**Summary of the 29th ASEAN+3 Bond Market Forum Meeting(s)**

**17-18 September, Hotel Borobudur, Jakarta, Indonesia**

The 29th ABMF Meeting and related meetings were held in Jakarta, Indonesia, jointly hosted by the Fiscal Policy Agency of the Ministry of Finance, Indonesia (BKF), the Indonesia Financial Services Authority (OJK), and ADB. The meetings took place on 17 to 18 September 2018 at the Hotel Borobudur Jakarta, including the 16th CSIF Meeting. The ABMF materials are available from the ABMF website (asean3abmf.adb.org), and CSIF Meeting minutes and materials are available separately to eligible participants.

## I. ASEAN+3 Bond Market Forum - Sub-Forum 1

1. Mr. Koji Ito, Chairman of Sub-Forum 1, welcomed the members and participants to the ABMF Meeting and expressed his appreciation for the hosting of the meeting by the Fiscal Policy Agency and OJK in Jakarta. He emphasized that it was important not to lose the recent momentum, particularly with AMBIF issuances, and that other presentations would also show progress across the key topics of ABMF SF1.

2. In his welcome remarks, Mr. Irfa Ampri, Vice Chairman of the Fiscal Policy Agency, highlighted the global economic volatility that, combined with the ongoing trade wars, was also affecting Indonesia despite its strong economic fundamentals. He described the resulting capital outflow and increased risk to the economy and stated that the Indonesian rupiah was not immune to these developments, and feeling the pressure. Hence, strong monetary policy efforts were necessary to counterbalance such developments.

3. The bond market was a critical component to achieve the policy objectives of the Indonesian government. The ASEAN+3 Finance Ministers and Central Bank Governors Meeting had already determined that local currency financing would strengthen the resilience of the regional financial markets and their economies. Indonesia was now focusing on the size and sophistication of its bond market, and intent on streamlining its market practices to aid market development. ABMF is playing an important role in line with its mandate under ABMI, and Mr. Ampri expressed his hope to see further progress with AMBIF issuances, fintech, as well as the other objectives set by ABMF.

4. In her keynote speech, Ms. Yunita Linda Sari, Head of Capital Market Supervision at OJK, confirmed that the Indonesian capital market played an important role in the Indonesian economy. For its part, OJK focused on mitigating risk and to ensure financing options. Yet, in recent times, the IDX index was down 7.93% and the Rupiah had weakened. Ms. Yunita was convinced that Indonesia will overcome this temporary weakness and that the indicators will improve soon. Recent initiatives included the single investor identification (SID), further straight through processing, and fund accounts. Among the key initiatives supported by OJK was the drive to increase market participation, e.g. from regional

securities firms that want to get closer to their investors; the provision of tools to improve financial literacy; and to increase the securities firms' national networks to offer more potential investors access to the capital market.

5. OJK's wanted investors to trust the capital market to invest their assets. So far, the focus had been to encourage saving, not investments. OJK wanted to increase the participation of the public in government infrastructure projects; this was supported by new regulations, including the creation of KIK (collective investment schemes) for project finance. Other initiatives included the establishment of the professional investor concept, which had attracted a lot of interest, the issuance of green bonds and ability for companies to issue medium-term notes and explore other issuance concepts. Other initiatives aimed at increasing participation included ETP, the Electronic Trading Platform. Here, OJK was hoping to see an increase in transactions, or the pooling of transactions for execution on ETP. At the same time, OJK did not want to neglect investor protection. It still was a key objective of OJK.

6. OJK was currently producing the Bond Market Deepening Roadmap (BMDR); its intention was to see how the bond market was currently tracking, to identify and analyze its current status, devise strategies how to address the identified issues, and give the strategies priority and a timeline for execution. ADB and Nomura Research Institute were assisting OJK in this effort.

7. Over the last 5 years, bond issuance had increased by 120%. Issuance under shelf-registration alone amounted to IDR6.8 trillion in 2018, across 5 debt securities. To further support such increase, OJK was pursuing efficiencies to reduce transaction costs, risk mitigation, and ensuring the right types of instruments available in the market to enhance the domestic financing stability, which helped with economic growth and in the carrying out of many infrastructure projects. The ABMF Meeting was a great opportunity to discuss further how to achieve the objectives OJK set for Indonesia, and Ms. Yunita invited members and participants to share their experiences in this regard.

8. **The Strategic Initiatives for Developing Indonesia's Bond Market** (OJK): Mr. Khoirul Muttaqien, Director, updated the audience on Indonesian bond market data and strategic initiatives in greater detail. The Indonesian bond market had grown sustainably but was facing concerns in 2018 as a result of external factors. Local investors still dominated, while government issued instruments represented 93% of the trading volume in 2018 so far. Foreign institutional investors had been net buyers over the past 6 years. While the focus of the maturity for government securities was around the mid-term, financial institutions were more focused on mid- to longer-term tenors. Corporate bond liquidity was lower than for government securities, but the segment showed sustainable growth in volume; the focus was on shorter-term maturities, and domestic investors dominated, at about 92%. Among the issuers, the financial sector represented about 63%. Repo transactions in the market were up overall and also showed an increase in transactions with Bank Indonesia, as part of its open market operation.

9. Among the market's challenges, Mr. Muttaqien mentioned the lack of liquidity in some instruments as well as the lack of instruments for hedging purposes. One of the government initiatives was seeking to address this by developing Indonesian government bond futures. Limited participation of domestic investors in the bond market, and the underlying low level of financial literacy were also identified as challenges, as was tax processing. While the retail part of ETP had been implemented, ETP as a whole was not yet considered successful and needed to be further developed. In addition, the regulatory framework needed to keep pace with overall market developments and facilitate the planned initiatives.

10. Among the recent milestones of the Indonesian bond market was the introduction of the Qualified Institutional Buyer, or QIB, concept on 1 August 2018. Regulation supporting green bond issuance was introduced in late 2017, featuring 70% financing for projects, the concept of certification, concessions in the form of a special levy, and related efforts for capacity building in this segment. The development of ETP was aimed at attracting more liquidity and transparency in trading in the OTC market. While Phase 1 (retail access) was concluded, Phase II was expected in 2019 and featured an expansion of the instruments tradeable on ETP, including corporate debt instruments. Phase III was targeting a widening of the participants of the platform, together with clearing and settlement improvements.

11. OJK was also refocusing on intermediary rules and regulations. It was planning to normalise domestic regulations against IOSCO principles, and create a level playing field through applicable licensing or registration of market intermediaries, including for individual representatives of such intermediaries. At present, there was no comprehensive rulebook on licensing or registration requirements, owing to the legacy of regulations covered by separate regulatory authorities before OJK. The relevant regulations, also aimed at standardizing market conduct, were being drafted now, and expected to be ready for publication in late 2018 or early 2019. In addition, OJK was keen to issue regulations on medium-term notes (MTN) which, in Indonesia, was the market term used for private placements. At currently USD4.2 billion in size and with strong growth in recent years, the segment reflected a need in the securities market but the size also signaled the need to bring it into the regulatory framework. Corresponding regulations were being drafted at the moment and expected to be released in 2019.

12. Another initiative, known as IGBF, was aimed at creating government bond futures in the Indonesian market. OJK recognizes that investors need hedging instruments, and the new instruments would help increase transactions on both IDX and ETP. The intention was to first introduce price-based futures trading, then based on yield. While the instruments had in principle been launched in 2017, OJK and market intermediaries were now refining practices and studying the necessary next steps.

13. OJK also released the new professional investor concept to the public on 1 August 2018, which covers debt instrument issuances to Qualified Institutional Buyers, or QIB. This new concept fit right into the discussion with ABMF, on potential AMBIF issuances in Indonesia.

The concept applied to both individuals and institutions, with specific eligibility criteria set for parties that are not financial institutions. It also took in high net-worth individuals, with a threshold of USD700,000 net assets or a portfolio of USD200,000 equivalent to be considered as QIB. At the moment, OJK was socializing the new regulations with the market, including with ADB Secretariat. One other impending initiative was focused on municipal bonds. Mr. Muttaqien expressed his hope that Indonesia would be able to contribute to the ASEAN+3 discussion on bond market best practice and invited members and participants to actively join the dialogue during the ABMF Meeting.

14. Mr. Satoru Yamadera, of ADB Secretariat, further highlighted the key progress and relevance of the presented details on Indonesia for the ABMF discussions. The bond market in Indonesia was witnessing great development, aided by a roadmap approach to guide the necessary changes. ABMF was hoping to see successful implementations of all the initiatives mentioned. QIB in particular was important because a professional investor concept was key to linking regional markets, e.g. through AMBIF. The planned transition of MTN/private placement issuance into the regulatory framework was encouraging because it allowed more investors to consider these instruments, and Mr. Yamadera hoped that the initiatives would bring more issuers and investors from other regional markets to Indonesia. ADB and ABMF would continue to support OJK for these initiatives. Mr. Yamadera also emphasized that bringing the government bond futures on exchange will increase their visibility and the transparency of the derivatives market. AMBIF, in turn, would increase visibility through listing or an equivalent registration and focuses on continuous disclosure. Such features were very much in line with ongoing ABMF discussions and with regional initiatives and objectives.

15. Members enquired about Indonesia’s experience with the SID, whether it was successful, had brought more accounts, and what lessons other markets may be able to learn from its introduction. Mr. Muttaqien stated that the SID had started in the equities market, and was expanded to the bond market after, to cover the entire securities market. Since institutional investors dominated the bond market, its immediate relevance was lesser; however, it had become significant as the chief identifier for settlement, aiding in STP efforts. He also mentioned that the SID could be used for market surveillance but there was still data discrepancy between clearing and settlement records. ADB Secretariat added that SID was no longer seen as an issue based on investor feedback; where the SID was not taken up by investors, tax was the underlying driver – typically for certain types of portfolios that would not benefit from double taxation agreements and, hence, had no incentive to pursue an SID.

16. Members also checked on whether ETP will adopt RTGS or netting principles, and whether it will have a central counterparty (CCP) function. Mr. Muttaqien responded that the implementation was a long process, since bond transactions still did not have the same STP quality as equities. Netting was not yet applied, and a CCP was being considered. KSEI added that the implementation would occur in stages; for the time being, settlement on a transaction basis was applied. Netting was still under discussion. On questions on the

government bond futures, members wanted to know how many contracts would be offered, whether a CCP was being used or considered and more details on the trade quotations. Mr. Muttaqien explained that transaction would occur through the trading platform of IDX, and a CCP function was in place. Only securities companies were able to quote and trade. The market had seen low volume because only 1 or 2 contracts were so far available. He conceded that banks would be keen to access the bond futures market but current regulations prevented them from becoming direct participants. However, OJK was already drafting regulations to allow banks such direct access to the futures market.

17. **Further Analysis of ASEAN Corporate Bond Market** (CGIF): According to Dr. Dong Woo Rhee, CFO of CGIF, the research into the Indonesian corporate bond market was intended to confirm CGIF’s own understanding of the market and its drivers. It had turned out that data used may not always be accurate and Dr. Rhee invited participants to offer corrections where necessary. The immediate focus of the research had been to determine how the Indonesian bond market was different to other markets. It was smaller compared to other regional markets, also smaller in relation to GDP. At the same time, Dr. Rhee conceded that private placement data may not have been included. Overall, it appeared that Indonesian corporates were less dependent on bonds, in comparison to the corporate loan market. Its focus was on short to medium-term tenors, compared to longer maturity profiles in other markets. When investigating the causes, CGIF found that the financial sector was dominating the issuance, with a focus on shorter tenors. One reason was that mutual funds only invested in bonds up to 3 years of maturity, and insurance companies were also investing in short terms than in other markets. The insurance behavior was traced back to unit-linked insurance products that had shorter lifecycles than traditional insurance policies.

18. Dr. Rhee offered that straight bonds were highly dominant in Indonesia but bonds had the smallest issuance size among its peers. This may mean that the market was unable to accommodate desired, larger issuance sizes. However, Indonesia also features a strong showing of secured bonds, which appeared to be the result of finance companies issuing bonds against their credit receivables. A significant share of bonds was rated ‘A’, which suggested that the credit appetite in Indonesia was not so strict; issuance was possible for bonds rated to ‘BBB’. Dr. Rhee detailed that the issuance of asset-backed securities (ABS) in Indonesia was unique, in that most ABS were issued as a fund type, not through a special purpose vehicle. In this context, he was wondering out aloud why such structure was not being explored for auto loans.

19. Foreign issuers had issued 578 issues denominated in IDR in the review period, all by foreign financial institutions, which Dr. Rhee rated as a phenomenon not seen elsewhere. On the offshore side, he observed that those issues were larger on average compared with issues denominated in IDR, and their maturity was also longer. This suggested that Indonesian corporate were looking to the offshore market when needing larger and longer funding. His conclusion was, if the findings could indeed be supported, that the Indonesian bond market needed to develop further to be able to meet the demand from Indonesian corporate issuers. Mr. Yamadera commented that it may be necessary to further study the

apparent need for larger and longer issuance, as well as the IDR frequent issuances by nonresident issuers. The latter appeared to not be for purposes of funding operations in Indonesia, but rather were headed to the swap market to achieve cheap funding in other currencies. However, the very same issuances also indicated that investor groups were indeed looking for Indonesian-type, higher yields. He felt that if, collectively, it would be possible to match demand and issuer objectives, that this could be better for the growth of the Indonesian bond market.

20. Members commented that regional issuers often needed credit enhancement facilities. CGIF offered such product for private sector underwriters to limit their risk. What should an issuer do in order to be able to access a CGIF guarantee? In the interest of time, Dr. Rhee referenced the general CGIF approach explained in previous presentations and emphasized that regional issuers often faced the dilemma that they wished to issue in markets where they were not that well known, i.e. had no or limited name recognition. CGIF could help in this, together with the structured approach of an issuance under the AMBIF concept. Mr. Ito added that one of the ABMF objectives was to support AMBIF (pilot) issuances in regional markets, and asked the participants to use and promote both AMBIF and CGIF features in their work to increase bond issuance in the region.

21. **Update of ASEAN+3 Multi-Currency Bond Issuance Framework** (ADB Secretariat): In this context, Mr. Yamadera was happy to announce impending AMBIF issuances in Cambodia and the Philippines, where ADB Secretariat was working closely with CGIF to achieve pilot issues. Through the support work, it had become obvious that many misperceptions still existed on AMBIF and Mr. Yamadera reiterated the six AMBIF Elements to address such misperceptions. What was needed was a professional investor market in a jurisdiction. At the meeting, Indonesia had just announced the introduction of the QIB concept, which was a remarkable step and crowned years of discussions and preparations, including with ADB Secretariat. ABMF was promoting professional investor concepts and would promote QIB. Mr. Yamadera conceded that Komodo bonds (issuance in foreign currency) were getting popular but could not be considered as AMBIF issuance, as their issuance transferred the FX risk to investors.

22. ABMI's key objective had been to mitigate risk, hence, ABMF was focusing on local currency issuance. However, the challenge was that Asian markets were generally grouped into the emerging markets category, even if their characteristics were often quite different from other regions. ABMF was also focusing on accommodating local needs in the markets' development and not insist on changes in law or regulations. This was evident through the Single Submission Form (SSF), which was essentially a template aimed at harmonizing all participating markets' requirements at the greatest common denominator level, with market-specific contents normalized. Issuers had to follow certain local requirements for disclosure and approval but the SSF was recognized by all regulatory authorities in the participating markets. The SSF also facilitated investor interest, since it contained an expected level of information – this was the benefit of SSF being a standard template that followed international market practice and, hence, increased recognition.

23. ABMF was promoting the use of English for issuance documentation and disclosure items. At the same time, some local language requirements were evident; this, however, did not diminish the value of the SSF. The exception included Cambodia, for example, where the SECC supported the use of SSF, which on its own, however, may not fulfill all regulatory requirements if issued in English. The issuance application may need to contain a summary in Khmer, while the disclosure information could be in English.

24. With the announcement of the QIB concept in Indonesia, there was no remaining issue now with creating AMBIF issuances in the market. Mr. Yamadera also addressed the issue of listing or registration: AMBIF issuance needed a place, which required continuous disclosure. He used the example of the private placements in Indonesia, which may soon be registered with OJK. Future issuances under AMBIF would be the way to create visibility and transparency. Mr. Yamadera expressed his hope to see AMBIF issuances listed on IDX but mentioned that cross-listing and dual listings were also possible; those features did not mean that settlement of such bonds were occurring offshore. He also emphasized that, while the focus for AMBIF had been on regional issuers, ABMF did not want to exclude US or European issuers supporting their regional or domestic operations. At the same time, the core investor base for AMBIF remained banks and other financial institutions, insurance companies, collective investment schemes, as well as high net-worth individuals.

25. **Update on ASEAN+3 Bond Market Guides** (ADB Secretariat): Prof. Shigehito Inukai and Mr. Matthias Schmidt, ADB consultants, updated members and participants on the progress of the Bond Market Guides (BMGs). The Viet Nam BMG has principally been completed but ADB Secretariat was waiting for some final feedback to close out pending subjects. The present document already contained some developments from 2018, but a future revision may be necessary once a number of impending market changes have been introduced. [Note from ADB Secretariat: the Viet Nam BMG was subsequently published on 12 October 2018, and is available from the ADB website, at https://www.adb.org/publications/asean3-bond-market-guide-viet-nam]. The next step was to complete the compilation of two working papers for the exchange bond market and the Inter-Bank Bond Market (CIBM) in PR China before the end of 2018, and to circulate the documents to members for feedback. Once feedback was received, particularly from the colleagues in PR China, the documents could become official BMGs.

26. In addition to the BMGs for the existing markets, ADB Secretariat may also support the creation of a Mongolia BMG, for which the MOF in Mongolia had signaled interest. The team was also aiming for a further integration of the BMG contents with the ABO website. In addition, the AMBIF Implementation Guidelines for existing and newly participating markets should be synchronized with the information collected in the recent BMGs. In addition, some of the original individual BMGs published from 2016 might be due to be updated soon. Triggers for such an update could be significant changes to market features or the legal or regulatory framework. An update would also allow bringing the older BMG versions in line with the latest style for the BMGs as an ADB flagship publication series. In any case, the current ADB template would allow for a quick turnaround for changes to the

BMGs. Following that would be the compilation of a comparative analysis across all 14 markets, including the need to review the comparison on professional markets done in the ABMF SF1 Phase 2 Report, which would see new markets added and features in existing professional markets changed. The key purpose was to create insight for members and experts, and to provide input into policy discussions in the region.

27. To illustrate why the PR China working papers took a longer time to create, Prof. Inukai took the audience through a number of China bond market features and the recent efforts by policy makers and regulatory authorities to further open and develop the market. He introduced the major market segments and some of their key attributes, relevant regulatory authorities and key infrastructure providers, and the instruments for each of the market segments. The general direction taken towards opening of the China bond market was irreversible and proceeded at great speed. Issuance in the China bond market in 2016 and 2017 amounted to USD3 trillion, while the outstanding amount was USD10 trillion at the end of 2017, and had more than doubled in 5 years. Prof. Inukai showed breakdowns of these numbers by market segment and instrument type. The exchange bond market had seen the introduction of the Qualified Investors (QI) concept, in effect introducing a professional investor market.

28. Prof. Inukai mentioned the significance of negotiable certificates of deposit, which were actively traded in the CIBM. 2/3 of the debt instruments deposited with Shanghai Clearing House consisted of money market instruments, including short and super-short commercial paper, which may also explain in part the overall size of the CIBM. Repo was an important transaction type in PR China and getting more popular in both the CIBM and exchange bond markets; this needed to be watched from the perspective of risk mitigation. However, repo practices in the China bond market differed from other regional markets. In the exchange bond market, corporate bonds dominated – it could be considered <u>the</u> corporate bond market in PR China by now. Non-public placements may be issued to up to 200 investors, but the involvement of individual investors in such private placements should be limited, in order for the non-public offers to be considered a professional market segment. However, Shanghai Stock Exchange rules already limited the issuance and transfer of corporate bonds to only QI or institutional investors.

29. Prof. Inukai concluded that policy bodies and regulators undertook many efforts to develop the China bond market, and it was necessary to closely watch further developments, some of which had already been announced. Some of the considerations and planned or completed initiatives may also be of help to other regional markets when developing their bond markets.

30. **Korea's exchange bond market** (Korea Exchange): Mr. In-ug Ryu, Director of the Bond Department at KRX, introduced the KRX bond market to the audience. The value of bond trading on KRX reached nearly USD3 trillion in 2016, with reduced 2017 numbers due to the impact of a lower Korean won. The face value of bonds listed on KRX amounted to close to USD1.5 trillion, a huge market. The numbers continued to be strong in 2018, as

the government and corporates continued raising funding through the bond market. KRX was the 3rd biggest bond market on exchange (by trading volume) globally and, if counting only electronically traded bonds, represented the largest such market in 2017. The bond market on KRX featured 3 segments, namely the KRX KTB for government and agency bonds, KRX BondsAll for all listed bonds, and the KRX Repo segment. KRX KTB represented the segment trading the benchmark issues, supported by presently 17 primary dealers for Korean Treasury Bonds, or KTB.

31. Mr. Ryu reviewed the history of the KRX bond market and stated that, today, KRX was the representative market for KTB trading and benchmark rates in Korea. He attributed this success to, i) KRX' furtherance of bond dealers, which is the market name used for primary dealers, and whose presence ensured a stable KTB auction and distribution process; ii) the presence of market makers for both KTB and other listed bonds, introduced in 2015; and iii) the efforts to enhance market transparency. Future plans included the building of a dedicated corporate bond trading platform to enhance liquidity, also to support professional investors interested in block or large trades, the listing of green bonds, and a focus on marketing KRX as a bond platform to other institutional market participants. The Ministry of Economy and Finance of Korea was presently in the process of drafting green bond guidelines for a publication in late 2018 or early 2019, and KRX wanted to be ready to apply those guidelines.

32. In question time, members enquired about the distinction between continuous auction and periodic call auction in BondsAll. Mr Ryu explained that the BondsAll market was open from 8.00 to 15.30 and periodic auction occurred from 9.00 to 15.00 for most of the listed bonds, while continuous auction was facilitated throughout by the market makers for 15 benchmark KTB issues. BondsAll did not yet see that many transactions but featured more than 60,000 individual investors among its participants. On the proportion of bond trading between KRX and the OTC market, Mr. Ryu responded that 52% of trading in KTBs was done on KRX, with the bulk in 6 benchmark issues and 3 STRIPS, but the BondsAll volume was comparatively small. The corporate bond market was mainly for professional investors, which often tended to buy and hold. Market access was also limited to bond brokers, i.e. securities firms, and individuals. KRX did provide netting and acted as CCP and offered settlement until 5pm for same day trades, plus had set up a compensation fund, all to mitigate market risks.

33. **ABO Upgrading Update and Research on Green Bonds** (ABO team): Dr. Donghyun Park explained that the economic outlook for the region was still strong, while clouds of uncertainty and volatility were becoming visible, also as a result of the trade tensions. This may not be good news for the Southeast Asian countries. He felt that the impact of those tensions was still evolving, and there was no reason to panic just yet. Dr. Park reported that government bonds in recent months had diverged, i.e., no clear trend was visible, whereas a period of relative USD strength had seen all regional currencies depreciate. The regional bond market grew by 3.2% quarter-on-quarter, to USD12.6 trillion as of the end of June 2018. Government bonds represented two-thirds of that size. China was the largest bond

market in relative size, followed by Korea. China also showed the largest amount of new issuances in the most recent period.

34. The bond market was facing some downside risks, namely the effect from the trade tensions, the global oil price volatility, rising US interest rates, and the known-on effects from non-Asian emerging markets, such as Argentina and Turkey. However, the primary impact from these factors is still expected to be somewhat limited, e.g., in the case of China, at 0.5% to 1 % of GDP only. The secondary impact, such as through investor sentiment and consumer confidence, was more difficult to quantify. A rigorous econometric analysis showed that there has been a limited impact on the stock markets and financial markets overall. In addition, the regional markets have shown and continue to show a strong commitment to stability.

35. Dr. Park mentioned the successful launch of the revamped AsianBondsOnline (ABO) website, recently held in Bangkok, in conjunction with the ThaiBMA. ABO now contained much revised and additional content and information. One key focus had been to provide information on foreign holdings and, to a lesser degree, the foreign fund flows across the markets, as and where available. New was the monthly debt roundup. The ABO team had also concluded a successful bond workshop in the Lao PDR.

36. Dr. Shu Tian reported on the recent green bond study done by the ABO team, and mentioned the green bond definition and the various recognition concepts. The first available standard, and widely cited and used, were the Green Bond Principles (GBP), which contained 4 key elements. GBP was, however, more voluntary in nature than other standards, such as the Climate Bond Initiative (CBI). The sector showed strong growth, with issuance at USD155.5 billion in 2017. The leading markets were the US, the EU, and China. Commercial banks were important issuers in the private sector.

37. Dr. Shu Tian explained that the motivation for the study was the level of general interest in green bonds but their relatively small market size still, to find out which standard to follow, since there had been no consensus on the definition of 'greenness' of the bonds, and to what extent that lack of consensus influenced pricing, i.e. whether there was a 'green premium' for such bonds. Some of the green bond attributes were less liquidity, yet long-term investors were evident, in particularly the ESG (ethical, social, and governance-focused) investors; an information asymmetry due to the relative newness of the sector, which the facilitating agencies (credit rating agencies and reviewers) were trying to address; high compliance costs to become and stay green for the issuer; and funds for the repayment of the green bond need not come from green operations. A study by Hong Kong University had found that listed green bond issuers experienced 'abnormal' returns in the stock market, and saw their stock liquidity increase.

38. For the ABO study, the team collected green bond data and corresponding information on benchmark bonds, which were not green, by matching them according to major criteria. The study was done on 60 resulting pairs of bonds and found no systematic difference in yields, although the credit rating was not always in sync; however, the issuance size was

found to be generally lower for the green bonds. The study calculated a green bond premium by removing the difference in liquidity between green and matched conventional bonds; what remained would reflect the green bond premium. The results indicated that no significant green bond premium, or discount, existed, but some cross-sectional differences in yield may be possible.

39. In a second step, the study examined a proxy for each green bond, i.e. whether a premium existed if the green bond was certified to CBI, and whether an external review had taken place. The purpose was to find whether the market gave more credit to an issuer spending the effort to ensure a green bond was, indeed, green. The findings indicated that green bond issuers enjoyed an advantage of 8 basis points (bp) in funding costs over conventional bonds if their green bonds had the maximum certification and an independent review done, while green bonds without certification but with an independent review still gave the issuer an advantage of 6 bp in funding costs over conventional bonds. Dr. Shu Tian concluded that substantially no premium had been found but that investors chased green bonds with better information on their greenness, which also evidenced that the generally assumed information asymmetry did not create substantial problems.

40. Dr. Shu Tian asked the audience to consider some of the questions not addressed by the study, such as a) if the green bond market becomes bigger (more liquid), will the yield go down (further); b) if a penalty was imposed on the issuer for breaches of green bond credentials, what impact would that have on that green bond or green bonds in general; c) how could going green be (further) monetized; and d) should there be a reward for going green, e.g., as compensation for the higher cost.

41. Members of the audience expressed much interest in green bonds, and had intentions to introduce specific green bond schemes, some as a first instance of labeled bonds in their market. These jurisdictions may have previously had green bonds which were, however, not labeled as such and, hence, were not adequately considered by investors. The role of an exchange in green bond trading was similar to its role for trading of conventional bonds, since it would facilitate trading in the usual manner, require adequate disclosure, and help with investor or general market education. However, an exchange would also have to give due consideration to green bond subjects such as the disclosure and monitoring of green bond credentials. One challenge would be the need to eliminate the usual price factors and instead focus on abnormal practices. Market regulators in Hong Kong and Singapore had introduced green bond incentives that could reduce issuance cost, if listed on the exchange; in Japan, incentives were offered by the Ministry of Environment.

42. Members commented on the uncertainty over green bonds that suddenly were no longer green if losing their certification, but acknowledged that the environmental benefit could remain, but would have to be proven; the question would be whether ESG investors then would have to sell such bonds. Dr. Shu Tian acknowledged the question of whether a green bond premium would be more evident for repeat issuances by the same issuer as an interesting angle for follow-up research, but market size would likely be a factor for

consideration. It was noted that green bond indices had shown resilience and growth, compared to normal bond indices. On the question of an impact on sovereign bonds, Dr. Shu Tian responded that no specific impact had been found also because government bonds could not benefit from positive recognition in the stock market. The real challenge for government was that they might not be able to adequately record and account separately for own green bonds to fulfill and maintain certification.

43. **AMBIF Taxation Study** (ADB Secretariat): Ms. Nopamon Thevit Intralib provided a brief update on the taxation study. She gave a quick recap of the study objectives and work done so far, as reported in detail in recent meetings. Local currency bonds were found to be good for market stability and complemented other financing options. The study's goal was to determine how tax measures impacted the local currency bond market. The tax framework did not change very often, and it should, hence, be possible to check market developments against any possible such changes. The Thai market had been selected as a proxy for the study before extending the review to other markets. The aim was to finalize the taxation study by year-end 2018 amid resource constraints.

44. The Thai tax office was proposing a tax on income from debt instruments received by mutual funds. At present, about 1,300 mutual funds established under the SEC Act existed in Thailand; so far, they were not considered a taxable entity under the law. The new tax bill changes the definition of mutual funds to taxable entity and was hoping to address the imbalance that had existed in the market for some time. The tax office was estimating additional tax receipts of THB2 billion from this measure. However, market feedback suggested the proposal would discourage savings through mutual funds, and have a consequential impact on the demand for debt securities. Ms. Nopamon showed the status and explained the legislative process for the proposed bill; despite market concerns, the promulgation was expected still within the current tax year.

45. Mr. Yamadera added that the intention of the study was not to abolish taxation but to find out about the tax impact and compare those across the markets. The intention was to pursue the principle of equitable and egalitarian taxation practices. The driver was the request of the Philippine Bureau of Inland Revenue to benchmark the Philippines against regional markets. It was understood that tax authorities in different markets did not necessarily compare notes on their tax practices in the capital market, and the bond market specifically. The Group of Experts' findings had already indicated that taxation was a big challenge in many markets. In the context of the study, ADB Secretariat was looking into tax practices through account structure, among other market features. Taxation was still a difficult subject and various aspects had to be taken into consideration. The Thai plan was not unique and similar developments were evident in other markets. Mr. Yamadera hoped that members and participants would understand the direction taken and appreciated the degree of difficulty involved.

46. **Good Practices to develop a Bond Market** (ADB Secretariat): Mr. Yamadera reported that ADB Secretariat was now drafting the Good Practices Book on how to develop a bond

market, which was an important document for ABMF. The G20 emphasized on the development of local currency bond markets after the financial crises, and now local currency bond market development was part of a common, global agenda for policy bodies and regulators. The idea for the book was how we can show these efforts in a more structured and organized manner. For illustration, the book will focus on some key developments and ADB Secretariat hopes to share through the book some of the ABMF markets' experiences. Mr. Yamadera stressed that the team was hoping for input from members, particular the International Experts, so that the book can be projected as a collaborative effort.

47. The book would contain information on bond market development steps and how to grow the market; the functions of the government and corporate bond market, respectively; a review of the participants and stakeholders in the market, including the particular significance of the custodian function; the nature of trading markets; the importance of a robust legal framework and a professional investor concept; how the necessary ecosystem for a functioning bond market should look like, and the need for transparency and standards, including harmonization efforts and the use of international standards; the role of regional cooperation; as well as conclusions and key lessons learned. Mr. Yamadera hoped that members could offer such lessons or contribute to other sections in the book. Dr. Park offered that ASEAM+3 had many lessons to offer, not least that the focus on local currency bond markets had been a success, and suggested that the book should also contain a number of remaining key challenges for the regional bond markets.

48. **Recent developments of money markets in Asian countries** (Bank of Japan, BOJ): Mr. Shunsuke Endo referred to the previous studies in 2010 and 2014 on regional money markets under the Executives' Meeting of East Asia-Pacific (EMEAP) Central Banks. While the studies focused on liquidity management in 2010 and on repo business in 2014, the latest report in August 2018 recorded the status of the money markets in the region, and included the results from a survey conducted during the chairing term of the BOJ from 2016 to 2018. Mr. Endo hoped that the report would provide a reference for discussions to develop money markets in the region.

49. Money markets serve as an important infrastructure not only for private financial institutions to manage short-term funds but also for central banks to conduct monetary operations. While the money markets were seen as having ample liquidity, the report pointed out that possible capital outflows and a gradual decline in liquidity may highlight the importance of having well-functioning money markets. The survey results showed that the growth of repo and FX swap markets exceeded that of uncollateralized markets on the back of policy initiatives in many jurisdictions. Mr. Endo gave some examples of such policy initiatives. The money markets as a whole had grown. However, activity in the money markets varied greatly across jurisdictions. The report also found that FX swaps represented the primary financing market in many jurisdictions. Where a repo market was prevalent, it served as a primary financing option for non-bank financial institutions.

50. Among the repo market participants, central banks played a significant role in some jurisdictions particularly to absorb liquidity. Local banks were dominant in most jurisdictions, particularly as cash lenders. Foreign/non-resident institutions and local/foreign dealers and other local non-banks showed a notable share in a few jurisdictions. As an example of underlying challenges, the report pointed out that reliance on long-standing relationships for counterparty risk management had not spurred the need for repo and other collateralized transactions among diversified players. Meanwhile, most of the repo transaction terms were shorter than 1 month and market rates with underlying transactions were absent in several jurisdictions. Mr. Endo stated that some of the policy initiatives reviewed would help address these challenges. Some central banks had also adjusted their monetary operational frameworks in response to ample liquidity partly related to capital inflows in recent years.

51. For the repo markets, challenges included that while the markets had expanded overall, the activities still remained low in some markets. Some issues associated with legal and administrative arrangements had room for improvement. As for the term transactions, the administrative process for collateral management and tax arrangements could have been considered among the challenges. To wrap up the insights from the Money Market Survey Report, Mr. Endo noted that proactive efforts to address remaining tasks are becoming increasingly important to further advance money market development as demand for short-term transactions may increase in the possible reversal of the financial cycle.

52. Mr. Endo also gave an overview of the Asian Bond Fund (ABF) initiative, which was established by EMEAP in 2003. At present, the focus was on ABF2, denominated in local currencies, which absorbed the proceeds from ABF1, which had been denominated in US dollars, in 2016. ABF2 comprises of the ABF Pan Asia Bond Index Fund (PAIF) and 8 single-market funds (SMFs), managed by private-sector fund managers. PAIF and SMFs are passive funds, investing in local currency sovereign and quasi-sovereign bonds in 8 EMEAP markets, other than Japan, Australia, and New Zealand. Both PAIF and SMFs were accepting investments from the public and private sectors.

53. Mr. Endo believed that ABF had a positive effect on the regional bond markets. The size of the local currency bond markets had grown nearly eight fold in the 15 years since the creation of ABF. The ABF initiative had also contributed to improvements of market infrastructure and an acceleration of tax and regulatory reforms. Another key focus had been to raise investor awareness and create interest in Asian bonds. With its efforts, ABF also helped promote the efficiency of financial intermediation in the regional bond markets. In 2018, EMEAP had also begun to lend debt securities held by PAIF, in order to improve liquidity in the local currency-denominated bond markets, enhance price discovery, and advance institutional and settlement infrastructures.

54. Mr. Endo then handed over to Mr. Wayne Burlingham from HSBC in London and Circle Yeung from HSBC Hong Kong, to elaborate on the securities lending efforts conducted by PAIF. HSBC was acting as agent lender of PAIF assets, starting from July 2018. Mr.

Burlingham first went over the securities lending fundamentals. Securities lending represented a temporary transfer of title, against collateral and for a fee, but the lender maintained economic rights to the lent securities, except for voting rights during the loan period. Securities borrowing was often intended to cover short positions and securities lending trades did not represent legal contracts until settled, which was different from virtually any other transaction type. Securities lending did improve market liquidity, also because borrowed securities could be on-lent to other borrowers in most cases. Mr. Burlingham estimated that, globally, about USD21 trillion worth of debt securities were available for loan, yet securities actually on loan only came to about USD2.5 trillion.

55. Due to the intermittent call quality, Mr. Endo facilitated some questions from the audience to Mr. Burlingham and Ms. Yeung via email. In their response, they confirmed that the large number of available collateral was an estimate from IHS Markit, and was thought to be representative. The number did not consider how much of the lending pool could actually be accessed as a result of mandate or legal restrictions, e.g., for investors who are not allowed to lend their assets under prudential regulations. On the challenge for market size, Mr. Burlingham conceded that the borrowers were the drivers for securities lending activities and that, as agent lender for PAIF, in the case of HSBC here, there was no way to outright grow this activity without corresponding demand. He indicated that the introduction of Basel III had led to a growth in demand for government bonds, typically in exchange for lower quality collateral, allowing borrowers to upgrade their collateral to be able to satisfy the latest capital and collateral requirements across their business activities, including obligations towards central counterparties (CCPs).

56. Mr. Burlingham acknowledged the impact of prudential regulations on availability of the lending pool and also identified counterparty risk as the driver for lenders to limit their counterparties to at least ‘A’-rated institutions, all of which was impeding on lending activity. Borrower indemnification was one tool offered by agent lenders to alleviate such concerns. He emphasized that the most important element for counterparties in securities lending was to uphold their reputation, in that securities lending transactions could never lead to a fail of an outright transaction, e.g., as a result of specific debt instruments being on loan and not being able to be recalled in time. This primary objective also led to more cautious behavior in the market.

57. **Progress of Working Group on Cross-Border Collateral and Repo** (Clearstream): Mr. Davin Cheung explained to the audience the features of Clearstream’s tri-party collateral management offerings. He referenced the repo business in Europe, where repo was very popular but getting rather hectic due to the prescribed segregation of collateral for OTC derivatives transactions. All market and participant requirements could be combined under a tri-party collateral management arrangement. The product emphasized on STP and allowed for matching via SWIFT. It featured auto-allocation of collateral, valuation, top-up, and substitution, based on pre-set criteria and the portfolio at hand, at 15-minute intervals. Exception reporting in case of insufficient collateral was also available. Clearstream offered unlimited re-use of collateral under its so-called ‘umbrella’, officially labeled Collateral

Management eXchange (CmaX), which bundled the availability and use of collateral across different business types from securities lending to OTC derivatives.

58. Among the eligibility criteria to be set by the client were a list of assets or the preferred types, the concentration of assets/types, as well as any exceptions. One a single agreement needed to be executed, as collateral giver and collateral receiver, and cover all the transaction types to be serviced by the arrangement. As mentioned, the OTC derivatives segregation was a major driver for this offering, and would reduce the number of agreements to be in place. Mr. Cheung also demonstrated the lifecycle of a tri-party exposure notification for illustration of the product features.

59. Members asked on the market share of Deutsche Boerse (the Clearstream parent) in Europe, and Mr. Cheung explained that for exchange traded repo, Deutsche Boerse represented 100% since it owned Eurex. For OTC traded transactions, no official data existed. On how to control the use of collateral and efficient re-use, Mr. Cheung explained that a client could set re-use criteria (from active to none) on CmaX, including on a bilateral basis; however tri-party typically limited the re-use to one instance to ensure maximum deliverability. Mr. Cheung also detailed that banks tended to have high-quality liquid assets, which, however, had negative carry. As such, banks will borrow government bonds and allocate those for capital requirements or trade obligations. In Asia, trading participants tended to go for JGB, which are seen as the best collateral at the cheapest cost. In the funding market, brokers looking for USD funding will place their debt securities as collateral, whereas financial institutions and corporates will more likely be lending cash. At the same time, one has to observe that governments or CCPs may have prescriptions for collateral eligibility. Here, it was difficult to include the use of local currency debt securities in Asia, if they were not among the eligible assets defined.

60. On the question of difference between repo and securities lending, Mr. Cheung mentioned that for repo, anything could be lent against anything, whereas for securities lending, it was debt securities against cash or other securities. The use of bonds as collateral was safer, as it meant less use of capital. Members also asked what was the key to unlocking collateral, and Mr. Cheung opined that, looking at Singapore as an example, there were issues with the ability to liquidate assets – due to generally low liquidity – in the event a transaction failed, which ran against the mandate or performance objectives of many institutional investors. Also, if regional parties allowed the use of Singapore Government Securities, this would create demand; at present, that was not the case. To create a market in securities lending, e.g. to incentivize collateral givers and/or receivers, such eligibility would need to be addressed; if there was no genuine alternative to, e.g., USD assets, no party would agree to other types of assets not considered eligible. Mr. Cheung also stated that one needed clear handling procedures for an event of default. For Clearstream, this was subject to Luxembourg law, where a default could be ringfenced in the form of a single transaction. It was important which trigger would allow the release of collateral to the receiver or, in the case of the giver, collateral would have to be frozen.

## II. ASEAN+3 Bond Market Forum - Sub-Forum 2

61. Mr. Seung-Kwon Lee, Chair of SF2, welcomed participants and thanked the organizers for the venue and good meeting organization. He emphasized that the SF2 session was focusing on standardization, from the efforts of established institutions, to a review of how markets have organized themselves towards standardization, to the new developing markets and their plans to implement standards. He also encouraged discussion and contributions from members.

62. **Account structure study** (ADB Secretariat): Mr. Shinya Kim, of NTT Data System Technologies provided an update on the ongoing account structure study for ADB Secretariat. He stated that the cost of account opening and maintenance procedures were considered relatively high and that the only way to lower those costs appeared to be measures to unify or harmonize the procedures. However, first, it was important to capture and understand the existing processes; as such the ADB Secretariat team had conducted market visits in the Philippines, Indonesia, and China, meeting financial institutions, regulatory authorities, and market infrastructure providers and asking questions on account structure and its purposes, the Know-Your-Customer (KYC) practices, as well as the interest payment process to check to what degree related taxation influenced the account structure.

63. Mr. Kim walked the audience through a comparison of the characteristics of the account opening process in the visited jurisdictions, including the institutions, type of account application (e.g., paper or electronic) and whether an investor ID was allocated. The KYC process was largely carried out by the custodian, as the principal contact party for investors. Mr. Kim then introduced the different access methods for the China bond market, with CIBM Direct and Bond Connect being the latest options. Bond Connect allowed investors with an account at CMU in Hong Kong to connect to the CIBM; here, the KYC was done by the CMU member in Hong Kong, who acted as custodian, with the market access facilitated by Bond Connect, which collected the necessary application documents and routed complete applications to both PBOC (as approving authority) and CFETS (as trading authority). In turn, CMU held an omnibus account with CCDC for all CMU members and their clients.

64. Mr. Kim went on to explain in detail the account structures found in the visited jurisdictions, as well as the considerations for the review of the interest payments and related tax processes. The purpose of the review was to determine who was legally responsible for calculating the holding amount eligible for interest payment, and for the withholding of any applicable taxes and, hence, which party would need to know the tax status of an investor and required what type of proof for it. Mr. Kim also reviewed the burden of proof under double taxation agreements. In China, investors were not required to pay tax on interest income for the time being. In order to be able to offer a more in-depth analysis and possible recommendations for a harmonization of the KYC and tax processing practices, Mr. Kim

appealed to the members, particularly International Experts, to provide the data elements collected and processed when conducting KYC and setting the investor's tax status.

65. In this context, Mr. Erwin Sta. Ana of the Bureau of the Treasury of the Philippines (BTr) updated the audience on the changes to the CSD function operated by BTr. Effective 28 August 2018, BTr had implemented NRoSS (New Registry of Scripless Securities), its next version depository system. As a result, PDTC was no longer computing the eligible holdings of investors; instead, BTr was capturing and tracking the tax status of investors in government securities. At the same time, the Philippine government was undertaking a tax reform, with the objective to reduce the present average tax burden of 25 to 30%. In this regard, Mr. Sta. Ana proposed to update the relevant information in the Philippine BMG in the near future. Mr. Yamadera added that, in the Philippines, it was observed that KYC and tax processing still heavily relied on paper-based practices, with the practice was no longer prescribed by regulations. ADB Secretariat had already proposed some adjustments to be considered and was working with the market institutions to achieve practical improvements. Mr. Yamadera also emphasized that, in order to derive full benefits from the account structure study, it was important to understand what data was needed by whom, and who held what information for what purpose. If the key requirements could be met, it was possible to streamline the processes around those key requirements, offer cues for harmonization, and determine the use of appropriate standards. He hoped that the account structure study could be published in the course of 2019.

66. **Indonesian market infrastructure development** (KSEI): Mr. Gusrinaldy Akhyar reviewed the steps of KSEI's development. In 1997, KSEI started as an SRO in the capital market and received its operating permit in November 1998. July 2000 saw the start of scripless trading of corporate bonds and the corresponding book-entry only settlement in C-BEST. Since 1 May 2003, custodians have been required to open sub-accounts in the name of their investor clients – this had led to a total of 945,240 accounts held with KSEI at the end of August 2018. Mr. Akhyar displayed the account structure and composition of the account numbers. Account types included depository accounts, those for securities lending and collateral, and general settlement accounts. In 2006, KSEI assumed the role of a sub-registry for Bank Indonesia, which became a driver for retail government bonds, because a retail customer cannot open an account with a custodian bank, only with a broker. The first government retail bond was issued on 29 July 2006.

67. KSEI introduced the Single Investor ID in 2012, and now maintained more than 1.4 million SIDs. The SIDs included a 6-digit trading ID for trades on IDX, were also allocated for investors holding mutual funds and, since September 2016, KSEI has been allocating SIDs to investors holding government bonds in BI across all sub-registries; those SIDs alone amounted to 156,448, as of August 2018. From 2015, KSEI began to move the cash settlement from payment banks to central bank money, with interest payments now also paid via BI since 2017. Only securities companies are still able to settle cash for corporate bond transactions via payment banks. In April 2018, BI also became a member of KSEI, giving it the ability to hold corporate bonds. July 2018 saw the change to C-BEST Next

Generation, which was the first significant change to the processing platform that had been used since 2000 and was scaled to process anticipated growth in future. In a next phase, KSEI planned to introduce ISO20022, an automatic ISIN generator, and corresponding ANNA reporting, all of which were targeted with potential future cross-border settlement in mind.

68. Mr. Akhyar gave an overview of bonds in Indonesia: traded on exchange but mostly OTC; trades needed to be reported within 30 minutes of execution and captured into CTP by either CTP members, or the investor's custodian. KSEI used C-BEST and S-Invest (for retail mutual funds) to process bonds, including pre-matching; Bank Indonesia used BI-SSSS. KSEI was also acting as depository for private placements, called MTN in Indonesia, although depositing MTN was not mandatory; MTN had experienced a stronger growth than corporate bonds in recent times. As of 31 August 2018, KSEI was holding 1,234 conventional and Islamic debt instruments by 348 issuers, with an approximate face value of close to USD44 billion. MTN alone amounted to nearly USD5 billion, across 111 issues. The holdings of government bonds were low, since KSEI was only one of the sub-registries for BI. Mr. Akhyar described the functions of the securities account structure and emphasized that KSEI continued to review the use of data for stakeholders to streamline information requirements as much as possible.

69. OTC settlement for bonds was initially done without matching process, but now was occurring real-time, with matching from the moment an instruction was routed into C-BEST. Cash settlement remained with selected payment banks (currently 5 banks) but mostly through BI; for government securities settlement, BI had to be used. KSEI offered flexible standing cash settlement instructions to accommodate a securities firm's preference of payment bank or BI, respectively. In future, all cash settlement was expected to be done using BI.

70. Members enquired about details of the ISO20022 plans by KSEI. Mr. Akhyar explained that ISO20022 was already available in the new C-BEST but that it was working with individual participants to cater to their timelines. If a participant used SWIFT to instruct C-BEST, the use of ISO20022 was mandatory. Participants presently typically used ISO15022 with their clients. At the same time, KSEI was not a bank and had to observe BI and payment bank requirements. 2020 was set as the target timeline to achieve convergence to ISO20022 by all participants. Members also wanted to understand why trade information on exchange and OTC was the same. Mr. Akhyar confirmed that OJK had delegated the administration of ETP, the capture mechanism for executed OTC trades, to IDX. Hence, IDX would report the total number of trades through its website, and with virtually no trades directly done on IDX at the moment, the numbers would appear the same.

71. On MTN, Mr. Akhyar confirmed that KSEI was keeping MTN (private placement) if the issuer so decided, but not all issuers wanted to deposit their issuances. As a result, the information on the total size of MTN in Indonesia was hard to find. Mr. Akhyar also explained that, since KSEI was only one of 17 BI sub-registries, the number of government

securities in its books appeared small. In response to a question on the future BI settlement for securities firms, Mr. Akhyar mentioned that KSEI had tried to change the existing system previously but that securities firms tended to require intra-day facilities, which can easier be arranged by commercial banks. If a broker opened an account with BI, it would limit their activities to, e.g., withdraw from the BI account during the day. Here, Mr. Yamadera added that this issue also existed in other markets. Once a central bank account was opened, it required the supervision, audit, and inspection by the central bank. This was to be considered when making the move to central bank money. Prompted on details for the plans for mutual fund settlement, Mr. Akhyar mentioned that, presently, subscriptions and redemptions of registered mutual funds were processed in S-Invest, which included some post-trade functionality. In future, KSEI wanted to integrate S-Invest functionality into C-BEST to have one common platform or, at the very least, aim at S-Invest emulating the available functionality in C-BEST.

72. **Updates on Myanmar infrastructure** (JICA): Dr. Taiji Inui took the audience through the latest developments in the planning for the enhancements of CBM-Net, the new payment and settlement infrastructure by the Central Bank of Myanmar. The completed CBM-Net was to be user-friendly, represent the core infrastructure for the financial market in Myanmar, and utilize the latest available technologies. The new CBM-Net was to be a high value payment system, provide settlement for government securities and be the central securities depository, provide collateral management and intraday credit facilities, and provide retail payment services, such as an automated clearing house and bulk payment services. Dr. Inui displayed the proposed system overview chart, stating that the approach shown might also serve as a good generic model for central bank infrastructure.

73. The team was now trying to develop the ACH and focused on retail payments, including instant payment and bulk payment functionality. The new model favoured STP, allowing the participants to connect their core banking systems directly to CBM-Net via a gateway. Key in this approach will be the adoption of international standards, including ISO20022, ISIN, and country and currency codes. Another planned core function was the liquidity saving feature, which would allow bilateral and multilateral settings by counterparty, using netting or offsetting at intervals or specific times. Dr. Inui also explained the simultaneous DVP and collateralization feature to be included, which created ‘in transit’ collateral and, therefore, helped optimize the use of collateral for participants, and provided continuous liquidity to the market at large. For the ACH, the goal was to operate almost 24/7, and to include features that are already standard in other markets, such as direct credit, e.g., for payroll payments. Mobile payments will employ the use of QR codes to expedite processing and the direct connection of mobile operators was being explored. Key to the acceptance of a retail payment system would be a user-friendly interface, including alert and dashboard functions. The target for CBM-Net2 to go live was presently set for Q3, 2020. A colleague from CBM added that the development of CBM-Net2 would be beneficial for market development, but also for the country as a whole.

74. In response to questions from the audience, Dr. Inui explained that financial institutions without a core banking system would still get direct access to CBM-Net, using a web server, and employing 2-factor authentication, which will improve security. Some direct connections already existed, but were not considered robust enough to comply with the future specifications, e.g. for bulk payments. At the same time, Myanmar financial institutions were beginning to implement core banking systems, hence, it was easy at this stage to adopt standards through their own implementations. The core banking connection to CBM-Net would be available from January 2019. Dr. Inui also confirmed that the proposed functionality effectively combined central bank and payment bank functionalities.

75. The use of the mobile number as an ID for a retail participant was not yet decided; after all, the market had limited KYC capabilities since many of the phone plans were prepaid. CBM had asked the Bank of Thailand for their experience, and had decided to take a similar approach to authentication as Singapore and Thailand, also trying to be interoperable with other ASEAN countries. An interface for the conversion of QR codes into ISO20022 format would be provided. Ms. Pataravasee Suvarnsorn, Co-chair of SF2, added that Thailand made use of the mobile phone number of an individual participant but also allowed the use of the national ID.

76. Members also asked whether the hosting of the central bank applications and data in the cloud had been considered. Dr. Inui responded that central banks generally did not (want to) outsource due to their need for control of national infrastructure; this extended to the ownership of data centers. He felt that such ownership was typical for central banks, even if the development of the central bank systems was outsourced. For CBM, there were no plans at present. Mr. Yamadera added that there was no consensus on this issue. Central banks had to consider the issue of data privacy, including that data might be going outside the own jurisdiction. One example was that London Clearing House was clearing OTC derivatives, but if it wanted to process Japanese OTC derivatives, it had to maintain an office in Japan, to be within BOJ's regulatory reach. Mr. Schmidt also added that some markets in ASEAN+3 still had the requirement to process and store data onshore. This meant that jurisdiction was as much a valid driver for consideration as data privacy. Here, the legal and regulatory framework probably needed to catch up to the realities available through new technologies before a practical application may be possible.

77. **ISO20022 adoption migration study** (SWIFT): Ms. Jean Chong introduced the audience to key highlights of the ISO20022 migration study conducted by SWIFT. She explained that SWIFT regularly consulted the industry on ISO20022, either directly or through the work of the SMPGs. SWIFT had formulated a 2020 strategy for itself, as well as for user groups in 2015, and had been hoping to ensure consistency and global alignment across such strategies. In the strategy, there was mention at the time of little industry appetite for a switch to ISO20022. By now, a better picture has emerged, as evidenced by the fact that 76% of High Value Payment System participants were planning to migrate. To establish the exact state of play, SWIFT commenced a migration study in 2017, starting with a consultation phase. Submissions were targeted by country and would cover feedback,

drivers, demand, and practical applications of ISO20022, grouped into defined building blocks.

78. Among the building blocks was the starting assumption across a number of applications. For payments, the assumption was that no big bang migration would occur, but instead a gradual approach would be taken. A migration would be full-featured, not like-for-like (only translating existing functionality), and the ambition would be that all traffic would be migrated. Ms. Chong showed a number of payment initiatives, and noted the strong influence extended by the payments arena; here, ISO20022 was becoming the de facto standard going forward. SWIFT would be ready to support any such efforts, which had been generally set over a 4-year timeline. The securities space was more fragmented, with a large number of participants. SWIFT had noted less immediate drivers for migration, and assumed that cross-border traffic would only be migrated once cash correspondent banking migration was under way.

79. The preferred migration strategy would adopt a balanced approach and focus on interoperability; a phased approach would be preferred. A first phase could see a closed user group, with early adopter participants needing to opt in specifically. The second phase would see coexistence between existing and ISO20022 messages, plus the ability to translate from one format into the other. One feature would be to offer full MT15022 features in ISO20022 early. Phase 3 would see a full migration, with MT messages no longer supported.

80. After the consultation phase was completed, SWIFT had taken some time to digest the submissions. An initial analysis was posted on the SWIFT website in August. Overall, a strong preference for a phased approach had been confirmed, with market practices proposed to be set as one practice per one market. The planned timeline for the next steps of the migration study would see a recommendation to the SWIFT Board at the end of the third quarter, with the final report expected by year-end 2018. An update on the status would be provided at SIBOS in Sydney. Ms. Chong also pointed to the upcoming publication of the APAC securities market infrastructure ISO20022 adoption paper, coming in October 2018, which will examine drivers, strategies, possible models, and include a cross-benefit analysis. Also included would be a review of API (application programming interface) and distributed ledger technologies (DLT).

81. Members acknowledged that SWIFT had noted that payments would likely migrate first to ISO20022, followed by the securities area; however, the approach in Europe appeared to be securities first, then payments. Ms. Chong conceded that due to Target 2 Securities, much emphasis had been put on the securities space; at the same time, there may be an individual approach by market or driven by existing initiatives in or across certain markets. She cited that some regulatory reporting initiatives also favored ISO20022. Dr. Inui added that while T2 or T2S will migrate first, the participant CSDs were absorbing any standards differences or message translations in the meantime, since participating markets had different approaches. In the US, for example, retail payments were targeted to migrate first

to ISO20022. Dr. Inui reminded the audience that, sometimes, sunk cost or past investments were responsible for the lack of enthusiasm of market participants in the migration discussion. Mr. Yamadera commented that market participants, including regulators, might also want to obtain additional data; they would need standards to accommodate these new requirements. In the end, it was not the sequence that mattered for an adoption of ISO20022 but that such standards were being adopted in the first place.

## III. Next ABMF Meeting

82. The 30th ABMF Meeting will again be held at ADB Headquarters in Manila, the Philippines. The dates originally targeted were 21-23 January 2019, but the final schedule had to subsequently be adjusted to 28 and 29 January 2019. A preliminary agenda was since sent to members and observers with the meeting invitation.