Summary of the 28th ASEAN+3 Bond Market Forum Meeting(s)

18-21 June 2018, Seinan Gakuin University, Fukuoka City, Japan

The 28th ABMF Meeting and related meetings were held in Fukuoka City, Japan, hosted by Fukuoka University in conjunction with Seinan Gakuin University, the Fukuoka Directive Council, the APEC Business Advisory Council/Asia Pacific Financial Forum, and ADB. The meetings took place from 18 to 21 June 2018 at the Seinan Gakuin University campus. Related meetings included a symposium on “How financial innovation can link and integrate Asia”, the CSIF Meeting, as well as the XBRL Joint Asian Roundtable. The ABMF materials are available from the ABMF website (asean3abmf.adb.org), XBRL from group websites, and CSIF Meeting minutes and materials are available separately to eligible participants.

I. Day 1: How Financial Innovation Can Link and Integrate Asia

1. In his welcome remarks, Mr. Yutaka Aso, the Chairperson of the Fukuoka Directive Council, emphasised on Fukuoka City being a place for innovation. Fukuoka City was a compact city, with the highest ratio of young people, and the highest population growth in Japan, and has been repeatedly voted as the most livable city in Japan. As a major conference location, Fukuoka City has been hosting, among many others, the annual Asian-Pacific Children’s Convention for the past 30 years. In 2019, Fukuoka City will also host the ASEAN+3 Finance Ministers and Central Bank Governor’s Meeting. Mr. Aso expressed his hopes that ASEAN+3 countries can come together and serve Asia as one through innovation and cooperation.

2. **How can Fintech be harnessed by regulators?** In his keynote address, Mr. Motonubo Matsuo, Deputy Director-General of the Japan Financial Services Agency (FSA) and in charge of regulations for banks and insurance companies as well as the fintech policies for Japan, shared his views on how fintech can be harnessed by regulators. He reviewed the nature of the changes that regulators had to be aware and mindful of: e.g. the digitalization of everyday life through smartphones, and the emergence of artificial intelligence (AI) and big data. The challenge is that regulators may need to consider the proper balance between promoting innovation and consumer protection. Yet, regulators should aim for an environment where innovation can flourish. In the end, regulators should be guided by their ultimate goal of best promoting national welfare by contributing to the sustainable growth of the national economy and wealth.

3. To address challenges and goals, the FSA has shifted its policy in recent years. The Banking Act and the Payment Services Act were amended in 2017 and 2016, respectively, to permit banks to invest in non-bank IT companies, to facilitate innovation between financial institutions and fintech companies, and to establish and utilize Open API. At the same time, the FSA had to respond to the requirements set by the G7 and FATF on the

transparency in financial transactions to counter money laundering and terrorist financing. This led to the registration requirement for virtual currency exchanges, resulting in customer identification and verification, and the protection of customer confidence through the prescription of capital requirements and segregation of assets, but also the need to properly explain to consumers the nature and risks of virtual currencies.

4. Mr. Matsuo also related that of the 137 megabanks and banks supervised by the FSA, about 130 are studying to implement Open API concepts. The next step in the changes to the financial market is likely to be a shift towards applying regulations for specific types of activities, such as payments or lending, instead of regulating specific entities, such as banks. Mr. Matsua argued that when basic concepts, such as money or currency, change the underlying regulations and related policies must also change. He pointed to the regulatory sandbox established by the FSA in September 2017, called Fintech POC Hub (POC = proof of concept), and the earlier creation of the Fintech Support Desk at the FSA in December 2015. These initiatives were intended to facilitate innovation and also help create a better understanding of new technologies and possible outcomes. Fukuoka had established a reputation as being a good place for fintech start-ups.

5. To an audience question on whether self-regulation was possible in the fintech industry, Mr. Matsuo stated that fintech attracted different types of people with a different mindset, so it would probably take time for these people to acquire the qualities needed for an SRO. Another question related to how definitions of activities should be aligned if, in future, such activities would be regulated, rather than entities. Mr. Matsuo opined that regulators would have to work with the market to achieve adequate classification.

6. **Fintech and financial service in global context** (IMF): Mr. Sumi Chikahisa, Director, Regional Office for Asia and the Pacific of the International Monetary Fund (IMF), explained why the IMF is interested in fintech. On the positive side, IMF is looking at fintech as one set of solutions to address and facilitate financial inclusion for the unbanked population. It has been empirically proven that higher level of financial inclusion, such as access to bank accounts, is positively correlated with higher GDP per capita. At the same time, with banking infrastructure still emerging in developing countries, the financial inclusion paradigm may need to shift from an account-based concept to a token- or value-based concept to reach the unbanked population.

7. IMF prefers to use the term ‘crypto-assets’, since ‘currency’ has a different meaning in the laws and regulations. Some central banks have focused on the introduction of digital currencies, to address dollarization, or difficulty to maintain cash distribution. Fintech itself commanded only a small portion of the overall IT investment. At the same time, fintech created additional risks, such as through the volatility of the crypto-assets valuation and AML/CFT/KYC issues, which still create a hindrance to a more productive use of fintech. Overall, IMF is working to address digital divide, which limits the access not only to bank accounts but also to jobs and business opportunities.

8. **How financial innovation can link and integrate Asia** (ADB Secretariat): Mr. Satoru Yamadera stated that Asia is changing, as its economies are moving from production-driven to consumer-driven. Interregional trade, with China and with one another, is increasing; trade with the US has already been reducing; ASEAN economic indicators are rapidly catching up with Japan. With East Asia growing in particular, the economic center of the world is moving to Asia. To continue such growth, the region needs to be more integrated. However, Asia is heterogeneous, with different levels of economic development, different economic policies and social and legal frameworks, different languages, and cultures.

9. Technology offers a way to overcome these differences, particularly through the agreement and use of standards, how technology is applied, the focus on interoperability and common approaches. The high proportion of mobile phone usage can be key in such developments; already 18 months ago, m-commerce (conducting transactions via the mobile phone) in a number of ASEAN+3 markets was surveyed as available to between 30 to 50% of consumers, with no market surveyed lower than 25%. Fintech can be part of the desired developments in the region.

10. Fintech is offering to (help) fulfill the function of money and banking, by improving payments and achieve efficient matching of lenders and borrowers; to improve the function of organized markets by creating transparency and including a wider range of participants; and aid in the efficiency of the market, such as through automation, including robotics. Fintech can also help with the efforts to move from physical form of records to digital records, creating data that can be processed and analyzed faster, and more efficiently. Key is for technology to support the standardization to improve communication, as well as the interoperability in and between different markets. Mr. Yamadera referred to standardization as soft infrastructure in a given market. Standardization requires a lot of effort and a regional context is important – Mr. Yamadera explained the work of AMBI and ABMF and their focus topics and also outlined the content of this conference.

11. **Crypto-currency: How real? How useful?** Mr. So Saito, Representative Lawyer of So Law Office and Legal Advisor to the Blockchain Association of Japan, reviewed the developments around crypto-currency exchanges in Japan. These exchanges could be grouped into exchange-type and shop-style exchanges; both keep custody of real and virtual currencies, including alt-coins (virtual currencies other than Bitcoin). The shop style exchange differs in that it becomes itself counterparty for an investor. Exchanges are not synonymous with blockchain and, in fact, themselves are outside of the blockchain, but still represent risk since many investors keep their virtual currency with the exchanges. In response to this and other risks, with effect from April 2017, the Virtual Currency Act (VC Act) introduced a registration system and a number of obligations for exchanges, intended to enable start-ups in this arena. Since then, 16 companies have been registered, with more than 100 still applying, including many overseas applicants, typically from Russia, parts of the former USSR, and China.

12. What is referred to as the 'Coincheck incident' (the theft of JPY58 billion equivalent in virtual currency from the exchange's hot wallet) in January 2018 suddenly changed the interpretation of the VC Act and the review of application and applicant has become much stricter. On-site examinations and risk assessments have since been carried out on all registered exchanges. In any case, an application is expected to take 6 months to one year, and may result in costs approaching JPY100 million, depending on the applicant. No new exchanges had been registered in the months between the incident and this conference. However, the stability of the rule of law in Japan and the ease with which to open a bank account continue to favour Japan as a destination for virtual currency exchanges. The Japan Virtual Currency Exchange Association was established in April 2018 as a voluntary SRO, but it is seeking the status of a legally mandated SRO.

13. In his related speech, "**Can central banks issue a crypto-currency? Distributed ledger technology (DLT) to support issuance**", Mr. Kazumasa Miyazawa, COO of blockchain company Soramitsu, offered a look at the concept of the so-called Central Bank Digital Currency, or CBDC, which is intended to function as a substitute for banknotes and deposits in a financial market. A CBDC means that everybody would have to have an account at the central bank and that it was issued in tokens that can be circulated. Soramitsu has been working with the National Bank of Cambodia to introduce a CBDC in Cambodia, by providing and enhancing a distributed ledger and creating a new payment system. Mr. Miyazawa also showed an overview of global plans and initiatives with regards to CBDC. One potential fintech solution is the use of the QR Code concept to exchange digital assets across platforms.

14. Blockchain does not have finality of a transaction built-in by default, since the creation of a double record was theoretically possible. The concept of a public blockchain does not fulfill the function of the currency. Instead, the private or consortium type of blockchain is better suited for the purpose of creating a digital currency. These types would support a dedicated, central management entity (the central bank as issuer) and only accept permitted entities to participate. At the same time, the content of transactions may still only be seen with a user's consent or through a legal process.

15. Mr. Miyazawa's vision for blockchain is the creation of a trusted Internet. At present, standardization efforts are under way to achieve this vision. The Hyperledger Project attempts to establish standards for blockchain that, depending on the deployment of the technology, could still result in multiple standards for the time being. A common crypto-currency concept for foreign exchange settlement among ASEAN+3 countries could also create great advantages, according to Mr. Miyazawa. However, he conceded that there was little empirical evidence that a digital currency contributes to GDP growth; as such, he cautioned against a default policy for a common digital currency across borders, and instead advocated that markets should be left to create the liquidity for participants.

16. **Fintech and trade and supply chain finance**: According to Mr. Thomas Olsen, a Partner of Bain & Company in Singapore, the digitalization of trade finance represents

groundbreaking work. Distributed ledger technology (DLT) and other new technologies, such as artificial intelligence (AI) and advanced analytics, started to address the existing inefficiencies. In a recent report, ADB had estimated that a trade finance gap of USD1.5 trillion existed, representing the trade volume for which companies cannot get financing. It is estimated that DLT could cover up to USD1 trillion of that gap. However, the adoption of DLT was gradual and still piece meal. Most advances were seen along specific trade corridors, or initially between large institutions, such as bank to bank, or banks with large commodity houses.

17. Few governments were ready to embrace these developments, in particular early DLT adoption, but positive changes were noticed in, e.g., Hong Kong, Korea, and Singapore, as traditional trade focused economies. Previous digitalization efforts had been membership or platform based. In contrast, the new digital ecosystem had many participants, which could also lead to fragmentation. It stretched across different industries with different objectives and drivers, taking in the logistic and energy sectors but also the luxury industry, which has an interest in better tracking high-end liquor, handbags, or other luxury items. Across these industries, no single solution is in sight, however, maybe common platforms could emerge.

18. Mr. Olsen also relayed that the difference between large companies and SMEs was the trust established in their relationships. SMEs are the newer entrants looking for partners. This necessitates different approaches for each type of company, in terms of pace and stakeholders. The legal environment also becomes important, since digital concepts like e-signature, eCommerce, and smart contracts were required to apply DLT. The question during the continuous movement of data is when the data becomes a legal record; with questions such as "would there be a 'digitally certified true copy'?" and who is or becomes the bearer in the absence of a negotiable instrument. As such, the legal environment must also keep pace with digitalization efforts.

19. From a banking perspective, Mr. Boon-Hiong Chan, of Deutsche Bank, added that financing today needs change in a very fast manner, in fact needs to respond quickly to the ever changing physical trade challenges and that, as a result, any efforts that create the environment for such rapid change and address known issues are worth supporting.

20. **Finance without collateral: building trust with technology**: according to Mr. Kazumasa Nakashima, (Global Mobility Inc.), in ASEAN countries, the rejection rate in auto finance is very high, and is a target for financial inclusion by helping people get financing through innovation to the auto finance service. The key is a device that allowed remotely activating and deactivating the car, effectively making it a type of prepaid car. The service targets the portion of the population that would be rejected by a credit assessment but have the ability to pay, if in smaller amounts. In the Philippines, where the service started, there had been no ability to get finance in the lower income segment, or for electric vehicles. Working with leasing companies, GMS supplies the mobility device and customers would pay a daily or otherwise agreed amount to continue regular use of their car. The service resulted in consumers obtaining financing and being able to pay within their means, while finance

companies grew their business. The default rate of the mobility service was 0.9%, compared to an expected industry average of 20%.

21. In response to audience questions, Mr. Nakashima mentioned that consumers had to agree to privacy rules on the GPS tracking that was part of the mobility device; GPS tracking data was collected every 30 seconds; GMS created credit scores from consumer payment habits as a service; and that GMS charged the finance company but also allowed users to generate ancillary income if their mobility data could be used for analytical purposes.

22. **Open Application Programing Interface to improve banking service**: Mr. Junichi Kanda, Executive Officer, introduced Money Forward and its business, and reviewed the Open API in the context of fintech developments in Japan. Key to successful fintech and its application was building an ecosystem. In October 2015, the Fintech Association of Japan was created, supported by the FSA, having evolved from casual meetings of a small community. Subsequently, fintech was incorporated into the FSA's strategic priorities and a fintech support desk was opened by the FSA in December 2015. The Fintech Center of Tokyo, or Finolab, was launched in February 2016. Since then, 2 Fintech Summits have been held. Cooperation on fintech with foreign authorities was also progressing, with 5 MOUs being concluded by the FSA. New regulations for crypto-currency exchanges, covering registration, operational standards, and an exemption from consumption tax, were issued to keep pace with the market.

23. The development of API was closely linked to fintech, also since the criteria for selecting banks are changing. While the distance from the nearest ATM or branch used to be important, customers now wanted online access and use tie-in services. Previously, it had been difficult to ask customer credentials to obtain data on their behalf from banks. Banks wanted to keep safe – and hold on to – their customer data and had no tools to share such data with third parties. The creation of Open API changed that. Now, customers are able to request their banks to allow fintech service providers access to their data, which can then be shared via an Open API. This empowered the customers to conduct business their way. Regulators had already incorporated the Open API concept into their directions to the market, such as in the Open Banking Standard in the UK, with some European banks leading the transformation of transaction platforms using Open API.

24. In Japan, the view is that regulation should facilitate the unbundling and re-bundling of services – and functions – in line with customer preference. The increasing cross-border reach of technology, however, prompted the need for international cooperation on policy. This included standardization of licensing (for fintech providers), the use and acceptance of regulatory sandboxes, but also consumer protection beyond borders. Standardization initiatives should also allow for the creation and acceptance of private sector SROs and their guidelines for fintech participants. Current initiatives focused on data connection and validation, and a common payments network and settlement method. A practical goal would be the formulation of an Asian fintech ecosystem in the very near future, so that there would be standards for Asia, from within Asia.

25. **Panel discussion – Technologies without borders: how can we harness new technologies to integrate Asia?** Ms. Karla McKenna, ISO TC68 Chair, recommended that industry participants should keep an eye on how technology can or is changing processes, including blockchain, AI, crypto-assets, but also digital identity, which is needed to facilitate some of the fintech developments. She rated highly the emergence of reference data standards, such as the LEI, and interchange standards for protocols and messaging. Ms. McKenna expressed her hope that major international stakeholders will agree on the use of these standards and consider the use of APIs. Regulators and policy bodies do need to understand that they have the power to push for innovation of stifle it – achieving the correct balance is most important. She did, however, also notice the increasing willingness by regulators to engage the private sector, with such dialogue increasing and improving. At the same time, standards, such as the LEI, still provide enormous opportunities for the industry; it would, however, be better if more participation from Asian countries was evident in this regard.

26. Mr. John Turner, CEO of XBRL International, referred to the ideas behind fintech as CLASSIC (Customer-centric, Legacy-free, Asset-light, Scalable, Simple, Innovative, and Compliance-light) and illustrated this with the ongoing intermediation versus disintermediation debate using the example of payment systems developments. Some fintech solutions connect directly to banks, others do not involve banks, and some markets already permit the participation of non-bank firms in the finance sector. He opined that while regulations often need to catch up with fintech, regulations often also drive further fintech developments, including standardization efforts such as the LEI. In addition, financial reporting is an important aspect of trust in the industry; without reporting, there would be no macroeconomic data. While reporting is primarily a national focus, particularly in Asia, there is the chance to make use of existing standards, such as the IFRS Dictionary, which is already available for international use, in 12 languages (and more to come). Mr. Turner advocated that consistent reporting is becoming a matter of need for Asia, also due to the increasing regional presence of many companies. He felt that the distribution of electronic data is ok but that the proper understanding of the data requires further collaboration.

27. To Mr. J.C. Parrenas, APFF Coordinator, the Asian approach was an adoption of technology driven by consumer needs; at the same time, in some markets, such as Japan, cash is still king, given easy access (to bank branches and ATMs) and a no pressure environment. He advocated that an environment is needed in which traditional financial institutions and fintech companies can work together. The opportunity for regulators is to take action to work together to create such environment; currently, regulatory sandboxes only focus on national efforts but a regional approach is needed. Overall, more data is being collected and shared than ever before. This increases the challenge of same or similar use or interpretation of such data. In addition, Asia has many legal systems and different approaches. In addition, the Asian markets want to implement the privacy concepts recognized by the EU, in order not to disadvantage their companies from doing

business in the EU, or with EU firms. This resulted in a cross-border privacy data initiative started by 6 jurisdictions and 23 companies in the region.

28. Ms. Julia Walker, of Thomson Reuters, opined that policy makers could be the catalyst for change; however, they often focus on what can be done with the regulatory environment in existence today. Yet, the challenges are evolving, with, e.g., money laundering and slavery still notably prevalent. Ms. Walker highlighted the emerging use of 'permanent identifiers' that can tag every piece of data – this perm ID concept had already led to the identification of actual money-laundering cases. With more data created in the last 2 years than ever before, still only 0.5% of that data is actively being used. Not only as a result of this, the role of a chief data officer in companies is becoming important; these functions are needed to help understand and guide the industry, since education is very important. One particular focus should be on making regulations readable – this had led to the emergence of a fintech subgenre called suptech (supervisory technology). Ms. Walker also highlighted that the traditional development of companies from 'too small to care' to 'too big to fail' can happen very quickly in technology, and advocated that regulators should not program such inequality of treatment of company types and sizes into future developments.

29. Audience questions focused on extraterritorial effects, and whether there are any standards developed that can be applied in many or all markets. Panelists stated that this is a question that all regulators are grappling with. The effects of cross-border transactions necessitate confronting this subject, as such transactions are supposed to be traceable, yet the cost for cross-border work increased astronomically due to a present lack of common standards and collaboration. As an example, the 5th FATF Directive[1] is a very good example of cross-border best practice, yet has not been implemented in all markets. Often the use of existing standards is not (made) mandatory across markets. This, in turn, is driving the development of Regtech, to help reduce the cost of compliance. In addition, industry participants face the impact of conflicting regulations in the same jurisdiction. This results in the need for data being countered by the inability to collect such data or the strong protection of some data – this needs to be addressed by the regulators.

II. ASEAN+3 Bond Market Forum - Sub-Forum 1

30. Mr. Koji Ito, Chairman of Sub-Forum 1, thanked the hosts from Fukuoka and welcomed the members and participants. Key topics from the previous days also applied to the proceedings for the ABMF Meeting, namely standards, fintech, and innovation. Mr. Ito also welcomed the representatives from Mongolia, as new observers to ABMF.

31. **Current State of the Mongolian Bond Market**: Mr. Sonor Lufsandorj, of the Ministry of Finance of Mongolia, reviewed economic and financial highlights for Mongolia and the current stage of the capital market and planned developments. The drivers of Mongolia's

[1] Note by ADB Secretariat: The Fifth Anti-Money Laundering Directive: Extending the Scope of the European Union's Regulatory Authority to Virtual Currency Transactions.

growth have been mining exports, which made the country vulnerable to external shocks. To mitigate this dependency, an IMF program has been implemented and was on track towards achieving its objectives. This program included funding from a variety of institutions, including ADB and the World Bank, and the introduction of sound macroeconomic policies, with the purpose to increase external reserves and improve budget financing. Since the introduction of the program, Mongolia's economic growth has been strong; exports were up 17.8% and government expenditure had declined by 18% and investment in the mining sector had increased as well. In fact, foreign direct investment had also increased.

32. The next set of goals included reducing the existing high government debt, in particular the expensive domestic debt, and also the fiscal deficit. Issuance of government securities in international markets may be considered for that purpose. Mongolia had already implemented the IMF conditions regarding fiscal policy, including necessary changes to legislation. This included the introduction of income tax on interest from deposits and bonds. Mongolia already has a deposit insurance, which is able to extend loans – or so-called 'investments' to the financial market, such as bank recapitalization loans, if required. Consequently, the second IMF review of economic and financial conditions exceeded expectations.

33. As for the capital market, Mongolia approved and published its financial market strategy to 2025 in October 2017. The strategy includes changing the securities market law, banking law, and insurance law. One focus is on infrastructure development, including the need to establish and strengthen mandatory institutions. The MOF is considering using blockchain for the issuance of government securities. Other focus areas are to establish national standards and introduce best practices. At present, FMI consist of the Mongolian Stock Exchange (MSE), which will be privatized within the next 2 years, the Mongolian Securities Settlement Company, which conducts both securities and cash settlement, and the Mongolian Central Securities Depository, only established in 2015. A key challenge for the MSE is the high cost for its existing infrastructure, while the market institutions generally feature many systems without much integration. The MOF is planning to develop a secondary market, issue investor (protection) regulation, strengthen market efficiency, and support issuances by supranational institutions.

34. Mr. Satoru Yamadera, ADB Secretariat, explained that Mongolia was invited to join ABMF as an Observer by the ASEAN+3 governments. He related to the Mongolian colleagues that one of ABMF's original objectives is to disseminate information on all its markets to the securities industry at large. Typical issues include market specific terminology which may not always be harmonized but would have to be explained in market and legal context. This was the basis for collaboration and standardisation. Different systems across market institutions and participants existed in most markets, thus, required harmonisation and system standardisation in and between markets; increasingly, interoperability was becoming critically important – this is why ABMF strongly supports ISO20022 and other standards.

35. Mongolia was trying to establish a bond market gradually; if MOF and other policy bodies and regulatory authorities are able to create and well define a legal and regulatory framework, foreign institutional investors will come to market. That is why ABMF also strongly promotes common or standard documentation, and the creation of a professional investor market segment. ABMF may be able to share its experiences with Mongolia. At the same time, the private sector can also support Mongolia. Mr. Yamadera expressed his hope that this way, Mongolia could maximize its participation in ABMF.

36. **Update of ASEAN+3 Multi-Currency Bond Issuance Framework** (ADB Secretariat): Mr. Yamadera shared an update on potential AMBIF issuances, particularly the lessons from Cambodia, where ADB Secretariat, together with CGIF, was working to support upcoming issues. He relayed that, in Cambodia but also other markets, the bond market serves as a spare-tire to the banking sector. This resulted in not only the SEC of a given market, but also the Ministry of Finance and the central bank being stakeholders for any market developments and resulting changes. Hence, the banking and securities markets had to develop together. Particularly, given the heavy dollarization in Cambodia, such coordination among the authorities is indispensable.

37. Another critical factor for bond market development is the existence of a custodian function. The lack of custodian is a practical impediment to investment in the bond market – custodians were an important part in the international investment and settlement network. In this context, the International Experts in ABMF are happy to support member countries.

38. The comparison between equities market and bond market often also missed the point; the bond market should rather be compared to the loan market. Many of the same factors and considerations existed for issuers and lenders or investors were often the same or similar institutions. One of the key issues in CLMV market was dollarization. For example, NBC in Cambodia was pursuing further utilization of the local currency, and was keen to establish a local currency bond market. Mr. Yamadera again thanked the International Experts who had expressed interest in supporting AMBIF issuances and have been ready to support ABMF and market efforts. One of the key purposes of SF1 is now to help facilitate AMBIF pilot issuances across markets, as part of its mandate to facilitate the creation and expansion of local currency bond markets in the region.

39. Mr. Rady Mok, of the SECC, expressed the SECC's thanks for the combined efforts of ADB secretariat and International Experts in supporting AMBIF issuances in Cambodia. Through this process, the SECC had learned a lot. Mr. Mok confirmed that the SECC had issued the Prakas on the Accreditation of the Custodian Agent, the regulation required for the introduction of a custodian function in the Cambodian market. International and domestic institutions eligible as custodians had already expressed interest in considering the accreditation; a first institution was apparently in the process of preparing their application.

40. **Update on ASEAN 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 Korea BMGs has just been published in

May, bringing the number of BMGs to 12. The BMGs are now presented as a series of publications available for download from the ADB and ABO websites. The Viet Nam BMG is in the final stages of completion, while the compilation of the PR China BMG was still ongoing, also following the recent China market visit and the need to reflect its findings, and publication is expected before the end of 2018. Once the series is complete, the next step would be the compilation of a comparative analysis across all 14 markets, to create insight for members and experts, and to provide input into policy discussions in the region. Another task would be to further synchronize the AMBIF Implementation Guidelines for existing and new markets with the information from the BMGs, and a possible integration of the BMG content with the ABO website.

41. Mr. Schmidt briefly traced the development of the BMGs from their initial purpose of information dissemination and addressing the many misperceptions about ASEAN+3 markets, to serving as a baseline for the development of the AMBIF concept. One key step had been the creation of individual market documents, after the initial publication as an 11-market compendium in 2011. With the structure of the current BMG intended to make updates easier and faster, the SF1 team is now able to react quickly to requests for revisions from markets or major market changes. Now a series of ADB flagship publications, the BMGs have been downloaded 1,432 times from the ABO website alone in 2016/2017. Based on reader and market feedback, the next version of each BMG is likely to include further topics, such as information on arbitration or dispute resolution in the securities market, risk factors, and due diligence/comfort letter practices. To the question from the audience how cross-border initiatives, such as BondConnect, would be reflected in the BMGs, Mr. Yamadera responded that the relevant features for each domestic market would be reflected in its own BMG, with a reference to the respective other market's BMG.

42. **Introduction to the Capital Markets Association for Asia (**CMAA**)**: Prof Inukai and Mr. Shuji Yanase used the opportunity of the ABMF Meeting to introduce to members and participants the CMAA which, while existing for a number of years as an informal gathering of market participants in Japan, has now been formally established as a general incorporated association under Japanese law. CMAA, as a specialist group of substantial practical experience in financial and capital markets, sets out to become the conducive organization focusing on Asia for building financial and capital market infrastructure through sustainable, fair, effective and efficient market practices for professional investors and other participants. CMAA has an intention to maintain friendly relationships with other bodies in domestic and global capital markets and to make constant reference to global market standards and practices. CMAA has also set itself the objective to take leadership on standardizing documentation and creating market practices for a bond market for professional investors in the region, in cooperation with self-regulatory organizations (SROs) and market practitioners. In this context, CMAA has the intention to fulfill the role of the office of ADRB (AMBIF Documentation Recommendation Board), which helped formulate the Single Submission Form in 2015. In the future, CMAA aims to function as SRO or the nodal point that connects the securities-related SROs in the Asian countries.

43. CMAA has managed to secure Mr. Nobuyuki Idei, former Chairman of Sony Corporation, as Honorary Chairperson. Mr. Yanase will act as Chairperson of CMAA, with Prof Inukai acting as Executive President. Mori Hamada & Matsumoto law firm) and Nagashima, Ohno, Tsunematsu Law Office, who have previously supported ADRB and ABMF efforts in developing AMBIF, will act as auditor and company secretary, respectively. Membership of CMAA will consist of constituent members, general members, special members (e.g. academic and business experts, government agencies), and associate members (e.g. market infrastructure and general service providers in the securities market). CMAA assumes that members would be predominantly securities companies, commercial banks, institutional investors, and issuers in the region. However, individual experts may also join in any of the member categories. For inquiries, interested parties are directed to info@cmaa-group.org.

44. **Introduction of New ASEAN3 Government Bond Index** (BPAM): Mr. Mohd Shaharul Zain thanked ABMF for putting together people and entities, which was a real advantage of ABMF and had resulted in the bond pricing agencies in the region to enter into greater cooperation and collaboration; this was a first across the 3 economies (Indonesia, Malaysia, and Thailand) to come together to create a single product and, after 2 years or hard work, the contributors managed to succeed. As a result, IBPA, BPAM, and ThaiBMA were happy to announce the creation of the ASEAN3 Government Bond Index. The index is a representation of the benchmarks of the most liquid government bond issues in each jurisdiction and was targeted at media awareness and the promotion of cross-border bond business. Such index was the first of its kind, and had never been done before by bond pricing agencies. Which also meant that its differentiator was the high quality of the underlying prices, since provided by the bond pricing agencies themselves.

45. Under the agreement between the bond pricing agencies, BPAM acts as the aggregator and calculation agent of data provided by each agency. In turn, each agency connects to other pricing vendors under their own arrangements. In addition, the new index is already available via ABO. In the creation of the index, simplicity was desired and contributors wanted to ensure that they have a solid basic data set from which other indicators can also be generated. In a way, this government bond index became a proof of concept. Best of all, the data set is available free of charge to anyone, as service to the regional market at large. In a next step, other possible products could be generated for, e.g., off-the-run government issuances, corporate bonds, and high-yield bonds. The agencies are now looking at solutions how to offer these products and whether to include neighbouring markets. Work is expected with other agencies to achieve an ASEAN Bond Alliance, which could give rise to certain standards.

46. **Progress of Working Group on Information Platform** (ABO team): Dr. Donghyun Park reviewed key economic data for developed East Asia: with the US economy showing a robust outlook and China still expecting about 6% growth for 2018 and an estimated 5.9% for 2019, the dominant risk for the region was the outlook of global trade tensions. Government bond yields had been rising in the region, with the exception of PR China,

where PBOC was loosening policy rates, and in the Philippines, where BSP had recently changed the way yields were to be calculated. Overall, the foreign exchange market volatility had reduced, due to the reduction of geopolitical tensions, illustrated by the FX rate, as well as the CDS premiums in Korea. Foreign holdings of government bonds have been falling slightly across markets, except for in PR China, due to the further liberalisation of the market. The regional local currency bond markets continued to grow, to an estimated USD 12.8 trillion, of which two-third were made up of government debt securities. PR China remained the biggest market, while issuances in Korea featured the highest share of GDP.

47. In turn, Dr. Grace Tian explained the new navigational features of the completely revamped ABO website which was due to be launched on 3 July 2018 (hosted by the ThaiBMA in Bangkok), and invited participants to visit the website often. In addition to a visually pleasing appearance and user-friendly features, the ABO website will have 4 new sections: (i) a data portal for the selection of specific search criteria; (2) a market watch section with historical charts on 10-year government bonds and daily updates on yield, index, and currency movements; (iii) a research section with links to notable papers and reports on regional bond markets, including the Asia Bond Monitor and the ABMF Bond Market Guides; and (iv) the home page had a new carousel of the latest events in bond markets in the region. The next phase of changes for the ABO website would see an expansion of data, in particular on foreign flows, and making available regulations and other market features in an interactive manner, in conjunction with the ABMF BMG team; one objective was to achieve a standardized summary for each market's features. In addition, a greater breakdown of data had been advocated by users and ABO was planning to do one more round of feedback later in the year to see whether the revamped website had addressed all or most of the user feedback recorded in the earlier survey.

48. **Comparison of ASEAN 6 corporate bond markets** (CGIF): Dr. Dong Woo Rhee, Chief Financial Officer of the Credit Guarantee and Investment Facility, introduced CGIF to the audience and stated that CGIF had conducted research into the size and composition of the regional local currency bond markets, in order to better understand its constituency; h shared a selection of the findings. A comparison of their relative size showed different shares of GDP, percentages of the equities market cap, or the loan market size for each market, leading to different conclusions on the state of the individual markets. Each market had its own reasons whether to rely on funding through loans and/or through bond issuance. Looking at maturity distribution, Dr. Rhee found that the Philippines had more callable bonds than straight bonds, which suggested that the issuers had more bargaining power in that market.

49. In addition, bonds tended to have maturities beyond 5 years, an indication of WHT tax concessions for such tenors. Malaysia had the highest proportion of 10-year or longer maturities of corporate bonds, owing to the significant amount of infrastructure bonds issued in the country. When comparing coupon types, Viet Nam had the highest portion of variable and floating rate bonds; Dr. Rhee attributed these coupon types to a preference by commercial banks, the biggest investor group in Vietnam, whose liabilities are also linked to

deposit rates. In Indonesia, a lot of the bond issuances were secured by account receivables. Guaranteed bonds were, naturally, of particular interest to CGIF, and Dr. Rhee found that Malaysia had a substantial amount of guaranteed bonds, due to the presence of a national guarantor institution, while an equally substantial amount of guaranteed bonds in Singapore were typically guaranteed by the parent company of the issuer. Thailand suggested the opportunity for CGIF to offer partial guarantees due to a big yield gap between A- and BBB+ rated bonds, while Viet Nam already enjoyed a majority of guaranteed bonds issued with the help of CGIF.

50. **AMBIF Taxation Study** (ADB Secretariat): Mr. Kosintr Puongsophol, informed members and participants that the study could only be completed by the next ABMF Meeting, due to other priorities. The study would comprise a bond market overview and its key development milestones, including bond market development plans, the review of bond market taxation in Thailand, a description of the different types of taxes, major developments and policy implications arising from the taxation types, as well as any potential resulting policy recommendations. He reiterated the path for domestic bond markets from a dependence on US dollar issuance at the time of the Asian crisis and today's significance of local currency issuances, a change from 85% to 2% (for USD issuances) over 20 years.

51. Mr. Puongsophol pointed out that the LCY bond market complemented bank loans as financing options for corporates and that development of a good balance between the two markets was not possible overnight. It required a robust legal and regulatory framework and appropriate policies. Taxation was likely only one feature for market development and impact; other factors also had to be considered. This is what the study was aiming to find out. Among the findings was the realisation that the introduction of the Financial Institution Development Fund (FIDF) in Thailand had an impact on the market because it acted as a tax, e.g., on repo transactions – this is why the FIDF was included in the study, also because it would continue to exist in the Thai market, with its remaining debt of USD27 billion to be paid off over an estimated 20 years. Another issue was found in the proposed tax on fixed income mutual funds, which would amount to the cancellation of exemption of mutual funds from taxation on the income from debt instruments. This subject remained under discussion among policy makers. Following the completion of the draft study, it would be sent to the Thai authorities for consideration. Audience feedback suggested that it would be beneficial to have a cross-section of bond market incentives – created through tax treatment or otherwise – for the regional markets, as guidance for policy makers. Mr. Puongsophol acknowledged the idea but had to point out the limited resources available to ADB Secretariat for the time to year-end. He suggested that the study on the Thai market might already be able to serve as relevant experience for at least the CLMV markets to draw on.

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52. **Update on Account Structure Survey** (ADB Secretariat): Mr. Yamadera related some of the key findings of the recent market visit to PR China. ADB Secretariat had visited Beijing

and Shanghai, supported by International Experts and colleagues from SWIFT. Focus of the visit was on account structure and KYC information, in particular what data was required from who for the onboarding of investors into the different China bond market segments. ADB Secretariat had previously related the cases of Indonesia and the Philippines, where significant efforts were found to be spent on tax compliance and processing, which labelled these jurisdictions as cumbersome and affected investment performance. In addition, these markets required proof of identity and proof of eligibility repeatedly. Through these findings, ADB Secretariat realised that it should be possible to review all markets and find solutions that could then be offered as best practice for consideration by all markets. Mr. Yamadera reiterated that ABMF does not intend to ask governments to abolish tax but was primarily interested in asking to simplify tax (and KYC) procedures.

53. During the China visit, the team found that withholding tax was not yet being imposed, however, market parties were mindful of an imposition of WHT, and some were making necessary provisions. Taxation treatment was, however, the same for resident and nonresident investors. Hence, ADB Secretariat focused on account opening processes and market access channels and procedures. Originally, the Qualified Foreign Institutional Investor (QFII) route used to be the only access to the domestic market. By now, 2 additional channels can be considered, other than for central banks or institutions with offshore RMB licenses, namely BondConnect via Hong Kong, China, and the so-called CIBM Direct, a way to directly access the China Interbank Bond Market, which was only recently formalized by PBOC. For the latter, the custodian in the domestic China market will submit all necessary applications for an FII to access the market. Hence, here the service level of the domestic providers may become the distinguishing feature of this access method.

54. Any application form in China needs to be submitted in Chinese and supporting documents need to be translated into Chinese and notarized. However, the application forms for account opening tend to be fairly standardised, making for a straightforward process regardless of intermediary. The China domestic bond market largely consisted of 2 segments, CIBM and the exchange market. CIBM was governed by NAFMII as SRO, with PBOC as the regulatory authority. The exchange market was governed by the Shanghai and Shenzhen stock exchanges, respectively, for instruments traded on their platforms, and was under the supervision of the China Securities Regulatory Commission (CSRC). The investor onboarding in the exchange market was similar to the equity market. At present, the volume of the exchange bond market represented about 10% of the total bond market volume.

55. Unique to China was that government and corporate bonds would be listed on the exchanges but could be transferred into the CIBM. This means that one needs to understand the overall regulatory framework – who regulates what market institution and which instrument under what circumstances. The applicable account structure depended on the market segment and the nature of the investor. The principal regulatory intention is

that an account holding securities identifies the actual beneficiary of the holding. Custodians do offer omnibus accounts but the regulatory authorities would want a certain amount of information on the underlying investors. That is why investors may favour CIBM Direct since they would have to declare beneficiary information anyway. However, the structure of BondConnect offered the use of an omnibus account, if only for Hong Kong based investors.

56. All transactions for CIBM Direct and BondConnect were executed on CFETS, as the designated trading platform. CFETS assigns an investor ID and the CSDs would open accounts as applied for by the custodian who would also operate the investor accounts. Mr. Yamadera mentioned that the PR China model may not really be applicable for other markets, however, he acknowledged that in its execution it was simplified. In a next step, ADB Secretariat would combine the info collected on Indonesia and the Philippines with the latest information on China and provide an interim study. Purpose was to identify the information flows and generate recommendations for other markets or for general consideration. Mr. Yamadera offered the example of the Philippines during the last market visit when the use of digital transmissions was found to be principally acceptable, despite market perception to the contrary.

57. **How can ISO 20022 link the global markets and support transformation of banking** (J.P. Morgan), presented by Mr. Masayuki Tagai, in his capacity as vice-convenor of the ISO20022 Registration Management Group (RMG) and on behalf of James Whittle as convenor, The slides used by Mr. Tagai for the presentation are part of a larger pack (170 pages) which was available for download from the ISO website, at www.iso20022.org. Mr. Tagai stated that particularly in Asia, one should not worry about a common currency but, instead, about common standards, grammar or syntax, and language. He acknowledged that few members of the audience had not heard about ISO20022, but wanted to nevertheless share with the audience the use and usability of ISO20022. In effect, ISO20022 was a methodology to develop financial messages using XML (language). ISO20022 consisted of 3 layers, being (i) the business modeling layer, i.e. who needed to talk with whom; (ii) the message modeling layer, i.e. what messages to send or exchange; and (iii) the syntax or rules, which translate the messaging model into actual messages. ISO20022 also holds a financial depository, effectively a business process catalogue, and a data dictionary for financial terminology, which has been available since 2003.

58. If such depository and dictionary did not exist, every process and its components would have to be defined every time a process is to be recorded. However, if a process or a term did not yet exist within the ISO20022 framework, say, if a market was very different from others, such new processes or terms could easily be registered with ISO20022. While having one common standard as the ultimate goal, Mr. Tagai conceded that multiple standards would have to co-exist for some time before such goal could be accomplished. To address and help converge the standards, the RMG, which was a representation of the users of ISO20022, was the entity helping markets register their needs and market-based solutions.

59. Mr. Tagai showed the 8 parts of ISO20022, which are explained in great detail on www.iso.org, as well as the registration process. Among the actors or stakeholders in the ISO20022 process were the so-called submitting organizations, such as SWIFT but also CFETS, which had been an active contributor on FX messages. Submitting institutions need not be RMG members but can simply approach the RMG if they wanted to have new processes or terms included. The RMG itself is accountable to TC68 (the technical committee on financial services within ISO) but represented the broader user community. The RMG is open to further participation; markets could designate an institution, including a non-profit organization, as an official representative, or institutions could represent a group of market participants. The Standards Evaluation Group, or SEG, consists of business experts that would review the purpose and benefits of a request brought before them.

60. The Registration Authority (RA) was the guardian of the messages, and had a direct contractual relationship with ISO. The RA also managed the technical framework prescribed by ISO. The registration process is fairly straightforward and consisted of the creation of a draft message, an evaluation and testing, before it became a formal message. In response to the request of an example, Mr. Tagai mentioned that ESMA (European Securities and Markets Authority) had requested for regulatory reporting in ISO20022 format. In contrast to existing messages, which were largely participant-to-participant or participant-to-market infrastructure and vice versa, new messages needed to be developed. In addition to the required reporting messages, this required the definition of the processes as well as the actors and the roles the market participants played in the proposed processes.

61. Mr. Tagai also made a case for interoperability within the financial industry using ISO20022, stating that ISO20022 compliance at model level was enough to allow synergies. As an example, he mentioned that credit card messages and payments clearing and settlement messages and their existing components were largely the same at the physical layer; they only differed through their syntax (how the components related to each other). By using components from the ISO20022 process library and data dictionary, and, by allowing a domain specific syntax just for the credit card messages, both message realms are compatible and effectively ISO20022 compliant. Mr. Tagai also stated that by using the ISO20022 data dictionary, ISO20022 could be utilised within the ongoing OpenAPI initiatives. If not, one would have to reinvent process and data definitions, so it was better to re-use what was already existing, and working. He also introduced the Investment Roadmap, an initiative by industry organizations representing business and messaging standards, such as FIX, ISITC, SWIFT, and XBRL, which was aimed at trying to work together and arriving at common definitions across their respective standards.

62. Mr. Tagai closed by applying the availability of standards in some areas to common questions in the financial services, using the example: "…if FedEx can tell me the exact location where my parcel is at this very minute, why can my bank not tell me at which stage my payment is…?". He also pointed to a paper distributed to the audience as part of the handouts on the case for the Legal Entity Identifier in financial transactions, which

contained a call for collaboration among the audience and/or interested parties, working together on (further) data standardization.

63. **Case study: Technologies and standardization to support efficient regulatory reporting and financial transactions** (BR-AG): Mr. Michal Piechocki detailed the European financial ecosystem, a complex community consisting of 27 markets and many stakeholders in each market. EU laws and directives, discretionary national laws and regulations had to be observed in order to come to a common understanding, and multiple technologies were applied and supported across markets and stakeholders, including ISO20022, XML, JSON, and APIs. However, the lifeblood of this ecosystem is data. In recognizing that, the European Commission had stated that the data should be the focus of any standards and that stakeholders needed to understand their data to apply technology in an appropriate manner. In a health check on regulations with approximately 500 respondents, most said that they have difficulties understanding the data requirements; many stakeholders also mentioned that the biggest factor in compliance costs was the existence of too many requirements, closely followed by redundant requirements, and too many or too frequent changes. More than 30,000 pages of financial regulations were published in the EU on an annual basis. Mr. Piechocki attributed these issues to the fact that the European Commission does not always well coordinate among its own many divisions.

64. Key among the ways to simplify and streamline the supervisory reporting alone was an alignment of reporting requirements and, chief among them, the reduction of data elements. This was principally necessary also because the regulators already experienced data overload, leading to false positives in evaluations and resulting in ineffective supervision. Instead, the aim was now to achieve the same (adequate) level of supervision with less data that was better organized, following a “report once” concept. This, in turn, should actually be themed “define once” because if data elements were properly defined and such definitions shared among the stakeholders, it is likely that this would already lead to a significant reduction of data elements, without negatively affecting the quality of data. In short, the same level of monitoring at lower compliance cost. This was the vision of the ongoing Financial Data Standardisation (FDS) Project by the European Commission.

65. FDS took a close look at more than 50 reporting frameworks, using both a top down and a bottom up approach. The top down approach was looking for overlaps or apparent gaps between the definitions in laws and reporting frameworks, whereas the bottom up approach compared definitions between the various frameworks; frameworks were also checked for existing data dictionaries or their use. To approach these tasks, the so-called data point model was used, an open, technology-neutral, and free methodology that has already been proposed as an ISO standard under TC68. An initial finding was that regulatory measures (laws and regulations) lead to the manner in which the reporting frameworks and their data were defined.

66. The perception from stakeholders, however, that the same data was evident in many frameworks, did not hold true at first sight – as it turned out, data elements were quite distinct in many frameworks. At the same time, though, the way in which the data was generated or defined made for the distinctions, not the actual data elements. Creating such distinctions were naming conventions, e.g. “counterparty” versus “entity” for the same function, or “at least monthly” versus just “monthly”, effectively with the same meaning. Other findings included multiple references to different standards and multiple use of identifiers. As an illustration, the frequency “annually” was found to be differently described across 21 frameworks. The FDS project has piloted and tested the proposed analytical approach during the initial first 6 months due to the complexity of the matter at hand. Following positive results of the pilot the project entered next stages planned for 12 months and now continues to analyse subsequent regulatory frameworks. A similar way of thinking about data is emerging in the private sector where the “Know Your Data” trend is observed. The trend focuses on efforts related to the primary understanding of data and its use across the organisation as well as accurate identification and standardisation of data elements and dictionaries before application of innovative technologies

67. **Implementation of Standards at ECB (ECB):** Mr. Francois Laurent showed a small window into how the ECB uses and implements standards, using the example of the Eurosystem Collateral Management System (ECMS). The aim for his department, which focuses on the smooth functioning of infrastructure and systems for payments, was to implement a common solution for collateral management; prior to the project, the ECB had a common framework for collateral management but not a common system. The existing infrastructure comprised of 19 different systems, typically domestic systems. The objective was not just standardization, but to replace all existing systems with a single system, and to achieve a harmonization of functions and services among the central banks involved. Key among the drivers of the project were the more efficient use of collateral and the associated cost savings. The ways in which ECB and its constituents identify collateral would also be standardized.

68. Mr. Laurent explained that the first attempt at the project had failed because no harmonization had been attempted. Countries had been allowed to keep their own practices as they were, which led to no standards and many individual outcomes. Now, the focus was to first normalize the existing practices into what was desired; this included the agreement on a single tri-party model, standard delivery of information, and standard formulae for calculations. The project team decided to use standards to define and exchange data, resulting in the adoption of ISO20022, which had already been adopted for Target2 and Target2 Securities (T2S), as well as for SEPA, and contained the same understanding of the data that the project was proposing. Plans set the live date for the end of 2022. In this context, Mr. Yamadera explained ABMF’s work on cross-border collateral. While ASEAN+3 did not have a single currency, the increasing need for cross-border collateral, or the ability to actually use collateral from an institution’s home market for activities in a neighbouring market drove this work stream. Cross-border collateral was also

being promoted as a key measure for financial stability in the region, and was part of the remit of ABMI; hence, the activities of CSIF.

69. **Legal Entity Identifier** (GLEIF Foundation): Mr. Stephan Wolf, CEO of the Global Legal Entity Identifier Foundation, related to the difficulties people had to understand the need for identifiers. However, the Lehman Shock brought to the fore that market participants and regulators alike had no idea of their exposure and who their counterparties were. The bailout by central banks that occurred had been accepted as necessary but it was decided that such crisis could never happen again. Hence, the need for an identifier arose, and the FSB was tasked by the G20 to put in place such standard. GLEIF was created as a non-profit organization to act as the operational arm of the global LEI system, under the oversight of the LEI Regulatory Oversight Committee, or ROC. The ROC consists of 71 regulators and 19 observers and also provides direction and is tasked with carrying out the necessary steps to put the use of LEI into law in individual jurisdictions, i.e., their home markets.

70. While the LEI came from the financial sector, it has nothing to do with finance as such. The LEI connects to reference data that is maintained on any of the entities it applied to. One of its key components is the Legal Entity Form, a new ISO standard for describing a legal entity. The LEI itself is a 20-digit alpha-numeric code, pursuant to the ISO17442 standard. The LEI is created by assignment of the relevant regulators, including for NGOs and charities. Since 1 May 2017, one focus of the LEI has been to determine "who owns whom", i.e. to create ownership information on each entity. Since then, every entity assigned an LEI must report on its direct and ultimate parent company or entity. The criteria for ownership currently follow the international accounting consolidation rules, i.e. 50% plus 1 share.

71. Interested parties are able to obtain a list with all LEIs free of charge from the GLEIF website, at https://www.gleif.org. As of June 2018, over 1.2 million LEI had been issued. The website was available in 14 languages, including Bahasa Indonesia and Japanese. Most LEIs are being assigned in the US and in Europe due to regulation requiring market intermediaries to assign LEIs in order to be able to conduct business with an entity. Most institutions with an LEI outside the US and EU are in fact trading counterparties of the US or EU institutions. Important was that an issuer of securities also needs to have an LEI, and every such issuance required an ISIN as well; this was the first link between the LEI and ISIN standards. In the ASEAN+3 region, an entity wanting to obtain credit in Indonesia now needs an LEI, as do securities account holders when settling their trades through RENTAS in Malaysia. Other markets required the use of LEI in the context of OTC derivatives.

72. The parties assigning the LEI in each market are referred to as Local Operating Units, or LOU, which was a legacy name and misleading, since many LOUs operated on a global scale, including business registries. While the ROC consists mostly of financial regulators, it has recently attracted interest also from other regulator types, such as US Customs, for the checking of manufacturer IDs. LEI is increasingly relied upon since it uses authoritative

sources. Imperative is the need to getting entity names absolutely right; as an example, the company widely known as 'IBM' is legally called 'International Business Machines". If entities assigned an LEI dispute the information, GLEIF allows to launch a challenge of the LEI and info via its website; a lot of its efforts are dedicated to identification management, also as the arbiter between LOU and entity, if and as necessary.

73. Existing use cases for LEI had put the potential savings of LEI use to USD650,000 for a single organization, just in core banking, according to one case illustrated in a white paper by McKinsey and GLEIF. In addition, GLEIF aims to provide value added information, such as a mapping table of BIC to LEI, which is also available free of charge from its website. GS1, the international organization governing barcodes has recently agreed to be an LEI issuer; this opened up the supply chain area, which had been an entirely different universe until now, to the use of LEI. Mr. Wolf also stressed that whenever a digital identifier was being considered, to embed the LEI into that identifier or include the LEI as part of efforts at digitalising entity data. GLEIF is also in the process of talking to blockchain users to assess the possibilities.

74. When considering further possibilities, the huge redundancy between LEI and KYC data becomes apparent. Hence, GLEIF is talking with KYC utilities about the use of LEI. Mr. Wolf referred to a paper detailing the paint points dealing with IDs, such as transaction rejection, having 4 IDs per entity, spending 6 weeks on the onboarding process as a client of a financial institution – in contrast to individuals which may open accounts within minutes online. As next steps, GLEIF is working with partner organizations, such as XBRL, SWIFT, and ANNA on mapping programs. One future step was the use of LEIs in digital certificates and as company seal.

75. At the same time, GLEIF needs appropriate technology to maintain and manage the increasing number of LEIs and their reference data. Already now, current data was becoming too big for the Excel format in which downloads from the website are offered. Hence, GLEIF is looking for the right technology to store and process the LEI. Upon an audience question on a case of closure of an LEI, Mr. Wolf responded that the obligation is on the registrant according to the contract with the LOU, although he conceded that this may not always happen. GLEIF prescribed an annual verification process but a lapse in the process resulted in the LEI staying active and not being eliminated.

76. **RegTech in the US**: Mr. Hudson Hollister, of the Data Coalition, reviewed the definition and context of RegTech in the US. RegTech can be defined as technological solutions that support the automation of regulatory functions, the use of technology to derive insights from regulatory filings, information or data collections, and to efficiently share such information. RegTech was certainly not limited to the financial industry or applicable to financial regulations only. RegTech was also not defined by blockchain or any particular technology or tool. Mr. Hollister emphasized that RegTech first and foremost required data standardization. A common taxonomy (classification of data) already existed in markets like Australia, and for reporting to the US SEC.

77. Currently, the US did not have a common taxonomy for, e.g., bond prospectuses. At the same time, Mr. Hollister noted that a start-up company in New York had begun to apply blockchain to the trading of bonds. For any and all of these efforts, the Financial Transparency Act would provide the appropriate basis. The Financial Transparency Act was first introduced in the context of the Dodd-Frank Act in 2010 and had undergone a number of different attempts to turn it into law. It was re-introduced into the House of Representatives in 2017 and had found sufficient sponsors, after much lobbying by industry organizations, to be officially debated in Congress. Its key challenge has been that, as legislation in its own right, it had been difficult to position – it was neither de-regulation or re-regulation fitting into an industry overhaul or other initiative. In addition, the value of its implementation was difficult to prove, as it included many stakeholders with potentially conflicting objectives.

78. Most significantly, though, the Financial Transparency Act would require, if passed into law, the adoption of data standards for all information collected under existing financial laws and regulations and use of the same data standards to both collect and publish the information. Importantly, such data standards would have to be non-proprietary, needed to be fully searchable and machine-readable, and include the efforts of voluntary standardization bodies, such as XBRL. For the financial industry, the Act and its provisions would cut across all statutes under the remit of 8 government agencies, as well as other legislation. The promulgation of the Financial Transparency Act would lead to the introduction of standards that met all these requirements, for which currently only XBRL and LEI seemed suitable. At the same time, Mr. Hollister mentioned that even the SEC did not yet maximize the use of XBRL, despite being an early adopter.

79. Through audience feedback, it was learned that US regulators may not be aware of, e.g., the EU prospectus directive or similar initiatives, as US regulators – and lawmakers – had a limited appetite to learn about initiatives and applications of standards outside the US. If there was awareness of such initiatives, the focus would inevitable be on contents, not on format and data standards. However, GLEIF, and its work on the LEI, offered such an opportunity to bring awareness of data standardization as benefits could already be measured by US-based institutions using LEI. Mr. Yamadera also shared that the Office of Financial Research, a bureau under the Department of the Treasury doing macro-research and other analysis for the US government, had been on record that it was keen to support the LEI.

80. **How technology is used to support Malaysian Capital Market supervision & surveillance?** (SC Malaysia) Mr. Lim Kok Eng introduced the work of the Analytics Department of the Securities Commission Malaysia (SC) on enhanced capital market supervision and surveillance with technology. The SC supervises 240 licensed institutions and about 10,000 licensed market representatives. To perform its function, the Analytics Department collects a variety of data from markets, industries, the Internet, other regulators, information service providers, etc., as well as internally from line departments. The data collected are standardised and transformed into a series of analytical data models

to provide insights as to what is happening in the market. Good analytics require collection of quality, in effect superior data. The data collected had to be of value to the users, it needs to be useful and trusted, and the user needs to know and be able to use the data.

81. In doing so, the SC is putting in place an efficient mechanism to collect data with the emphasis on straight-through processing of data into the data warehouse, in XBRL format where possible via the Common Reporting Platform (Com Rep). In addition, data from the Internet is obtained with the help of automated web-crawling robots. The data collected is kept in a single trusted repository to empower the users to the information and intelligence. The data is kept in structured form in the data warehouse, but also in unstructured form, using a separate data repository. The SC employs artificial intelligence to digest the data and to extract the desired insights from both types of data. Some examples for the fund management industry were shown as illustration. Among the advanced analytics tools, the SC is applying Natural Language Processing (NLP), as well as a graph database for better visualization of the entity relationships.

82. ComRep leverages XBRL to provide an everlasting submission platform, where the business requirements on reporting can be de-coupled from the system and managed via the XBRL taxonomy. The system was implemented only in January 2018 and already had achieved zero re-submissions of reporting, after some teething issues. Now, the users could slice and dice the data stored in any number of meaningful ways, including typical key queries, such as 'who invests in what instrument(s)' and 'what instruments does a particular party invest in'.

83. The web crawling robots are sourcing data from other government agencies and from around the globe. By now, 38 sites are being visited frequently to obtain data, including on corporate announcements and index information. The sites also include central banks for foreign exchange rats and economics data, corporate actions from the stock exchange, and bond yield data from ABO. The corporate announcements downloaded were shown as a case how unstructured data in the announcement was transformed into meaningful headers and structured data to facilitate better surveillance. The structured data now allow for better monitoring of structured products performance.

84. Data governance is an important factor in data analysis. XBRL helps greatly with data governance, helping to produce and maintain quality data. The enterprise data warehouse, in operation since 2014, already held more than 2 terabytes of data and had processed the contents of over 1 million files. Mr. Lim also elaborated on the typical challenges with maintaining important data and identifiers. For example, the SC has an identifier concept where a unique ID has to be attached to each individual or product in the industry, including the SC's staff. An individual's name, however, might appear with different types of identity, in different languages, e.g. in English or Malay, in full or abbreviated, with or without trustee, or might just be spelled wrongly.

85. Mr. Lim also revealed the Regulator Intelligence & Analytics (RegIA) Platform, which allowed hot topics and most discussed persons detection with the use of AI. This allows the

SC to determine what subjects and who were most talked about in the context of the capital market or on a particular listed company. The available functionality also includes sentiment analysis, with word recognition focusing on specific terms or phrases that might suggest market participation in an article or news, i.e., whether a positive or negative sentiment. All the news and sentiments are tagged to the stock price movement of the listed company to provide a correlation.

86. **Panel Discussion: Global trends in data collection and standardization for more structured data:** the panel consisting of colleagues from the Bank of England, ECB, J.P. Morgan, NTT Data, and SWIFT took questions from Mr. Yamadera as moderator and from the audience. In response to a question on how the ECB pushed for changes to the regulatory environment, Mr. Laurent mentioned that the ECB realised that it did not know enough during and after the financial crisis; this had led to a great deal of cooperation between regulatory authorities in financial markets, across banking, insurance, and capital market activities, all of whom wanted to satisfy the same need to know. This would easily be the same in other regions. One result of this cooperation in the EU was BIRD, the Banks Integrated Reporting Dictionary.

87. Mr. Beju Shah, BoE, explained global trends in data management and collection, and related that while a similar ‘regulatory tsunami’ (too much data and too many requirements and changes) is also occurring in the UK, UK data itself is different from EU data in a number of ways. In terms of data management, the BoE sees itself in the business of risk management; it generally follows BIS principles. The BoE had embarked on a digital transformation before RegTech became an industry term. Its key principles included the use of standards, including the data point model, ISO20022, XBRL, and LEI. BoE also offers to constituents a single point of data collection. Mr. Shah explained Maslow’s data hierarchy of needs (see meeting materials, page 8), which he suggested to be applied to all data modeling efforts. He also singled out the LEI as the first global and unique identifier which through it inclusion could connect entities and activities; the benefits for the use of LEI in banks are many.

88. Mr. Shah stated that market feedback supports the direction of the BoE; both the market and BoE recognize RegTech as a subset of fintech. Continuous effort is being spent on standards and data dictionary but also on semantic research. One of the key benefits of a reporting standard, in the case of XBRL, is that third party software vendors are able to reflect a new XBRL reporting format within 4 hours, instead of weeks or months. In addition, the standard reduces testing and stress testing times by between 35 to 50%. Banking data represents around 80% of the regulatory reporting volume in the UK; this is largely done, since the publication of a common UK XBRL taxonomy. If the insurance industry followed the banks, 95% of reporting in the UK would be digitized. As a rule of thumb when it comes to standards, Mr. Shah advised to think of the 3Cs: cooperation, collaboration and cultural change.

89. Mr. Masayuki Tagai offered the private sector view. 10 years ago, the principal ID for counterparties had been the BIC that, however, cannot tell the actual entity or ownership. At the same time, some transactions had to settle because counterparties had committed themselves to the transaction. The hard lessons learned since then have been: “who are we trading with, or settling for” and “who are our clients trading with, or settling for”. This is only achievable through the use of identifiers, such as LEI. But the industry may not be able to stop there, instead may have to continue to establish who owns the data, who generates the data, and who is the consumer of that data. This understanding of data ownership, while probably taking some time to accomplish, will lead to data accountability. Already now, regulators hold a firm accountable for the data it reports. Data accountability also gives firms the chance to confidently respond to client and regulator inquiries. Challenges to this approach may be the different views that firms and regulators have on the same data, or that a firm does not hold the data in the desired manner. Hence, the industry needs to be mindful of different data needs by different parties, and keep data in a flexible enough manner to address these issues.

90. Ms. Mieko Morioka (SWIFT) represented the view of a standards body. SWIFT was the RA for ISO20022 and has been working with, e.g., the EU regulatory authorities to develop the necessary messages for regulatory reporting, in order to derive maximum benefit for all constituents. Ms. Morioka showed some of the regulatory initiatives supported in this manner, including some in Asia. At the same time, SWIFT supported the use of any and all available standards in financial services, such as ISO3166 and ISO4217 for country and currency codes, respectively. Much of the industry still used ISO15022 securities messages and, of course, BIC and LEI. Mr. Yamadera added that established data format standards had technical limitations; for example, Excel did not allow the use of multiple tables using the same data – this was possible using XBRL, though.

91. Mr. Yoshiaki Wada (NTT Data) detailed some of the current issues and trends in reporting, and summarized that fintech covers the interactions between financial institutions or trading counterparties, and RegTech covers interactions between regulators and any of these institutions. However, a challenge for both is the increasing data variety required to address all industry demands: creating, storing, and submitting structured and non-structured data at much greater granularity is required. Data is required on a singular level and aggregated, or even provided as a sample. Frequency of data collection or submission is also important, with parties expecting both periodical and ad-hoc information to be served from the same data set; but, the frequency is increasing overall. In addition, more requests for raw data are also being made, while the overall volume of processed data is growing strongly.

92. As the ideal response to what is necessary to deal with these trends, Mr. Wada offered the selection of an optimal data format. He conceded that different data formats may be best suitable for different purposes. XBRL communicated values and attributes in separate files, hence, there was no need to pre-agree on a format or structure. This creates robustness of the data transmitted and supported the reliability of data in a regulatory framework.

IV. Next ABMF Meetings

93. The 29th ABMF Meeting will be held in Jakarta, Indonesia, in September 2018, co-hosted by the Fiscal Policy Agency of the Ministry of Finance of Indonesia (BKF), the Indonesian Financial Services Authority (OJK), and ADB. The venue was subsequently announced as the Hotel Borobudur Jakarta and the dates fixed for a two-day meeting on 17 and 18 September. The preliminary agenda was sent to members and observers together with the invitation.

94. The subsequent ABMF Meeting is likely to be held in Manila, between mid-January and early February 2019, typically at least one week before the Chinese or Lunar Year, which falls on 5 February 2019. Further venues for ABMF Meetings in 2019 may be announced at the Jakarta meeting.