ADB
ASIAN BOND MARKETS INITIATIVE
ASEAN+3 Bond Market Forum (ABMF)

DAY 2 – 4TH JULY

JOINT EVENT WITH ASIA PACIFIC FINANCIAL FORUM

Multi Function Hall 123
Asian Development Bank HQ, Manila, Philippines

SUB-FORUM 2 JOINT SESSION WITH ASIA PACIFIC FINANCIAL FORUM	
TIME	**PROGRAM**
12:30 – 13:15	**Registration**
13:15 – 13:20	**Opening Remarks** - Dr. Julius Ceasar Parreñas, Coordinator, Asia-Pacific Financial Forum (APFF) and Senior Advisor, Nomura Research Institute (NRI)
13:20 – 14:40	**Discussion on the proposal of a roadmap for improving the region's FMI by Asia Pacific Financial Forum (APFF)** - APFF FMI Cross Border Practice Co-Sherpa Ken Katayama, NRI Participants from the Seoul Symposium can be called on to provide more information: - Mr. Boon-Hiong Chan, APFF FMI CBP Co-Sherpa, Deutsche Bank - Mr. Jean-Remi Lopez, Symposium Panelist and Rapporteur, DTCC - Mr. Gaetan Gosset, Moderator (Account structure and tax), Euroclear - Ms. Jean Chong, Lisa O'Connor, representing Alexandre Kech, Moderator (Disruptive technologies), SWIFT 1. Introduction - The objectives and structure of the APFF FMI initiative - The structure of the roadmap - Brief summary of the Symposium in Seoul 2. Draft recommendations - Perspectives from International Organizations - Securities Post Trade Ecosystem - Non-resident Accounts and tax Discussion on the key messages to be included in the report to APEC Finance Ministers Process - Feedback from ABMF members and guests

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SUB-FORUM 2 JOINT SESSION WITH ASIA PACIFIC FINANCIAL FORUM

TIME	PROGRAM
14:40 – 15:00	***Coffee break (Multi Function Gallery)***
15:00 – 16:30	**Discussion on the proposal of a roadmap for improving the region's FMI by Asia Pacific Financial Forum (APFF)** 3. Draft recommendations - Increasing Market Efficiency: Repo/Lending and Derivatives - Fund Services - FMI Fintech and Disruptive Technologies Discussion on the key messages to be included in the report to APEC Finance Ministers Process - Feedback from ABMF members and guests
16:30 – 16:45	**Closing**

APEC ABAC

Sub-Forum 2 Joint session with Asia Pacific Financial Forum
DEVELOPING APEC's FINANCIAL MARKET INFRASTRUCTURE

4th July, 2017 | Manila, Philippines

APEC ABAC

Opening Remarks

Mr. J. C. Parrenas

Coordinator, Asia-Pacific Financial Forum; Member, ABAC Japan
Senior Advisor, Nomura Research Institute, Ltd.

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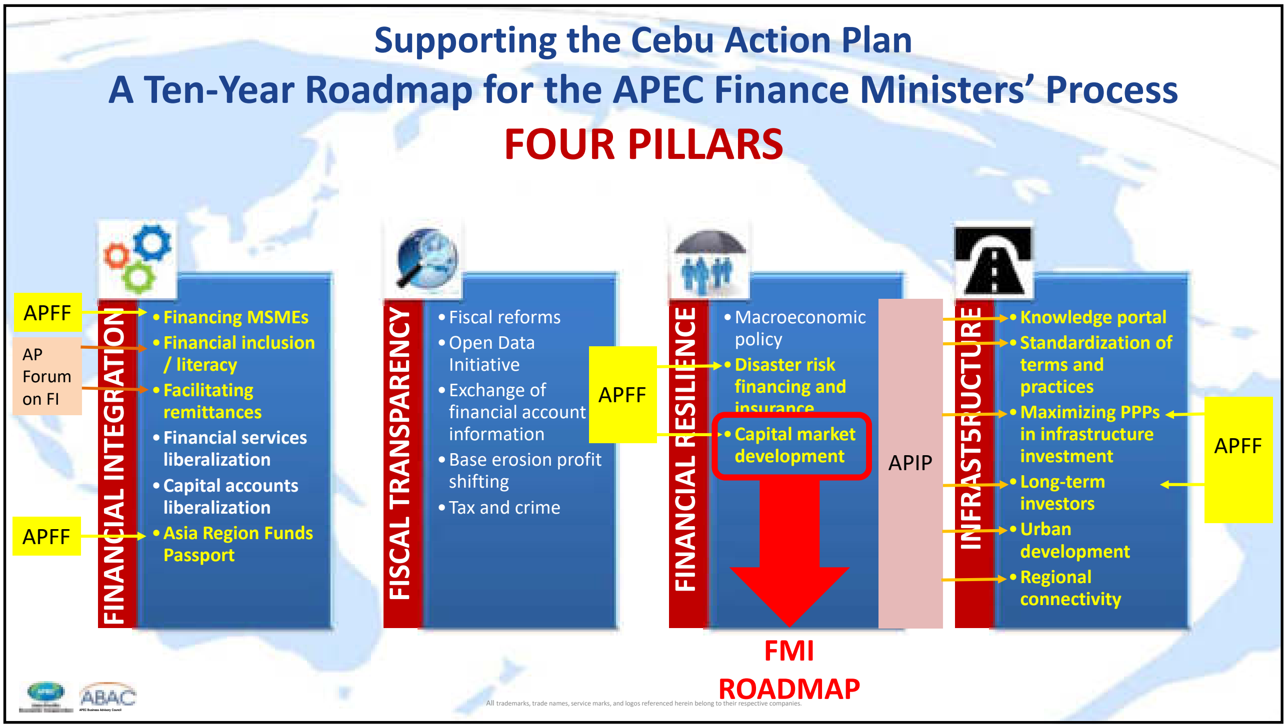
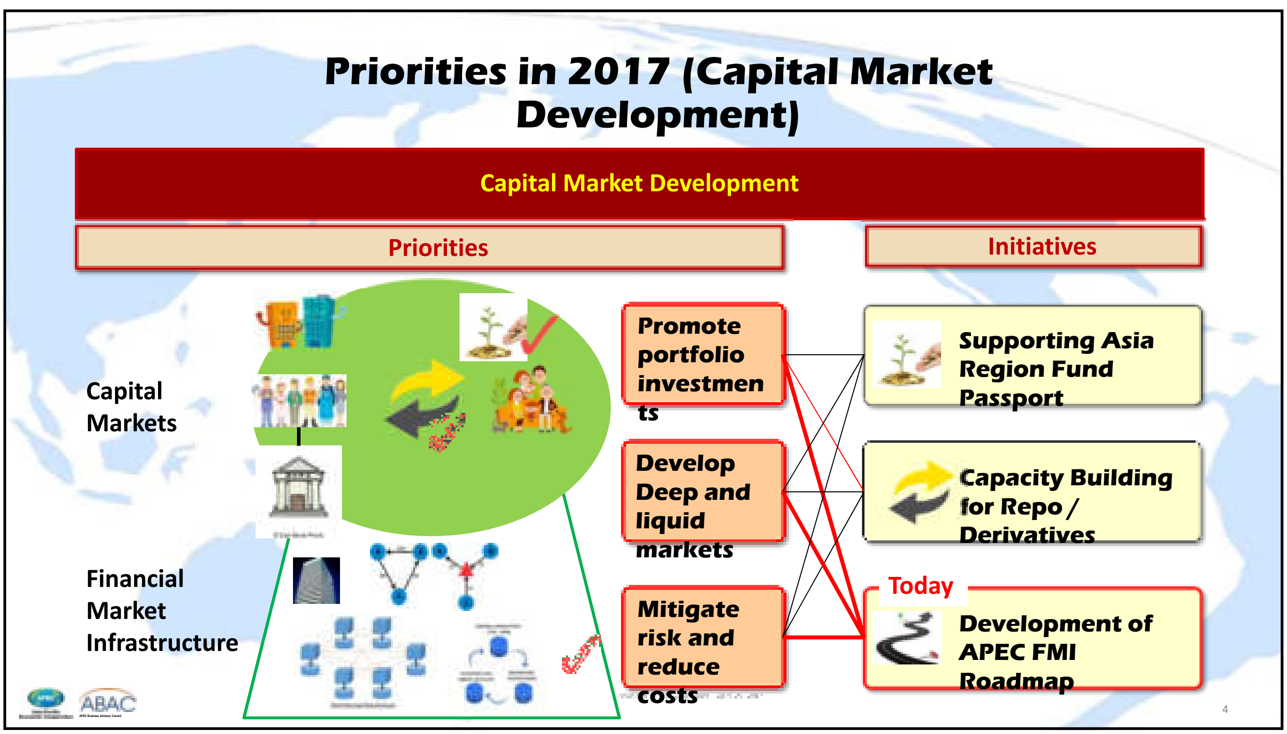

Supporting the Cebu Action Plan
A Ten-Year Roadmap for the APEC Finance Ministers' Process
FOUR PILLARS
APFF
AP Forum on FI
APFF
FINANCIAL INTEGRATION
• Financing MSMEs
• Financial inclusion / literacy
• Facilitating remittances
• Financial services liberalization
• Capital accounts liberalization
• Asia Region Funds Passport
FISCAL TRANSPARENCY
• Fiscal reforms
• Open Data Initiative
• Exchange of financial account information
• Base erosion profit shifting
• Tax and crime
APFF
FINANCIAL RESILIENCE
• Macroeconomic policy
• Disaster risk financing and insurance
• Capital market development
APIP
INFRASTRUCTURE
• Knowledge portal
• Standardization of terms and practices
• Maximizing PPPs in infrastructure investment
• Long-term investors
• Urban development
• Regional connectivity
APFF
FMI ROADMAP
ABAC


Priorities in 2017 (Capital Market Development)
Capital Market Development
Priorities
Initiatives
Capital Markets
Financial Market Infrastructure
Promote portfolio investments
Develop Deep and liquid markets
Mitigate risk and reduce costs
Supporting Asia Region Fund Passport
Capacity Building for Repo / Derivatives
Today
Development of APEC FMI Roadmap
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4

The APEC Finance Ministers' Process and Asia Pacific Financial Forum

Finance Ministers' Process (FMP)

21 APEC Finance Ministries

Advisory Functions: ADB, IMF, OECD, WBG, ABAC

Management entrusted to ABAC
Coordinated through the Advisory Group on APEC Financial System Capacity Building

- **Asia-Pacific Forum on Financial Inclusion**
- **Asia-Pacific Financial Forum (APFF)**
  - Financial Infrastructure Development Network (FIDN)
  - Trade, Supply Chain Finance
  - FMI-FinTech
  - Financial Market Infrastructure (FMI-CBP)
  - Capital Markets
  - Long-term investors / Insurance
  - Micro-insurance / Disaster Risk Finance
- **Asia-Pacific Infrastructure Partnership (APIP)**

CBP: Cross Border Practice

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Discussion on the proposal of a roadmap for improving the region's FMI by Asia Pacific Financial Forum (APFF)

Mr. Ken Katayama
Co-Sherpa (Session Chair), Asia-Pacific Financial Forum
Senior Researcher, Nomura Research Institute, Ltd.

Participants from the Seoul Symposium can be called on to provide more information:

- Boon-Hiong Chan, APFF FMI CBP Co-Sherpa, Deutsche Bank
- Jean-Remi Lopez, Symposium Panelist and Rapporteur, DTCC
- Gaetan Gosset, Moderator (Non-Resident Accounts, Tax, Investor Identification and Transparency), Euroclear
- Jean Chong, Lisa O'Connor, representing Alexandre Kech, Moderator (Disruptive technologies), SWIFT

1. Introduction

The structure of the roadmap

1. The Roles of Financial Market Infrastructures in the Region

2. APEC Roadmap on Financial Market Infrastructures: Process and Instruments
   - 2-1. Securities Markets: Post-Trade Ecosystem
   - 2-2. Non-Resident Accounts, Tax, Investor Identification and Transparency
   - 2-3. Increasing Market Efficiency: Issues Specific to Repo/Lending
   - 2-4. Increasing Market Efficiency: Issues Specific to Derivatives
   - 2-5. Fund Services

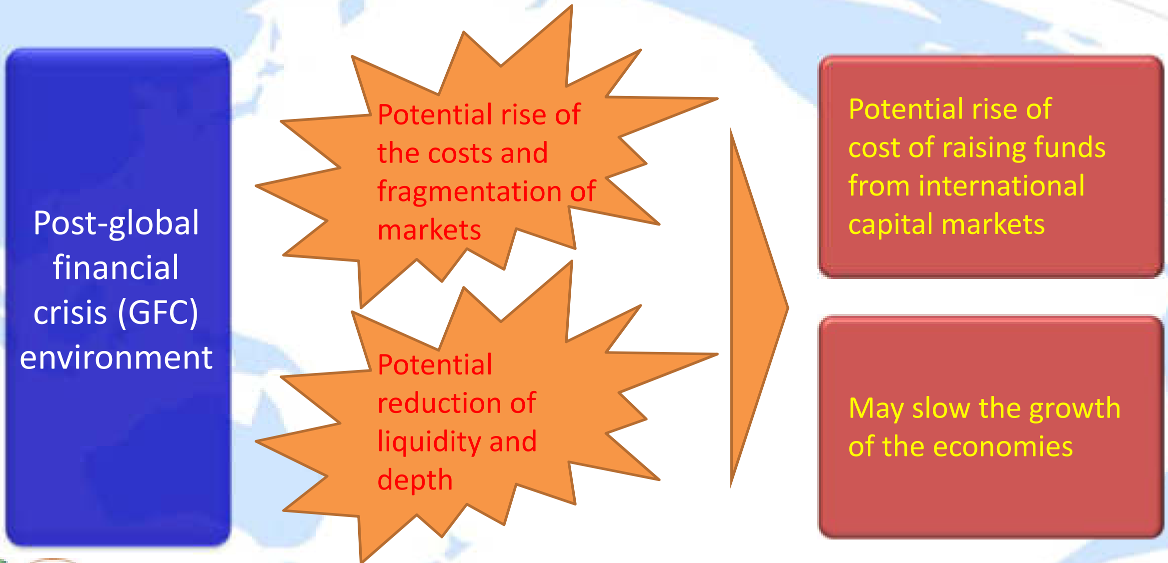
3. APEC Roadmap on Data Management and Technology
   - 3-1. FMI Fintech
   - 3-2. Disruptive Technologies / new FMI-like entities

APFF Symposium held in Seoul in April 2017

More than 60 representatives from public and private institutions discussed robust range of topics in a whole day symposium on 25th April.

2. Draft Recommendations

The challenges post-global financial crisis environment



To Support the growth of the economies while maintaining stability through enhanced efficient functioning of the markets

- promoting the cross-border portfolio investments,
- utilizing local currency assets as eligible financial collateral by both FMIs and bilaterally,
- maintaining and broadening access to cross-border money transfer mechanisms providing the required transparency in affordable and meaningful way; and
- incorporating innovative and potentially disruptive technologies.

Help address the potential rise of the costs and fragmentation of markets after the GFC, enhance liquidity and depth, making sure the smaller players' involvement, and lessen the cost of raising funds from international capital markets.

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2-3. Increasing Market Efficiency: Issues Specific to Repo/Lending

2-4. Increasing Market Efficiency: Issues Specific to Derivatives

2-5. Fund Services

3. APEC Roadmap on Data Management and Technology

3-1. FMI Fintech

3-2. Disruptive Technologies / new FMI-like entities

1. THE ROLES OF FINANCIAL MARKET INFRASTRUCTURES IN THE REGION

a) Standardization and Harmonization

The roles of FMIs have been under the spotlight after the GFC.

Standardization should not only be considered in technical terms.

but also in terms of industry expectations: e.g. issuance documents.

Recommendation 1a: Responsible authorities are encouraged to support the harmonization of issuance rules and enhancing transparency of securities and tax rules; including targeting professional investors such as financial intermediaries to enable common disclosure language, procedures investor protection rules. To promote this, it is encouraged to collaborate with ASEAN+3 Bond Market Forum and then apply the experience gained to wider APEC economies.) Infrastructure inter-operability and interconnectedness

1. THE ROLES OF FINANCIAL MARKET INFRASTRUCTURES IN THE REGION

b) Monitoring the effects of G20 regulatory initiatives

The GFC prompted G20 authorities to bring in a new suite of regulations.

Those regulations influence markets by way of extraterritorial effects.

Domestic CCPs may not be appropriate for all APEC markets.

Recommendation 1b: Securities regulators and central banks are encouraged to monitor together with the region's market participants the extraterritorial effects of developed economies' rules and consider ways to address this, especially in smaller economies. Smaller jurisdictions are encouraged to carefully consider global policies and their appropriateness for smaller markets. They should strive to achieve the outcomes that have been internationally agreed – but be very mindful of what implementation means for their jurisdiction. In any case, the implementation must avoid creating further fragmentation.

1. THE ROLES OF FINANCIAL MARKET INFRASTRUCTURES IN THE REGION

c) Measuring the scarcity of High Quality Liquid Assets

Post-GFC regulations and rules are forcing financial transactions to be further collateralized.

There is a scarcity of High Quality Liquid Asset collateral.

Local currency collateral, incl. highly rated gov't bonds, is often not accepted internationally.

Recommendation 1c: Responsible authorities are encouraged to collaborate together with international organizations, to have workshops to better understand the issues to address the growing need for HQLA collateral in the region. Measures could include how local currency assets could be utilized as part of collateral accepted for cross-border trades between financial intermediaries and CCPs, how regional financial integration (including RTGS-CSD linkages) and better hedging markets would assist further liquidity, and identification of specific classes of securities where liquidity and eligibility could be expanded; followed by advocacy efforts in jurisdictions where collateral eligibility could be expanded.

1. THE ROLES OF FINANCIAL MARKET INFRASTRUCTURES IN THE REGION

d) Infrastructure inter-operability and interconnectedness

FMIs should be encouraged to cooperate in a similar manner to how central banks link to each other

Not only large value payments and securities settlement systems, but also e-payments need to be interlinked internationally

Achieving inter-operability may also increase systemic risk from markets becoming more interconnected

Recommendation 1d: Respective authorities are encouraged to promote inter-operability among FMIs and participants including financial intermediaries, and evaluate the effects of interconnectedness between the markets and their potential impact, implications to policy makers and regulators, measures to mitigate risk while avoiding "risk-off" or hindering financial inclusion.

1. The Roles of Financial Market Infrastructures in the Region

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- 2-3. Increasing Market Efficiency: Issues Specific to Repo/Lending
- 2-4. Increasing Market Efficiency: Issues Specific to Derivatives
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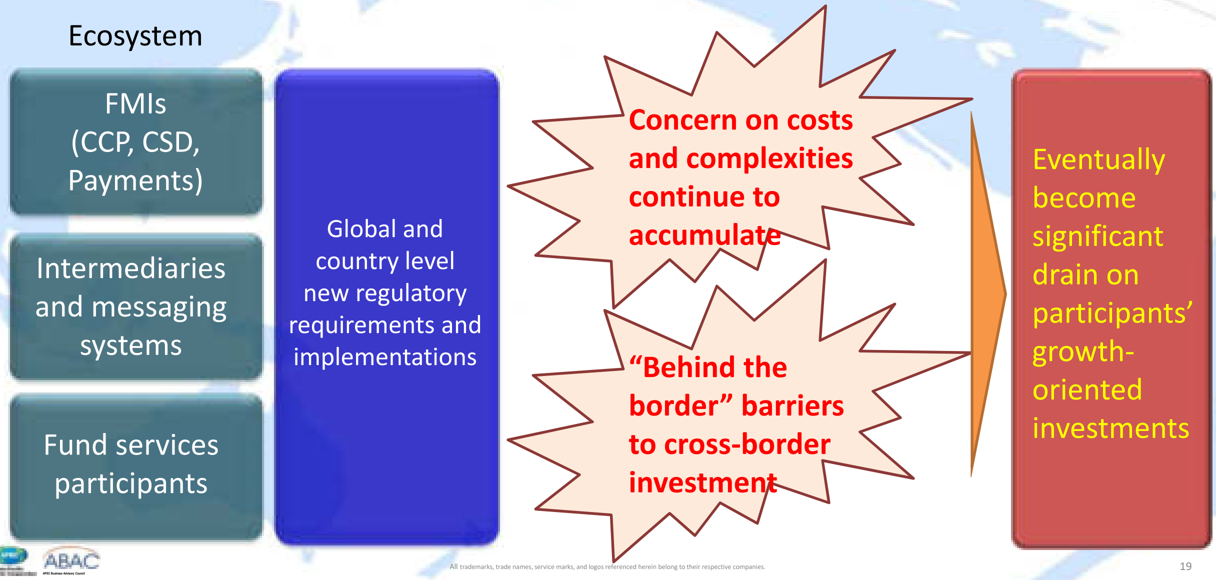
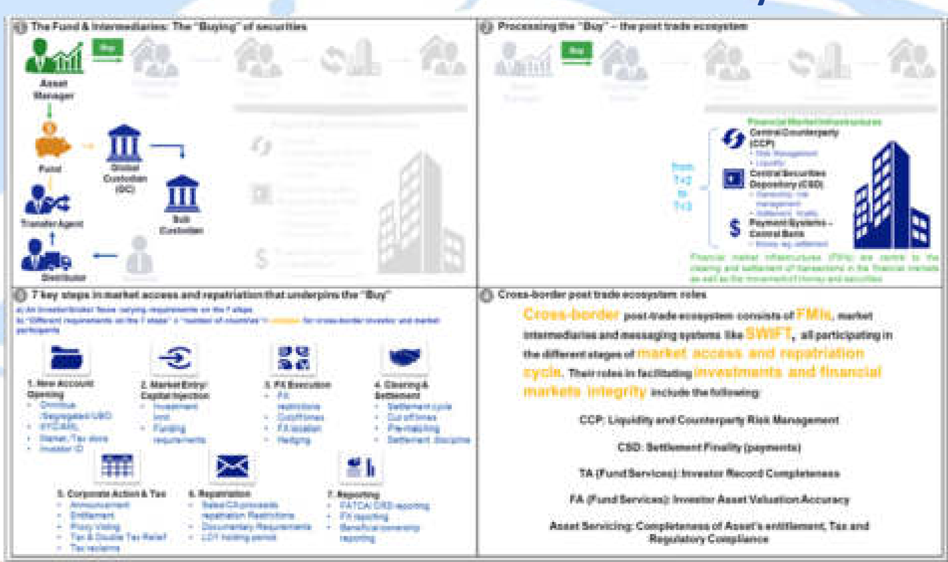
2. APEC Roadmap on Financial Market Infrastructures: Process and Instruments

2-1. Securities Markets: Post-Trade Ecosystem



2-1. Securities Markets: Post-Trade Ecosystem



Source: Deutsche Bank

2. APEC Roadmap on Financial Market Infrastructures: Process and Instruments

2-1. Securities Markets: Post-Trade Ecosystem

Market access and repatriation requirements

i. New Account Opening
ii. Market Entry and Capital injection
iii. FX Execution and Hedging
iv. Clearing and Settlement
v. Asset Servicing or Corporate Actions and Tax
vi. Repatriation
vii. Reporting

Two possible solutions to address the issues

- Greater standardization
- Use of FMI as industry utilities (in the process shown left)

A cross-border participant will face the costs and complexities that are amplified by the actual number of activities, the frequency and extent of changes that affect these activities and the number of markets.

2-1. Securities Markets: Post-Trade Ecosystem

Recommendations 2-1

a. Public-private platforms are encouraged to establish a baseline measure of the magnitude of costs and complexities in the regional cross-border post-trade securities ecosystem including fund services, if possible.

b. In cross-border market access and repatriation activities that investors will need to navigate to invest into the region, to host private-public sector discussions.

c. To identify and agree on specific areas related in the market access and repatriation cycle that can benefit from standardization and the use of 3rd party industry utilities.

d. To clarify regulatory expectations for possible solutions like industry utilities that can alleviate complexity but which can attract new regulatory requirements.

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2-2. Non-Resident Accounts, Tax, Investor Identification and Transparency

a) Account structure

Three dimensions:
- asset protection;
- cost; and
- operational efficiency

On a cross-border basis, the omnibus account structure combined with a nominee legal structure is the most effective from an operational.

Fixed income assets do not grant ownership rights, which has significant policy implications in terms of national interest and tax purposes.

Recommendation 2-2a: No need to change the way the local market is operating which could be (direct holding, omnibus or a mix of both) but the omnibus is the preferred option for cross-border flows to attract foreign investments to a local market. Both account structures can coexist. Ideally the omnibus account structure should be combined with the nominee legal structure.

2-2. Non-Resident Accounts, Tax, Investor Identification and Transparency

b) Tax

Consideration from
- Economical perspective
- Operational perspective
(in addition to fair and equitable)

Investors can request a yield premium to offset a tax rate but will likely not invest or limit activities should the operational complexity be too high.

Firms seek to have a tax regime that does not impose a significant operational burden and that is predictable enough.

Recommendation 2-2b: Prefer no tax or a simple tax scheme (i.e.: a WHT based on a Record Date principle), no capital gain tax based on a price difference or a tax calculated on a holding period since they are unmanageable on a cross-border basis. Prefer to tax at source instead of refund. For tax certificates collection, prefer a one-time certificate instead of requiring yearly certificate or certificate per payment. Do not require local notarization of tax certificates.

2-2. Non-Resident Accounts, Tax, Investor Identification and Transparency

c) Investor Identification and Transparency

Reason for transparency: statistical, price discovery, KYC, AML, quotas, tax, market surveillance, etc.

Different asset classes are traded differently and bear different risks.
-> different treatment

Transparency can be achieved through multiple means;
they can be combined.

Recommendation 2-2c: Define the right balance between transparency and market efficiency. Responsible authorities should review whether legal frameworks support disclosure requests and undertake legislative reforms if they do not. Securities regulators should introduce requirements for bond prospectuses to facilitate disclosure requests. Upon such review, following perspectives are particularly important: (1) Precise definition of the reason for the transparency to ensure the solution addresses the needs and minimizes operational frictions for all involved parties, (2) Ensuring enforceability of disclosure in the law to avoid conflicting regulations between the country of issuance and the investors' country of residence, and (3) Avoiding the request of data which cannot be automatically retrieved from intermediaries systems or which require interpretation..

Coffee Break

3. Draft Recommendations (cont'd)

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2-3. Increasing Market Efficiency: Issues Specific to Repo/Lending

Benefits of Repo/Lending

- Reduced cost (of investments)
- Improved risk management
- Better liquidity

Challenges of participants

- **Monetary Policy**
- **Capital Account Restrictions**
- **Int'l Prudential Regulation**
- **Collateral eligibility**
- **Short-selling rules**
- **Disclosure regimes**

Public-private initiatives

- Promulgation and promotion of int'l best practices
- Formulation of codes of conduct
- Adoption of international documentation

Viewpoints of Recommendations

- a) Regulatory transparency
- b) Standard documentation
- c) Tax and accounting
- d) Scarcity of HQLA

2-3. Issues Specific to Repo/Lending

a) Regulatory transparency

Regulatory uncertainty increases market risk and legal risk, which makes the relevant markets less attractive to investors.

If there is an intention to reform certain markets this needs to occur before the end of the global capital market reforms. Once completed, there will be significant resistance for implementing changes, and therefore act as an obstacle to foreign investment.

Recommendation 2-3a: Both responsible authorities and market participants are encouraged to continue to pursue various initiatives, including promulgation and promotion of international best practices and formulation of codes of conduct, to further develop and improve the market, by ensuring very clear principles on regulatory expectations on capital raising and investment.

2-3. Issues Specific to Repo/Lending

b) Adoption of standard documentation

Repo and securities lending market fragmentation is exacerbated by local documentation requirements and standards.

The standard local documentation often does not contain adequate operational details or credit protections for international participants.

Recommendation 2-3b: Securities regulators and policy makers are encouraged to review the local practices if they adopt the international standard documentation such as the GMRA and GMSLA and undertake promotionally initiatives if they do not.

2-3. Issues Specific to Repo/Lending

c) Tax and accounting

It is important to understand the implications of having manual processes, or of requiring people to be based on the ground. Such manual process would be a barrier even to its own market.

For example, complexity and uncertainty of tax can be an obstacle and in some instances its mechanism of application can prevent participation in the markets and therefore not be revenue generating.

Recommendation 2-3c: Responsible authorities are encouraged to supporting constant dialogues with the industry representatives through public-private platforms including APFF, PASLA, ICMA, Asifma, and ABMF to review current policies and practices could effect as a barrier and undertake reforms if they do.

* Recommendation 2-3d is the same as Recommendation 1c.

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2-4. Increasing Market Efficiency: Issues Specific to Derivatives

Challenges

Post-global financial crisis (GFC) environment

There are many regulatory challenges in trade reporting (explained in later pages).

lack a true picture of risk in individual jurisdictions because of incomplete and inconsistent trade data

Positive developments

Major jurisdictions have largely implemented their reporting regimes

National regulators are increasingly turning their minds to cross-border efforts

They will require

Active support and cooperation of a range of global stakeholders;

- regulators
- market participants and
- infrastructure providers

2-4. Issues Specific to Derivatives

a) Global convergence on harmonised reporting requirements

Different, costly, duplicative, conflicting and non-standardized reporting requirements across jurisdictions.

Recommendation 2-4a: Shared, public commitment to global convergence on harmonised reporting requirements
Securities regulators are encouraged to review whether their reporting requirements are harmonized, and consistent within and across jurisdictions, and undertake regulatory reforms if they are not.

2-4. Issues Specific to Derivatives

b) Greater regulatory endorsement of data standards and formats already in use

There is a lack of agreement as to how some data reporting requirements should be standardized across jurisdictions. Standardized reporting formats have been not adopted quickly or broadly enough.

Recommendation 2-4b: Greater regulatory endorsement of data standards and formats already in use
Regulators are encouraged to embrace standards for derivatives reporting, and those that have not yet deployed their rules should avoid introducing unique requirements.

2-4. Issues Specific to Derivatives

c) Removal of barriers to sharing information across repositories and borders

Legal barriers exist to sharing data and information, both within and across borders.

Recommendation 2-3c: The removal of barriers to sharing information across trade repositories and borders
Regulators are encouraged to review whether current regulations hinder sharing information across borders, and undertake reforms if they do.

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2-4. Issues Specific to Derivatives

d) Increased availability of substituted compliance

The availability of ‘substituted compliance’ for reporting is limited, adding to duplication.

Recommendation 2-3d: Increased availability of substituted compliance
Regulators are strongly encouraged to defer to each other’s regulatory regimes where their intended outcomes are consistent by adopting equivalence decisions, which allows a multi-jurisdictional reporting obligation for a transaction to be discharged once, in a jurisdiction of the reporting entity’s choice. Regulators with a mandate to access the data for a transaction should obtain that information from that single report.

2-4. Issues Specific to Derivatives

e) Promotion of inter-operability and connectivity between trade repositories

Some reporting regimes are ‘closed markets’ – meaning they have their own trade repositories which do not leverage international standards and mechanisms. They may have unique data architectures, formats and methods of sharing information.

Recommendation 2-3e: Promotion of inter-operability and connectivity between trade repositories
Regulators are encouraged to review the level of inter-operability between trade repositories and promote and incentivise the sharing of data.

2-4. Issues Specific to Derivatives

f) Promotion of inter-operability and connectivity between trade repositories

There is no facilitator or mechanism to aggregate data from different trade repositories globally.

Recommendation 2-3f: Greater cross-border regulatory focus on global aggregation mechanisms
Regulators are encouraged to leverage cooperation with other authorities to achieve their objectives: both for sharing lessons learnt, as well as sharing data by designating jurisdictional, regional and global leaders to spearhead the aggregation effort.

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2-5. Fund Services a) Regulatory Transparency

Development of passport initiatives

In an era where more investors can benefit from the diversity of funds offered by fund passport initiatives like the **Asia Region Funds Passport**

Challenges of participants

- **Managing the industry costs is important to facilitate these investors' activities**
- **Some economies still rely on email or other manual process**

Initiatives to address the issues

- Development of funds back-office processing utility
- Interoperability among such utilities for cross-border funds
- Barriers can be lowered by reduction of complexities

Recommendation

Recommendation 2-5a: Based on the ASEAN CIS experience, securities regulators are encouraged to set highly standardized registration process for funds between passporting economies, in order to ensure that benefits of streamlined regulations are felt by the market. The case of China-HK MRF shows that attractiveness of the product is key in promoting passport scheme, and that large-scale funding for pilot funds received a lot of attention from the industry.

2-5. Fund Services b) Standardization and harmonization

For the efficiency of fund services

Standardization between business processes will be essential for the automation and efficiency of fund services.

Need for Connectivity

- Fund operators
- Distributors
- Registrars
- Administrators
- Custodians

located in different jurisdictions

without compromising the product's attractiveness.

Initiatives to address the issues

- A consultative body of CSDs was established under the name of Asia Fund Standardization Forum (AFSF) in 2015.
- Industry-wide implementation is encouraged on the regional scale.

Recommendation

Recommendation 2-5b: Responsible authorities are encouraged to support for the activities of AFSF. Harmonization can be achieved in many parts of the business process (usage of same fund codes or message formats, required information for fund products by regulators or market players, account opening forms, KYC process, etc.) Standardization in the terminology used between fund markets will be essential for market players to communicate effectively for cross-border transactions.

2-5. Fund Services c) Infrastructure inter-operability

Positioning of fund services	Efforts hindered by	Interesting solutions surfacing	Recommendation
Fund services are an integral part of the investment fund business as an infrastructure that supports back-office processing	**Vastly disparate practices** **Absence of a market standard** **Prevalence of proprietary systems**	Adoption of centralized fund hubs - Interconnects the domestic market - Streamlining the many to many communication between diverse players Case: FundNet (Korea) FundConnext (Thai)	Recommendation 2-5c: Regulators are encouraged to support for the development of fund platforms led by infrastructure providers. The recent case of Thailand's platform is a good illustration of constructive cooperation between the regulator, CSD, and the market..

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3-1. FMI Fintech

a) Know Your Customer

Approximately, 1.5 billion people around the world do not have an officially recognized document to prove their identity.

Classical forms of identity provisioning struggle to reach underserved populations, contain clear security vulnerabilities.

Digital IDs can be linked with electronic forms of know-your-customer (e-KYC) verification mechanisms. API enables private sector match IDs.

Recommendation 3-1a: APEC Finance Ministers and responsible authorities are encouraged to support for the following initiatives of APFF FMI Fintech Substream;

- Conducting a review of the current Digital ID and e-KYC initiatives being rolled out in several APEC member economies
- Analyzing Digital ID and e-KYC initiatives being conducted outside the region to document best practices that could be leveraged within the APEC region
- Focusing its analysis on solutions that are interoperable at least, and harmonized at best, in order to promote economic integration among APEC member economies in Fintech KYC developments.

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API: Application Programming Interface

3-1. FMI Fintech

b) E-Payments

E-Payments help to lower transaction costs, increase transparency, and make transfers of money faster and more efficient.

The inter-operability and regulatory requirements associated with payment card solutions and mobile smart phones is currently a challenge for the APEC ecosystem.

There are:

- **multitude of players;**
- **divergence in solutions;**
- **divergent standards; and**
- **differences how mobile and card based solutions interact.**

Recommendation 3-1b: APEC Finance Ministers and responsible authorities are encouraged to support for the following initiatives of APFF FMI Fintech Substream;

- Exploring whether there are inter-operability concerns that exist in the APEC e-Payments ecosystem and whether APFF can make recommendations on how to resolve those concerns
- Seeking to create a primer on e-Payments in the region

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3-1. FMI Fintech

c) Cybersecurity

The digitization of financial services is coupled with the onset of new cyber-risks.

The major vulnerability associated with Fintech is the multitude of new actors it brings into the financial services ecosystem and the linkages created between these new actors.

A cybersecurity ecosystem for APEC can only be as strong as its weakest link.
->interested in creating baseline cybersecurity requirements

Recommendation 3-1b: APEC Finance Ministers and responsible authorities are encouraged to support for the following initiatives of APFF FMI Fintech Substream;

- Creating a typology of cybersecurity risks in the fintech ecosystem
- Engaging in research and analysis of emerging cybersecurity solutions and share those learnings with stakeholders
- At public-private forums discuss its findings on cybersecurity risks and solutions and advocate how identified best practices can be adopted throughout the APEC ecosystem, without regulatory technology mandates wherever possible

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- 3-1. FMI Fintech
- **3-2. Disruptive Technologies / new FMI-like entities**

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3-2. Disruptive Technologies / new FMI-like entities

Disruptive technologies provide tremendous opportunities for FMIs and participants to operate more efficiently, better service public and private sectors, increase and simplify access to financial data and products

The new technology also bring risks:

- **technological and operational risks**
- **fragmentation risks**
- **cybersecurity and data confidentiality risks**
- **legal risks, especially for cross-border activities**

Recommendation 3-2a: Financial Market Infrastructures should experiment and contribute to the research and development exercise required to overcome the maturity challenge. They should work collaboratively with regulators, the financial industry and the broader public sector. Such collaborative experimentation is important not only to contribute to maturing these technologies further but also to better understand them, ensure focus on the right problems to be solved and identify as well as understand the risks. It also helps getting the necessary buy-in for when an implementation decision needs to be taken.
Recommendation 3-2a: Regulators and FMIs also need to collaborate across markets to agree on harmonized domestic legal frameworks supporting the implementation of such new technologies and ensure cross-border regulatory certainty.

Closing

THANK YOU

DEVELOPING ROADMAP FOR APEC'S FINANCIAL MARKET INFRASTRUCTURE

Conference Report

APEC Asia-Pacific Economic Cooperation

ABAC APEC Business Advisory Council

Asia-Pacific Financial Forum

DEVELOPING ROADMAP for APEC'S FINANCIAL MARKET INFRASTRUCTURE

<CONFERENCE REPORT>

DRAFT AS OF 2017-6-27

ASIA PACIFIC FINANCIAL FORUM

Asia-Pacific Financial Forum
DEVELOPING APEC'S FINANCIAL MARKET INFRASTRUCTURE

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FOREWORD

Asia-Pacific Financial Forum
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Executive Summary

Financial Market Infrastructures[1] or FMIs are the pillars of financial market integrity. Since the global financial crisis (GFC) where FMIs withstood the strains of extreme volatility and volume, the importance of FMI and the reinforcement of their robustness have risen to the fore of policy and regulatory considerations that is best represented by the CPMI-IOSCO Principles for FMIs. In recent years, FMIs are increasingly also taking on new roles as the global regulatory agenda promotes greater transparency of transactions and greater standardization of financial products among others. FMIs continue to stand as a bulwark against market disruptions.

In 2015, the APEC Finance Ministers called for a roadmap to improve the region's FMIs and create a regional securities investment ecosystem to facilitate cross-border investment in capital markets to deepen markets and increase economics of scale. This task was incorporated in the Cebu Action Plan, the Finance Ministers' multi-year blueprint for financial sector development in APEC. The Asia-Pacific Financial Forum (APFF), a platform for collaboration among the public and private sectors and multilateral and academic institutions to accelerate the development and integration of the region's financial markets and services launched by the Ministers in 2013, is supporting this effort. Using the APFF platform, this symposium was hosted by the Federation of Korean Industries (FKI) in Seoul, Korea on 25th April 2017. The followings is a summary of its key outcomes.

FMIs serve to facilitate the efficient and cost-effective flow of investment across markets, support financial market stability and integrity, and promote greater financial inclusion, fair and equitable competition and innovation. Historically, these were seen as nodes that accumulated market, liquidity and counterparty risks to facilitate transparency and management. Without appropriate oversight they can also become a significant source of systemic risk, especially during times of market stress, hence came to be regulated[2].

Since the GFC of 2007/08, new complexities and costs have also risen that needs to be better understood and be better managed for markets to have higher levels of sustainability. For example, emerging capital markets can struggle with the tension between business case viability and the need for a Central Counterparty (CCP) for nascent derivatives markets to avoid punitive balance sheet costs for banks operating domestically. On top of the new changes, overseas investors continue to be faced with existing market access and repatriation documentation that can be streamlined, while there are funds post-trade paper-intensive services serve as a contrast to the electronic speed of investments. Cybersecurity concerns have emerged to add to this complexity.

Today, economies will need to consider new issues and needs that can face FMIs and financial markets, including transparency through a standardized and common platform for trade reporting, improving coordinated monitoring of markets through facilitation of cross-border data flows, standardization of market practices, account structures, operational and processing models, as well as consistent tax treatment of domestic and cross-border transactions. Regulatory clarity and private-public sector collaboration is key to realize new value from untangling some of these

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[1] Traditional Financial Market Infrastructures (FMIs) encompass a variety of institutions including Real-Time Gross Settlement (RTGS) systems, Large Value Payment Systems (LVPS), Automated Clearing Houses (ACHs), Securities Settlement Systems (SSSs), Central Securities Depositories (CSDs), Central Counterparties (CCPs) and Trade Repositories (TRs). FMIs are central to the clearing and settlement of transactions in the financial markets, the movement of money and securities, and centrally managing the counterparty risks around the world

[2] To help address the threat of systemic shocks and increase the resilience of FMI, CPSS-IOSCO in 2012, released a report entitled Principles for Financial Market Infrastructures (24 Principles). The report contained 24 Principles designed to ensure a more robust infrastructure for the global financial markets and allow the infrastructure to better withstand financial shocks. In the subsequent five years since the publication of the CPSS-IOSCO's first report, the global financial system is much stronger and FMI adoption across the global has dramatically increased.

complexities, and to address the potential rise of the costs and fragmentation of markets after the GFC, enhance liquidity and depth, and lessen the cost of raising funds from international capital markets.

1. The Roles of Financial Market Infrastructures in the Region

The April Seoul's symposium's discussions related to regulatory environment covered three key areas and recommendations included (1) needs for clear regulatory goals, (2) private-public sector engagements to find optimal solutions to reach these goals, (3) approaches that incorporate considerations of the potential regulatory effects on emerging capital market and their growth, and (iv) to expand high quality collaterals to include regional currency assets for the region to mitigate liquidity risk and market risks. These are highlighted as follows:

They conveyed the message that a fundamental regulatory tool is cooperation: the intensity of the relationship will depend on the policy objectives. It is also very important to appropriately understand and to calibrate the extraterritorial implications of domestic regulations and its potential impacts. It raised a suggestion that regional regulators might want to set out a clear, public, medium-term strategy and their regulatory expectations.

Standardization should not only be considered in technical terms but also in terms of industry expectations: as an example, harmonization of documentation, issuance rules and enhancing transparency of securities and tax rules; including common disclosure language or procedures for cross-border investors. The panel encouraged regulatory collaboration with ASEAN+3 Bond Market Forum (ABMF) for the Asia region, and for the experiences to be shared with the wider APEC members.

There is a need to monitor the extra-territorial effects of post- GFC rules being implemented from developed economies' in the region and to consider ways to address the effects on relatively smaller economies and their capital markets' growth. Smaller jurisdictions are encouraged to carefully consider the global policies; while they should strive to achieve the outcomes that have been internationally agreed to minimize regulatory arbitration, the international bodies should also understand the domestic balance needed between global consistency and local capital market growth stage.

Participants discussed the need to evaluate the requirements for High Quality Liquid Assets (HQLA) and whether local currency assets could be utilized collaterals accepted in international trades by financial intermediaries and CCPs. Suggestions were made on a further need to discuss how regional financial integration, including RTGS-CSD linkages and hedging, would assist further liquidity and eligibility of local currency assets.

While regional initiatives including access programs and activities to gain inter-operability of the markets, there could be rise of systemic risk from becoming more interconnected markets, which would pose threat especially in smaller economies. Adoption is best facilitated by better insights and knowledge and hence, a recommendation was made to evaluate the potential effects of interconnectedness among the markets of different maturity stages in the region, possible implications to policy makers and regulators, likely measures that can mitigate identified risks that are also cost and implementation efficient.

2. APEC Roadmap on Financial Market Infrastructures: Process and Instruments

Driven by over a decade of global and country-level new regulatory requirements and implementations, financial markets' evolution and progress, anecdotally, there is a significantly heightened level of post-trade operational running costs and complexities that are in addition to legacy ones. The symposium had highlighted concerns that if these costs and complexities continue to accumulate, they can eventually become significant drain on market participants' growth-oriented investments. Hence, after the regulatory discussions, the symposium then moved to discuss specific areas of the capital markets that can benefit from regulatory attention to alleviate the operational and compliance complexities that have arose:

2-1. Securities Markets: Post-Trade Ecosystem

This panel brought together a holistic view – from representatives of FMI, a market intermediary and a multilateral body – on the state of the securities post-trade ecosystem. Progress, challenges were highlighted and four recommendations were made. The recommendations are:

a. Public-private platforms are encouraged to establish a baseline measure of the magnitude of costs and complexities in the regional cross-border post-trade securities ecosystem including fund services if possible;
b. in cross-border market access and repatriation activities that investors will need to navigate to invest into the region, to host private-public sector discussions to understand regulatory goals and discuss how these goals can be better achieved and in what time frame;
c. to identify and agree on specific areas related in the market access and repatriation cycle that can benefit from standardization and the use of 3rd party industry utilities; and lastly,
d. to clarify regulatory expectations for possible solutions like industry utilities that can alleviate complexity but which can attract new regulatory requirements.

2-2. Non-Resident Accounts, Tax, Investor Identification and Transparency

This panel spoke about on the topic of "account structure" in the context of cross-border investments and covered various stages of intermediation. The account structure (omnibus or direct holding under the beneficial owner name), is often determined by macroprudential considerations related to management; cross-border tax, transparency, reporting and operational requirements. It concluded that while no change is needed to the way local participants operate in their market which could be direct holding, omnibus or a mix of both, the omnibus account structure is the preferred option for cross-border flows to attract foreign investments to a local market. Ideally the omnibus account structure should be combined with the nominee legal structure to ensure optimal asset protection. The recommendations made are:

a. In the region, there is a need to define the appropriate balance between transparency and market efficiency. Ensure disclosure requests are supported by the laws of the country or the bond prospectus. Transparency requirements on different asset classes (equities, deposits, government securities, corporate bonds, etc) should be reviewed by asset class and treated differently as they can be processed differently.

b. Authorities are encouraged to consider the comprehensive statutory framework, and crucially this includes tax implications. While most mature markets do not levy tax on fixed income instruments, it remains each country sovereign decision to levy tax or not but it should ideally be considered from (1) an economical perspective and (2) from an operational perspective. The easier the process the more efficient the market.

2-3. Increasing Market Efficiency: Issues specific to Repo/Lending

Liquid and well-functioning repo and securities lending markets are essential to the efficient allocation and movement of capital and collateral through the financial system. They also play a role to help diversify risk among different types of market participants across economies.

The relatively diverse range of Asia-Pacific markets' growth stages give rise to additional regional issues and challenges in developing consistent practices. Authorities, together with market practitioners and wide variety of stakeholders including multi-lateral institutions, need to review and where appropriate, promote a roadmap that can lead to adoptions of international documentation such as the GMRA and GMSLA.

2-4. Increasing Market Efficiency: Issues specific to Derivatives

Greater regulatory transparency in the OTC derivative markets is a key public policy goal that was codified at the September 2009 Pittsburgh G20 summit. In order to help improve the regulatory transparency, a number of critical milestones need to be met which includes: (a) a shared, public commitment to global convergence on harmonised reporting requirements, (b) data standards and formats, greater regulatory endorsement of existing standards that can meet desired outcomes, (c) practical ways to share select information across trade repositories and borders, (d) increased availability of substituted compliance, (e) promote of inter-operability and connectivity between trade repositories, and (f) the designation of leaders to drive the mechanism for global data aggregation.

The active support and cooperation of a range of stakeholders – regulators, market participants and infrastructure providers will be required.

2-5. Fund Services

In an era where more investors are investing for retirement income and can benefit from the diversity of funds offered by fund passport initiatives like the Asia Region Funds Passport, managing the industry costs is important to facilitate these investors' activities. Automation is also required to bridge the "mismatch" between the high level of post-investment paper and inefficient spaghetti processes and the speed of electronic investments.

A regulator-supported funds back-office processing utility will be needed to progress this key industry that can support individuals' wealth management, pension accumulation and drawdown – in the later cases, reduction of unnecessary costs to preserve returns will be very important.

Industry utilities can facilitate these goals and can take the form of a centralized digital network that connects the fund industry's participants for more effective electronic exchange of information rather than via email or other manual processes. In order to promote the growth of portfolio investments in the form of funds among the region, support for the activities of public-private platform including Asian Fund Standardization Forum (AFSF).

3. APEC Roadmap on Data Management and Technology

Financial technologies, or Fintech are rapidly changing the shape of how financial services are delivered to clients as well as managed by institutions and monitored as a whole financial market. Hence, the symposium has been co-organized with FMI Fintech Substream.

3-1. FMI Fintech

FMI Fintech work stream have been discussing on Know-Your-Customer, E-Payments, and Cybersecurity in the multi-year initiative. Identity is a baseline for participation in the formal financial system. However classical forms of identity provisioning struggle to reach underserved populations, contain clear security vulnerabilities, and cannot be verified remotely. Digital IDs can be linked with electronic forms of know-your-customer (e-KYC) verification mechanisms. Therefore Digital IDs and e-KYC initiatives being conducted outside the region need to be analyzed to document best practices that could be leveraged based on the review of such initiatives within the APEC region.

Payments form the core of the financial services ecosystem. There are a multitude of players currently introducing solutions for electronic payments including governments, banks, card networks, mobile operators, and pure technology companies. APEC economies need to explore whether there are inter-operability concerns that exist in the APEC e-Payments ecosystem and whether APFF can make recommendations on how to resolve those concerns.

The digitization of financial services is coupled with the onset of new cyber-risks. The major vulnerability associated with Fintech is the multitude of new actors it brings into the financial services ecosystem and the linkages created between these new actors and in some cases their interaction with established financial institutions and systems in APEC. APEC economies are encouraged to engage in research and analysis of emerging cybersecurity solutions and share those learnings with stakeholders.

3-2. Disruptive technologies / new FMI-like entities

Examples of "Disruptive" technologies include distributed ledger technologies, robot-advisers or artificial intelligence bring new business models that leverages on better data management, faster access to data, machine learning and new paradigms represented by the decentralized nature of blockchain. The new business models when these new technologies intersect with financial services can create new potential risks and costs even as they would create new value.

As such, the panel urged FMIs and the private sector to continue experimenting and contributing to industry's awareness and knowledge to overcome the maturity challenge. Collaborative work with regulators will bridge the gaps with the needs for new regulatory frameworks.

Over time, regulators, private sector and FMIs should also plan to collaborate across markets to agree on harmonized domestic legal frameworks supporting the implementation of such new technologies and ensure cross-border regulatory certainty.

Where appropriate, Standardization at technical and business data level needs to be considered from the start to ensure inter-operability at domestic and cross-border levels. Inter-operability between other implementations as well as with legacy systems and processes who will not disappear overnight. Leveraging existing reference data standards (Legal Entity Identifier, ISIN, etc.) and business standards such as ISO 20022, but also supporting collaborative open source initiatives such as the Hyperledger project, should be considered to avoid "reinventing the wheel".

There is a greater challenge on the industry to recognize when current standards become obsolete, and "open minds" should be adopted for new practices and requirements of future technologies and their applications least their growth potentials are inhibited as a result of ill-fitting legacy standards.

Authorities should also assess the interaction of financial regulation with other statutes, such as fiscal policy or data privacy provisions, and consider the overall impact to the industry. Authorities need to account for the industry's capacity i.e. available resources to innovate and execute on those innovations.

Symposium participants shared the above perspectives and issues to be addressed to improve the region's FMIs and financial markets and then to facilitate cross-border portfolio investments in the region. As post-GFC rules currently in the stages of implementation and new technologies are rapidly introduced to various financial markets, requirements are moving. Regulations and conditions need to adapt in a timely manner to support the growth and manage risks. Most recommendations presented in this report are suggested to being considered immediately or within two to three years, as crucial window for market development and to be benefitted from a coordinated policy effort.

At the same time, participants also recognized the diverse maturity of developing stages of the capital markets in the APEC economies, which means that one-size approach will not fit all.

The industry tables these feedback and recommendations for considerations and endorsement by the APEC Finance Ministers Process.

Asia-Pacific Financial Forum
DEVELOPING APEC'S FINANCIAL MARKET INFRASTRUCTURE

Conference report

I. INTRODUCTION

Over the past few years, various initiatives have been launched to address this issue. In 2015, the APEC Finance Ministers sought to give impetus to this effort by calling for a roadmap to improve the region's FMIs and create a regional securities investment ecosystem to facilitate cross-border investment in capital markets. This task was incorporated in the Cebu Action Plan, the Finance Ministers' multi-year blueprint for financial sector development in APEC. The Asia-Pacific Financial Forum (APFF), a platform for collaboration among the public and private sectors and multilateral and academic institutions to accelerate the development and integration of the region's financial markets and services launched by the Ministers in 2013, is supporting this effort.

The symposium was co-organized by ABAC through APFF FMI Cross Border Practice and FMI Fintech, and hosted by the Federation of Korean Industries at FKI Conference Center in Seoul Korea on 25th April, 2017. Over sixty participants representing wide spectrum of organizations in the region's public and private sectors as well as international institutions, Financial Market Infrastructures and academic and research institutions attended the event.

Participants discussed the state and challenges of Asia Pacific financial markets in the regulatory environment post financial crisis. The financial markets are becoming better connected with technology and there are many types of infrastructures that provide services to maintain the connectivity. We can collectively call these whole financial market infrastructures including various types of financial intermediaries and service providers, and highlight that historically, regulators saw payment, clearing and settlement infrastructures as nodes that accumulate various types of risks and have started to regulate them as Financial Market Infrastructures (FMIs).

While most traditional FMIs serve to facilitate the efficient and cost-effective flow of investment across markets, support financial market stability and integrity, and promote greater financial inclusion, fair and equitable competition and innovation, they have historically started serving from domestic markets in each economy, and have had financial intermediaries bridging the differences in regulations, market practices and tax issues to promote cross-border portfolio trade.

The global financial crisis (GFC) made us realize the importance of transparency, risk mitigation measures and robust market infrastructures to mitigate systemic risk upon a default of a major market participant(s). Now developed markets are in a long period of ultra-low interest rates, slowing down the growth in developing and emerging markets.

We need to support the growth of the economies while maintaining stability through enhanced efficient functioning of the markets, including promoting the cross-border portfolio investments, utilizing local currency assets as eligible financial collateral by both FMIs and bilaterally, maintaining and broadening access to cross-border money transfer mechanisms providing the required transparency in affordable and meaningful way, and incorporating innovative and potentially disruptive technologies. Economies will need to consider new issues and needs that can face FMIs and financial markets, including transparency through a standardized and common platform for trade reporting, improving coordinated monitoring of markets through facilitation of cross-border data flows, standardization of market practices, account structures, operational and processing models, as well as consistent tax treatment of domestic and cross-border transactions. These measures would help address the potential rise of the costs and fragmentation of markets after the GFC, enhance liquidity and depth, making sure the smaller players' involvement, and lessen the cost of raising funds from international capital markets. By having a platform for the public and private sectors to collaborate, to identify and prioritize the issues to be addressed and reflected on in the Roadmap, we would then effectively communicate in the APEC region through the Cebu Action Plan.

The discussions in the Seoul symposium together with the preparatory conference calls reflected board support across economies, sectors and institutions including in Latin America for the further development of FMIs in the region. The messages have been discussed further by the public and private institutions which participated the joint session with ASEAN+3 Bond Market Forum (ABMF) in Manila on 4th July 2017 and obtained broad support. This conference report describes the outcomes of these discussions, including the Roadmap for APEC FMIs.

II. ANALYSES AND RECOMMENDATIONS

*For review and comments by officials at the Joint session with ABMF.

1. The Roles of Financial Market Infrastructures in the Region

Financial Market Infrastructures (FMIs) are central to the clearing and settlement of transactions in the financial markets, the movement of money and securities, and centrally managing counterparty risks around the world. Traditional FMIs include central counterparties (CCPs), central securities depositories (CSDs), payments infrastructure needed for settlement, and trade repositories (TRs).

FMIs strengthen the markets they serve and promote and enhance financial stability. However, without appropriate oversight they can also become a significant source of systemic risk, especially during times of market stress. To help address the threat of systemic shocks and increase the resilience of FMI, CPSS-IOSCO in 2012, released a report entitled Principles for financial market infrastructures (24 Principles). The report contained 24 Principles designed to ensure a more robust infrastructure for the global financial markets and allow the infrastructure to better withstand financial shocks. In the subsequent six years since the publication of the CPSS-IOSCO's first report, the global financial system is much stronger and FMI adoption across the globe has dramatically increased.

Financial market participants require an open and competitive infrastructure environment which can deliver best-in-class, reliable and cost-effective services that produce lower risk, faster execution, and transparent data reporting. The question remains how these FMIs, together with financial intermediaries and fund service participants in the APEC region can best deliver such services. With different products covered, investment strategies employed and a wide variety and caliber of trading, clearing and settlement venues, the future of FMI in the region remains uncertain. Clear consensus exists among market participants and policymakers on the critical importance of central clearing and increased need for transparency. However, a great deal more work remains to be done to achieve the overarching objectives and great promise of robust financial architecture that promotes balanced and sustainable growth in the region.

A fundamental regulatory tool is international collaboration and cooperation. Working with the industry to identify market/systemic weaknesses is encouraged. It is also very important to appropriately calibrate the extraterritorial implications of domestic regulation, and its potential negative impact. Hence, a consultative approach, giving market participants and stakeholders ample time to respond to public consultations on rules and regulations to avoid cross-border conflicts and unintended consequences is welcomed.

Relationships should leverage existing multilateral organizations, but in addition to – not as a replacement for – bilateral relationships. There should be a thorough understanding of the impact which regulatory changes and infrastructure implementations have on the efficiency of a market – and acknowledgement that the cost of introducing inefficiencies will be avoided by participants wherever possible, sometimes leading to unintended consequences (such as shifting operations away from the jurisdiction or having to compensate investors for the additional operational cost through increased yields of sovereign issues).

There needs to be a reckoning of the regulatory demands and consideration of adjusting the regulatory framework to suit each market. The over-riding regulatory objective should be to foster stability and trust in the financial markets, conducting, when appropriate, a cost-benefit analysis for new regulation to assess whether it might harm market development or the economy. Using risk based analysis for adoption of new regulation - how much risk is in the market vs how much regulation is being created to address that risk - could be a useful tool to approach the issue.

The roles of FMIs have been under the spotlight after the GFC as part of the measures to enhance financial stability while maintaining the availability of funding channels to support the growth of the economy. While regional cooperative initiatives to promote issuance and liquidity of local currency bonds are underway through standardization and harmonization, the effects of G20 regulatory initiatives could impact market participants in other economies in APEC. Responsible authorities and private sectors together are encouraged to monitor such effects and review regulations and policy measures to address such issues including a potential scarcity of High Quality Liquid Assets. It is also encouraged to review the effects of interconnectedness as further connectivity among the markets progresses.

The GFC prompted G20 authorities to bring in a new suite of regulations starting with developed economies in North America, Europe and parts of Asia. Those regulations influence markets and market participants in developing and emerging markets by way of extraterritorial effects, while those economies may bring in similar sets of regulations in their own markets. APEC economies need to understand the effects of mandatory margining of non-centrally cleared OTC derivatives, the problems that creates with definitions of eligible collateral and different economies' rules. FMIs are adjusting to facilitate cross-border collateral transfers through linkages.

Questions arose from regulators and policy makers in smaller economies as to whether such economies should be required to establish local central counterparties (CCPs) which accept local currency assets as eligible collateral. Challenges include relatively low local currency trading volumes, leading to questions of how these CCPs would achieve economies of scale and netting efficiencies, and whether utilizing CCPs outside of their home economy would be more viable. We observe that some countries outside of APEC have established their own CCPs to keep margin (collateral) onshore. Where volumes are sufficient to achieve economies of scale this has worked; in other places it has stimulated the development of offshore non-deliverable markets in response to high clearing fees. In its 2012 Emerging Markets Derivatives Paper, IOSCO noted that economies with smaller, less developed derivatives markets should consider mandatory OTC margining as an alternative to investing in small-scale onshore clearing infrastructure. APEC economies have a breadth of different types of markets. While there has not been discussion to create a regional CCP in APEC, as markets grow, such a CCP may be necessary. In this regard, regional discussion to share experiences is encouraged.

As we understand that not all OTC derivative transactions are cleared by CCPs, there is also a role for financial intermediaries to manage risk bilaterally, as well as collateral. Policy makers need to understand the developments on the bilateral front. APEC economies need to identify the issues applicable to both the CCP and the bilateral clearing constructs, including segregated third party custodial accounts to manage counterparty risk. Nevertheless, stages of market development in APEC economies vary greatly. The development of FMIs needs to be considered in line with such stages.

a) Standardization and harmonization

One of the key tools to bring efficiency to the global markets is to espouse standardization wherever practicable. Standardization should not only be considered in technical terms, where it is perhaps more obvious (such as the utilization of ISO20022 for messaging), but also in terms of industry expectations: as an example, harmonizing issuance documents might help both issuers streamline multinational issues and increase investors' appetite to diversify through cross-border investments.

<Case Study>

- Regional financial integration initiatives are showing how we can prevent fragmentation while maintaining rapid growth in respective local markets. For instance, AMBIF are targeting institutional investors such as financial intermediaries, hence accepting English as the common disclosure language with templates, adhering to international accounting standards, and relaxing regulations to incentivise issuers to utilize this platform to obtain finance from regional markets.

Recommendation 1a: Responsible authorities are encouraged to support the harmonization of issuance rules and enhancing transparency of securities and tax rules; including targeting professional investors such as financial intermediaries to enable common disclosure language, procedures investor protection rules. To promote this, it is encouraged to collaborate with ASEAN+3 Bond Market Forum and then apply the experience gained to wider APEC economies.

Harmonization can be based on outcomes as well – for instance, collateral rules can be a powerful alternative to clearing mandates where they are impractical or inefficient. Harmonization can also help drive broader usage of regional assets – for instance, regional bonds could be used more broadly as collateral instead of US Treasuries which remain the preferred tool. Such regional issuances promotion projects should also be supported by central and policy bank practices – they should, for example, assess the liquidity impact of their collateral practices.

b) Monitoring the effects of G20 regulatory initiatives

G20 regulatory initiatives post-GFC are affecting not only the developed economies in the world but also developing APEC economies. For example, although promotion of central clearing is the policy objective of the non-centrally cleared derivatives mandatory margining regime, some APEC economies lack the economies of scale to establish their own CCP, and local currency collateral may not be accepted as eligible collateral at international CCPs. This is a particular problem for jurisdictions whose currencies are not freely tradable or convertible.

The industry and regulators must acknowledge that in order to be efficient, infrastructures must have a combination of scale and competition on comparable services; in smaller markets such as those in Asia, this might not be achievable and therefore it must be accepted that some infrastructure services might not be best offered onshore. It must be remembered that the purpose of promoting the use of infrastructure is not an end in itself, but rather as a risk mitigation tool

<Case Study>

- For example, forcing clearing of OTC derivatives or the use of listed derivatives for hedging these transactions might force institutions to accept imperfect hedging, therefore shifting the risk from the financial markets into the real economy. Corporate end users may be denied favorable hedge accounting treatment in such circumstances and choose not to hedge as a result.

Infrastructures, such as CCPs, not only require scale and significant capital, but also significant regulatory oversight – and implementing regulatory principles remains a challenge. For instance, it remains a challenge to finalize recovery and resolution plans for CCPs.

<Case Study>

- Policy makers from some emerging APEC economies are considering if they need to establish a local OTC derivatives CCP in their respective jurisdictions, as most local market participants are not able to post their local currency-denominated assets to major international derivatives CCPs, usually due to capital account restrictions. Some economies in APEC are G20 members and hence are asked by international regulatory organizations if and when they intend to introduce central clearing. However smaller economies may find it difficult to achieve economies of scale in such CCPs given high cost of establishment, development and maintenance, as well reduced netting efficiencies in a small local currency market.

- Brazil might be a market which has the breadth, depth and financial deepening to provide all types of hedges to its local banks and corporates, such that they can compete. Domestic Brazilian CCPs are interlinked and interoperable, so the pricing and netting benefits accrue to users, who are then able to provide hedges at roughly the same price as an international CCP.

Recommendation 1b: Securities regulators and central banks are encouraged to monitor together with the region's market participants the extraterritorial effects of developed economies' rules and consider ways to address this, especially in smaller economies. Smaller jurisdictions are encouraged to carefully consider global policies and their appropriateness for smaller markets. They should strive to achieve the outcomes that have been internationally agreed – but be very mindful of what implementation means for their jurisdiction. In any case, the implementation must avoid creating further fragmentation.

c) Measuring the scarcity of High Quality Liquid Assets

Post-GFC regulations and bank prudential rules are forcing financial transactions to be further collateralized. Even if there was to be a tapering of this through quantitative easing or other measures were introduced to increase the stock of High Quality Liquid Assets (HQLA) available to the market, there could be still a scarcity of HQLA collateral to provide enough financing, including in developing markets.

Local currency collateral, including highly rated government bonds with very little credit risk, is often not commonly accepted in international / foreign markets due either to market custom or the internal guidelines of key market intermediaries; limiting the flow of collateral and liquidity in the bond markets. Barriers to cross-border collateral flow due to limited collateral eligibility requirements; impact on markets and liquidity; affected market participants.

Recommendation 1c: Responsible authorities are encouraged to collaborate together with international organizations, to have workshops to better understand the issues to address the growing need for HQLA collateral in the region. Measures could include how local currency assets could be utilized as part of collateral accepted for cross-border trades between financial intermediaries and CCPs, how regional financial integration (including RTGS-CSD linkages) and better hedging markets would assist further liquidity, and identification of specific classes of securities where liquidity and eligibility could be expanded; followed by advocacy efforts in jurisdictions where collateral eligibility could be expanded.

d) Infrastructure inter-operability and interconnectedness

Market infrastructures, including central banks, should be encouraged to cooperate – in a similar manner to how central banks already link to each other to allow cross-border DvP settlements.

<Case Study>

- To mitigate settlement risk, CSIF are linking central banks and CSDs to establish the first cross-border DvP settlements. While it will consist of a network of bilateral linkages, standardization of technical components will mitigate the risk of becoming a complex network. Such initiatives are leading the way to utilize platforms for local bond markets across the region.

While regional initiatives include access programs and activities to achieve inter-operability of the markets, there could be rise of systemic risk from markets becoming more interconnected, which may pose a threat especially in smaller economies.

Recommendation 1d: Respective authorities are encouraged to promote inter-operability among FMIs and participants including financial intermediaries, and evaluate the effects of interconnectedness between the markets and their potential impact, implications to policy makers and regulators, measures to mitigate risk while avoiding "risk-off" or hindering financial inclusion.

2. APEC Roadmap on Financial Market Infrastructures: Process and Instruments

2-1. Securities Markets: Post-Trade Ecosystem

The securities market post-trade ecosystem is a large one and for the purposes of the APFF FMI symposium, we have defined the securities market's post-trade ecosystem as including

(1) Financial Market Infrastructures (FMI); securities central counterparties (CCP), central securities depositories and payments infrastructure needed for settlement,

(2) Securities intermediaries and messaging systems including custodian banks and broker-dealers; and

(3) Fund services participants including centralized industry fund services platforms, transfer agencies and fund administrators.

Driven by over a decade of global and country level new regulatory requirements and implementations, financial markets' evolution and progress, anecdotally, there is a significantly heightened level of post-trade operational running costs and complexities in the industry that are in addition to legacy ones.

The symposium had highlighted concerns that if costs and complexities continue to accumulate, they can eventually become significant drain on participants' growth-oriented investments. Over time, an unintended effect can arise if the industry prioritises scarcer resources into certain areas and divert attention away from others which can inhibit markets' progress in this area. Unnecessary complexities and costs also act as invisible "behind the border" barriers to cross-border investment activities and well as financial market integration that can improved economies of scale to attract activities.

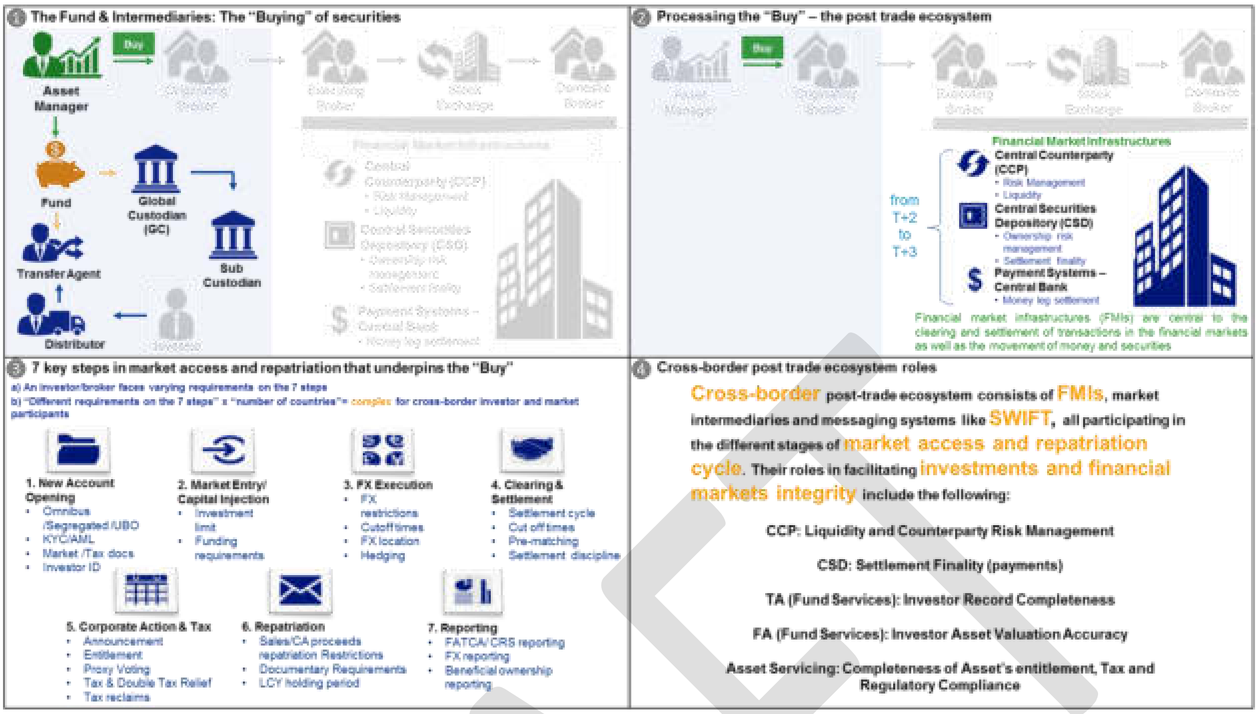
As a starting point, the potentials to realize cost, compliance and regulatory reporting efficiency benefits can be found in the region's diverse set of market access and repatriation requirements and their inherent documentary compliance and regulatory reporting activities; for example, in the Account Opening stage of the illustrated market access and repatriation cycle below. **Greater standardization and the use of FMI as industry utilities** have been highlighted as two possible solutions. In the future, technology or "RegTech" may also play roles to facilitate such efficiency goals. The panel has also voiced the need for private-public sector collaboration to establish shared understanding of regulatory goals which can lead to better approaches towards compliance.

Every financial market will have a set of cross-border market entry and repatriation steps that underpin cross-border investments. The efficiency in fulfilling these steps count towards the market's overall cost, operational complexity level and risk levels – which is of concern to all participants.

This set of cross-border market entry and repatriation steps generally consists of the following

i. New Account Opening
ii. Market Entry and Capital injection
iii. FX Execution and Hedging
iv. Clearing and Settlement
v. Asset Servicing or Corporate Actions and Tax
vi. Repatriation
vii. Reporting

The following illustration provides a view of the ecosystem.



Source: Deutsche Bank

A cross-border participant will face the costs and complexities that are amplified by the actual number of activities, the frequency and extent of changes that affect these activities and the number of markets that this cross-border participant is vested in.

Ideally, there can be a review of the related post-trade documentary and reporting regulatory requirements to determine which legacy requirements may be retired and which areas can be streamlined and in other cases, to automate using advance technology.

Therefore, **four recommendations** related to cross-border securities post-trade ecosystem were made. They are

2-1a. Public-private platforms are encouraged to establish a baseline measure of the magnitude of costs and complexities in the cross-border post-trade securities ecosystem including fund services if possible.

2-1b. In cross-border market access and repatriation activities that investors will need to navigate to invest into the region, to conduct private-public sector discussions to understand regulatory goals and discuss how these goals can be better achieved and in what time frame.

2-1c. To identify and agree on specific areas related in the market access and repatriation cycle that can benefit from standardization and the use of 3rd party industry utilities.

2-1d. To clarify regulatory expectations for possible solutions like industry utilities that can alleviate complexity but which can attract new regulatory requirements. For example, the use of industry utilities can be a cost-effective standardization approach to reduce documentary and reporting complexity. However, its use can involve regulations related to 3rd party service providers, recovery and resolution, data protection, outsourcing and Cloud – and which can lead to new uncertainties, costs and complexities.

A sequencing of the recommendations would be beneficial to build on each step of understanding and momentum. The recommendations here are for the cross-border securities post-trade ecosystem. They can be related to some of the recommendations by the Panel on Non-Resident Accounts, Tax, Investor Identification and Transparency; and the Panel on Fund Services which is similarly focused increasing automation to reduce complexity and to support cross-border funds activities.

2-2. Non-Resident Accounts, Tax, Investor Identification and Transparency

Account structure, Tax, Investor Identification and Transparency are influenced by each market development history and current level of maturity. There is neither absolute truth nor global consensus but these three matters are discussed around the world due to their importance for markets' liquidity and stability. These two elements (liquidity and stability) can be used (among others) as measurable benchmark to assess the efficiency of a particular market. While harmonization is a great ambition, it is not an absolute must as any barrier to cross-border flows can be solved unilaterally by the market where the barrier is observed. To achieve harmonization while leaving each country managing its own priorities at its own pace, safely and least costly, it is recommended that the **responsible authorities should review whether legal/tax frameworks support international rules and best practices and undertake reforms if they do not.** Indeed, any domestic investor becomes an international investor as soon as he invests outside of his home market.

Jurisdictional authorities should clearly articulate their statutory objectives: asset protection, tax collection, market surveillance prior engaging into market reforms touching any of these three dimensions. This will allow fair assessment of the assets by foreign investors - which is particularly relevant for some markets in the region.

a) Account structure

Three dimensions must be considered when looking at the optimal account structure for a market: **asset protection, cost and operational efficiency.** It is also important to keep in mind that multiple account structures can co-exist in the same market for different asset classes and even for the same asset class. Each structure offers different advantages and has limitations. On a pure domestic basis, any account structure can be adopted while on a cross-border basis, extra considerations are required. The objective is to strike the right balance between transparency and operational efficiency knowing that market needs can evolve over time together with the market maturity level.

The account structure supports the identification of legal ownership and asset protection attached to securities in case of insolvency of a counterparty, an intermediary or an infrastructure. It is also an important component of the custody chain which influences market participation, risk mitigation and settlement efficiency. This is further exacerbated on a cross-border basis.

On a cross-border basis, empirical evidences show that the omnibus account structure combined with a nominee legal structure is the most effective from an operational viewpoint and is also the preferred method of international investors to enter a market. Indeed, opening direct accounts at the level of the CSD prevents intermediaries to isolate the investors from local complexities.

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- Reforms, when introduced, must be reviewed to ensure that they are meeting the intended objectives. For instance, recently an APEC economy has introduced the ability to bulk orders. While this is a positive development, it does not fundamentally meet the need to have a 'nominee' or 'omnibus' account structure.
- Equities are traded on an exchange with a high concentration on the main liquidity pool. Fixed-income is mostly OTC, trading takes place on a decentralized basis, hence the custody chain is also decentralized. Korea re-introducing the omnibus account for equities as of March 6th, 2017. China adopted the omnibus for Stock Connect.

It is important as well that fixed income assets do not grant ownership rights, which has significant policy implications in terms of national interest and tax purposes. When information and transparency are required with regards to ownership, disclosure regimes should be preferred over segregated account structures; and authorities should be aware of the difficulty of obtaining qualitative data compared to quantitative data. Quantitative data can be in most instances used for policy and monitoring purposes, and the incremental value of the qualitative data for these purposes often does not justify the cost of systematic collection.

In the context of CCPs regulators looked at the ideal account structure to ensure portability but best is to leave the choice to the asset owner.

Recommendation 2-2a: No need to change the way the local market is operating which could be (direct holding, omnibus or a mix of both) but the omnibus is the preferred option for cross-border flows to attract foreign investments to a local market. Both account structures can coexist. Ideally the omnibus account structure should be combined with the nominee legal structure.

In the spirit of reciprocity, jurisdictions should strive to harmonize fiscal treatment across asset classes. In fiscal matters, simplification should be the driving principle.

b) Tax

Authorities are encouraged to consider the comprehensive statutory framework, and crucially this includes tax implications. While most mature markets do not levy tax on fixed income instruments, it remains each country sovereign decision to levy tax or not but it should ideally be considered from (1) an **economical perspective** (e.g.: will the tax revenues be offset by an increase of yield) and (2) from an **operational perspective** (e.g.: is the tax computation and collection processes operationally efficient of will they negatively affect the liquidity of the instruments).

While the economical relevance of the tax can be debated between the Tax authorities and the issuers (corporate and debt management office), the operational efficiency is a lower hanging fruit to catch. Indeed, investors can request a yield premium to offset an excessive tax rate but will likely not invest or limit their activity should the operational complexity be too high.

While 'no tax' is the easiest model to operate, should there be tax levied on fixed-income instruments, it is important to consider its extra complexity under a cross-border environment. Typically, tax requiring computation based on price difference (certain capital gain tax or VAT) or holding period are the most complex to operate on a cross-border basis. Processes requiring local notarization, original documents, and the use of a local agent should be avoided as they bear a heavy cost and add complexity.

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- A Financial Transaction Tax (FTT) implemented in Scandinavia was reversed when the capital market liquidity dried completely. The new FTT being discussed in Europe is facing many hurdles and could pose a threat to collateral management related transactions which are a major pillar of liquidity.
- Japan changed its tax scheme to get rid of clean and dirty JGBs with the benefits to merge the two liquidity pools.
- China recently confirmed that for CIBM there would be no capital gain and no tax at all for government bonds and municipals.
- Chinese Taipei simplified the tax scheme for Formosa Bonds in order to attract foreign investors.
- Some other APEC economies markets suffer because of their tax complexities.

Withholding tax process can be optimized by preferring a "tax at source" principle. The second best option is a "quick tax refund" process followed by a "standard refund". The collection of tax certificates to define the tax rate of the investor can also be optimized by preferring a "perpetual" certificate valid until a change occur. The second best option is a recurrent certificate (every X years). The least preferred is a certificate required for each payment. The collect of certificates can be greatly facilitated by the intermediaries in the custody chain so it is advisable to leverage them.

A frequent misgiving is that financial institutions, especially foreign ones, are unwilling to pay taxes; in reality, firms seek to have a tax regime that does not impose a significant operational burden and that is predictable enough to permit accurate pricing of the assets.

An ideal tax regime will unlikely be found; however, even imperfect regimes can yield the expected level of income. Simple regimes can improve fiscal compliance. On the contrary, complex regimes will increase the operational cost of servicing capital market assets. This increased cost is incorporated in the asset valuation, and therefore will increase the interest demanded by investors on domestic issues including sovereign ones; as a result, it may be that the marginal tax revenue benefit might be erased by the higher yield.

The impact of tax policies on capital market policies must be also well understood. For example, the focus on beneficial ownership in an APEC economy is driven by the wish to broaden the tax base; however, this has a significant impact on the efficiency of trading. Authorities are encouraged to considering other implementation options provided there is no overwhelming fiscal leakage.

Evidence suggests that beneficial ownership shifts have not been used for tax avoidance; even under the current regime where DTA's vary and investors might benefit from taking advantage of specific agreements by shifting designated owners just before the record date, there is no indication that they are in fact doing so.

If exemptions are withdrawn, data used for assessment should make use of the existing data pools, such as the one collected under the OECD Common Reporting Standards

In terms of tax principles, it is suggested that authorities avoid transactional taxes, and privilege the record date principle over the holding period calculation methods.

Generally, taxation should be based on operations based in the jurisdiction. Cross-border capital investments are not actual operations, and should therefore not be equated to income tax. Removing what is effectively a transaction tax is not a harmful tax practice. It does not result in "base erosion and profit shifting".

Recommendation 2-2b: Prefer no tax or a simple tax scheme (i.e.: a WHT based on a Record Date principle), no capital gain tax based on a price difference or a tax calculated on a holding period since they are unmanageable on a cross-border basis. Prefer to tax at source instead of refund. For tax certificates collection, prefer a one-time certificate instead of requiring yearly certificate or certificate per payment. Do not require local notarization of tax certificates.

c) Investor Identification and Transparency

There are multiple reasons why transparency may be desired by issuers, investors, tax authorities and/or regulators. Such reasons can be: statistical purpose, price discovery, KYC, AML, quotas, tax, market surveillance, etc.)

Different asset classes (e.g.: equities, fixed income, investment funds) are traded differently and bear different risks (I.e.: equities give an ownership right over a company while bonds only give a mere right to an interest without ownership), hence different transparency levels may be relevant and desired for each asset class. Not all instruments are equal, hence should be treated differently.

Transparency can be achieved through multiple means: regulators' bilateral communication, segregation of accounts at CSD level, use of a unique ID at trading level, trade repository or disclosure reporting. Again, each approach has different merits and some are more suited to certain asset classes or for a certain purpose, they can also be combined.

Recommendation 2-2c: Define the right balance between transparency and market efficiency. Responsible authorities should review whether legal frameworks support disclosure requests and undertake legislative reforms if they do not. Securities regulators should introduce requirements for bond prospectuses to facilitate disclosure requests. Upon such review, following perspectives are particularly important: (1) Precise definition of the reason for the transparency to ensure the solution addresses the needs and minimizes operational frictions for all involved parties, (2) Ensuring enforceability of disclosure in the law to avoid conflicting regulations between the country of issuance and the investors' country of residence, and (3) Avoiding the request of data which cannot be automatically retrieved from intermediaries systems or which require interpretation.

2-3. Increasing Market Efficiency: Issues Specific to Repo/Lending

Liquid and well-functioning repo and securities lending markets are essential to the efficient allocation and movement of capital and collateral through the financial system. They also play a role to help diversify risk among different types of market participants across economies. Many of the issues facing Asia-Pacific repo and securities lending markets are common to international markets; however, the relatively fragmented nature of Asia-Pacific markets, as well as the wide variation in levels of development of domestic markets, give rise to additional regional issues and challenges in developing consistent practices. Hence, responsible authorities are encouraged to review and promote international best practices, promote adoption of standard documentation, review current policies and practices, and discuss expansion of local collateral eligibility requirements to further promote movement of capital and collateral while ensuring risk mitigation.

"Importance of repo/lending that bring the liquidity of overall market"

Repo/Lending markets bring to securities markets significant benefits: they allow cost reduction, improve risk management, and bring liquidity. Financial markets and public authorities are encouraged to understand the benefits of short selling: for example, it allows very long term investors to maintain their long positions while controlling risk hence influences heavily the appetite for investing in the market.

Market participants have identified several challenges with respect to the repo and securities lending markets in Asia-Pacific. Policy at the national, regional, and international levels (such as monetary policy, capital account restrictions, or international prudential regulation) can affect the availability and liquidity of collateral, especially in the cross-border markets. Collateral eligibility requirements, including those for local-currency collateral can affect liquidity in the international markets as well. Short-selling rules and disclosure regimes can impact the markets as well, in both positive and negative ways. Finally, collateral and inventory optimization is a major concern for direct market participants, especially those with a need to dynamically manage a range of types of collateral across markets and entities.

Fortunately, both policymakers and market participants continue to pursue various initiatives to further develop and improve the market. These include continued promulgation and promotion of international best practices, formulation of codes of conduct, adoption of international documentation such as the GMRA and GMSLA to provide better transparency to regulators in the region.

a) Regulatory transparency

Regulatory uncertainty increases market risk and legal risk, which makes the relevant markets less attractive to investors. It is therefore important for regulators to clearly articulate their regulatory intent, and be consistent in its implementation. While there is certainly a benefit from learning from regulatory implementation in other jurisdictions, if there is an intention to reform certain markets this needs to occur before the end of the global capital market reforms. Once these are completed, there will be significant resistance by financial institutions for implementing changes, and therefore act as an obstacle to foreign investment.

It is important that authorities ensure that the reforms they introduce are appropriate for the realities of their market. For example, currently only the very largest markets in APEC are likely to have the scale to justify the global standards on financial market infrastructures[3].

Recommendation 2-3a: Both responsible authorities and market participants are encouraged to continue to pursue various initiatives, including promulgation and promotion of international best practices and formulation of codes of conduct, to further develop and improve the market, by ensuring very clear principles on regulatory expectations on capital raising and investment.

b) Adoption of standard documentation

Repo and securities lending market fragmentation is exacerbated by local documentation requirements and standards; also the standard local documentation often does not contain adequate operational details or credit protections for international participants.

Recommendation 2-3b: Securities regulators and policy makers are encouraged to review the local practices if they adopt the international standard documentation such as the GMRA and GMSLA and undertake promotionally initiatives if they do not.

c) Tax and accounting

It is important to understand the implications of having manual processes, or of requiring people to be based on the ground. Such manual process would be a barrier even to its own market. For example, complexity and uncertainty of tax can be an obstacle and in some instances its mechanism of application can prevent participation in the markets and therefore not be revenue generating.

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- APFF has produced repo/lending guide which explore in depth the value and the mechanisms of repo markets including very complex, technical things which are very important to the functioning of the markets.
- ABMF has developed Bond Market Guide and have access to tax authority via finance ministry.

Recommendation 2-3c: Responsible authorities are encouraged to supporting constant dialogues with the industry representatives through public-private platforms including APFF, PASLA, ICMA, Asifma, and ABMF to review current policies and practices could effect as a barrier and undertake reforms if they do.

d) Scarcity of HQLA / Expansion of local collateral eligibility requirements

Local currency collateral, including highly rated government bonds with very little credit risk, is often not commonly accepted in international / foreign markets due either to market custom or the internal guidelines of key market intermediaries; limiting the flow of collateral and liquidity in the bond markets. Barriers to cross-border collateral flow due to limited collateral eligibility requirements; impact on markets and liquidity; affected market participants.

Recommendation 2-3d: Responsible authorities are encouraged to collaborate together with international organizations, to have workshops to better understand the issues to address the growing need for HQLA collateral in the region. Measures could include how local currency assets could be utilized as part of collateral accepted for cross-border trades between financial intermediaries and CCPs, how regional financial integration (including RTGS-CSD linkages) and better hedging markets would assist further liquidity, and identification of specific classes of securities where liquidity and eligibility could be expanded; followed by advocacy efforts in jurisdictions where collateral eligibility could be expanded.

2-4. Increasing Market Efficiency: Issues Specific to Derivatives

[3] Even though, less developed markets are affected by the changes in the global markets including Basel rules (e.g. Leverage ratio, Liquidity Coverage Ratio, and Net Stable Funding Ratio), and electrification of trading practices (e.g. Automated Request for Quote).

Greater regulatory transparency in the OTC derivative markets is a key public policy goal that was codified at the September 2009 Pittsburgh G20 summit. Since then, much work has been undertaken to achieve this goal, however major questions remain as to whether the mountain of data now being generated is helping to improve regulatory transparency in a meaningful way. Currently, despite seeming progress, major challenges remain:

- Different, costly, duplicative, conflicting and non-standardized reporting requirements across jurisdictions
- Some data requirements are not clearly defined
- The availability of 'substituted compliance' for reporting is limited, adding to duplication
- Standardized reporting formats have been not adopted quickly or broadly enough
- There is a lack of agreement as to how some data reporting requirements should be standardized across jurisdictions
- Regulatory endorsement of standards already in use has been limited
- Some reporting regimes are 'closed markets' – meaning they have their own trade repositories which do not leverage international standards and mechanisms
- Legal barriers exist to sharing data and information, both within and across borders
- Trade repositories have the unenviable task of collecting and standardizing data from multiple sources for multiple jurisdictions, and have their own unique data architectures, formats and methods of sharing information
- There is no facilitator or mechanism to aggregate data from different trade repositories globally
- There is a lack of commitment among stakeholders in the process to drive and achieve consensus in these areas

As a result of these obstacles, regulators continue to lack a true picture of risk in individual jurisdictions because of incomplete and inconsistent trade data. On a global level, this means that efforts to aggregate data (and risk exposures) remain little more than a dream.

Fortunately, now that major jurisdictions have largely implemented their reporting regimes, national regulators are increasingly turning their minds to cross-border efforts to achieve regulatory consistency as much as possible. All of these issues have solutions, however they will require the active support and cooperation of a range of global stakeholders – regulators, market participants and infrastructure providers.

The Roadmap seeks to enable data to be aggregated across jurisdictions, in order for a global data set to be realized for what is a global market in nature. **In order to achieve this goal, a number of critical milestones need to be met:** including (a) a shared, public commitment to global convergence on harmonized reporting requirements, (b) greater regulatory endorsement of data standards and formats already in use, (c) the removal of barriers to sharing information across trade repositories and borders, (d) increased availability of substituted compliance, (e) promotion of inter-operability and connectivity between trade repositories, and (f) the designation of leaders to drive the mechanism for global data aggregation. Their details are as below.

Recommendations 2-4:

a. Shared, public commitment to global convergence on harmonised reporting requirements
Securities regulators are encouraged to review whether their reporting requirements are harmonized, and consistent within and across jurisdictions, and undertake regulatory reforms if they are not.

b. Greater regulatory endorsement of data standards and formats already in use
Regulators are encouraged to embrace standards for derivatives reporting, and those that have not yet deployed their rules should avoid introducing unique requirements.
   - Requirements should be as precise and prescriptive as possible, which will avoid ambiguity in achieving compliance
   - There should be an effort to perform a robust cost-benefit analysis before requiring a

reporting or disclosure regime.

- It is also important to espouse to the market the additional benefits beyond merely satisfying compliance obligations when implementing a reporting regime. Additional benefits can accrue, such as being able to enhance the transparency of pricing, or being able to utilize data for internal modeling, either for counterparty or risk or trading strategy purposes.

c. The removal of barriers to sharing information across trade repositories and borders
Regulators are encouraged to review whether current regulations hinder sharing information across borders, and undertake reforms if they do.

d. Increased availability of substituted compliance
Regulators are strongly encouraged to defer to each other's regulatory regimes where their intended outcomes are consistent by adopting equivalence decisions, which allows a multi-jurisdictional reporting obligation for a transaction to be discharged once, in a jurisdiction of the reporting entity's choice. Regulators with a mandate to access the data for a transaction should obtain that information from that single report.

e. Promotion of inter-operability and connectivity between trade repositories
Regulators are encouraged to review the level of inter-operability between trade repositories and promote and incentivise the sharing of data.

f. Greater cross-border regulatory focus on global aggregation mechanisms
Regulators are encouraged to leverage cooperation with other authorities to achieve their objectives: both for sharing lessons learnt, as well as sharing data by designating jurisdictional, regional and global leaders to spearhead the aggregation effort.
    - Removal of barriers to sharing data & information between regulators

These objectives cannot be achieved at the individual jurisdiction level, and require global collaboration, coordination and engagement. The active support and cooperation of a range of stakeholders – regulators, market participants and infrastructure providers – is vitally important to making this a reality. Only through implementing the above measures can be the goal of transparency truly be achieved

2-5. Fund Services

a) Regulatory transparency

In an era where more investors are investing for retirement income and can benefit from the diversity of funds offered by fund passport initiatives like the Asia Region Funds Passport, managing the industry costs is important to facilitate these investors' activities. In those economy currently relying on email or other manual process, a regulator-supported funds back-office processing utility can take the form of a centralized digital network that connects the fund industry's participants for more effective electronic exchange of information. It can improve industry cost efficiency and reduce operational risks to benefit asset managers and their investors. For cross-border fund investments, interoperability among such utilities can facilitate the industry's more effective compliance on reporting and investor transparency regulatory needs. Additionally, barriers to fund passport participation can be lowered due to the reduction of administration, operational and regulatory reporting complexities - and thus, contribute to the investment fund industry's development.

<Case Study>

- Common regulatory arrangements for fund passport regimes such as the ASEAN CIS, China-HK MRF, APEC ARFP, etc.

Recommendation 2-5a: Based on the ASEAN CIS experience, securities regulators are encouraged to set highly standardized registration process for funds between passporting economies, in order to ensure that benefits of streamlined regulations are felt by the market. The case of China-HK MRF shows that attractiveness of the product is key in promoting passport scheme, and that large-scale funding for pilot funds received a lot of attention from the industry.

b) Standardization and harmonization

Standardization between business processes will be essential for the automation and efficiency of fund services. Fund services are especially highlighted for cross-border trading, because fund operators, distributors, registrars, administrators, and custodians located in different jurisdictions have to seamlessly connect their line of services without compromising the product's attractiveness.

Amid the call to better understand different fund services in the region and develop recommendations for standardized practices, a consultative body of CSDs was established under the name of Asia Fund Standardization Forum (AFSF) in 2015. However, it will be important to note that standardization activities will only have meaningful impact if industry-wide implementation is encouraged on the regional scale, as failure to do so will result in a development of multiple standards that are not harmonized.

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- Establishment and activities of the AFSF

Recommendation 2-5b: Responsible authorities are encouraged to support for the activities of AFSF. Harmonization can be achieved in many parts of the business process (usage of same fund codes or message formats, required information for fund products by regulators or market players, account opening forms, KYC process, etc.) Standardization in the terminology used between fund markets will be essential for market players to communicate effectively for cross-border transactions.

c) Infrastructure inter-operability

Fund services are an integral part of the investment fund business as an infrastructure that supports back-office processing and execution of order, and their service scope encompass account ownership management, order routing, trade confirmation, corporate action, fund balance record-keeping, and settlement. The importance of fund services is accentuated when fund markets mature, as the plateauing of revenue growth from asset management urge companies to turn their attention to margin protection, efficiency, and speed. Although fund services conventionally relied on manual intervention, they are moving towards automation and STP, which can promote economies of scale, scalability and inter-operability.

Despite the need to integrate fund services for cross-border flows, efforts are often hindered by vastly disparate practices, absence of a market standard and prevalence of proprietary systems found across the region. In this regards, an interesting solution surfacing is the adoption of centralized fund hubs that interconnects the domestic market, streamlining the many-to-many communication between diverse players. As is often the case, CSDs are in a good position to invest in infrastructure projects for the entire market, providing a level-playing field for large asset management companies and SMEs alike. In the longer term, such local platforms can help increase investors' access to less globalized markets and open the door for service linkage between multiple markets, thereby accelerating fund market integration.

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- Centralized fund platforms in Asia (Korea: FundNet, Taiwan: FundClear, Indonesia: S-INVEST, Thailand: FundConnext, etc.).
- Korea: A centralized digital network called the FundNet was developed by the KSD in 2004, linking every fund market player in Korea. Market players can send trade/

settlement orders by logging into the FundNet interface, which sends the information to all relevant parties on STP technology without having to rely on manual methods. Vastly improved operational efficiency has driven market development and daily operating volume for the fund business has jumped by 17 times from 2005 to 2016, from 0.14mn to 2.6mn trade messages. Cost saving effect in the industry due to FundNet is estimated to be USD 67mn per year (KPMG Strategic Consulting Group, Dec.2013).

- Thailand: Faced with the challenges of excessive manual processes and spaghetti-like connection between market players, the SET developed a platform called the FundConnext in 1Q 2017 to drive industry development. As an outcome of close collaboration with the regulator and industry members, FundConnext standardizes many aspects of business practices in the Thai fund market, including account opening, KYC, and NAV disclosure, and facilitates the STP messaging between market players.

Recommendation 2-5c: Regulators are encouraged to support for the development of fund platforms led by infrastructure providers. The recent case of Thailand's platform is a good illustration of constructive cooperation between the regulator, CSD, and the market.

d) Comprehensive statutory understanding

When financial market infrastructure projects are envisaged, they need to have commercial viability. Where the retail market is involved, there needs to be continued focus on investor education and to provide investors with sufficient transparency to make informed decisions

There also should be provisions for the instances where the mechanisms do not work as planned. For example, there must be a clear, well-defined dispute mechanism – which, for example in the cross-border context, might include using an agent. All infrastructure projects should be run with an entrepreneurial spirit

3. APEC Roadmap on Data Management and Technology

3-1. FMI Fintech

In the coming year, APFF FMI Fintech Substream will continue its focus on defining best practices and laying the groundwork for capacity building in three areas identified by the group in the APFF 2016 Progress Report, namely Know Your Customer (KYC), E-Payments, and Cybersecurity.

a) Know Your Customer

Identity is a baseline for participation in the formal financial system. Approximately, 1.5 billion people around the world do not have an officially recognized document to prove their identity; many of whom live in emerging markets in across APEC. A government-issued ID is often essential for people to bank and transact – but biometrics, mobile phones, and data enable new ways to open up access and participation.

Classical forms of identity provisioning struggle to reach underserved populations, contain clear security vulnerabilities, and cannot be verified remotely. Several governments across APEC and other regions are piloting digital identity programs that would provision a digital identity credential that can be linked to biometrics. These digital ID platforms are scalable, as the information does not require a physical card or even physical presence to be provisioned and utilized.

Digital IDs can be linked with electronic forms of know-your-customer (e-KYC) verification mechanisms. A secure Digital ID Application Programming Interface (API) enables private sector entities to match identity data they have against the government database; enabling a seamless and instantaneous know-your-customer process. These remote instantaneous verification procedures could enable financial services (alongside several other services) to be delivered on a far broader scale an in a more efficient manner to promoted economic development in the APEC region.

Recommendation 3-1a: APEC Finance Ministers and responsible authorities are encouraged to support for the following initiatives of APFF FMI Fintech Substream;

- Conducting a review of the current Digital ID and e-KYC initiatives being rolled out in several APEC member economies
- Analyzing Digital ID and e-KYC initiatives being conducted outside the region to document best practices that could be leveraged within the APEC region
- Focusing its analysis on solutions that are interoperable at least, and harmonized at best, in order to promote economic integration among APEC member economies in Fintech KYC developments
    - For example, the APEC Travel Card could be looked at as an example of a regional identity credential that could be replicated in the Digital ID context

b) E-Payments

Payments form the core of the financial services ecosystem. People, regardless of income level, location, and education, engage in payments transactions. Currently, 85% of the world's payments transactions occur in cash. In certain parts of Europe, however, more than 85% of payments transactions are electronic. Electronic payments (e-Payments) help to lower transaction costs, increase transparency, and make transfers of money faster and more efficient. Consequently, APEC member economies would benefit tremendously from further digitizing cash payments.

Payment card solutions are rapidly proliferating throughout the APEC region and the mobile smart phone is also being leveraged to move APEC economies towards a cashless society. There are over 5 billion mobile devices in the hands of consumers around the world. New electronic payment solutions that leverage the mobile device are being rapidly developed. The inter-operability and regulatory requirements associated with these new solutions is currently a challenge for the APEC ecosystem that APFF FMI Fintech Substream can help to address.

There are a multitude of players currently introducing solutions for electronic payments including governments, banks, card networks, mobile operators, and pure technology companies. There is a divergence between e-Payments solutions that leverage telephone networks and those that leverage the Internet. There are also divergent standards for payment solutions leveraging the mobile phone itself. Finally, there are differences in how mobile and card based solutions interact. From a regulatory perspective, some e-Payments solutions serve as a pass through for traditional payments rails, other payments solutions store value, while still others operate outside of the traditional ecosystem. Each of these solutions pose different regulatory and consumer risks for APEC member economies.

Recommendation 3-1b: APEC Finance Ministers and responsible authorities are encouraged to support for the following initiatives of APFF FMI Fintech Substream;

- Exploring whether there are inter-operability concerns that exist in the APEC e-Payments ecosystem and whether APFF can make recommendations on how to resolve those concerns
- Seeking to create a primer on e-Payments in the region
    - Seeking to diagram the e-Payments landscape so that the multitude of actors, solutions, and risks across the APEC region is more easily understood
    - Creating a set of definitions to help guide policymakers in understanding the e-Payments landscape
    - Making recommendations on regulatory frameworks for e-Payment solutions based upon the varying risks that they pose, with the best possible accounting for varying market conditions in APEC member economies

c) Cybersecurity

The digitization of financial services is coupled with the onset of new cyber-risks. Securing against those risks should be the goal of both the public and private sector in APEC. Issues related to cybersecurity extend beyond Fintech. Therefore, the FMI Fintech Substream will coordinate its work with the perspectives from Disruptive Technologies / new FMI-like entities. The risks associated with cybersecurity are not well or uniformly understood by policymakers across the APEC region. The solutions to these new risks can be equally challenging to comprehend. Moreover, the role of policy and regulation for APEC member economies in cybersecurity is a tremendous challenge as technology shifts rapidly and fixed regulatory requirements might lead bad actors to attack vulnerabilities that were not within the purview of specific regulation.

The major vulnerability associated with Fintech is the multitude of new actors it brings into the financial services ecosystem and the linkages created between these new actors and in some cases their interaction with established financial institutions and systems in APEC. Fintech technologies such as tokenization, however, limit the cyber risks of these new actors by encrypting transactions and only passing along tokens instead of actual financial information. The password is another security vulnerability that has been proliferated by Fintech, creating opportunity for cyber-criminals to seek password credentials to take over accounts. At the same time, new Fintech solutions such as biometric and multi-factor authentication are helping enhance security by reducing reliance on passwords.

A cybersecurity ecosystem for APEC can only be as strong as its weakest link. And, that is why policymakers in APEC are interested in creating baseline cybersecurity requirements for participants in the Fintech ecosystem. The challenge with this approach, however, is that by setting a baseline for cybersecurity, APEC policymakers risk encouraging complacency in the ecosystem. Moreover, setting a baseline for cybersecurity among APEC member economies also risks highlighting for bad actors where the vulnerabilities lie. Policymakers must utilize more dynamic and flexible regulatory frameworks when approaching Fintech cybersecurity that will best protect the ecosystem in the APEC region.

Recommendation 3-1c: APEC Finance Ministers and responsible authorities are encouraged to support for the following initiatives of APFF FMI Fintech Substream;

- Creating a typology of cybersecurity risks in the fintech ecosystem
- Engaging in research and analysis of emerging cybersecurity solutions and share those learnings with stakeholders
- At public-private forums discuss its findings on cybersecurity risks and solutions and advocate how identified best practices can be adopted throughout the APEC ecosystem, without regulatory technology mandates wherever possible

3-2. Disruptive Technologies / new FMI-like entities

New so-called disruptive technologies provide tremendous opportunities for financial market infrastructures and market participants to operate more efficiently, better service public and private sectors, increase and simplify access to financial data and products.

Disruptive technologies such as distributed ledger technologies, robot-advisers or artificial intelligence bring promises of better data management, faster access to data and cost reduction for the usage of that information for the benefits of a growing financial product customer base through digitization.

These new technologies however also bring risks such as:

- technological and operational risks due to their lack of maturity,
- fragmentation risks due to a lack of technical and data standardization for mainstream and cross-border usage,
- cybersecurity and data confidentiality risks,
- legal risks considering the existing regulatory uncertainty around their use, especially for cross-border activities, and the legal protections that are available (particularly in a consumer context).

Recommendation 3-2a: Financial Market Infrastructures should experiment and contribute to the research and development exercise required to overcome the maturity challenge. They should work collaboratively with regulators, the financial industry and the broader public sector. Such collaborative experimentation is important not only to contribute to maturing these technologies further but also to better understand them, ensure focus on the right problems to be solved and identify as well as understand the risks. It also helps getting the necessary buy-in for when an implementation decision needs to be taken.

Recommendation 3-2b: Regulators and FMIs also need to collaborate across markets to agree on harmonized domestic legal frameworks supporting the implementation of such new technologies and ensure cross-border regulatory certainty.

Standardization, both at technical and business data level, needs to be considered from the start to ensure inter-operability both at domestic and cross-border level, inter-operability between other implementations as well as with legacy systems and processes who will not disappear overnight. Leveraging existing reference data standards (Legal Entity Identifier, ISIN, etc.) and business standards such as ISO 20022, but also supporting collaborative open source initiatives such as the Hyperledger project, should be utilized rather than reinventing the wheel.

In this context, Cyber security will also need to be considered from the outset where collaboration will also be needed. Leveraging new technologies around fraud identification and attack prevention will also be critical to ensure the most modern and efficient solutions are implemented.

III. CONCLUDING SUMMARY

(DRAFTING)

ANNEXES

Attachment A: List of FMI Cross Border Practice Roadmap Core (large) group Institutions and Participants

Institution (abbreviation)	Name	Title	Tele-conferences & emails	Seoul Symposium	Joint session with ABMF
Asian Development Bank (ADB)	Jae-Hyun Choi	CSIF Consultant	X	X	X
	Taiji Inui	ABMF Consultant			X
	Shigehito Inukai	ABMF Consultant			X
	Kosintr Puongsophol	Financial Sector Specialist	X		
	Matthias Schmidt	Custody Business Specialist (Consultant)			X
	Satoru Yamadera	Director, Principal Financial Sector Specialist , Office of the Director General, Sustainable Development & Climate Change Department	X	Panelist	X
Asia Facilitators	Robert Edwards	Managing Director		X	
Asia Securities Industry & Financial Market Association (ASIFMA)	Ashley Lee	Manager, Policy and Regulatory Affairs	X		
Autoriti Monetari Brunei Darussalam	Shaw Fhen Lim	Senior Manager, Payment & Settlement Systems Unit			X
	Md Kamrizan Antin	Manager, Payment & Settlement Systems Unit			X
Australian APEC Study Centre	Ken Waller	Director		X	
Australian Securities and Investments Commission (ASIC)	Rhonda Luo	Senior Specialist, Market Infrastructure		Panelist (Skype)	
Bain & Company Southeast Asia	Thomas Olsen	Partner		Panelist	
Banchile Inversiones	Hernán Arellano Salas	Gerente General (CEO)	X		
	José Antonio Díaz	Gerente de Inversiones (head of equities)	X		
Banco de Chile	Francisco Garces	Member of the Board		X	
Bangko Sentral ng Pilipinas	Bella Santos	Director, Payments and Settlements Office			X
	Remedios Macapinlac	Payments and Settlements Office			X
	Eleanor Turaray	Deputy Director, Payment and Settlement Systems Dept.			X
Bankers Association of the Philippines	Cesar O. Virtusio	Managing Director			X
	Pinky Padronia	Senior Associate Director			X
Bank of Japan	Megumi Takei	Deputy Director, Payment and Settlement Systems Dept.			X
Bank of Indonesia	Jultarda Hutagalung	Senior Analyst/Assistant Director, Payment System Management Department			X
	Noviati	Assistant Director, Payments System Policy & Oversight Dept			X
The Bank of Korea	Nayeon Park	Manager, Payment and Settlement Systems Department			X
	Jaeho Yoon	Manager, Payment and Settlement Systems Department		Panelist	
The Bank of Lao PDR	Sengouthai Dalat	Officer, Lao Securities Commission Office			X
	Sengthavong Luanglath	Head Division, Information Technology			X
	Nakhonsy Manodham	Deputy Secretary General, Lao Securities Commission Office			X
Bank of New York Mellon	Eric Ching	Director, Asset Servicing			X
	Hyeng Kyun Kim	Vice President		X	
	Rebecca Terner Lentchner	Co-Sherpa of APFF FMI, Head of Government Relations APAC, BNY Mellon	Co-Sherpa	Moderator	
	Tony Smith	Head of Collateral Management, Asia Pacific		X	
The Bank of Tokyo-Mitsubishi UFJ, Ltd.	Hiroaki Okumura	Chief Manager, Transaction Services Division			X
Bloomberg	Pablo Casaux	Latin America (ex-Brazil) Head of Market Structure Strategy, Head of Government, Institutional, Capital Markets and Strategic Relations, Capital Markets Structure Development and Regulatory Strategist	X		
	Claus Kwon	Head of Market Structures & Strategy and Contributions	X	X	
	Sudipto Lahiry	Manager, Core Product			X
	Rosanna Tejano	Branch Manager, Sales (Philippines)			X
Bolsa de Santiago	Juan Andrés Camus	Chairman, Santiago Stock Exchange	X		
	Nicolás Almazán	Chief Planning and Development Officer	X		
Bolsa de Valores de Colombia	Estefania Molina Ungar	Advisor to the CEO	X		
Bureau of the Treasury (Philippines)	Ma. Nanette Diaz	Director III, Liability Management Service			
	Tyrone Val Brotarlo	Attorney V, Law and Litigation Division – Legal Service			X
	Alvin Esmade	Special Investigator III, Securities and Documentation Division, Legal Service			X
	Harvey Juico	Legal Officer I, Securities and Documentation Division, Legal Service			X
	Kathleene Joyce Ramirez	Legal Officer I, Securities and Documentation Division, Legal Service			X
	Philsaint Bantang	Legal Officer I, Securities and Documentation Division, Legal Service			X
	Dennis Madrigal	Attorney V, Law and Litigation Division – Legal Service			X
	Gemmalyn Oaferina-Aguanta	Special Investigator III, Law and Litigation Division – Legal Service			X
	Anastacio Jeramieh John R. Caoayan IV	Legal Officer I, Complaints and Investigation Division – Legal Service			X
	Van Hudson J. Valiente	Legal Officer I, Complaints and Investigation Division – Legal Service			X
	Kamae Romorosa	Technical Assistant, Legal Service			X
The Central Bank of Russia	Vladimir Shapovalov	Head of expert group in financial markets development department		Panelist	

Institution (abbreviation)	Name	Title	Tele-conferences & emails	Seoul Symposium	Joint session with ABMF
China Central Depository & Clearing Co., Ltd. (CCDC)	Shixuan Gao	Business Manager, ChinaBond Pricing Center			X
	Tianhui Gao	Business Manager, CCDC Collateral Management Service Center			X
	Chen Li	Specialist, Technical Planning Department			X
Citibank	Catherine Simmons	Managing, Director, Head Asia Pacific Government Affairs		Panelist (Skype)	
	Tiffin Tanseco	Senior Vice President/Product Head, Markets & Securities Services			X
	Cheeping YAP	Head of Custody and Fund Services, Asia Pacific		Panelist	
	Laura Winwood	Government Affairs, Asia Pacific	X		X
Clearstream Banking S.A	Victor Ng	Vice President, Relationship Management (North Asia)			X
Credit Guarantee and Investment Facility	Munho Choi	Senior Investment Specialist, Deal Operations Department			X
	Dong Woo Rhee	Chief Financial Officer, Treasury and Financial Control Department			X
	Gene Soon Park	General Counsel & Board Secretary, Legal Department			X
	Jaclyn Tan	Senior Legal Officer, Legal Department			X
	Jackie Bang	Internal Audit			X
	William Rhee	Senior Legal Specialist, Legal Department			X
	Annlyn Wong	Risk Management Officer, Risk Management Department			X
	Guillermo Pablo III	Risk Management Specialist, Risk Management Department			X
	Sophia Baesa	Senior Risk Management Officer, Risk Management Department			X
	Paula Arjonillo	Risk Management Specialist, Risk Management Department			X
	Aarne Dimanlig	Chief Risk Officer, Risk Management Department			X
Department of Finance (Philippines)	Aaron Ang	Economist, International Finance Group			X
	Al Rillon	Economist, International Finance Group			X
	Cheryl Caballes	Economist, International Finance Group			X
	Ferdinand Ortilla	Economist, International Finance Group			X
	Herminio Runas Jr.	Director, International Finance Group			X
Deutsche Bank AG	Sang-Joon Park	Head of Investor Services, Seoul		Panelist	
	Boon-Hiong Chan	Co-Sherpa of APFF FMI, Director, Head of Market Advocacy APAC, MENA, Deutsche Bank	Co-Sherpa	Moderator	X
	Cherine Yeo	Assistant Vice President, Market Advocacy APAC, MENA	X		
Deloitte Tohmatsu	Taketoshi Mori	Senior Manager, Advisory			X
	Daisuke Kuwabara	Partner, Advisory			X
The Depository Trust & Clearing Corporation (DTCC)	Nellie Dagdag	Managing Director, Global Industry Relations, Sales & Solution Delivery (Philippines)			X
	Jean-Remi Lopez	Director of Government Relations for Asia Pacific	X	Symposium Rapporteur	X
	Oliver Williams	Executive Director, Head of Product and Change Management, Asia Pacific, DTCC DerivServ		Panelist	
	Evelyn Valdez	Industry Relations Specialist, Sales & Solution Delivery			X
	Paul Marchant	Regional Product Manager, Product Management			X
	Nigel Gnoh	Business Development Manager, Business Development			X
	John Elmer Portugal	Business Development Executive, Sales			X
EquiChain	Hugh Madden	CTO		Panelist (Skype)	
Ernst & Young Solutions	Amy Ang	Partner, Financial Services Tax	X	Panelist	
Euroclear	Gaetan Gosset	Director, Head of Product Management Asia Pacific	X	Moderator	X
Federation of Korean Industries	Chi-Sung EOM	Deputy Secretary General, Head of International Cooperation Department		Host and Presenter	
Financial Services Agency	Tai Terada	Deputy Director		Presenter and Panelist	
Financial Supervisory Service (FSS) (Korea)	Hyung-joon Yoon	Lead Manager, Corporate Disclosure System Office/Securities Issue System Team			X
Fundacion Chilena del Pacifico	Loreto Leyton	Directora Ejecutiva	X		
Global Financial Markets Association (GFMA)	Paul Hadzewycz	Senior Associate	X		
The Hong Kong-APEC Trade Policy Study Group Limited	Kristine Yang	Consultant			X
Hong Kong Exchanges and Clearing Limited (HKEx)	Kevin Rideout	Managing Director, Market Development Division		Panelist	
	Bernie Kennedy	Senior Business Advisor, COO Office		Panelist	
Hong Kong Monetary Authority (HKMA)	Clarence Hui	Senior Manager, Financial Infrastructure Department			X
HSBC	Soon Hyok An	Senior Vice President, Head of Trustee		X	
	Kyung Hee Yu	Senior Vice President, Head of Direct Custody,		X	
Hunter Powell Investments	Tenby Powell	Member, ABAC (New Zealand) Director; Hunter Powell Investments		X	
International Capital Market Association (ICMA)	Mushtaq Kapasi	Chief Representative, Asia-Pacific	X	Moderator	
International Finance Corporation	Matthew Gamser	CEO, SME Finance Forum		Panelist	
	Griselda Santos	Senior Financial Sector Specialist, Finance and Markets			X
International Monetary Fund (IMF)	Manmohan Singh	Senior Financial Economist		Panelist (Skype)	
International Swaps and Derivatives Association (ISDA)	Keith Noyes	Regional Director, Asia Pacific	X	Panelist	
	Rishi Kapoor	Director, Policy, Asia-Pacific	X	Moderator	
	Hyelin Han	represent ISDA for Regulatory Perspectives (FMI)	X		
Iron Duke Partners	Phil O'Reilly	Managing Director		X	

Institution (abbreviation)	Name	Title	Tele-conferences & emails	Seoul Symposium	Joint session with ABMF
John Hopkins SAIS	Beth Smits	Doctoral Candidate	Co-Sherpa	Moderator	
JP Morgan Chase Bank N.A	Masayuki Tagai	Managing Director, Global Market Infrastructures	X		X
Japan Exchange Group (JPX)	Hitoshi Izumi	Head Global Strategy & Communications, Global Strategy	X		
	Andrew Wong	Manager	X		
	Koji Ito	Senior Officer, New Listings, Tokyo Stock Exchange, Inc. (SF1 Chair)			X
	Michiaki Shinohara	General Manager, New Listings, Tokyo Stock Exchange, Inc.			X
Japan Securities Depository Center, Incorporated	Yuji Sato	Senior Manager, Corporate Strategy Department			X
Korea Exchange (KRX)	Seo Yeon Park	Deputy Manager		X	
Korea Financial Investment Association (KOFIA)	Dongchul Shin	Director		X	
	Sung Yang	International Advisor		X	
	Seo Hee (Hanni) Kang	Manager		X	
Korea Securities Depository (KSD)	Kwansig Yoon	Director, Fund Business Department		X	
	Seung-Kwon Lee	Team Head, Global Business Department			X
	JH Park	Team Head, Fund Business Department		X	
	Jong Hyung Lee	(SF2 Chair) Director, Global Business Department			X
	You Na Im	Senior Manager, Fund Business Department		X	
	Sunny Chung	Assistant Manager, Fund Planning Team, Fund Business Dept.,	X	Moderator and MC	
Malaysia Digital Economy Corporation (MDEC)	Hao Yang Siew	Fintech Division			X
Melbourne Law School	Andrew Godwin	Associate Professor; Director of Transactional Law; Director of Studies for the Graduate Program in Banking and Finance Law; Associate Director of the Asian Law Centre,		Panelist	
Metropolita Bank and Trust Company	Ferdinand Antonio Tansingco	Head, Financial Markets Sector and Treasurer			X
Ministry of Economy & Finance (Cambodia)	Vannak Chou	Deputy Director General, General Dept of Financial Industry			X
	Lida No	Head of Financial Sector Integration Div., Financial Markets & Institution Dept			X
Ministry of Finance Republic of Indonesia, Fiscal Policy Agency	Budi Arif	Head of Subdivision for Banking and Financing, Center for Financial Sector Policy, Fiscal Policy Agency		X	
	Vincentius Krisna Juli Wicaksono			X	
	Gandy Setiawan	Deputy Director, ASEAN Economic and Finance Cooperation Division			X
	Sepriza Triasanditya	Desk Manager for Non Finance Forum of ASEAN and Partners, ASEAN Economic and Finance Cooperation Division			X
Ministry of Finance, Japan	Daisuke Kasai	Section Chief, Regional Financial Cooperation Division, International Bureau			X
	Yuji Shimode	Officer, Regional Financial Cooperation Division			X
Ministry of Finance, Lao PDR	Chanpasith Sengphaathith	Deputy Director of Division, International Economic Integration			X
	Zamountry Dalaphone	Technical Official, International Economic Integration			X
Ministry of Strategy and Finance (Korea)	Yongjun Lee	Deputy Director, Financial Cooperation Team			X
Mizuho Bank, Ltd.	Koji Kawase	Senior Manager, Global Products Coordination Department			X
National Bank of Cambodia	Dara Chea	Chief Section, Payment System Department			X
	Sarat Ouk	Director, Payment System Department			X
New Zealand International Business Forum/ABAC NZ	Stephanie Honey	Associate Director		X	
Nomura Research Institute (NRI)	Hiroyuki Suzuki	Chair, APFF; Member, ABAC (Japan) Vice Chairman, NRI		APFF Chair	
	Julius Caesar Parreñas	APFF Coordinator; Senior Advisor	APFF Coordinator	X	X
	Ken Katayama	Co-Sherpa of APFF FMI; Senior Researcher, NRI	Co-Sherpa	Presenter and Moderator	Session Chair
Nomura Research Institute Singapore, Manila Branch	Soleil Corpuz	Senior Business Analyst, Consulting Division			X
	Rose Ferrer	Consultant, Consulting Division			X
NTT DATA Corporation	Masao Oumi	Senior Manager, Business Strategy Dept., Financial Segment			X
NTT DATA Institute of Management Consulting	Masahiro Nishihara	Senior Manager, Financial Business Planning Consulting			X
NTT DATA SYSTEM TECHNOLOGIES Inc.	Reiko MATSUMOTO	Application Engineer, System Planning Development Group / BOJ IT Services Division			X
	Naotaka SHIBASAKI	Senior Manager, System Planning Development Group / BOJ IT Services Division			X
	Yoshiaki Wada	Senior Manager, BOJ IT Services Division			X
	Daisuke YACHI	Manager, System Planning Development Group / BOJ IT Services Division			X
O-bank	Graham Wang	Assistant Vice President		X	
	Willy Hsieh	Associate		X	

Institution (abbreviation)	Name	Title	Tele-conferences & emails	Seoul Symposium	Joint session with ABMF
The Pan Asia Securities Lending Association (PASLA)	Stuart Jones	Chairman, PASLA; Executive Director, Morgan Stanley		Panelist	
	Paul Solway	Managing Director	X		
PayPal	David Katz	Sherpa of APFF FMI Fintech; Deputy Head of Global Government Relations & Head of Asia Pacific Government Relations, PayPal	Sherpa for FMI Fintech	Presenter and Moderator	
PDS Group	Cesar Crisol	President & CEO			X
	Antonino Nakpil	President & COO			X
	Ma. Theresa Ravalo	President & COO, Philippine Depository & Trust Corp / Phil Securities & Settlement Corp			X
	Eleanor Rivera	Head of Market Regulatory Services			X
PT Kustodian Sentral Efek Indonesia (KSEI)	Aditya Kresna Priambudi	Head of Project Management Unit, Project Management			X
	Mohammad Awaluddin	Head of Account Management Unit, Account Management			X
Public Debt Management Office (Thailand)	Puttipong Kanna	Economist, Bond Market Development Bureau, International Bond Market Policy Division			X
	Sriarpa Phoomiwatthana	Senior Economist, Bond Market Development Bureau, International Bond Market Policy Division			X
	Oraporn Thomya	Director Of International Bond Market Policy Division, Bond Market Development Bureau, International Bond Market Policy Division			X
Securities and Exchange Commission of Cambodia	Sambath Chhun	Deputy Director General			X
	Rady Mok	Head of Division, Research, Training, Securities Market Development, and IR Department			X
Securities and Exchange Commission (SEC) (Philippines)	Ephyro Luis AMATONG	Commissioner			X
	Vicente Gracianio Felizmentio, Jr.	Director, Markets & Securities Regulation Dept			X
	Erwin Edward Mendinueto	Chief Counsel, Markets & Securities Regulation Dept			X
	Allysa Ayochok	SEC Examiner III, Markets & Securities Regulation Dept - Investments Products & Services Div.			X
	Krizia Pauline Felice Ferrer	SEC Examiner III, Markets & Securities Regulation Dept - Investments Products & Services Div.			X
	Rosamund Faye Melig	Securities Specialist I, Markets & Securities Regulation Dept - Markets & Intermediaries Div			X
	Melanie Garcia	Accounting Specialist, Markets & Securities Regulation Dept - Markets & Intermediaries Div			X
Securities and Exchange Commission (Thailand)	Kruaonn Tontyaporn	Assistant Director, Bond Department			X
Standard Chartered Bank Singapore	John Pilott	Global Head of Regulatory Operations, Financial Markets		Panelist	
The Stock Exchange of Thailand	Kitti Sutthiatthasil	Senior Vice President		Panelist	
SME Finance	Hye Ji Kim	Research Officer		X	
Sumitomo Mitsui Banking Corporation	Hiroshi Kawagoe	General Manager, Transaction Business Planning Dept.			X
SuperCharger & HKU University	Jano Barberis	Founder of Supercharger / PhD Candidate at HKU Law School, Law			X
SWIFT	Alexandre Kech	Head of Securities & FX Markets	X	Moderator	
	Jean Chong	Manager, Securities & FX Markets			X
	Lisa O'Connor	Head of Standards, APAC (APAC Standards)			X
	Simona Catanescu	Account Director, ASEAN			X
ABAC APFF -Sycip Gorres Velayo & Co. (SGV & Co.)/ Ernst and Young Manila	Christian Lauron	Partner, Financial Services - Advisory			X
	Christian Chua	Senior Director, Financial Services - Advisory			X
	Veronica Arce	Senior Director, Financial Services			X
	Vicky Lee-Salas	Partner, Financial Services Head (Financial Services)			X
Thai Bankers' Association	Kobsak Dungdee	Secretary General			X
The Thai Bond Market Association	Ariya Tiranaprakij	Senior Executive Vice President, Bond Market Operation			X
Thailand Securities Depository Co., Ltd	Pataravasee Suvarnsorn	Executive Vice President - Head of Market Operations Division			X
	Praphaphan Tharapiwattananon	Vice President-Head of Depository Department			X
Thomson Reuters	Daniel Warelis	Government and Regulatory Affairs			X
Visa (Philippines)	Dan Wolbert	Senior Director, Philippines Country Team			X
	StuartTomlinson	Country Manager, Philippines Country Team			X
Visa (Korea)	Kevin Kyungil Cheong	Senior Director		X	
Visa (Singapore)	Arvin SINGH	Director, New Channels (Digital Products)			X
			34	60	135

Seoul Symposium Host/Supporting Institutions

Institution (abbreviation)	Name	Title
Federation of Korean Industries	Chul Han "Alex" Park	Head of Global Economy Team
	Jong-Chan Park	Manager, Global Economy Team
International Marketing Partners	Hyujung Song	President
	Shinhye Hwang	Senior Director

Attachment B: Conference Calls and Meetings

Date	Type	Participants	Issues discussed
29th September 2016	Tele-confernece	Co-Sherpas	Reviewed past discussions and confirmed target (symposium, roadmap)
7th October 2016	Tele-confernece	Co-Sherpas	Agreed on sharing the industry contacts
18th October 2016	Tele-confernece	Co-Sherpas	Discussed focus topics
25th October 2016	Tele-confernece	Co-Sherpas	Discussed focus topics
2nd November 2016	Tele-confernece	Co-Sherpas	Discussed focus topics
25th November 2016	Tele-confernece	Co-Sherpas	Discussed annual work schedule
December 2016	Teleconferences and visits	ADB, BOJ, Euroclear, FSA-J, ICMA, IMF, Jasdec, JPX, PASLA, Zenginkyo,	Inquired joining the initiative
15th December 2016	Tele-conference	Core group members	Discussed format of the symposium, high-level thoughts, and task sharing
11th January 2017	Tele-conference	Core group members	Discussed roles, key messages, groupings, format of the symposium.
17th January 2017	Tele-conference	Santiago Stock Ex	Explained the initiative, discussed the challenges of MILA
18th January 2017	Tele-conference	Bloomberg	Explained the initiative, discussed the challenges of Latin American marke
24th January 2017	Tele-conference	Banchile Inversiones	Explained the initiative, discussed the challenges of Latin American marke
February 2017	Teleconference and visits	EY, FSA-J, HKEx, JPX, SGX	Inquired joining the initiative
8th February 2017	Tele-conference	Core group members	Discussed draft agenda, introduction from participants from Latin America
2nd March 2017	Tele-conference	Core group members	Discussed problem statement, symposium format, speakers, logistics
28th March 2017	Tele-conference	Core group members	Discussed working draft, storyline of sessions at the symposium
11th April 2017	Tele-conference	Core group members	Discussed following up officials, Korean institutions, Initial draft roadmap
25th April 2017	Symposium	Speakers, Guests	Whole day sessions discussing from regulatory issues to technology
26th April 2017	Meeting	Moderators	Discussed revising the roadmap, communication with officials incl. ABMF
26/29 May 2017	Tele-conference	Moderators	Discuss the recommendations to be reflected to the roadmap texts
4th July 2017	Conference	Moderators	Joint session with ABMF (ASEAN+3 officials)

Attachment C: Program of FMI Symposium in Seoul

Asia-Pacific Financial Forum Symposium
DEVELOPING APEC'S FINANCIAL MARKET INFRASTRUCTURE

25 April 2017
Diamond Room, Federation of Korean Industries Conference Center
Seoul, Korea

Organized by
APEC Business Advisory Council

Hosted by
FKI 전국경제인연합회
Federation of Korean Industries

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07:45-08:15	Registration and Networking
08:15-08:45	**OPENING SESSION**
5 mins	***Welcome address*** Mr. Chi-Sung EOM, Deputy Secretary General, Head of International Cooperation Department, Federation of Korean Industries
10 mins	***Opening remarks*** Mr. Hiroyuki Suzuki, Chair, Asia-Pacific Financial Forum; Member, ABAC Japan; and Vice Chairman, Members of the Board, Nomura Research Institute, Ltd.
15 mins	***Keynote speech*** TBD, Korean Government
08:45-10:15	**SESSION A: THE ROLES OF FINANCIAL MARKET INFRASTRUCTURES IN THE REGION AND REGULATORY PERSPECTIVES**
08:45-09:30	**SESSION A-1: PERSPECTIVES FROM REGULATORS** ➢ To establish FMI's key roles in (i) facilitating cost-effective and efficient investments (ii) supporting financial market stability and integrity and (iii) facilitating financial inclusion, fair and equitable competition and innovation. ➢ Contributions to the growth the regions' economy. ➢ What are the countries, regulators and FMI priorities re: FMI 2017+? ➢ How are the goals associated with above (i), (ii) and (iii) being achieved today? ➢ What are the challenges that regulators and public sector face and attempt to balance?
45 mins	***Panel discussion*** Moderator: Ms. Rebecca Terner Lentchner, Co-Sherpa of APFF FMI Head of Government Relations APAC, BNY Mellon Panelists: ■ Mr. Vladimir Shapovalov, Head of Expert Group in Financial Markets Development Department, The Central Bank of the Russia ■ Mr. Kevin Rideout, Managing Director, Market Development Division, Hong Kong Exchanges and Clearing Limited (HKEX)

- Mr. Keith Noyes, Regional Director, Asia-Pacific, International Swaps and Derivatives Association, Inc. (ISDA)

09:30-10:15 **SESSION A-2: PERSPECTIVES FROM INTERNATIONAL ORGANIZATIONS**
- FINANCIAL CRISIS, RISK MITIGATION, EFFICIENCY AND REGIONAL COOPERATION -

- Regional Financial Integration
- G20 regulatory reform and APEC
- Local CCP for OTC derivatives transactions
- Financial Intermediaries and the role of market infrastructure

45 mins ***Panel discussion***
Moderator: Mr. Ken Katayama, Co-Sherpa of APFF FMIs
Senior Researcher, Nomura Research Institute (NRI)

Panelists:
- Mr. Satoru Yamadera, Principal Financial Sector Specialist, Sustainable Development and Climate Change Department, Asian Development Bank (ADB)
- Mr. Manmohan Singh, Senior Financial Economist, International Monetary Fund (IMF), (joining via audio line)
- Mr. Keith Noyes, Regional Director, Asia-Pacific, International Swaps and Derivatives Association, Inc. (ISDA)

10:15-10:35 Coffee Break

10:35-14:50 **SESSION B: FINANCIAL MARKET INFRASTRUCTURES: PROCESS AND INSTRUMENTS**

10:35-11:35 **SESSION B-1: SECURITIES MARKETS: POST-TRADE ECOSYSTEM**

<potential topics to be shortlisted>
- Changing roles of FMIs and the new relationships with market participants and regulators
- Post-trade and its roles in the financial sector - what are the changes?
- Fintech and technology impacts on FMIs - what, how and where? Are regulatory responses sufficient so far?
- Cross-border efficiency and market integration - what are the dismantled barriers and what are the new barriers?
- Main regulatory drivers that have shaped FMI/post-trade ecosystem - what are the new complexities to alleviate?
- What are the areas of potential policy and regulatory adjustments that can catalyse certain positive benefits further / encourage certain innovations?
- What can make this region/Asia/ASEAN capital markets less attractive to investors and domestic capital market activities?
- What are some near-term actionable items that can make the region's capital markets more attractive and/or more resilient that regulators and policy makers can support? E.g. tech re-use, greater automation, etc?

60 mins ***Panel discussion***
Moderator: Mr. Boon-Hiong Chan, Co-Sherpa of APFF FMI,
Director, Head of Market Advocacy, APAC, GTB, Deutsche Bank AG Singapore

Panelists:
- Mr. Satoru Yamadera, Principal Financial Sector Specialist, Sustainable Development and Climate Change Department, Asian Development Bank (ADB)
- Mr. Kitti Sutthiatthasil, Senior Vice President, Head of Strategy Department, The Stock Exchange of Thailand
- Ms. Bernie Kennedy, Senior Business Advisor, COO Office, Hong Kong Exchanges and Clearing Limited (HKEX)
- Mr. Rob Edwards, Managing Director, Asia Facilitators Ltd.

11:35-12:15 **SESSION B-2: NON-RESIDENT ACCOUNTS, TAX, INVESTOR IDENTIFICATION AND TRANSPARENCY**

	➢ Holding structure – legal and operational ➢ Insolvency and asset protection ➢ Transparency mechanisms ➢ Key tax issue that inhibits cross-border flow
40 mins	***Panel discussion*** Moderator: Mr. Gaetan Gosset, Director and Head of Product Management, Asia-Pacific, Euroclear Panelists: ■ Sang-Joon Park, Head of Investor Services Korea, Deutsche Bank ■ Ms. Amy Ang, Partner, Financial Services Tax, Ernst & Young Solutions LLP EY ASEAN and Singapore Leader, Financial Services Tax
12:15-13:15	Lunch
13:15-13:55	**SESSION B-3: INCREASING MARKET EFFICIENCY: ISSUES SPECIFIC TO REPO/LENDING** ➢ Liquid and deep capital markets, with repo/lending functioning well help diversify risk among types of market participants across economies. ➢ Collateral and Monetary policy / capital controls ➢ Collateral in Financial Plumbing- Transparency & short-reporting? Observed need for harmonization of coordinated consistent best practices (Roadmap to have local currency securities as high quality eligible collaterals.) ➢ Effect of international prudential regulation (e.g., Basel) on Asian repo market development and liquidity ➢ Repo documentation in Asia? benefits/drawbacks/feasibility of international standards
40 mins	***Panel discussion*** Moderator: Mr. Mushtaq Kapasi, Chief Representative, Asia-Pacific, International Capital Market Association (ICMA) Panelists: ■ Mr. Stuart Jones, Chairman, The Pan Asia Securities Lending Association (PASLA); Executive Director, Morgan Stanley ■ Ms. Rebecca Terner Lentchner, Co-Sherpa of APFF FMI, Head of Government Relations APAC, BNY Mellon
13:55-14:35	**SESSION B-4: INCREASING MARKET EFFICIENCY: ISSUES SPECIFIC TO DERIVATIVES** ➢ Liquid and deep capital markets, with derivatives functioning well help diversify risk among types of market participants across economies. ➢ Ways to standardize market practices, harmonize reporting standards and inter-operability among TRs. ➢ Harmonization of reporting requirements across jurisdictions ➢ Greater regulatory endorsement of existing standards already in use ➢ Increased availability of substituted compliance ➢ Greater cross-border regulatory focus on global aggregation mechanisms ➢ Connectivity between TRs and alignment of data standards and formats ➢ What are the Derivatives FMI blueprint and next steps?
40 mins	***Panel discussion*** Moderator: Mr. Rishi Kapoor, Director, Policy, Asia Pacific, International Swaps and Derivatives Association, Inc. (ISDA) Panelists: ■ Ms. Rhonda Luo, Senior Specialist, Market Infrastructure, Australian Securities and Investments Commission (ASIC) (joining via audio line) ■ Mr. John Pilott, Global Head of Regulatory Operations, Financial Markets, Standard Chartered Bank Singapore ■ Mr. Oliver Williams, Executive Director, Head of Product and Change Management, Asia Pacific, DTCC DerivServ

14:35-14:50	**SESSION B-5: UPDATE ON THE ASIA REGION FUNDS PASSPORT (ARFP)** ➢ Brief update on ARFP Joint Committee's discussion ➢ Q&A with the floor
15 mins	***Presentation and Q&A*** Moderator: Ms. Sunny Chung, Assistant Manager, Fund Planning Team, Fund Business Dept., Korea Securities Depository (KSD) Speaker: ■ Tai Terada, Deputy Director for International Financial Markets, Office of International Affairs, Financial Services Agency Japan
14:50-15:30	**SESSION B-6: FUND SERVICES** ➢ Definition – Fund services ➢ Synergies between fund investment, fund passports, and fund services ➢ Importance of fund services ➢ Scope of fund processing operations and different models ➢ Emergence of centralized fund platforms in Asia ➢ Standardization efforts and the focus on fund data ➢ Fund Services blueprint next steps
40 mins	***Panel discussion*** Moderator: Ms. Sunny Chung, Assistant Manager, Fund Planning Team, Fund Business Dept., Korea Securities Depository (KSD) Panelists: ■ Mr. Tai Terada, Deputy Director for International Financial Markets, Office of International Affairs, Financial Services Agency Japan ■ Mr. Kitti Sutthiatthasil, Senior Vice President, Head of Strategy Department, The Stock Exchange of Thailand ■ Mr. Cheeping Yap, Managing Director, Custody and Fund Services Head, Asia, Citibank, N.A.
15:30-15:45	Coffee Break
15:45-17:35	**SESSION C: DATA MANAGEMENT AND TECHNOLOGY**
15:45-16:00	**SESSION C-1: DATA MANAGEMENT, TECHNOLOGY AND CYBERSECURITY – AN OVERVIEW** ➢ What are the processes that can change in the future and what are the new risks/costs? ➢ What are the re-usable technology components in FMI such that investment $ can be released for new technology investment areas like cybersecurity
15 mins	***Presentation*** Speaker: ■ Mr. Ken Katayama, Co-Sherpa of APFF FMI, Senior Researcher, Nomura Research Institute (NRI)
16:00-16:15	**SESSION C-2: E-PAYMENTS BRIEF** ➢ E-Payments have a major impact by lowering transaction costs, increasing transparency, and making transfers of money faster and more efficient. ➢ E-Payments can be a driver of economic growth – study of six APEC economies showed 1% increase in online sales resulted in 0.175 increase in GDP. ➢ Government has a big role to play in enabling regulatory regime and as a user of e-payment for government services to drive adoption. ➢ E-Payment increases transparency of economic activity, reducing prospects for corruption, 'black money' and increase in tax revenue. ➢ Where are we now? The current challenges to solve, does bitcoin-like token or sovereign digital currency have a role to play in reducing transaction costs and promoting regional economic integration? ➢ What are the future directions for e-payments?
15 mins	***Presentation***

Speaker:

- Mr. David Katz, Sherpa of APFF FMI Fintech, Deputy Head of Global Government Relations and Head of Asia Pacific Government Relations, PayPal Inc.

16:15-16:55	**SESSION C-3: E-PAYMENTS PANEL DISCUSSION**

- How can cross-border remittance effectively comply with investor asset protection, KYC/AML and restricted currency regulations? The compliance challenges to a regional cross-border investor
- What are the advances in Instant Payment infrastructure and the future of central bank settlement?
- Is there a role for a "crypto-token" for more effective XB trading in a diverse FX region?
- What are the prospects/rationale for APEC central banks to consider adopting distributed ledger technology to issue sovereign crypto currency?
- How should regulators consider balancing benefits of greater transparency of e-payments with expectations for protection privacy?
- What are the risks regulators should be thinking about and how might they approach managing them?
- What are the trends in this space, the new stakeholders in a digitalized financial market ecosystem and how can the region better coordinate and work together?
- What are the key activities for a regional payments FMI blueprint?

40 mins ***Panel discussion***

Moderator: Mr. David Katz, Sherpa of APFF FMI Fintech, Deputy Head of Global Government Relations and Head of Asia Pacific Government Relations, PayPal Inc.

Panelists:

- Mr. Matthew Gamser, CEO, SME Finance Forum, International Finance Corporation
- Mr. Thomas Olsen, Partner, Bain & Company Southeast Asia
- Ms. Catherine Simmons, Managing Director, Head, Asia Pacific Government Affairs, Citibank, N.A.

16:55-17:35	**SESSION C-4: FMI DATA, CYBERSECURITY AND DISRUPTIVE TECHNOLOGIES**

- Exploring the level of collaboration on standardization of the technological layer (R3, Hyperledger Project, IPL) and of the business layer (leveraging of data and business ISO standards)
- Current application of DLT/Blockchain
- Technical management, deterrence, enforcement and recovery. Update on cybersecurity threats to FMIs and cross-border aspects to consider.
- Does the region risk silos of encryptions, encryption complexity, laws/regulations and a new area of complexity (across countries, in different applications/interfaces, etc.)?
- Promotion of LEI for entities and support creating good national personal ID of developing economies.
- What are the trends in this space, the new stakeholders in a digitalized financial market ecosystem and how can the region better coordinate and work together?
- Domestic implementation real story use case: ASX, MAS. Description, what can we learn from these POC or prototype implementations, likely outcome.
- Cross-border implementation real story use cases: ECB pan-European securities Issuance, SWIFT Nostro Account reconciliation, DTCC?
- Inter-operability and standardizations (technical and business layer)

40 mins ***Panel discussion***

Moderator: Mr. Alexandre Kech, Head of Securities & FX Markets, APAC SWIFT

Panelists:

- Mr. Jaeho Yoon, Manager, Payment and Settlement Systems Department, The Bank of Korea
- Professor Andrew Godwin, Associate Professor; Director of Transactional Law; Director of Studies for the Graduate Program in Banking and Finance Law; Associate Director of the Asian Law Centre, Melbourne Law School, University of Melbourne
- Mr. Hugh Madden, CTO of EquiChain (joining via audio line)
- Mr. Jean-Remi Lopez, Director of Government Relations, Asia Pacific, The Depository

Trust & Clearing Corporation (DTCC)

17:35-17:45	**SESSION D: CONCLUSIONS AND NEXT STEPS**	
10 mins	■	Mr. Ken Katayama, Senior Researcher, Nomura Research Institute (NRI)
17:45	End of Symposium	

18:00-20:00	**NETWORKING COCKTAIL RECEPTION** **Venue: FKI Conference Center foyer**

APFF FMI Work Stream Core Group
Post-Conference Special Meeting

26 April 2017
Emerald Room, Federation of Korean Industries Conference Center
Seoul, Korea

07:45-07:55 ***Opening remarks***
- Dr. J.C. Parreñas, APFF Coordinator and Senior Advisor, Nomura Research Institute (NRI)

07:55-08:05 ***Recap of the Symposium***
- Mr. Boon-Hiong Chan, Director and Head of Market Advocacy, Asia-Pacific, Middle East and North Africa, Deutsche Bank AG
- Mr. Ken Katayama, Senior Researcher, Nomura Research Institute (NRI)

08:05-08:25 ***Review of Discussions: Regulatory Perspectives***
- Session Moderators (10 minutes each)

08:25-08:55 ***Review of Discussions: Process and Instruments***
- Session Moderators (5 minutes each)

08:55-09:15 ***Review of Discussions: Data Management and Technology***
- Session Moderators (5 minutes each)

09:15-09:40 ***Next Steps to Finalize Roadmap***
- Identification of issues to discuss in July ABMF session
- Logistical considerations

09:40-09:45 ***Closing remarks***
- Mr. Hiroyuki Suzuki, Chair, Asia-Pacific Financial Forum; Member, ABAC Japan; and Vice Chairman, Members of the Board, Nomura Research Institute, Ltd.

09:45 End of Meeting

Some of the conference materials could be downloaded from ABAC Web site:

https://www2.abaconline.org/page-content/22613667/content