3. Scope of harmonizing message flows
From trade of bonds to the settlement of them, some market infrastructures such as trading system (TS), post-trade matching system (PTMS), central counterparty (CCP), pre-settlement matching system (PSMS), central securities depository (CSD), and real time gross settlement (RTGS) are involved to complete the settlement. As a first step, harmonization of flows from PSMS to settlement (both bond and cash settlements) will be mainly discussed.

6.3. Standardizing Message Items in order for ISO 20022 migrations
Fit & gap analysis conducted during phase 2 revealed that there are significant differences of definitions and handling of message items of settlement instruction and confirmation messages in ASEAN+3. Considering the results of the fit & gap analysis,
each bond market infrastructure is expected to migrate to International standards taking opportunity of reconstructing the systems. In such a case, ISO 20022 may be adopted as a message standard. Essential messages consisting of the Model DVP flow will be identified. Then, message items composing the messages will be standardized. This standardization of message items will be a good reference for planning ISO 20022 migration. Followings are target messages to discuss standardization of the message items.

Figure 6.5 Target Messages to Discuss Standardization of Message Items

1) Settlement instruction messages need to be standardized including message items and communication protocols.
   - Settlement instructions both from upstream infrastructures such as post-trade matching system and trading system as well as the instructions from participants (buy side and sell side) will be discussed.

2) The message informing matching results both from PSMS or CSD to participants (sell side and buy side) as well as from PSMS to CSD (if PSMS and CSD are different entities) needs to be standardized.

3) Cash settlement instructions from buy side to RTGS need to be standardized including message items.

4) Cash settlement confirmation from RTGS to participants (sell side and buy side)
will be standardized.
5) Bond settlement confirmation message will be standardized.

6.4. International Securities Identification Number (ISIN)
Establishing common rules on ISIN as well as utilizing ISIN as unique numbering is one of the most important issues for cross-border STP.

Considering the key observations of the Phase 2 Report, following issues need to be addressed:
1) ISIN is not widely used as a standard in the economies yet,
2) There remain differences in numbering convention and the period of disseminating the ISIN in the ASEAN+3 economies. For example, it takes a number of days in some economies, and
3) There are two different ISINs for single domestic securities number in an economy.

Considering such a situation, ABMF SF2 may need to cooperate with National Numbering Agencies (NNAs) in ASEAN+3 and possibly Association of National Numbering Agencies (ANNA). Following is the current status of ISIN operation in ASEAN+3.

Table 6.1 Securities Numbering (ISIN: International Securities Identification Number)

<table>
<thead>
<tr>
<th>Securities numbering</th>
<th>Allocation and availability of ISIN</th>
<th>National Numbering Agency (NNA)</th>
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</thead>
<tbody>
<tr>
<td>CN Proprietary</td>
<td>(to be confirmed)</td>
<td>China Securities Regulatory Commission</td>
</tr>
<tr>
<td>HK Partly use ISIN. Mostly proprietary numbering do not always uniquely match.</td>
<td>(to be confirmed)</td>
<td>Hong Kong Exchanges and Clearing Ltd.</td>
</tr>
<tr>
<td>ID Partly use ISIN. Mostly proprietary</td>
<td>(to be confirmed)</td>
<td>Indonesian Central Securities Depository (KSEI)</td>
</tr>
<tr>
<td>JP Currently partly use ISIN. ISIN will be unique securities numbering after 2016</td>
<td>Yes</td>
<td>Tokyo Stock Exchange</td>
</tr>
<tr>
<td>KR Partly use ISIN. Mostly proprietary</td>
<td>(to be confirmed)</td>
<td>Korea Exchange</td>
</tr>
<tr>
<td>MY Proprietary</td>
<td>(to be confirmed)</td>
<td>Bursa Malaysia</td>
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<tr>
<td>PH Proprietary</td>
<td>(to be confirmed)</td>
<td>Philippine Stock Exchange, Inc.</td>
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<tr>
<td>SG ISIN and proprietary numbering do not always uniquely match.</td>
<td>(to be confirmed)</td>
<td>Singapore Exchange Limited</td>
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<tr>
<td>TH ISIN</td>
<td>(to be confirmed)</td>
<td>Thailand Securities Depository</td>
</tr>
<tr>
<td>VN Proprietary</td>
<td>No</td>
<td>Vietnam Securities Depository</td>
</tr>
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</table>

Note: National Numbering Agency (NNA) should allocate ISIN within 24 hours following the request and making the ISIN available to users at the same time in each economy. Proprietary securities number is generally allocated by each CSD.
6.5. Harmonization of Market Practices
Harmonization of market practices is an important issue to promote cross-border STP in ASEAN+3. Candidates of market practices to discuss standardization of them are expected to be proposed by the members and experts.

Cooperation with SROs and other related organizations would be explored. Also, best practices proposed by organizations such as ISITC and SMPG may need to be referred and utilized.

6.6. Study on Cross-border Collateral and Repo Services
Since cross-border collateral and repo are the typical and important services from cross-border STP perspective. Cross-border collateral and repo services currently available in the market and possible future services directly linking bond market infrastructures will be studied.

The current market practices, related legal and regulatory aspects, and infrastructures will be studied with an aim to identifying best practices and providing policy recommendations. Main services provided by private sector may need to be surveyed; then, barriers for the services, if any, may be identified.

Cross-border collateral and repo services linking CSD and RTGS systems will also be studied. Interest payment flows related to cross-border collateral and repo services linking CSD and RTGS systems will also be studied. Differences of roles and functions of PA will also be studied.

6.7. Roadmap and Future Work Plan
In relation to the suggested next phase of ABMF activities, ABMF SF2 proposed the following roadmap and work plan and approved by the ABMI TF3 members.

2014-2015: Providing proposals for the harmonization of ASEAN+3 bond markets
- Proposal on a reference model of DVP flows
- Proposal on ISO 20022 adoption of message items
- Proposal on harmonizing market practices, where possible
- Proposal on cross-border collateral and repo services
After 2015: Implementation of international standards

- Upgrade or reconstruction of bond market infrastructures in accordance with International standard (ISO 20022) in some of the economies
- Progress in harmonization of market practices such as settlement cycle
- Progress in discussion on linkage of bond market infrastructures in the region

An image of schedule 2014-2015 is illustrated as follows.

Figure 6.6 Possible Roadmap of Phase 3
7. Conclusion

With a long term vision of enhancing STP in the region, ABMF SF2 have continued work on identifying bond transaction flows and collecting the related information and data. Through Phase 1 and Phase 2 activities, comprehensive information on DVP transaction flows, interest payment and redemption flows, information on messaging format and items including numbering and coding, and market practices have been collected. In addition, fit and gap analysis was conducted on typical transaction flows to see the differences in the current flows from international standards.

The information and data accumulated through Phase 1 and Phase 2 AMBF SF2 activities will be utilized as substantial and practical references in pursuing the harmonization of transaction flows and market practices. As an immediate output of the collected information and the fit and gap analysis, ABMF SF2 members identified policy recommendations in the area of bond market infrastructures, DVP flows, interest payment flows, message standards, numbering and coding, market practices and other issues, and cross-border STP and local currency liquidity. ABMF SF2 members hope the suggested recommendations could be a good reference for the policy authorities in designing and implementation bond market policies. Possible future image of bond market infrastructures in ASEAN+3 is illustrated as follows.

Figure 7.1 Possible Future Image of Bond Markets in ASEAN+3

<table>
<thead>
<tr>
<th>Standardization of bond settlement related messages and items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation cross-border STP</td>
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<tr>
<td>Decrease manual operations (efficiency)</td>
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<tr>
<td>Decrease processing time (settlement period)</td>
</tr>
<tr>
<td>Cost and risk reduction</td>
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<tr>
<td>Increase bond trade and settlement transactions</td>
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<tr>
<td>Realize thick and liquid bond markets</td>
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<table>
<thead>
<tr>
<th>Implementation of CSD and RTGS Linkage</th>
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<tr>
<td>Cross-border collateral, repo, and DVP</td>
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<th>Technical assistance</th>
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<td>Cambodia</td>
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<td>Lao PDR</td>
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<td>Myanmar</td>
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As a reference, outline activities of ABMF SF2 Phase 1, Phase 2, and coming Phase 3 are shown as follows.

**Figure 7.2  Outline of Activities of ABMF SF2**

<table>
<thead>
<tr>
<th>Implementation of cross-border STP in ASEAN+3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1</strong></td>
</tr>
<tr>
<td>① Survey on bond market infrastructures in ASEAN+3</td>
</tr>
<tr>
<td>② Survey on DVP flows from trade to settlement of government bonds</td>
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<tr>
<td><strong>Phase 2</strong></td>
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<tr>
<td>① Survey on not only government but also corporate bond</td>
</tr>
<tr>
<td>② Add interest payment and redemption flows in addition to DVP flows</td>
</tr>
<tr>
<td>③ Conduct fit &amp; gap analyses with the international standard</td>
</tr>
<tr>
<td>④ Propose policy recommendation and roadmap</td>
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<tr>
<td><strong>Phase 3</strong></td>
</tr>
<tr>
<td>① Harmonize and standardize bond trade and settlement flows and message items in ASEAN+3</td>
</tr>
<tr>
<td>② Survey on cross-border DVP, collateral, and repo</td>
</tr>
</tbody>
</table>
8. Acknowledgement

This report is a result of many efforts of individuals and various organizations.

In compiling this report, references were made to a number of publications by ABMF SF2 members and experts in particular the International Experts including HSBC, State Street, Citigroup, JPMorgan, Mizuho Bank, and Deutsch Bank.

Valuable information, advice, and guidance have been provided by SF2 members and experts as well as ABMF-Japan members in particular Messrs. Koji Kawashima, Kazuo Kobayashi, Takahiro Tsuda, Moriaki Inamoto and his team from the Ministry of Finance of Japan.

SF2 has obtained valuable information from presenters at the information sessions as shown in Appendix 3. During the visit in ASEAN+3 economies, the entities visited shown in Appendix 4 kindly provided very valuable information to SF2.

We have also received valuable information and guidance from central banks who are not members of the ABMF SF2.

Top management of NTT DATA Corporation Messrs. Toshio Iwamoto, Eiji Yamada and their team supported ABMF SF2 from technological perspective.

Last but not least, ADB supporting team helped the ADB consultant for SF2. Without the support this report could not be completed.

The ADB secretariat team would like to express their heartfelt gratitude to all of the above for their kind assistance.

---

22 Mr. Satoshi Kubo, Mr. Fumihiko Sugiuara, Mr. Takahiro Yanagisawa, Ms. Keiko Yoshida, Mr. Masahiro Nishihara, and Mr. Naoyuki Sawai

23 Ms. Raquel R. Borres, Ms. Sheila Sombillo, and Ms. Susan C. Monteagudo
Appendix 1 Members and Experts including Observers and ADB Secretariat Team

Membership and Participants

The ABMF consists of (i) national members, (ii) national experts, and (iii) international experts. Members and experts were selected based on issues adopted by TF3, and must have extensive knowledge of and expertise in the relevant issues. Members and experts were selected from among those actively involved in bond markets in the region including, but not limited to:

(i) financial industry associations such as bankers' associations, securities dealers' associations, and self-regulatory organizations (SROs);
(ii) institutional investors such as pension services, fund managers, and insurance companies;
(iii) commercial banks and brokers;
(iv) custodians and central securities depositories (CSDs);
(v) rating agencies;
(vi) financial services providers, including information technology vendors;
(vii) financial regulators, including securities commissions;
(viii) central banks;
(ix) law firms; and
(x) academics.

• National Members
  The national members were nominated by each member country of TF3. In principle, the number of national members was limited to one or two persons from each country for effective communication. National members represented the opinions of their respective home markets, as opposed to the opinions of the institution to which they belonged. National members were encouraged to form a preparatory working group within their respective markets.

• National Experts
  With the consent of other national members and the endorsement of TF3, a national member nominated national experts as participants. The national experts provided insight on specific issues related to their respective markets.

• International Experts
  With the consent of other national members and the endorsement of TF3, a national
member nominated international experts as participants in the ABMF. The international experts contributed to discussions related to cross-border transactions in the region.

- **ASEAN+3 Officials**
  ASEAN+3 officials participated in any ABMF meeting as observers. The Chairpersons of the ABMF also invited ASEAN+3 officials from finance ministries, regulatory agencies, security commissions, central banks, and debt management offices and/or relevant sections for issuing public debts, if necessary.

- **Asian Development Bank**
  The Asian Development Bank contributed to ABMF as the Secretariat of the forum.

### Member and Expert List

**National Members and Experts**

<table>
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<tr>
<th>Country / Economy</th>
<th>Membership Category</th>
<th>Organization</th>
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### International Experts

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<td>The Bank of Tokyo Mitsubishi UFJ Ltd.</td>
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### Observers

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<tr>
<td>KR</td>
<td>Ministry of Strategy and Finance</td>
<td>TH</td>
<td>Bank of Thailand</td>
</tr>
<tr>
<td>KR</td>
<td>Bank of Korea</td>
<td>VN</td>
<td>Ministry of Finance of Vietnam</td>
</tr>
<tr>
<td>MY</td>
<td>Ministry of Finance</td>
<td>VN</td>
<td>State Bank of Vietnam</td>
</tr>
</tbody>
</table>
Appendix 2 References:

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2010)
  - ASEAN Central Banks’ Working Committee on Payment and Settlement Systems (WC-PSS) - Strategic Report to the ASEAN Central Bank Governors Meeting (April 2011)
  - Executives’ Meeting of East Asia-Pacific Central Banks–PAYMENT,CLEARING AND SETTLEMENTSYSTEMS IN EMEAP ECONOMIES (August 2012)
Appendix 3 Information Sessions of ABMF SF2

7th ABMF SF2 on 9 February 2011 in Hong Kong
- *RSI Options given by GoE report.* Presentation by Mr. Shinji Kawai, ADB Secretariat.
- *Pan-Asian CSD Alliance Pilot Platform and Add-on Services.* Presentation by Mr. Shu-Pui Li, Hong Kong Monetary Authority.
- *Cross Border Collateral Management Working with Market Infrastructures to Enhance Global Liquidity.* Presentation by Mr. Masayuki Tagai, J.P. Morgan.
- *Increasing the Number of Settlement Currencies.* Presentation by Mr. Lynn Mathews, CLS.
- *Valuation: the Role and Importance in Emerging Bond Market.* Presentation by Mr. Mohd Shaharul Zain, Bond Pricing Agency Malaysia.

8th ABMF SF2 on 18 April 2012 in Manila, Philippines
- *Database for Managing Standards and Market Practice, MyStandards, How Can It Help ABMF.* Presentation by Mr. Alexandre Kech, SWIFT.
- *Direction and Implementation of Legal Entity Identifier (LEI).* Presentation by Mr. Taketoshi Mori, Bank of Tokyo-Mitsubishi UFJ.
- *Supplementary Information on LEI for 8th ASEAN+3 Bond Market Forum (ABMF) Meeting.* Presentation by Ms. Rebecca Terner, Asia Securities Industries and Financial Markets Association (ASIFMA).

9th ABMF SF2 on 5 September 2012 in Seoul, Korea
- *CCP Clearing Service for OTC Derivatives in Korea.* Presentation by Dr. Sukho Jung.
- *Bond Market and Bond Information in Korea.* Presentation by Kwon Su Ju, Korea Securities Depository.
- *Update of Legal Entity Identifier (LEI).* Presentation by Mr. Taketoshi Mori, Bank of Tokyo-Mitsubishi UFJ.
- *LEI Initiative and Implementation of the CFTC Compliant Interim Identifier (CICI).* Presentation by Ms. Rebecca Terner, Asia Securities Industries and Financial Markets Association (ASIFMA).

10th ABMF SF2 on 22 November 2012 in Bangkok, Thailand
- *Progress Report on Reassessing Business Feasibility of RSI Options.* Presentation by Dr. Inseok Shin.
11th ABMF SF2 on 6 February 2013 in Singapore
- Collateral Management, Presentation by Mr. Pierre Mengal, Citi Bank.
- The New Normal for the ASEAN Securities Services Industries. Presentation by Mr. Mrugank Paranjape, Deutsche Bank.
- Function of CCP. Presentation by Mr. Takeoshi Mori, Bank of Tokyo-Mitsubishi UFJ.
- Foreign Issuers in LCY Bond Market in Malaysia and Thailand. Presentation by Mr. Mohd Shaharul Zain, BPAM & Thai BMA
- AsiaBondsOnline (ABO) – current development and cooperation with ABMF. Presentation by Mr. Thiam Hee Ng, Asian Development Bank.

12th ABMF SF2 on 24 April 2013 in Jakarta, Indonesia
- ISO 20022 – Adoption in Asia-Pacific and the rest of the world. Presentation by Mr. Alexandre Kech and Ms. Mireia Guisado Parra, SWIFT.

13th ABMF SF2 on 25 and 26 July 2013 in Tokyo, Japan
- Key Note Speech by Mr. Taro Aso, Deputy Prime Minister, Japan
- Speech on Japan Exchange Group’s Contribution to Asia’s Economic Development by Mr. Atsushi Saito, Japan Exchange Group
- Speech on Activating Tokyo Financial and Capital Market by Mr. Yasuhiro Sato, Mizuho Financial Group
- Approach to Asian Bond Market – Focusing on TOKYO PRO-BOND Market by Mr. Koji Ito, Tokyo Stock Exchange
- How have Japanese bond investors reached to Abenomics by Mr. Matsuzaki, Nomura Securities (to be confirmed)
- Trade/Settlement Matching and Implementation Plan of ISO20022 by Mr. Jun Sugie, Japan Securities Depository Center
- Importance of Developing Institutional Investors in Asia Region by Mr. Satoshi Shimizu, The Japan Research Institute

14th ABMF SF2 on 6 November 2013 in Jeju, Korea
- (to be filled in)
Appendix 4 Respondent Institutions During Sub-Forum2 Country Visits

People’s Republic of China (CN)
- Bank of China
- China Central Depository & Clearing
- China Construction Bank
- China Foreign Exchange Trade System
- China Securities Depository and Clearing Corporation
- China Securities Regulatory Commission
- Citibank
- Deutsche Bank
- HSBC
- National Association of Financial Market Institutional Investors
- People’s Bank of China
- Shanghai Clearing House
- Shanghai Stock Exchange
- Zhong Lun Law Firm

Hong Kong Special Administrative Region (HK)
- BNP Paribas Securities Services
- Hong Kong Exchanges and Clearing Limited
- Hong Kong Investment Funds Association
- Hong Kong Monetary Authority
- J.P. Morgan
- Slaughter and May
- State Street Bank and Trust Company
- HSBC

Republic of Indonesia (ID)
- Bank Indonesia
- BAPEPAM-LK
- Citibank
- Deutsche Bank
- Indonesia Bond Pricing Agency
- Indonesia Stock Exchange
- Ministry of Finance of the Republic of Indonesia
Mochtar Karuwin Komar
PT Bahana Securities
PT Kliring Penjaminan Efek Indonesia
PT Kustodian Sentral Efek Indonesia
PT. Schroders Investment Management Indonesia
HSBC

Japan (JP)
Bank of Tokyo Mitsubishi UFJ
Barclays Securities
Credit Suisse
Daiwa Securities
Financial Agency
Japan Bond Trading
Japan Securities Dealers Association
Japan Securities Depository Center
J.P. Morgan
Mitsubishi UFJMS Securities
Mizuho Corporate Banking
Mizuho Securities
Mori Hamada & Matsumoto
Nagashima Ohno & Tsunematsu
Nomura Securities Co. Ltd
NTT Data Group
Omgeo
Sumitomo Mitsui Banking Corporation
SWIFT
The Tokyo Tanshi
Tokyo Stock Exchange Group
Waseda University

Kingdom of Cambodia (KH)
Ministry of Economy and Finance
Securities and Exchange Commission of Cambodia
National Bank of Cambodia
Tong Yang Securities
HBS Law Firm
Cambodia Securities Exchange (CSX)
Securities and Exchange Commission in Cambodia

Republic of Korea (KR)
Citibank
Deutsche Bank
Financial Services Commission
Financial Supervisory Service
HSBC
J.P. Morgan
Korea Exchange
Korea Financial Association
Korea Securities Depository
Lee & Ko

Lao People’s Democratic Republic (LA)
Ministry of Finance
Bank of Lao PDR
Lao Securities Commission Office
Lao Stock Exchange
BCEL-KT Securities Company
BCEL Bank
LS Horizon

Republic of the Union of Myanmar (MM)
Central Bank of Myanmar
Market Visit to Ministry of Finance
Myanmar Economic Bank
Myanmar Securities Exchange Centre

Malaysia (MY)
AM Investment Bank Group
Bank of Tokyo Mitsubishi UFJ
Bond Pricing Agency Malaysia
CIMB
CIMB-Principal Asset Management
Deutsche Bank
Deutsche Trustees
HSBC
Rahmat Lim & Partners
Securities Commission Malaysia

Republic of the Philippines (PH)
Bangko Sentral ng Pilipinas
Bankers Association of the Philippines
Bureau of Treasury
Deutsche Bank
HSBC
ING Bank N.V.
OMGEO
Philippines Dealing System Holding
Securities and Exchange Commission
SyCip Salazar Hernandez & Gatmaitan

Republic of Singapore (SG)
Allen & Gledhill LLP
Central Depository
Clearstream
DBS Bank Ltd
Fullerton Fund Management
HSBC
Monetary Authority of Singapore
Nikko AM Asia Limited
Omgeo
Singapore Exchange
State Street Global Advisors
SWIFT

Kingdom of Thailand (TH)
Bank of Thailand
BBL Asset Management
HSBC
Securities and Exchange Commission
Siam Premier International Law Office Limited
Standard Chartered Bank
Stock Exchange of Thailand
Thai Bond Market Association
Thailand Clearing House
Thailand Securities Depository

Socialist Republic of Viet Nam (VN)
Bank for Investment and Development of Vietnam
Citibank
Hanoi Stock Exchange
Ho Chi Minh City Securities Corporation
HSBC
State Securities Commission of Vietnam
The State Bank of Vietnam
Vietnam Bond Market Association
Vietnam International Law Firm
Vietnam Securities Depository
# Appendix 5: Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABMF</td>
<td>ASEAN+3 Bond Market Forum</td>
</tr>
<tr>
<td>ABMI</td>
<td>Asian Bond Markets Initiative</td>
</tr>
<tr>
<td>AMA</td>
<td>Account Management Agent</td>
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<tr>
<td>ANNA</td>
<td>Association of National Numbering Agencies</td>
</tr>
<tr>
<td>ASEAN+3</td>
<td>Association of Southeast Asian Nations, the People’s Republic of China, Japan, and the Republic of Korea</td>
</tr>
<tr>
<td>BI</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>BIC</td>
<td>Business Identifier Code</td>
</tr>
<tr>
<td>BIS</td>
<td>Bank for International Settlements</td>
</tr>
<tr>
<td>BN</td>
<td>Brunei Darussalam</td>
</tr>
<tr>
<td>BOJ</td>
<td>Bank of Japan</td>
</tr>
<tr>
<td>BTr</td>
<td>Bureau of Treasury</td>
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<tr>
<td>CCP</td>
<td>Central Counterparty</td>
</tr>
<tr>
<td>CN</td>
<td>People’s Republic of China</td>
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<tr>
<td>CPSS</td>
<td>Committee on Payment and Settlement Systems</td>
</tr>
<tr>
<td>CSD</td>
<td>Central Securities Depository</td>
</tr>
<tr>
<td>CSDCC</td>
<td>China Securities Depository and Clearing Company Limited</td>
</tr>
<tr>
<td>DVP</td>
<td>Delivery versus Payment</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EX</td>
<td>Exchange</td>
</tr>
<tr>
<td>FX</td>
<td>Foreign Exchange</td>
</tr>
<tr>
<td>HK</td>
<td>Hong Kong, China</td>
</tr>
<tr>
<td>HKMA</td>
<td>Hong Kong Monetary Authority</td>
</tr>
<tr>
<td>ID</td>
<td>Republic of Indonesia</td>
</tr>
<tr>
<td>IOSCO</td>
<td>International Organization of Securities Commissions</td>
</tr>
<tr>
<td>ISIN</td>
<td>International Securities Identification Number</td>
</tr>
</tbody>
</table>
ISO International Organization for Standardization
JASDEC Japan Securities Depository Center
JGBCC Japan Government Bond Clearing Corporation
JP Japan
KH Kingdom of Cambodia
KPEI PT Kliring Penjaminan Efek Indonesia (Indonesian Clearing and Guarantee Corp.)
KR Republic of Korea
KRX Korea Exchange
KSD Korea Securities Depository
KSEI PT Kustodian Sentral Efek Indonesia (Indonesian Central Securities Depository)
LA Lao People’s Democratic Republic
LCY Local Currency
MAS Monetary Authority of Singapore
MM Republic of the Union of Myanmar
MOF Ministry of Finance
MY Malaysia
OTC Over-The-Counter
PA Paying Agent
PDEx Philippine Dealing and Exchange Corporation
PDTC Philippine Depository & Trust Corp.
PFMI Principles for Financial Market Infrastructures
PH Republic of the Philippines
PSET Place of Settlement
PSMS Pre-Settlement Matching System
RTGS Real Time Gross Settlement
SF1 Sub-Forum 1
SF2 Sub-Forum 2
SHCH Shanghai Clearing House
SG  Republic of Singapore
SRO  Self-Regulatory Organization
SSS  Securities Settlement System
STP  Straight Through Processing
TH  Kingdom of Thailand
TR  Trade Repository
TS  Trading System
TSD  Thailand Securities Depository
TWA  Tax Withholding Agent
VN  Socialist Republic of Viet Nam
VSD  Vietnam Securities Depository
WHT  Withholding Tax
Cross-border collateral services for financial collateral

Erwin Nierop
Jeju, Korea, November 2013

Erwin Nierop

- Expert in Regional Financial and Monetary Cooperation and Integration (RFMCI).

- Contributed to the establishment of:
  - European Bank for Reconstruction and Development, European Monetary Institute, European Central Bank, Gulf Monetary Council, East African Monetary Institute (in status nascendi), and
  - European Economic and Monetary Union, Gulf Monetary Union, East African Monetary Union.

- Senior Adviser of the ECB, seconded to the ADB, speaking on a personal title (no attribution of presentation to ECB, ADB, or any other parties.)
Content of presentation

- Bird’s eyes view, definitions, concepts
- Cross-border use of collateral
- EU legislation, notably Financial Collateral Arrangements Directive (FCAD)
- Eurosystem collateral framework
- Issues for reflection

Collateral & Financial Collateral (1)

- Collateral: all realizable assets taken through repurchase agreements, pledge, and other techniques.
- Financial collateral: usually shares, bonds, other securities.
- Bilateral between two parties: mainly, in order to secure performance of financial obligations.
- Multilateral between more than two parties, for example in settlement systems: in order to secure performance of financial obligations and avoid systemic risk.
Collateral & Financial Collateral (2)

- Repurchase agreements: transfer of full ownership. Pledge: establishment of priority right
- Cross-border use of collateral: ICSDs, links between SSS, CCBM, T2S
- EU legislation, notably FCAD.
- Eurosystem collateral framework
- Eligibility criteria and risk management
- Issues for reflection

Collateral security

All realizable assets provided under pledge (including money provided under pledge), repurchase (repo) or similar agreement, or otherwise, for the purpose of securing rights and obligations.
Financial instruments

Shares in companies and other securities equivalent to shares in companies and bonds and other forms of debt instruments if these are negotiable on capital market, and any other securities which are normally dealt in and which give rise to acquire any such shares, bonds or other securities by subscription, purchase or exchange or which give rise to cash settlement (excluding instruments of payment), including units in collective investment undertakings, money market instruments and claims relating to or rights in or in respect of the above.

Book entry securities collateral

Financial collateral provided under financial collateral arrangement which consists of financial instruments, title to which is evidenced by entries in register or account maintained by or on behalf of intermediary (dematerialized securities).
Financial collateral arrangement

Title transfer financial collateral arrangement or security financial collateral arrangement whether or not these are covered by master agreement or general terms and conditions.

Title transfer collateral arrangement

Arrangement, including repurchase agreements (repos), under which collateral provider transfers full ownership of financial collateral to collateral taker for purpose of securing or otherwise covering performance of financial obligations.
Security financial collateral arrangement

Arrangement under which collateral provider provides financial collateral by way of security in favor of, or to, collateral taker, and where full ownership of financial collateral remains with collateral provider when security right is established (pledge).

Enforcement event

An event of default or any similar event as agreed between the parties on the occurrence of which, under the terms of a financial collateral arrangement or by operation of law, the collateral taker is entitled to realize the collateral or appropriate financial collateral or a close-out netting provision comes into effect.
Close-out netting provision

Provision of financial collateral arrangement, or of arrangement of which financial collateral arrangement forms part, or, in absence of any such provision, any statutory rule by which, on occurrence of enforcement event, whether through operation of netting or set-off or otherwise:

- obligations of parties are accelerated so as to be immediately due and expressed as obligation to pay amount representing their estimated current value, or are terminated and replaced by obligation to pay such amount; and/or
- account is taken of what is due from each party to the other in respect of such obligations, and net sum equal to balance of account is payable by party from whom larger amount is due to other party.

Legal techniques for taking collateral

- Repurchase agreements (repos): full transfer of ownership, but in certain jurisdictions perhaps risk of recharacterization as pledge if repo is seen as infringing on paritas creditorum/equality of creditors.
- Pledge: establishment of priority right, i.e. in case of realization risk of other priority rights, statutory (e.g. tax authorities) or contractual (other creditors) and waiting periods before realization may take place.
- Legally, repos are stronger then pledge, but there may be other reasons (e.g. logistical) to apply pledge.
- [Other techniques: creation of pools of collateral.]
**ISDA Repo Agreement**

- International Swaps Dealers Association (ISDA).
- Standard repurchase agreement.
- Multi-lingual, multi-jurisdictional, multi-product.
- Validity and enforceability checked through legal opinions delivered by qualified law firms.

**Cross-border use of collateral**

- Particularly important for EU, since EU has created internal or common market, including internal financial market.
- International Central Securities Depositories (ICSDs).
- Links between national securities settlement systems (SSS).
- For Eurosystem: Correspondent Central Bank Model (CCBM).
- TARGET2-Securities.
**EU legal acts**

- **Binding:**
  regulations, directives, decisions, and, for Eurosystem, guidelines and instructions).

- **Non-binding:** recommendations and opinions.

- **Adoption subject to principles of:**
  subsidiarity, proportionality, and, for Eurosystem, decentralization.

**EU Directives**

- **Aim at certain degree of harmonization across EU.**

- **Are addressed to and binding on EU Member States.**

- **Require implementation by EU Member States in their respective jurisdictions.**

- **May thus still leave room for differences between Member States.**
**FCAD 2002**

- Enforcement of financial collateral arrangements.
- Right of use of financial collateral under security financial collateral arrangements.
- Recognition of title transfer financial collateral arrangements.
- Recognition of close-out netting provisions.
- Certain insolvency provisions disapplied.
- Conflicts of laws.
- Report by European Commission.
- Implementation.

**Other relevant EU legislation**

- **Settlement Finality Directive (SFD) 1998**

- **Winding-up Directives (WUDs) 2001**

- **Insolvency regulation (IR) 2000**
EU “acquis communautaire” in financial and monetary field

- Copenhagen-criteria for accession to EU (including Financial Collateral Directive).
- Maastricht-criteria for adoption of euro.
- Generally, to what extent may EU achievements be used as examples for other regions/countries?
- Specifically, to what extent may FCAD be used as example for other regions/countries?
- FCAD is concise and straight forward and may thus be a perfect example for other regions/countries.

Eurosyste framework (1)

- European System of Central Banks (ESCB): ECB together with all national central banks (NCBs) of all EU Member States.
- Eurosystem: ECB together with NCBs of Member States having adopted euro as their currency.
- All liquidity-providing operations of Eurosystem need to be based on adequate collateral to protect Eurosystem from incurring losses.
- Collateral framework needs to ensure that sufficient collateral is available to broad range of banks so that Eurosystem can provide amount of liquidity it deems necessary.
**Eurosysten collateral framework (2)**

- 1998: two-tier collateral framework to ensure smooth transition to monetary union.
- Tier-one: marketable debt instruments fulfilling euro area-wide eligibility criteria.
- Tier-two: assets important for certain national financial markets and banking systems fulfilling national eligibility criteria only.
- In principle, all assets could be used on cross-border basis throughout euro area through Correspondent Central Bank Model (CCBM).
- CCBM: NCB of country of collateral would take, administer, and where necessary execute collateral on behalf of liquidity providing NCB.

**Eurosysten collateral framework (3)**

- Subsequently, phased introduction of single list of eligible collateral for common use in all liquidity-providing operations.
- In 2005, some amendments to marketable assets. In 2007, non-marketable assets and, in particular, credit claims became eligible as collateral in all euro area countries. In 2012, fully unified regime for credit claims came in place.
- Two sets of eligibility criteria and risk control measures broadly apply, one relating to marketable assets and other one to non-marketable assets.
- Collateral framework is general, responsive to market innovations, susceptible to further refinements as financial markets evolve.
Eurosystem collateral framework (4)

- In 2007, average amount of collateral amounted to euro 9.5 trillion (showing increase of 73% from around 5.5 trillion in 1999).

- Composition: 49% government debt, 17% credit institutions’ uncovered bonds, 12% credit institutions’ covered bonds, 9% corporate bonds, 8% asset-backed securities, 4% other bonds such as those issued by supranational organizations.

- Around 12% of total eligible assets, i.e. euro 1.1 trillion, was deposited with Eurosystem in 2007.

- Cross-border use of collateral, whereby counterparty in country A uses collateral in country B, is indication of progress of financial integration.

- In 2007, 51% of collateral was used on cross-border basis, compared with 12% in 1999.

Eurosystem collateral framework (5)

- Adequacy of collateral: (1) collateral must be able to protect Eurosystem from incurring losses in credit operations and (2) there must be sufficient collateral to ensure that Eurosystem can carry out its functions.

- Eligible assets: (1) marketable assets (public, bank and corporate bonds, ABS, etc) and non-marketable assets (credit claims and deposits). ECB publishes list of eligible marketable assets on its website on every business day (more than 40.000).
**Eurosysterm collateral framework (6)**

- General eligibility criteria: see ECB General Documentation on Monetary Policy Instruments and Procedures (as amended from time to time).

- Counterparty cannot submit as collateral assets issued by entities with which it has close links.

- Counterparty cannot have more than 5% of its collateral pool composed of assets issued by same banking group.

**Eurosysterm collateral framework (7)**

- Eurosysterm values collateral assets at most representative price and applies haircuts.

- Collateral is marked to market.

- Eligible assets are classified in liquidity categories.

- Haircuts for marketable assets depend on credit quality, coupon type, residual maturity and liquidity category.
**Eurosystem collateral framework (7)**

- Eurosystem has responded to regional collateral shortage by increasing collateral availability.
- Eurosystem has loosened rating requirements for certain ABS.
- Eurosystem admits additional credit claims.
- In limited cases, National Central Banks may provide Emergency Liquidity Assistance.

**Eurosystem collateral framework (8)**

- Eurosystem accepts broad set of collateral and many counterparties.
- Valuation and risk control framework ensures sufficient risk protection for Eurosystem and balances risk across asset classes.
- General collateral framework was enhanced during crisis to pre-empt collateral shortage in some regions.
- Challenge to maintain simplicity of framework while satisfying needs of diverse euro area financial markets.
Issues for reflection

- Collateralization of financial transactions through financial collateral.
- Legal techniques to take collateral (notably repos and pledge).
- Cross-border use of financial collateral.
- Legal frameworks to support collateralization and cross-border use of financial collateral.
- Eligibility criteria and risk management.

Useful links

Useful links (2)

- December 2011 press release
- Link to the Frequently Asked Questions (FAQ) on the 8 December 2011 press release
- 9 February 2012 press release
- 22 June 2012 press release

Useful links (3)

- 6 September 2012 press release
- Link to the Frequently asked Questions (FAQ) on the 6 September press release
- 28 November 2012 press release
- 22 March 2013 press release
For More Information

(enierop@adb.org; telephone + 63-2-6831417)
Challenges in developing Cross-border collateral in the region

7 November, 2013
Hiroshi Kawagoe
Sumitomo Mitsui Banking Corporation

三井住友銀行
Establishment of the New BOJ-NET


➢ The New BOJ-NET will start full operation from around fiscal 2015.

➢ Three main features:
  ✓ Usage of the latest information technology
  ✓ High flexibility to adapt to changes in financial services and various needs
  ✓ Enhanced accessibility to cope with changes in the financial environment

➢ Japanese financial community is now discussing possibility regarding:
  ✓ Extension of operating hours
    - to cope with needs for Asian customer fund transfer in JPY
    - to utilize Japanese Government Bond as collateral globally and efficiently
  ✓ Various Challenges
    - Market practices (i.e. Money Market, Time frame, Failure management)
    - Settlement methods (i.e. ICSD model or CSD link)
Implication for Local Economy

- The Bank of Japan have established a cross-border collateral arrangement with:
  - The Bank of Thailand – Nov. 11’
  - The Monetary Authority of Singapore – Jul. 13’

- Aiming to enhance financial stability as a backstop for LCY liquidity.

- Positive consequences for local economy by encouraging:
  - Local currency bond investment by Japanese institutional investors
  - Direct investment by Japanese corporates
Please note that this presentation is for information purpose only. Sumitomo Mitsui Banking Corporation is not responsible for any damage caused by using the information contained. Please also note that the information is not guaranteed to be complete, correct or up-to-date, and may be changed without notice. Unauthorized copying, reproduction, republishing, uploading, posting, transmitting or duplicating any of the material is prohibited. Please contact Sumitomo Mitsui Banking Corporation, Transaction Business Planning Dept. (03~4333~6032) if you have any query on this matter.
Issuance and Distribution Services

14th ABMF
7 Nov 2013

Clearstream Issuance and Distribution Services

Our Role

- National Numbering Agency for Luxembourg Domestic Securities
- International Numbering Agency for Euro-debt Securities (XS)*
- Allocate common codes
- Admission of a programme facility
- Member of ANNA (Association National Numbering Agency)
- Member of ICMA (International Capital Market Association)

* together with EB
Clearstream Issuance and Distribution Services

International Securities Identification Number (ISIN)

- A coding system developed by the ISO with the purpose of creating one unique number on a world-wide basis for identifying securities.

- The ISIN for each security consists of a 12-digit alphanumeric code. The prefix is a two letter country code (or XS in the case of Euro-instruments).

- The basic number is a nine-digit alphanumeric code, which is the common code of CBL and Euroclear in the case of Euro-instruments. The final digit is a numeric check digit computed from the preceding digits.

- All ISINs allocated by CBL are issued in accordance with the ISO 6166 rules.

Clearstream Issuance and Distribution Services

Securities Code

- **Common Code**
  - Common to Clearstream Banking and Euroclear Bank
  - 9 digit number
  - Example: 003915697
    - 010000319

- **ISIN**
  - International Securities Identification Number
  - 12 digit number
  - Example: XS0039156970
    - FR0000495798
Clearstream Issuance and Distribution Services
ICSD (International Central Securities Depository) as Primary Place of Deposit

Examples of eligible instrument types for issuance and settlement within the ICSDs:

- Medium Term Notes
- Eurobonds
- Equity Linked Notes
- Collateralised Debt Obligations
- Collateralised Mortgage Obligations
- Asset Backed Securities
- Mortgage Backed Securities
- Structured Products
- Euro Commercial Paper
- Euro Certificates of Deposit
- Convertible Bonds
- Reverse Convertible Bonds
- Depositary Receipts
- Sukuk Bonds
- Debentures
- Extendable Bonds

Full Settlement

- The currency used for payments related to the security, such as income and redemption proceeds. This currency is generally also used for the settlement i.e. delivery vs. payment transactions in the security.

Denomination

- The currency used for recording securities balances. For debt securities, this is the currency for which the face value (i.e. nominal) is expressed. Payments to the ICSDs must be in a full settlement currency.

Clearstream Issuance and Distribution Services
ISIN Creation

Eligibility criteria:

- A copy of the Offering Circular/Prospectus with full Terms and Conditions, Selling Restrictions and Tax considerations.
- Documentation must be stated in English.
- CBL’s legal name and description must be clearly stated in the documents received including our involvement.
- The appointed Principal Paying Agent must be recognized by CBL as a valid agent and this must be recorded in the documents.
- The Issuer country of origin must be noted in order for us to check for tax considerations.
- The currency of the issue must be eligible for full settlement or denomination only. Complete list available on our website.
- We can not accept any de-materialised issues in the International market.

Clearstream Issuance and Distribution Services
Standalone ISIN- Common Code Creation

Eligibility criteria (continued):

- All interest and maturity payments should be made within the clearing systems for the life of the issue.
- Denominations must be divisible into the nominal amount of the issue.
- We can not accept issues with a nominal or denomination amount with decimal places, (except if the currency is Euro).
- No unusual Transfer and Selling Restrictions apply involving CBL collecting any certification.
Clearstream Issuance and Distribution Services
Eligibility Guidance and reference material

ICMA published papers that should be considered:
- NGN legal pack (with changes identified dated June 2006)
- NSS, ICMA Guidance Note
- ICMA Primary Market Handbook (including the pro forma final terms template(s))
- ICMA Guidance Note on denominations of €50,000 and integral multiples of €1,000
- ICMA and ISMAG guidance notes on "50k+1k" denominations. Joint statement on the application of the new requirements

http://www.icmagroup.org

ICMSA published papers that should be considered:
- Guide to the Treatment of Denominations and Related Exchange Conditions
- ICMA and ICMSA guidance notes on "50k+1k" denominations. Joint statement on the application of the new requirements (as above)
- Guidelines for MTN programmes for only one Issuing & Paying Agent per programme
- Global Tax Procedures applicable for common depository per specific country (e.g., Lebanon, UK Unlisted etc.)
- ICMSA Bulletin with respect to Conditional Tax Gross-Up Clauses in International Debt Securities
- In addition to the above you may find other useful publications (e.g., Government-Guaranteed Debt)

http://www.icmsa.org

ISMAG Market Practice Book dated January 2012 should be considered. Relevant ANNEXES are:
- ANNEX 4: Non-standard/Unusual structures
- ANNEX 5: Acceptance and Eligibility Checklists
- ANNEX 6: Day Count Conventions
- ANNEX 9: Units and Nominal recommendation
- ANNEX 10: ISMAG Recommendation with respect to requirements for Payment Business Days
- ANNEX 11: ISMAG Recommendation for Record Dates
- ANNEX 12: ISMAG Recommendation for the Treatment of Partial Redemptions
- ANNEX 13: ISMAG Guidelines for the Issuance of Confidential Securities within the ICSDs
- ANNEX 14: ISMAG Terms of Reference

The latest ISMAG Market Practice Book can be located at the following address on the Clearstream website

Clearstream Issuance and Distribution Services
Eligibility Guidance and reference material

ANNA (Association of National Numbering Agencies scrl) rules for assignment of ISINs related papers

Please contact Clearstream New Issues or Network dept. for the latest copy of the papers

The ICSDs currently apply the following rules:

EQUITIES and Warrants (not attached to Debt) (irrelevant of the trading method of nominal or unit):
- ISIN should be the Alpha-2 country code of the country the issuer is legally registered in or, in the absence of registration, the domicile allocated by the responsible NNA or substitute agency.

DEBT INSTRUMENTS (irrelevant of the trading method of nominal or unit):
- Alpha-2 country code of the country the CSD assigned by the responsible NNA or substitute agency.
- For International securities held within the ICSDs, if the security is issued and traded in DEBT form then it should receive an XS ISIN allocated by the ICSDs.
- For International securities held within the ICSDs, if the security is issued and traded in EQUITY/Warrant form then it should receive an ISIN allocated by the numbering agency where the issuer is legally registered.

- For example, the ICSDs classify Bonds, MTN and Notes as Debt. Shares and Warrants fall under the "Equity Category". With regards to Certificates some issuers for Trading or Tax reasons or any other reason may decide to class the Certificates as Debt or as Equity. If the documentation does not specify how the securities are traded and issued in terms of debt or equity, the ICSDs would require clarification to ascertain whether the correct type of ISIN is being applied.

- The ICSDs believe the ISO6166 is currently under review with the association, hoping that case 2.2.15 (structured products): recognition of the existence of different rules applied by NNAs (and the debt rule followed by the ICSDs) - will be standardised in future and hopefully will be resolved with the new version of the ISO6166 that is under construction.

Clearstream New Issues website
On our website under the New Issues section you may find other useful information such as the mandate allocation rules, the NGN and NSS FAQ, the templates for the ECB issuer ICSD agreements and legal opinions etc.

Clearstream Issuance and Distribution Services

Code Allocation

- Pre-allocation of codes
- Code allocation via automated file uploads
- Code allocation via European Pre-Issuance Messaging (EPIM)
- Settlement-based code allocation
- Interoperability with Euroclear

Issuer

- Appoint agents to structure and sell the security
- Agree key terms of the issue

Agents (Lead Manager, Paying Agent..)
- request ICSD to allocate an ISIN
- Submit all final documentation to the ICSD and Common Depository

Common Depository
- To hold and to service securities

ICSDs
- Confirm appointment of a Common Depository to the Lead Manager
- Allocate ISIN

Investors
- ICSDs internal & Bridge secondary market activity
Clearstream Issuance and Distribution Services
International Bearer Debt Securities

1. Issuer selects Lead Manager and Paying Agent
2. ICSDs accept issue and appoint the Paying Agent as Common Depository
3. Issue deposited in Common Depository and distributed by the ICSDs
4. Primary allocations and secondary market settlements are made internally at each ICSD and over the Bridge

The Common Depository is usually also the Paying Agent

Thank You

"Clearstream Banking Issuance and Distribution Services provide comments on new developments and issues of interest to our clients and friends. Clearstream Banking S.A., its subsidiaries and affiliates expressly disclaim liability for errors or omissions in this information and materials. This presentation does not purport to provide comprehensive coverage of the subject matter and is not intended to provide legal advice. Clearstream Banking accepts no liability or consequential liability for any action taken based on the information provided herein."
ISIN Bond Numbering Procedure In Japan

Nov.7, 2013

Categories of ISIN for Bonds in Japan

◆ Public Placement Bonds or Bonds Issued by Listed Companies
  Government Agency Bonds, Municipal Bonds, Corporate Bonds (Listed Companies), Samurai Bonds, J-Sukuk, etc.

◆ Private Placement Bonds by Unlisted Companies
  Medium-sized and small companies’ Bonds

◆ Japanese Government Bonds (JGB)
  Government Bonds, Treasury Discount Bills (T-Bills)
ISIN Code of Bonds Issued by Listed Companies

ISIN Code of Private Placement Bonds

Note: Corporate bonds are not listed securities in Japan.
ISIN Code of JGBs and T-Bills

Country Code: JP
Type of JGB
10: Int’-Bearing JGB (10yr)
40: Int’-bearing JGB (40yr)
74: Treasury discount Bill

Issuance time
Serial Number
Issued Year
8: 2008
9: 2009

Issued Month
1: Jan.
2: Feb.
A: 2010
B: 2011
C: 2012

Type of Issuer
1: Government

1: Bank of Japan has the book-entry system for JGB (BoJ Net).
2: Currently, ISIN of JGB is not available in BoJ Net. BoJ will use ISIN in new BoJ Net (2016?)
3: JASDEC provides Pre-Settle Matching System (PSMS) for JGB with ISIN.

Outline of Corporate Bonds Numbering in Japan

Issuers
Issuing Agents
Issuance Information
12:30 / 13:30
14:30 / 16:30
JASDEC
JASDEC Participants
( Securities Companies,
Custodian Banks... )
Book-Entry System
For Corporate Bonds
Publication of New Code
(real-time basis)
New Code Database Service
ANNA
Reporting New Code
Securities Identification
Code Committee
(Numbering Agency in Japan)
Requirement for New Code
Approval for New Code

Tokyo Stock Exchange
## Registration of New Securities Information

<table>
<thead>
<tr>
<th>Pricing Day</th>
<th>Issuing Agents</th>
<th>JASDEC</th>
<th>Securities Identification Code Committee (TSE)</th>
<th>Direct AMIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1 day</td>
<td>Registration of issuing Securities Info.</td>
<td>BETS for Corporate Bond</td>
<td>Confirm ISIN Code</td>
<td>4 times a day</td>
</tr>
<tr>
<td>+2~+3 day issuing Day</td>
<td>Securities Information</td>
<td>Distribution of Issuing Info. for JASDEC Participants</td>
<td>Securities Information</td>
<td></td>
</tr>
<tr>
<td>Issuing Day + 1 day</td>
<td></td>
<td></td>
<td>Posting Securities Information on JASDEC WEB Site (Japanese only..)</td>
<td></td>
</tr>
</tbody>
</table>
Japan Securities Depository Center, Inc. (JASDEC)

Fixed Income and Investment Trust Department

E-mail : sb@jasdec.com
T2S in Europe and beyond

Presentation to the 14th meeting of the ASEAN+3 Bond Market Forum (ABMF)
Jeju, 7th November 2013

Jean-Michel Godeffroy, Director General
Chairman of the T2S Board
European Central Bank

Table of content

1. The origins
2. T2S in a nutshell
3. Where are we?
4. Benefits of T2S for non-Europeans
5. Possible uses of T2S outside Europe
I. The origins

The TARGET system (1999 – 2007): the RTGS system for the euro

NCB = National Central Bank

Spaghetti model
1. The origins

In TARGET 2, customer relationships remain with NCBs, cash settlement operations take place only on TARGET 2.

Main advantages: - lower costs  
- business continuity
1. The origins

Fragmented infrastructure in post-trade area

The CSD proposal: the spaghetti model again
1. The origins

Why was the spaghetti model abandoned?

- **Costs**: too many IT platforms (one per CSD)
- **Timing**: the process was considered too long. Too much time to define the standards, too much time for implementation.
- **Governance**: competition between CSDs and between financial centres. Lack of leadership in the private sector.

1. The origins
2. T2S in a nutshell
3. Where are we?
4. Benefits of T2S for non Europeans
5. Possible uses of T2S outside Europe
2. T2S in a nutshell

T2S is not a CSD

T2S - the “sister” of TARGET 2

Primary objective:
- to process cross-border instructions and domestic instructions, at the same low cost

Customer relationships remain with CSDs (and central banks:...
2. T2S in a nutshell

An integrated model

Technical platform of all securities and cash accounts to settle all securities transactions in central bank money

2. T2S in a nutshell

T2S facilitates cross-border settlement

Example: Bank A in France buys Siemens shares from Bank B in Spain

Standard solution today
Cross-border transactions: the T2S solution

Bank A

Banco de España

Iberclear

Clearstream (Issuer CSD)

Banque de France

Euroclear France

Bank B

Securities

Cash

Link / Information

NB: Bank A may also have a securities account in Euroclear France; Bank B may also have an account with Iberclear; Bank A and/or B may have an account with Clearstream Frankfurt. The process is identical. It is as if all securities accounts were held by a single entity (same for cash).

Cross-border settlements in T2S are almost as easy as domestic transactions
2. T2S in a nutshell

An efficient settlement system

- T2S settlements:
  - cross-border is as quick as a domestic settlement
  - cost 15 eurocent (± $ 0.20)
  - entail no credit risk (pure DvP in central bank money)

The efficiency of cross-border settlement in T2S relies heavily on links between CSDs; T2S provides automatically for realignment.

A multi-currency system

- Originally, T2S was only for settlements in euro within the euro area
- Political pressure for opening T2S to the European Union; led to decision to open T2S to CSDs and NCBs which comply with relevant European legislation (including Switzerland and Norway)
- So far only two currencies in T2S: the euro (in 2015) and DKK (in 2018). But more currencies are expected to join after T2S opens.
1. T2S Animation
Functioning of T2S

2. T2S in a nutshell

Governance (simplified)

- Governing Council
- T2S Board
- T2S Programme Office (ECB)
  - Providers (4 NCBs)
  - Users

http://www.youtube.com/watch?v=QUVlzEauxzs
2. T2S in a nutshell

Financial aspects
- the cost of developing T2S -

- About 80 persons at ECB and 400 persons at NCB level
- Full cost recovery principle:
  - Development costs: EUR 400 millions (USD 500 millions)
  - Functioning costs: EUR 65 millions per year (USD 85 millions)
  - Capital costs: main ECB rate (0.5% at present)
- Cost recovery period: 8 years and 9 months after go live (until March 2024); probably too short

1. The origins
2. T2S in a nutshell
3. Where are we?
4. Benefits of T2S for non Europeans
5. Possible uses of T2S outside Europe
3. Where are we?

Today in the European Union, there are about 40 CSDs, at least 24 of them will be in T2S (incl. 6 non-euro)

T2S is not mandatory
T2S settlement volumes – projections/actual

T2S settlement volumes of signatory CSDs
(in million transactions per semester)

1. The origins
2. T2S in a nutshell
3. Where are we?
4. Benefits of T2S for non Europeans
5. Possible uses of T2S outside Europe
4. Benefits of T2S for non Europeans

Today’s typical model

Non-European customer → Global/regional custodian

Local custodian A → CSD A
Local custodian B → CSD B
Local custodian C → CSD C

How it could work in the T2S world

Non European customer → Global / regional custodian → T2S

CSDA

CSDB

CSDC
4. Benefits of T2S for non-Europeans

How it could work in the T2S world

- Non European customer
- CSD outside Europe
- T2S
- CSDA
- CSDB
- CSDC
1. The origins
2. T2S in a nutshell
3. Where are we?
4. Benefits of T2S for non Europeans
5. Possible uses of T2S outside Europe

5. Possible use of T2S outside Europe

Demand side

Increasing demand world-wide for efficient cross-border settlements (in particular for collateralisation purposes)

Supply side

T2S needs to find new sources of revenues in order to compensate the lower traffic in Europe
5. Possible use of T2S outside Europe

- The T2S software includes a multi-currency facility
- T2S allows cross-border transactions to be settled DvP, in central bank money, as quickly, efficiently and inexpensively as domestic transactions
- T2S’s software is very flexible; it can be customised to follow specific needs of a market
Some features which might be attractive:

• Very easy **cross-border collateralisation** (e.g. repo transaction in MYR against JGBs).

• **Auto-collateralisation** (possibility to finance purchase of securities with funds borrowed giving the security purchased as collateral).

• Very robust **business continuity** arrangements

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[T2S Animation](http://www.youtube.com/watch?v=dbyma82l-rQ&list=PL347E929CBF4A76E&index=2)
## 5. Possible uses of T2S outside Europe

### Four possible dimensions

<table>
<thead>
<tr>
<th>Description</th>
<th>Critical issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>When no efficient solution exists locally.</td>
</tr>
<tr>
<td>Bilateral</td>
<td>When two CSDs/central banks want to improve bilateral settlements</td>
</tr>
<tr>
<td>Regional</td>
<td>T2S software or services offered to CSDs (and central banks) which belong to a region</td>
</tr>
<tr>
<td>Global</td>
<td>T2S services offered to any CSD and central bank outside Europe</td>
</tr>
</tbody>
</table>

The T2S software can easily be customized

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### Two options

<table>
<thead>
<tr>
<th>Description</th>
<th>Critical issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling the software</td>
<td>The T2S software exported to the interested region</td>
</tr>
<tr>
<td>Selling services</td>
<td>DvP transactions processed using the T2S infrastructure in Europe</td>
</tr>
</tbody>
</table>
Three possible arrangements

<table>
<thead>
<tr>
<th>Description</th>
<th>Drawback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated model</td>
<td>Like T2S in Europe</td>
</tr>
<tr>
<td></td>
<td>Central bank money settlements take place in</td>
</tr>
<tr>
<td></td>
<td>the T2S software</td>
</tr>
<tr>
<td>Interface model</td>
<td>Using the conditional settlement functionality in T2S</td>
</tr>
<tr>
<td></td>
<td>Central bank money settlements outside the T2S software. Less efficient</td>
</tr>
<tr>
<td>Commercial bank money</td>
<td>Cash settlement agent is a bank, not a central bank (ICSD model)</td>
</tr>
<tr>
<td></td>
<td>Credit risk on the settlement agent</td>
</tr>
</tbody>
</table>

To conclude:

- In Asia and in Europe, there is a willingness to make cross-border securities settlement easier.
- ...but European Union is a “single market” where European CSDs will compete one against the other, and the euro area has a single currency. The solution for Asia will probably differ from the European model.
- The T2S software was not meant to be a commercial product. However, lower settlement volumes in Europe provide an incentive to look for new markets.
- The T2S software is very flexible. Some of its features might be useful in Asia. The European Central Bank would be happy to explore the issue further with ABMF or with some markets individually.
Thank you for your attention

www.t2s.eu  @T2SECB
Work Plan and Other Issues

ADB Secretariat Team
Seung Jae LEE, Advisor (OREI), ADB

14th ABMF Meeting
Jeju Island, Korea, 6-7 Nov 2013

* Contents of the presentation could be changed subject to the members’ discussion during the meeting

Outline

1. Knowledge support for BCLMV
2. Work plan after Jeju meeting
Knowledge support for BCLMV

- **Approach:** Phased supports based on actual demands
  - **Phase 1:** Kick-off seminar to address fundamental issues and challenges in developing bond market (5-6 Dec 2012)
  - **Phase 2:** Market visits on demand basis (Q2 2013~)
    - Provide tailor-made knowledge support considering specific demands from each economy
    - Collect market information both on SF1 and SF2
  - **Phase 3:** Follow up support for market development (Optional, 2014~)

Knowledge support for BCLMV

- **Phase 2 support for Cambodia:** 29-31 May 2013
  - **ABMF market study**
    - MOF, NBC, SEC, CSX, securities company, and law firm
    - Key findings and Information for Cambodia market guide
  - **Knowledge support**
    - MOF: Auction system and gov. bond issuance process
    - NBC: Auction process, central bank bill issuance and money market management, bond transaction flows
    - SEC: legal and regulatory framework for corporate bonds
  - *ABMF secretariat team + JASDEC, JP Morgan Chase, and CIMB*
Knowledge support for BCLMV

Phase 2 support for Lao PDR: 5-7 Aug 2013

- ABMF market study
  - MOF, BOL, SEC, LXE, bank, security company, and law firm
  - Key findings and Information for Lao PDR market guide update

- Knowledge support
  - High-level Seminar on Government Bonds (6 Aug): organized by MOF and NRI (TACT) supported by JMOF
  - Combined Seminar for MOF, BOL, and SEC: Regulatory framework, Auction process, Transaction flows, case study on Vietnam (overall) and Thailand (interbank money market)

* ABMF secretariat team + JP Morgan Chase, SWIFT + JMOF, NRI (TACT)

Knowledge support for BCLMV

Phase 2 support for Myanmar: 8-11 Oct 2013

- ABMF market study
  - MOF, CBM, MEB, MSEC, law firm, and audit firm
  - Key findings and Information for Myanmar market guide

- Knowledge support (Combined for MOF, CBM, and MEB)
  - Issuance methods and pricing, Regulatory framework, Clearing and settlement, CSD system (Japan and Korea)
  - case study on Vietnam (overall), and Indonesia (interbank money market)
  - information sharing on Cambodia (issues and challenges)

* ABMF secretariat team + TSE, JASDEC, KSD, + JP Morgan Chase + DIR (TACT)
Knowledge support for BCLMV

Next step

- Additional knowledge support on specific topics
  - Based on explicit demand of the BCLMV
  - In close cooperation with other Initiatives
- Exploring the opportunity of policy implementation support
  - Based on strong commitment for policy implementation
  - In cooperation with ABMF members and other initiatives
  - Including comprehensive overview and roadmap

* Details of the support to be consulted with and advised by ABMI TF3 in connection with Phase 3 ABMF activities

Work Plan after Jeju Meeting

2013: Finalizing Phase 2

- Finalize Phase 2 SF1 and SF2 report
- Provide support for the smaller group discussion and bilateral consultation on AMBIF
- Collect information needed for update of the Market Guide: Publication of the report by Q1 2013
  - Re-fresh SF1 and SF2 membership if needed

<Phase 3 ABMF activities : 2014 – 2015 H1>

- 15th ABMF meeting (Mar – Apr 2014)
  (SF1) Continued support for AMBIF discussion
  (SF2) Progress in phase 3 study / Support CSIF
- 1st reporting to ABMI TF3 (2014 H1)
## Work Plan after Jeju Meeting

   - (SF1) In respect of AMBIF implementation/regulatory engagement
   - (SF2) Collect information needed for Phase 3 study

2. **16th ABMF meeting (Jul – Aug 2014)**
   - (SF1) Continued support for AMBIF discussion / Pilot issuance
   - (SF2) Progress in phase 3 study / Support CSIF / Support AMBIF

3. **17th ABMF meeting (Oct – Nov 2014)**
   - (SF1) Finalization of ABMF implementation
   - (SF2) Draft interim report on the Phase 3 study / Support CSIF / Support AMBIF

4. **2nd reporting to ABMI TF3 (Nov 2014)**
   - Reporting the result on AMBIF implementation
   - Reporting the interim reports of the Phase 3

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## Work Plan after Jeju Meeting

1. **2015 (H1)**
   - ABMF meetings : 18th (Jan – Feb) and 19th (Apr – May) (TBC)
   - (SF1) Follow up on the implementation of AMBIF / pilot issue
   - (SF2) Finalizing Phase 3 study: Reference DVP model, message format/items, cross-border repo and collateral / Continue to support CSIF and AMBIF implementation
   - Final reporting to ABMF TF3 in Q1 2015 and submission of the reports to AFMCBG meeting in May 2015
   - 2nd Update of the Market Guide (by Jun 2015)
   - Support for BCLMV (demand basis)
Thank You

For further information
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Mr. Shinji Kawai, Senior Financial Sector Specialist: skawai@adb.org