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DEVELOPING APEC'S FINANCIAL MARKET INFRASTRUCTURE: A ROADMAP

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Contents

FOREWORD

The Asia Pacific Financial Forum (APFF) is one of the parties assigned by the APEC Finance Ministers under the Cebu Action Plan (CAP[1]) to draft a roadmap for the development of the region's Financial Market Infrastructures (FMIs). This year, APFF hosted a series of conference calls and a symposium to initiate this process. These activities involved a large group of stakeholders, which included the ADB, IMF and World Bank, private sector firms and industry associations from across the region including Asia, North and South America and Russia, experts from academe and industry, and some regulators and officials.

The CAP incorporates initiatives that have been proposed by the private sector over many years. The Ministers gave the private sector the responsibility to take the lead in advancing them.

To fulfill this responsibility, ABAC created platforms for collaboration between the public and private sectors. There are three of these platforms, each populated by different sets of stakeholders but with overlaps. These are the Asia-Pacific Forum on Financial Inclusion, the Asia-Pacific Infrastructure Partnership or APIP, and the APFF. All of these are involved in advancing various parts of the CAP. The work of APFF on FMI is part of the initiatives under its Capital Market Development Work Stream.

The work on capital market development is focused on three important and interrelated objectives, which are the improvement of market depth and liquidity, the promotion of cross-border portfolio investment and reducing costs and risks.

While there are many issues to be addressed to reach these objectives, we decided to take a results-oriented approach. We identified a few initiatives that could be realistically progressed by the private and public sectors collaborating with each other within a reasonably short time frame and that would have significant impact on market development. These concrete initiatives are: first, the development of classic or title transfer repo markets where such market practice is not yet established; second, assisting jurisdictions in creating and improving the legal and documentation infrastructure required to support OTC derivatives markets including close-out netting arrangements, enforceability of collateral rights and implementation of mandatory margining for non-cleared OTC derivatives; and third, supporting the implementation and membership expansion of the Asia Region Funds Passport. The fourth, which we have initiated in 2016, is the drafting of a roadmap for FMI development in the APEC region.

This report summarizes the outcomes of the series of conference calls and the symposium held in Seoul, Korea on 25 April 2017, subsequent discussions with financial market experts through the collaborative drafting, as well as the interactive dialogue with regulators and officials at the joint session with the 25th ASEAN+3 Bond Market Forum (ABMF) held in Manila, Philippines on 4 July 2017.

[1] The CAP was launched by the APEC Finance Ministers to guide their work over the next 10 years, identifying specific initiatives and deliverables, providing timelines, and assigning tasks to stakeholders. The Plan has four pillars, corresponding to four priority areas identified by Ministers – financial integration, fiscal transparency, financial resilience and infrastructure.

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

Conference Report

EXECUTIVE SUMMARY

Financial Market Infrastructures[2] or FMIs are the pillars of financial market integrity. FMIs withstood the strains of extreme volatility brought about by the global financial crisis (GFC). Since then, the importance of ensuring their continued robustness has become a foremost concern of policy makers and regulators, as manifested in the adoption of the CPMI-IOSCO Principles for FMIs. In recent years, FMIs have also increasingly taken on new roles as the global regulatory agenda focused on promoting 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. This included the creation of a regional securities investment ecosystem that can facilitate cross-border investment to deepen capital markets and increase economies 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 25 April 2017. The following is a summary of its key outcomes.

FMIs serve to facilitate the efficient and cost-effective flow of investment across markets. They support financial market stability and integrity, and promote greater financial inclusion, fair and equitable competition and innovation. Historically, FMIs served 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. Consequently, they came to be increasingly regulated[3].

Since the GFC of 2007/08, new complexities and costs have emerged that need to be better understood and 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

[2] Traditional Financial Market Infrastructures (FMIs) encompass a variety of institutions and systems including payment systems that are systemically important, Central Securities Depositories (CSDs), Securities Settlement Systems (SSSs), 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. Issues in Large Value Payment Systems (LVPS) are not included in this report since it could be discussed separately with the currency policy issues in the region.

[3] 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.

sheet costs for banks operating domestically. On top of the new changes, overseas investors continue to face existing market access and repatriation documentation that need to be streamlined, while there are funds post-trade paper-intensive services that serve as a contrast to the electronic speed of investments. New cybersecurity concerns add to this complexity.

Today, economies must consider new issues and needs facing FMIs and financial markets. These include how to promote transparency through a standardized and common platform for trade reporting, how to improve coordinated monitoring of markets through facilitation of cross-border data flows, and how to maintain and broaden access to cross-border money transfer mechanisms providing the required transparency in an affordable and meaningful way. They also include issues such as the 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 are key to realizing new value from untangling some of these complexities and to addressing the growing costs and fragmentation of markets after the GFC. They are also important for enhancing liquidity and depth, ensuring the smaller players' involvement, and lessening the cost of raising funds from international capital markets.

1. The Roles of Financial Market Infrastructures in the Region

The Symposium discussed the regulatory environment, covering five key areas and recommendations. These include (1) the need 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; (4) expanding high quality collateral to include local currency assets for mitigating liquidity and market risks; and (5) evaluating the potential effects of interconnectedness among markets at different maturity stages across the region. These are highlighted as follows:

- The symposium participants underscored the importance of cooperation as a fundamental regulatory tool, whose intensity will be driven by the policy objectives under consideration. It is critical to better understand and to appropriately calibrate the extraterritorial implications of domestic regulations and their potential impact. This highlights the rationale for regional regulators to publicly set out a clear medium-term strategy and their regulatory expectations.

- Standardization should not only be considered in technical terms but also in terms of industry expectations, for example with respect to 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 wider regulatory collaboration, including the sharing of Asian economies' experiences in the ASEAN+3 Bond Market Forum (ABMF) under the Asian Bond Markets Initiative (ABMI) with other member economies outside the region.

- There is a need to monitor extraterritorial effects in the region of post-GFC rules being implemented by developed economies, and to consider ways to address their impact on smaller economies and the growth of their capital markets. Smaller jurisdictions need to better understand how they are affected by global policies, while collaborating in their appropriate implementation to minimize regulatory arbitrage. International bodies should also understand the challenges facing domestic regulators as they try to find the appropriate balance between global consistency and local capital market growth.

- Participants discussed the need to evaluate the requirements for High Quality Liquid Assets (HQLA) and whether local currency assets could be utilized as acceptable collaterals in cross-border trades by financial intermediaries and CCPs. In this regard, CSD-RTGS[4] Linkages under the Cross-Border Settlement Infrastructure Forum (CSIF) of the Asian Bond Markets Initiative (ABMI) can be considered as a leading example. Suggestions were made on a further need to discuss how regional financial integration and better hedging markets would further promote liquidity and enhance the eligibility of local currency assets.

- While regional initiatives include access programs and activities to achieve inter-operability of the markets, there could be a rise in systemic risk associated with greater interconnectedness, which could pose a threat especially to smaller economies. Adoption is best facilitated by better insights and knowledge. Hence, a recommendation was made to evaluate the potential effects of interconnectedness on markets at different stages of maturity across the region, possible implications to policy makers and regulators, and likely measures that can mitigate identified risks that are also efficient in terms of cost and implementation.

2. APEC Roadmap on Financial Market Infrastructures

The introduction of various new global and domestic regulatory requirements and their implementation over the past decade, coupled with the evolution of financial markets, has resulted in significantly heightened levels of post-trade operational running costs and complexities, on top of legacy issues. The symposium highlighted the significant drain on market participants' growth-oriented investments that could occur if these costs and complexities continue to accumulate. Participants discussed specific areas of capital markets where proper regulatory attention could help alleviate these operational and compliance complexities.

2-1. Securities Markets: Post-Trade Ecosystem

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

a. The public and private sectors should collaborate to assess and promote the regional standardization of account opening documents like KYC/AML and tax reporting that needs to be completed by securities investors, be they domestic or cross-border. Standardization can only have meaningful impact if industry-wide implementation is at the regional level.

b. Regulators should support (e.g., through clear guidelines) the use of third party

[4] Real Time Gross Settlement

industry utilities to store, manage and facilitate access of relevant parties to such standardized documents ("documentary industry utilities"). Public and private sectors should collaborate to explore the feasibility of such documentary information reuse/portability at the regional level and discuss how these goals can be better achieved and in what time frame.

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

This panel focused on "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 most conducive option for jurisdictions wishing to attract cross-border investment flows to their market. Ideally the omnibus account structure should be combined with the nominee concept legal structure to ensure optimal asset protection. The key recommendations are as follows:

a. Local markets should feel free to choose the account structure they consider appropriate, whether it be direct holding, omnibus or a mix of both. The omnibus account structure is the preferred option for attracting cross-border investment flows to the market. Both account structures can coexist. Ideally the omnibus account structure should be combined with the nominee concept legal structure.

b. Cross-border investments are facilitated where there is either no tax or a simple tax scheme (i.e., a withholding tax based on a Record Date principle[5]); where there is no capital gains tax based on a price difference or a tax calculated on a holding period (which is unmanageable on a cross-border basis); where tax is imposed at source rather than refunded (refunds are best limited to corrections post payment), where it involves a one-time certificate instead of requiring yearly certificates or a certificate per payment; and where local notarization of tax certificates or supporting documents are not required.

c. It is important to find the right balance between transparency and market efficiency. Responsible authorities should review whether legal frameworks support requests to report investors' information, and undertake legislative reforms if they do not. Securities regulators should introduce requirements for bond prospectuses to facilitate investors' information reporting requests.

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 in helping diversify risks among different types of market participants across economies.

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[5] Record Date principle: Use of a date (instead of a holding period) to determine the eligible bond holders who will receive an interest payment or a distribution

The relatively diverse range of Asia-Pacific markets' growth stages gives rise to additional regional issues and challenges in developing consistent practices. Securities regulators and policy makers are encouraged to review local practices when adopting international standard documentation such as GMRA and GMSLA. Where these have not yet been adopted, regulators and policy makers should undertake initiatives to promote progress, including reflecting local practices in the standard contract document, e.g. in the form of an annex, through collaborative work with market practitioners and a wide variety of stakeholders including industry associations.

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

Greater regulatory transparency in the OTC derivatives markets is a key public policy goal that was codified at the September 2009 Pittsburgh G20 summit. In order to help improve regulatory transparency, a number of critical milestones need to be met which includes: (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

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

2-5. *Fund Services*

More people today are investing for retirement income and can benefit from the diversity of funds offered by fund passport initiatives like the Asia Region Funds Passport. To facilitate these activities, managing industry costs is important. Automation is also required to bridge the "mismatch" between the high level of post-investment paper and inefficient spaghetti processes (unstructured processes where it is difficult to define pre- and post-conditions for activities) and the speed of electronic investments.

A regulator-supported funds back-office processing utility can help this key industry more efficiently support individuals' wealth management, pension accumulation and drawdown. In the latter cases, the reduction of unnecessary costs to preserve returns will be very important.

Industry utilities can facilitate these goals. They can take the form of a centralized digital network connecting fund industry participants through more effective electronic exchange of information instead of through 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 platforms such as the Asia Fund Standardization Forum (AFSF) is needed.

3. Data Management and Technology

In addition to the discussions on FMIs, symposium participants also discussed developing issues in data management and technology in financial markets. This was done for the purpose of promoting a common understanding of the current situation and the priority issues that the public and private sectors should address.

3-1. Fintech

Advanced technology in finance, or fintech, is rapidly changing the shape of how financial services are delivered to clients as well as how these are managed and monitored by institutions. The APFF FMI Fintech Substream has focused its discussions on know-your-customer (KYC) rules, e-payments, and cybersecurity.

- 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. These include governments, banks, card networks, mobile operators, and pure technology companies. 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, the linkages created between these new actors, and in some cases their interaction with established financial institutions and systems. APEC economies are encouraged to engage in research and analysis of emerging cybersecurity solutions and to share those learnings with stakeholders.

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

"Disruptive" technologies such as distributed ledger technology, robo-advisors and artificial intelligence are giving rise to new business models that leverage better data management, faster access to data, machine learning and new paradigms represented by the decentralized nature of the blockchain. These new business models where new technologies intersect with financial services can create new potential risks and costs even as they create new value.

In this context, 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 can help 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 the technical and business data levels needs to be considered from the start to ensure domestic and cross-border inter-operability. Inter-operability will also need to be promoted with other parallel initiatives as well as with legacy systems and processes that will not disappear overnight. Leveraging existing reference data standards (Legal Entity Identifier, ISIN, etc.) and business standards such as ISO 20022, while also supporting collaborative open source initiatives such as the Hyperledger project, should be considered to avoid “reinventing the wheel”.

A greater challenge facing industry is recognizing when current standards become obsolete, and open minds should be adopted for new practices and requirements of future technologies and their applications. Meeting this challenge is critical to ensure that growth potentials are not 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 identified the above perspectives and issues that need to be addressed to improve the region’s FMIs and financial markets, and to facilitate cross-border portfolio investments in the region. As post-GFC rules are implemented and new technologies rapidly introduced in the region’s financial markets, requirements are evolving. Regulations and conditions need to be adjusted in a timely manner to support continued growth and manage current and emerging risks. Most recommendations presented in this report are meant for consideration immediately or within the next three years, which provides a critical window of opportunity for the market to develop and benefit from a coordinated policy effort.

At the same time, participants also recognized the wide diversity of capital markets’ stages of development in APEC, which means that a one-size approach will not fit all.

The industry proposes these feedback and recommendations for consideration and endorsement by the APEC Finance Ministers Process.

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Conference Report

I. INTRODUCTION

Over the past few years, various discussions have been undertaken to address the development of the region's financial market infrastructure (FMI). 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 the APFF FMI Cross Border Practices and FMI Fintech sub-streams, and hosted by the Federation of Korean Industries at the FKI Conference Center in Seoul Korea on 25 April, 2017. Over sixty participants representing a wide spectrum of organizations in the region's public and private sectors as well as international institutions, FMIs and academic and research institutions attended the event.

Participants discussed the state and challenges of Asia-Pacific financial markets in the post-Global Financial Crisis (GFC) regulatory environment. The financial markets are becoming better connected with technology and there are many types of infrastructures that provide services to support connectivity. We can collectively call these FMIs, including various types of financial intermediaries and service providers. Historically, regulators have viewed payment, clearing and settlement infrastructures as nodes that accumulate various types of risks and so increasingly paid regulatory attention to them.

Most traditional FMIs serve to facilitate the efficient and cost-effective flow of investment across markets, support financial market stability and integrity, while promoting financial inclusion, fair and equitable competition and innovation. Historically, they arose to serve domestic markets, while financial intermediaries played the role of bridging the differences in regulations, market practices and tax issues to promote cross-border portfolio trade.

The GFC underlined the importance of transparency, risk mitigation and robust market infrastructures to deal with systemic risks arising from the potential default of one or several major market participants. However, this must also be viewed in the context of the continuing long period of ultra-low interest rates in developed markets that is slowing down growth in developing and emerging markets.

It is more important than ever to support economic growth while maintaining stability. This can be achieved through enhanced efficient functioning of markets, including the growth of cross-border portfolio investments and wider use of local currency assets as eligible financial collateral by FMIs and bilaterally by market participants. This also involves broader access to affordable and transparent cross-border money transfer mechanisms, and progressive use of innovative technologies.

Economies will need to consider new issues and needs facing FMIs and financial markets. These include how to promote transparency through a standardized and common platform for trade reporting and how to improve coordinated monitoring of markets through facilitation of cross-border data flows. They also include issues such as the standardization of market practices, account structures and operational and processing models, as well as consistent tax treatment of domestic and cross-border transactions.

They are key to addressing the rising costs of services and growing fragmentation of markets in the aftermath of the GFC, and to enhancing market liquidity and depth, enabling the involvement of all market players, and lessening the cost of raising funds from international capital markets. These call for translating into reality the Cebu Action Plan's objective of creating a roadmap for public-private sector collaboration in identifying and prioritizing issues to be addressed in developing the region's FMI.

The discussions in the Seoul symposium and the preparatory and post-event conference calls reflected broad support across economies, sectors and institutions on both sides of the Pacific for the further development of FMIs in the region. The messages have been discussed further with financial regulators, officials and public sector representatives who participated in the joint APFF session with the ASEAN+3 Bond Market Forum (ABMF) in Manila on 4 July 2017 and expressed broad support. This conference report describes the outcomes of these discussions, including the Roadmap for APEC FMIs.

II. Analyses and Recommendations

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 payment systems that are systemically important, central securities depositories (CSDs), securities settlement systems, central counterparties (CCPs), 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 FMIs, the Committee on Payment and Settlement Systems (CPSS) and International Organization of Securities Commissions (IOSCO) in 2012, released a report entitled *Principles for Financial Market Infrastructures*.[6] 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 its publication, the global financial system has demonstrated strength and the principles' adoption across the globe has dramatically increased.

[6] http://www.bis.org/cpmi/publ/d101a.pdf

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 FMIs 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.

International collaboration and cooperation is a fundamental regulatory tool. Collaboration between policy makers and the industry to identify market/systemic weaknesses needs to be 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 implementation 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).

A good understanding of regulatory requirements and the readiness to adjust regulatory frameworks to suit each market are critical. The over-riding regulatory objective should be to foster stability and trust in financial markets, conducting, where appropriate, a cost-benefit analysis for each 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 vis-à-vis how much regulation is being created to address that risk - could be a useful tool to approach the issue.

FMIs have come under increasing scrutiny after the GFC, and much attention has been focused on their role in enhancing financial stability while maintaining the availability of funding channels to support economic growth. Even as regional initiatives to promote issuance and liquidity of local currency bonds are underway through standardization and harmonization, global regulatory initiatives could impact market participants in the region. 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 (HQLAs). In addition, the implications of an increase in interconnectedness among FMIs also need to be considered.

The GFC prompted the introduction of a new suite of regulations[7] in developed economies in

[7] One of the G20 regulatory initiatives recognizes the issue in lack of transparency in the OTC derivatives market. Hence the pillar of the initiative

North America, Europe and parts of Asia. Those regulations are influencing markets and market participants in developing and emerging markets by way of extraterritorial effects, even as regulators in these markets have been encouraged to introduce similar sets of regulations in their own markets. APEC economies need to understand the effects of mandatory margining of non-centrally cleared OTC derivatives and the challenges that arise 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[8] as to whether such economies should be required to establish local CCPs which accept local currency assets as eligible collateral. Challenges include relatively low local currency trading volumes, leading to questions of how these CCPs could achieve economies of scale and netting efficiencies, and whether utilizing CCPs outside of their home economy would be more viable.

Participants observed that some economies 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 2010 OTC Markets and Derivatives Trading in Emerging Markets Report, 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[9]. APEC economies have a breadth of different types of markets. While there has been no serious discussion about creating 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 not all OTC derivatives 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, and each must consider the development of FMIs in line with the development stage of its market.

a) Standardization and harmonization

One of the key tools to bring efficiency to 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 ISO 20022 for messaging), but also in terms of industry expectations. For example, harmonizing issuance documents might help both issuers streamline multinational issues and increase investors' appetite to diversify through cross-border investments.

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consists of electronic capture of trades and reporting to a Trade Repository.

[8] Fundamental issues in this region would be what are the systemic issues and priorities, given that OTC derivatives markets may very small in some markets in the region.

[9] However it needs to be carefully examined that uncleared margin should only be promoted for jurisdictions that have good netting and collateral status. Holding margin for uncleared trades in a jurisdiction without effective netting and collateral is prohibitively expensive and works counter to the concept of holding collateral to offset credit risk – firms could end up holding gross collateral for the same trade in a jurisdiction in which they may not actually be able to get back their collateral.

CASE STUDY

Regional financial integration initiatives are showing how we can prevent fragmentation while maintaining rapid growth in respective local markets. For instance, the ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF), which is targeting institutional investors such as financial intermediaries, has encouraged the acceptance of English as the common disclosure language with templates, adherence to international accounting standards, and relaxation of regulations to incentivize 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. Efforts should include targeting professional investors such as financial intermediaries to enable common disclosure language, procedures and investor protection rules. To promote this, relevant authorities are encouraged to collaborate with the ASEAN+3 Bond Market Forum (ABMF), which promotes AMBIF, to link professional markets in the region, and then apply the experience gained to other member 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 help drive broader usage of regional assets. For example, regional bonds could be used more broadly as collateral instead of US Treasuries which remain the preferred tool. In this regard, Central Securities Depository-Real Time Gross Settlement (CSD-RTGS) Linkages under the Cross-Border Settlement Infrastructure Forum (CSIF) of the Asian Bond Markets Initiative (ABMI) can be considered as a leading example. Such initiatives to promote regional issuances 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[10]. 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 CCPs, 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 the region, 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[11].

[10] The effects of European regulations, such as MiFID II and MiFIR were discussed, as well as how US issues such as substituted compliance come into play for FMIs such as CCPs. However, there are additional issues on recognition of trading venues that may have downstream impacts on CCPs used by those venues.

[11] How each region interprets and implements the PFMI should be analyzed as well.

CASE STUDY

For example, forcing clearing of OTC derivatives or the use of listed derivatives for hedging 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 whether they need to establish a local OTC derivatives CCP in their respective jurisdictions. This is because 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 the high costs 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 and financial depth 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 international best practices and their appropriateness for smaller markets, subject to their size and level of development. They should strive to achieve the outcomes that have been internationally agreed, while being very mindful of what implementation means for their jurisdiction. Implementation must also avoid creating further fragmentation. It should be noted that domestic CCPs may not be appropriate for all APEC markets, and that uncleared margin should only be promoted for jurisdictions that have good netting and collateral status.

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

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 HQLAs available to the market[12], there could

[12] Potential rise of supply in HQLA from long-term investors including pension funds and insurance companies need to be further examined.

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 need to be addressed, as well as their impact on markets and liquidity and market participants.

RECOMMENDATION 1C: Responsible authorities are encouraged to collaborate with international organizations to convene workshops to better understand the issues to address the growing need for HQLA collateral in the region. Measures could include how local currency assets may be utilized as part of collateral accepted for cross-border trades between financial intermediaries and CCPs, how regional financial integration and better hedging markets would assist further liquidity, and identification of specific classes of securities where liquidity and eligibility could be expanded. This should be followed by advocacy efforts in jurisdictions where collateral eligibility could be expanded. In this regard, CSD-RTGS Linkages under CSIF of ABMI can be considered as a leading example.

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 delivery versus payment (DvP) settlements.

CASE STUDY

To mitigate settlement risk, the Cross-border Settlement Infrastructure Forum (CSIF) is discussing to link central banks and CSDs to create 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 increase inter-operability of markets, these may also give rise to an increase in systemic risk associated with more interconnected markets, which may pose a threat especially in smaller economies[13].

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

[13] Currently real-time payment systems are developing in many economies. The discussion of connecting such systems can be seen as an effort to reduce FX settlement risk related with the difference in time zone and conversion of local currencies into USD as intermediary even in a case of local currency vs local currency settlement. However, it is also necessary to note that the expansion of the network may create a larger systemic event. In this regard, CSIF is discussing common understanding among the members for cross-border business continuity plan and cybersecurity, which will be observed when establishing the CSD-RTGS Linkages among the CSIF members.

2. APEC Roadmap on Financial Market Infrastructures

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 (FMIs), securities central counterparties (CCPs), central securities depositories (CSDs) 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.

The introduction of various new global and domestic regulatory requirements and their implementation over the past decade, coupled with the evolution of financial markets, has resulted in significantly heightened levels of post-trade operational running costs and complexities, on top of legacy issues.

The symposium highlighted the significant drain on market participants' growth-oriented investments that could occur if these costs and complexities continue to accumulate. Over time, unintended consequences could arise if the industry prioritizes scarce resources into certain areas and diverst attention away from others where market development can be inhibited. Unnecessary complexities and costs also act as invisible "behind the border" barriers to cross-border investment activities as well as financial market integration and the achievement of economies of scale.

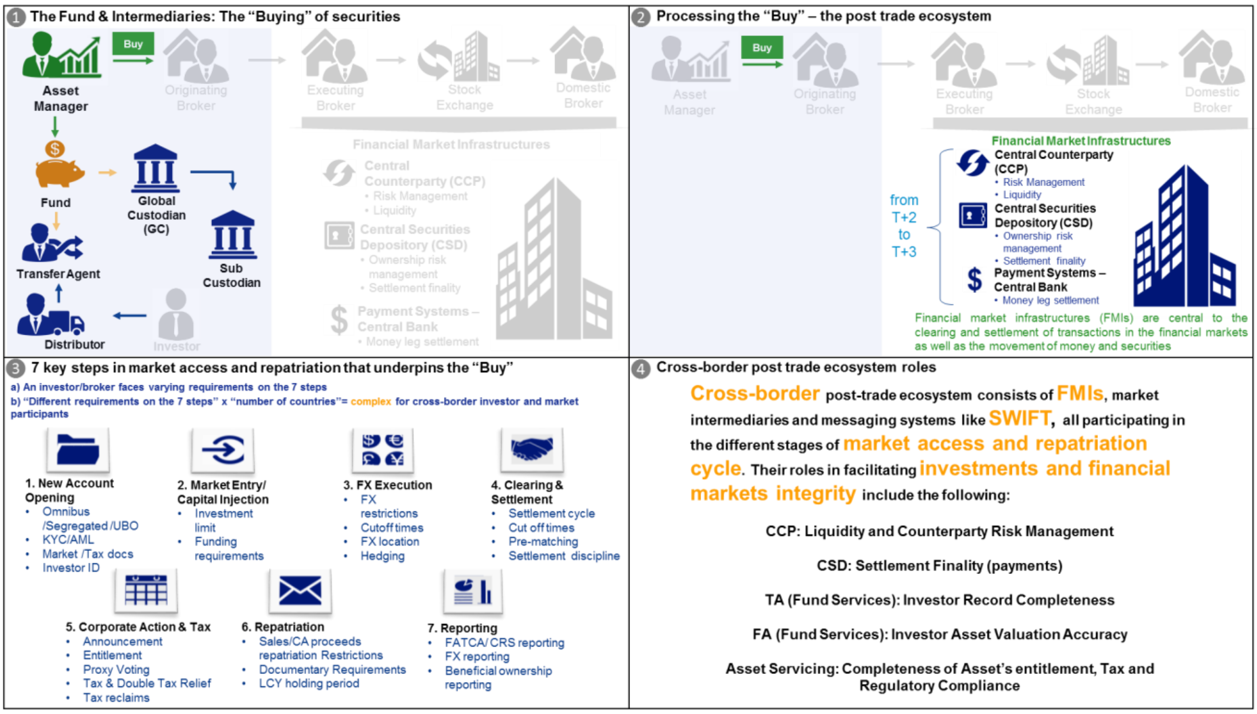
As a starting point, the potential to realize cost, compliance and regulatory reporting efficiency benefits can be found in the region's diverse set of market access and repatriation requirements and their inherent documentary compliance and regulatory reporting activities. (See for example the Account Opening stage of the illustrated market access and repatriation cycle below.) Greater standardization and the use of FMIs as industry utilities have been highlighted as two possible solutions. In the future, technology or "RegTech" may also play a role in achieving such efficiency goals. The panel voiced the need for private-public sector collaboration to establish a shared understanding of regulatory goals that 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 counts toward the market's overall cost, operational complexity level and risk levels, which are 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 market participant faces 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 needs to 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 or, in certain cases, automated using advance technology.

Therefore, two recommendations related to cross-border securities post-trade ecosystem were made.

RECOMMENDATION 2-1:

a) **The public and private sectors should collaborate to assess and promote the regional standardization of account opening documents like KYC/AML and tax reporting that needs to be completed by securities investors, be they domestic or cross-border. Standardization can only have meaningful impact if industry-wide implementation is at the regional level.**

b) **Regulators should support (e.g., through clear guidelines) the use of third party industry utilities to store, manage and facilitate access of relevant parties to such standardized documents ("documentary industry utilities"). Public and private sectors should collaborate to explore the feasibility of such documentary information reuse/portability at the regional level and discuss how these goals can be better achieved and in what time frame.**

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 on increasing automation to reduce complexity and to support cross-border fund activities.

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

Account structure, tax, investor identification and transparency are influenced by each market's development history and level of maturity. There is no global consensus around these three issues, but they 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 benchmarks 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 such a barrier exists.

To achieve harmonization while leaving each market to manage its own priorities at its own pace, safely and cost-effectively, it is recommended that the responsible authorities 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 and market surveillance prior to engaging in 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 purely domestic basis, any account structure can be adopted. On a cross-border basis, however, additional 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's 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 acquires special importance on a cross-border basis.

On a cross-border basis, empirical evidences show that the omnibus account structure combined with a nominee concept 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 from isolating the investors from local complexities.

CASE STUDY

- When reforms are introduced, they must be reviewed to ensure that they are meeting the intended objectives. For instance, an APEC economy has recently 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 traded over the counter, and trading takes place on a decentralized basis, hence the custody chain is also decentralized. Korea has been re-introducing the omnibus account for equities as of 6 March 2017. China adopted the omnibus for Stock Connect and for Bond Connect.

It is important as well that fixed income assets do not grant ownership rights, which has significant policy implications in terms of the economy's interest and tax purposes. When information and transparency are required with regard 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 have been looking at the ideal account structure to ensure portability. However, it is best to leave the choice to the asset owner.

RECOMMENDATION 2-2A: Local markets should feel free to choose the account structure they consider appropriate, whether it be direct holding, omnibus or a mix of both. The omnibus account structure is the preferred option for attracting cross-border investment flows to the market. Both account structures can coexist. Ideally, the omnibus account structure should be combined with the nominee concept 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 government's decision to levy tax or not but it should ideally be considered (1) from an economic perspective (e.g., whether the tax revenues can be offset by an increase of yield) and (2) from an operational perspective (e.g., whether the tax computation and collection processes are operationally efficient or whether they can negatively affect the liquidity of the instruments).

While the economic relevance of the tax can be debated between the tax authorities and the issuers (corporate and debt management office), 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 a no-tax regime is the easiest model under which 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 differences (certain capital gains taxes or value-added taxes) 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.

CASE STUDY

- A Financial Transaction Tax (FTT) implemented in Scandinavia was reversed when capital market liquidity dried up 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 eliminate "clean and dirty JGBs" and gaining from benefits of merging the two liquidity pools.
- China recently confirmed that for China Interbank Bond Market (CIBM) there would be no capital gains tax and no tax at all for government and municipal bonds.
- Chinese Taipei simplified the tax scheme for Formosa Bonds in order to attract foreign investors.
- Several APEC economies' markets suffer because of the complexity of their tax regimes.

The withholding tax process can be optimized by preferring a "tax at source" principle with a refund process to support corrections after the payment date. 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 occurs. The second best option is a recurrent certificate (every "x" years). The least preferred is a certificate required for each payment. The collection 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, any marginal tax revenue benefit could 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 consider 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 double taxation agreements (DTAs) vary and investors might benefit from taking advantage of specific agreements by shifting designated owners just before the record date, there is little 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 prefer the record date principle over 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: Cross-border investments are facilitated where there is either no tax or a simple tax scheme (i.e.: a withholding tax based on a Record Date principle); where there is no capital gains tax based on a price difference or a tax calculated on a holding period (which is unmanageable on a cross-border basis); where tax is imposed at source rather than refunded (refunds are best limited to corrections post payment); where it involves a one-time certificate instead of requiring yearly certificates or a certificate per payment; and where local notarization of tax certificates or supporting documents are not required.

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 include statistical purposes, price discovery, Know Your Customer (KYC), Anti-Money Laundering (AML), quotas, tax and market surveillance, among others.

Different asset classes (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, and thus 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 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: It is important to find the right balance between transparency and market efficiency. Responsible authorities should review whether legal frameworks support requests to report investors' information, and undertake legislative reforms if they do not. Securities regulators and issuers willing to collect investors' information should introduce requirements for bond prospectuses to facilitate such 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 investors' information collection in the law to avoid conflicting regulations between the jurisdiction of issuance and the investors' jurisdiction 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 help diversify risks 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.

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, and 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 the Asia-Pacific. Policy at the domestic, 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 also impact markets,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 Global Master Repurchase Agreement (GMRA) and Global Master Securities Lending Agreement (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 benefit in learning from regulatory implementation in other jurisdictions, if there is an intention to reform certain markets this needs to occur before global capital market reforms are concluded. 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 FMIs[14].In addition, it should be noted that some reforms, while intended to apply to all participants, may work for onshore (local) participants but may not always work for offshore participants.

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. In addition, the standard local documentation often does not contain adequate operational details or credit protections for international participants. At the same time, industry acknowledges that some economies may have reasons to have some locality in their standard contract document.

RECOMMENDATION 2-3B: Securities regulators and policy makers are encouraged to review the local practices when adopting international standard documentation such as the GMRA and GMSLA. Where these have not yet been adopted, regulators and policy makers should undertake initiatives to promote progress, including reflecting local practices in the standard contract document, e.g., in the form of an annex, through collaborative work with market practitioners and a wide variety of stakeholders including industry associations.

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 processes, however, may be a barrier even for the local market. For example, complexity and uncertainty of tax regimes can be an obstacle, and in some instances its application mechanism may prevent market participation and with it revenue generation.

CASE STUDY

- APFF has produced a repo/lending guide which explores in depth the value and the mechanisms of repo markets including very complex technical matters that are critical to the functioning of markets.
- ABMF has developed Bond Market Guide and have access to tax authorities via finance ministries.

RECOMMENDATION 2-3C: Responsible authorities are encouraged to support regular dialogues with industry representatives through public-private platforms including APFF, the Pan Asia Securities Lending Association (PASLA), International Capital Market Association (ICMA), the Asia Securities Industry & Financial Markets Association (ASIFMA), and ABMF to review whether any current policies and practices could act as barriers to the development of the repo and securities lending markets, and undertake reforms to address any barriers identified.

[14] 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).

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

Greater regulatory transparency in the OTC derivatives 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. Nevertheless, major challenges remain in achieving the goal of improving regulatory transparency in a meaningful way. These include:

- different, costly, duplicative, conflicting and non-standardized reporting requirements across jurisdictions;
- some data requirements are not clearly defined;
- availability of 'substituted compliance' for reporting is limited, adding to duplication;
- standardized reporting formats have not been adopted quickly or broadly enough;
- a lack of agreement as to how some data reporting requirements should be standardized across jurisdictions;
- limited regulatory endorsement of standards already in use;
- some reporting regimes are 'closed markets,' meaning they have their own trade repositories which do not leverage international standards and mechanisms;
- existence of legal barriers 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;
- no facilitator or mechanism to aggregate data from different trade repositories globally; and
- 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) are not likely to yield meaningful results anytime soon.

Fortunately, now that major jurisdictions have largely implemented their reporting regimes, domestic regulators are increasingly turning their minds to cross-border efforts to achieve regulatory consistency as much as possible. While these issues have solutions, it 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.

RECOMMENDATIONS 2-4:

a) ***Shared, public commitment to global convergence on harmonized reporting requirements.*** **Securities regulators are encouraged to review whether their reporting requirements are harmonized and are consistent within and across**

jurisdictions, and to 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.**
   i) **Requirements should be as precise and prescriptive as possible, which will avoid ambiguity in achieving compliance.**
   ii) **There should be an effort to perform a robust cost-benefit analysis before requiring a reporting or disclosure regime.**
   iii) **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. Hence, it is important to utilize and/or optimize the current reporting structure rather than requiring additional duplicative reporting standards and formats.**

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. They should do this by adopting equivalence decisions, which allow 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 incentivize the sharing of data.**

f) ***Greater cross-border regulatory focus on global aggregation mechanisms*. Regulators are encouraged to leverage cooperation with other authorities to share lessons learnt, as well as share data by designating jurisdictional, regional and global leaders to spearhead the aggregation effort. Barriers to sharing data and information between regulators should be removed.**

These objectives cannot be achieved solely at the individual jurisdiction level, but 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 the goal of transparency truly be achieved.

2-5. Fund Services

a) Regulatory transparency

More people today are investing for retirement income and can benefit from the diversity of funds offered by fund passport initiatives like the Asia Region Funds Passport (ARFP). To facilitate these activities, managing industry costs is important. Those jurisdictions currently relying on email or other manual processes could consider introducing a regulator-supported funds back-office processing utility. This 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 encourage greater participation of asset managers and 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 through the reduction of administrative, operational and regulatory reporting complexities, and thus, contribute to the investment fund industry's development.

CASE STUDY

Following are existing regulatory arrangements for funds passport regimes in the region:

- *ASEAN Collective Investment Scheme (CIS)* framework is an initiative undertaken by ASEAN Capital Market Forum. Under ASEAN CIS framework, fund managers can offer CIS constituted authorized in their home jurisdiction directly to retail investors in the host jurisdiction under a streamlined authorization process (excerpted MAS explanation in 2014).
- *China-Hong Kong Mutual Recognition of Funds (MRF)* is a program agreed by China Securities Regulatory Commission and Hong Kong Securities and Futures Commission in 2015 that allows Chinese and Hong Kong asset managers to distribute their funds in each other's jurisdiction.
- *Asia Region Funds Passport (ARFP)* is an initiative that will, once implemented, provide a multilaterally agreed framework to facilitate the cross border marketing of managed funds across participating economies in the Asia region.

RECOMMENDATION 2-5A: Based on the ASEAN CIS experience, securities regulators are encouraged to set highly standardized registration processes 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 can receive a lot of attention from the industry.

b) Standardization and harmonization

Standardization of 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 lines 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, standardization activities will only have meaningful impact if industry-wide implementation is encouraged on a regional scale, as failure to do so will result in the development of multiple standards that are not harmonized.

> **CASE STUDY**
>
> The Asia Fund Standardization Forum (AFSF) is a consultative body of domestic central securities depositories in Asia, aiming to promote discussion on ways to standardize back-office processing for funds traded across borders. Established in November 2015 following the proposal from the Korea Securities Depository (KSD), the AFSF members comprise 14 CSDs from 13 economies and 6 global fund service providers. Under the name of AFSF Knowledge Sharing Workshop, the first physical meeting was held in June 2016 in Seoul. The next workshop is planned for September 2017 to be held in Mumbai. The AFSF activities were introduced in the 2016-2017 Annual Report published by the ARFP Joint Committee.

RECOMMENDATION 2-5B: Responsible authorities are encouraged to support the activities of AFSF. Harmonization can be achieved in many parts of the business process (e.g., usage of same fund codes or message formats, required information for fund products by regulators or market players, account opening forms, KYC process). 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. Their service scope encompasses 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 businesses encourage 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 straight-through-processing (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 regard, an interesting solution surfacing is the adoption of centralized fund hubs that interconnect the domestic market, streamlining the many-to-many communications among 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 to service linkages among multiple markets, thereby accelerating fund market integration.

CASE STUDY

- Centralized fund platforms in Asia (Korea: FundNet, Chinese Taipei: FundClear, Indonesia: S-INVEST, Thailand: FundConnext).
- 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. Daily operating volume for the fund business has jumped by 17 times from 2005 to 2016, from 0.14mn to 2.6mn trade messages. The 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 Stock Exchange of Thailand (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 Net Asset Value (NAV) disclosure, and facilitates the STP messaging between market players.

RECOMMENDATION 2-5C: **Regulators are encouraged to support 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 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. Data Management and Technology

In addition to the discussions on FMIs, Symposium participants also discussed developing issues in data management and technology in financial markets. This was done for the purpose of promoting a common understanding of the current situation and the priority issues that the public and private sectors should address.

3-1. Fintech

In the coming year, the 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[15].

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 KYC process. These remote instantaneous verification procedures could enable financial services (alongside several other services) to be delivered on a far broader scale and in a more efficient manner.

RECOMMENDATION 3-1A: APEC Finance Ministers and responsible authorities are encouraged to support 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; and**
- **Focusing 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**

[15] A good example is the Aadhaar authentication introduced by India, which allow people to access financial services using a universal biometric digital identity.

- **For example, the APEC Business 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 percent of the world's payments transactions occur in cash. In certain parts of Europe, however, more than 85 percent 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 the APFF FMI Fintech Substream can help to address.

There are a multitude of players currently introducing solutions for e-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 the following initiatives of the 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 sectors in APEC. Issues related to cybersecurity extend beyond fintech. Therefore, the APFF 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 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 opportunities 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 the following initiatives of the APFF FMI Fintech Substream;

- **Creating a typology of cybersecurity risks in the fintech ecosystem**
- **Engaging in research and analysis of emerging cybersecurity solutions and sharing those learnings with stakeholders**
- **Holding public-private forums to 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**

RECOMMENDATION 3-1D: Responsible authorities are encouraged to share information on cybersecurity among relevant bodies in the region.

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, and increase and simplify access to financial data and products.

Disruptive technologies such as distributed ledger technologies, robo-advisers or artificial intelligence bring promises of better data management, faster access to data and cost reduction for the usage of information to benefit 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; and
- 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: FMIs 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 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, Cybersecurity 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

FMIs are the pillars of financial market integrity and market progress.

FMIs withstood the strains of extreme volatility brought about by the global financial crisis (GFC). Since then, the importance of ensuring their continued robustness has become a foremost concern of policy makers and regulators, as manifested in the adoption of the CPMI-IOSCO Principles for FMIs. In recent years, FMIs have also increasingly taken on new roles as the global regulatory agenda focused on promoting greater transparency of transactions and greater standardization of financial products. FMIs continue to stand as a bulwark against market disruptions.

Such an expansion of FMI roles is a response to new and rising complexities and costs, which need to be better understood and managed for markets to have higher levels of sustainability and economies of scale. For example, emerging capital markets struggle with the tension between business case viability and the need for a 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 face existing account opening and repatriation processes that need to be streamlined, while there are funds post-trade paper-intensive services that serve as a contrast to the electronic speed of investments. Cybersecurity concerns and responses have emerged to add to this complexity that could lead markets to develop as stand-alone digital fortresses, inhibiting cross-border investment flows. There are no clear and easy answers to any of these, and other, dilemmas.

As a start though, economies can consider these issues and needs that face FMIs, financial markets, intermediaries and cross-border investors. These include how to promote transparency through a standardized and common platform for trade reporting, how to improve coordinated monitoring of markets through facilitation of cross-border data flows, and how to maintain and broaden access to cross-border money transfer mechanisms providing the required transparency in an affordable and meaningful way. They also include issues such as the 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 are key to realizing new value from untangling some of these complexities.

As reported by the Asian Development Bank's Asian Economic Integration Report 2016, "…[it] is essential to follow an FMI development strategy that is both tailored to the AEC [ASEAN Economic Community] and draws from global best practices. There is no one-size-fits-all approach for regional FMI development. While Europe primarily chose a top-down approach to financial market integration, this is not necessarily right for the AEC. Thus, existing multilateral initiatives should be intensified to provide a policy environment that is both enabling and prudent for the public and private sector to foster a balanced regional FMI development path". While this was written with reference to ASEAN, it remains equally applicable to the rest of Asia-Pacific.

The potential benefits and goals of such collaboration would be to streamline unnecessary costs and fragmentation of markets, to enhance market liquidity and economies of scale, to be inclusive of economies and participants' involvement, facilitate financing and investments, and to lessen the cost of funding from international capital markets.

Symposium participants identified the above perspectives and issues that need to be addressed to improve the region's FMIs and financial markets, and to facilitate cross-border portfolio investments in the region. As post-GFC rules are implemented and new technologies rapidly introduced in the region's financial markets, requirements are evolving. Regulations and conditions need to be adjusted in a timely manner to support continued growth and manage current and emerging risks. Most recommendations presented in this report are meant for consideration immediately or within the next three years, which provides a critical window of opportunity for the market to develop and benefit from a coordinated policy effort.

At the same time, participants also recognized the wide diversity of capital markets' stages of development in APEC, which means that a one-size approach will not fit all.

The industry proposes these feedback and recommendations for consideration and endorsement by the APEC Finance Ministers Process.

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
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
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
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, ICMA, IMF, Jasdec, JPX, JSDA, PASLA, Zenginkyo,	Inquired joining the initiative
15th December 2016	Tele-confernece	Core group members	Discussed format of the symposium, high-level thoughts, and task sharing
11th January 2017	Tele-confernece	Core group members	Discussed roles, key messages, groupings, format of the symposium.
17th January 2017	Tele-confernece	Santiago Stock Ex	Explained the initiative, discussed the challenges of MILA
18th January 2017	Tele-confernece	Bloomberg	Explained the initiative, discussed the challenges of Latin American markets
24th January 2017	Tele-confernece	Banchile Inversiones	Explained the initiative, discussed the challenges of Latin American markets
February 2017	Teleconference and visits	Ernst and Young, FSA, HKEx, JPX, SGX	Inquired joining the initiative
8th February 2017	Tele-confernece	Core group members	Discussed draft agenda, introduction from participants from Latin America
2nd March 2017	Tele-confernece	Core group members	Discussed problem statement, symposium format, speakers, logistics
28th March 2017	Tele-confernece	Core group members	Discussed working draft, storyline of sessions at the symposium
11th April 2017	Tele-confernece	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	Section leaders	Discussed revising the roadmap, preparing further communications with officials incl. ABMF members
26/29 May 2017	Tele-confernece	Section leaders	Discussed the recommendations to be reflected to the roadmap
14/23 June 2017	Visits	JSDA, BOJ	Discussed the recommendations and their backgrouds/reasons
4th July 2017	Conference	Section leaders, ASEAN+3 Bond Market Forum members	Discussed the recommendations and their backgrouds/reasons

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 economies, 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 percent 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 economies, 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

Attachment D: Program of Joint Session with ABMF in Manila

Sub-Forum 2 Joint session with Asia Pacific Financial Forum	
TIME	**PROGRAM**
12:30 – 13:00	**Registration**
13:00 – 13:10	**Opening Remarks** - J.C. Parrenas, APFF Coordinator, Nomura Research Institute (NRI)
13:10 – 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: - Boon-Hiong Chan, APFF FMI CBP Co-Sherpa, Deutsche Bank - Jean-Remi Lopez, Symposium Panelist and Rapporteur, DTCC - Gaetan Gosset, Moderator (Account structure and tax), Euroclear - 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
14:40 – 15:00	*Coffee break*
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**

ATTACHMENT E: LIST OF ABBREVIATIONS

ABAC	APEC Business Advisory Council
ABMF	ASEAN+3 Bond Market Forum
ADB	Asian Development Bank
AFSF	Asian Fund Standardization Forum
AML	Anti-Money Laundering
APEC	Asia-Pacific Economic Cooperation
APFF	Asia-Pacific Financial Forum
API	Application Programming Interface
APIP	Asia-Pacific Infrastructure Partnership
ARFP	Asia Region Funds Passport
ASEAN	Association of South East Asian Nations
Asifma	Asia Securities Industry & Financial Markets Association
BOJ	Bank of Japan
CAP	Cebu Action Plan
CCP	Central Counterparty
CIBM	China Interbank Bond Market
CIS	Collective Investment Scheme
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems
CSD	Central Securities Depository
CSIF	Cross-border Settlement Infrastructure Forum
FKI	Federation of Korean Industries
FMI	Financial Market Infrastructure
FSA	Financial Services Agency, The Japanese Government
FTT	Financial Transaction Tax
FX	Foreign Exchange
G20	Group of 20
GFC	Global Financial Crisis
GMRA	Global Master Repurchase Agreement
GMSLA	Global Master Securities Lending Agreement
HKEx	Hong Kong Exchanges and Clearing Limited
HQLA	High Quality Liquid Assets
ICMA	International Capital Market Association
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
ISIN	International Securities Identification Number
ISO	International Organization for Standardization

ISDA	International Swaps and Derivatives Association
JGB	Japanese Government Bond
JPX	Japan Exchange Group, Inc.
JSDA	Japan Securities Dealers Association
KYC	Know Your Customer
MiFID	Markets in Financial Instruments Directive
MiFIR	Regulation on Markets in Financial Instruments
MRF	Mutual Recognition for Funds
OECD	Organisation for Economic Cooperation and Development
OTC	Over the Counter
PASLA	Pan Asia Securities Lending Association
PFMI	Principles for Financial Market Infrastructures
RTGS	Real Time Gross Settlement
TR	Trade Repository
SGX	Singapore Exchange Ltd.
SSS	Securities Settlement System
STP	Straight Through Processing

About the Asia-Pacific Financial Forum (APFF)

The Asia-Pacific Financial Forum (APFF) is a platform for public-private collaboration to accelerate the development of robust and integrated financial markets in the APEC region.

The APFF responds to the need for active collaboration among policy makers, regulators and experts from industry and international and academic organizations to address key issues. These include expanding access to finance for micro-, small and medium enterprises and households in emerging markets; facilitating trade and supply chain finance; creating deep, liquid and integrated capital markets; expanding the region's institutional investor base and its capacity to finance infrastructure and other long-term projects; strengthening financial resilience; and harnessing innovation to build inclusive and efficient financial markets.

The APEC Business Advisory Council (ABAC) proposed the APFF's establishment to the APEC Finance Ministers, who launched the Forum at their 2013 annual meeting in Bali. APFF is one of the three policy initiatives under the APEC Finance Ministers' Process whose management was entrusted by the Ministers to ABAC, together with the Asia-Pacific Forum on Financial Inclusion and the Asia-Pacific Infrastructure Partnership (APIP).

Over 300 experts and senior representatives from more than 150 institutions collaborate in the APFF's undertakings. These institutions include financial services firms (global and regional commercial and investment banks, asset management companies, insurers, pension funds, Fintech firms), legal, accounting and related services firms, business and investor information service providers, international financial industry associations, finance, trade and justice ministries, regulatory authorities, multilateral development banks, international organizations and academic and research institutions.

The work of APFF covers key areas of financial markets that are critical to the development of the region's economy and financial services:

- Credit infrastructure (legal, regulatory and institutional ecosystems for credit information sharing, secured transactions and receivables/warehouse financing)
- Trade and supply chain finance (regulations, technological and innovative solutions to working capital access)
- Insurance and retirement income (retirement income market, infrastructure and capital market investment environment for insurers and pension funds, regulation and accounting standards, disaster risk financing and insurance, micro-insurance)
- Capital markets (repo and derivatives markets, information for capital market investors, regional funds passporting)
- Financial market infrastructure (ecosystem for cross-border portfolio investment, cybersecurity, know-your-customer rules, electronic payments)

In addition, APFF provides a platform for continuous dialogue between industry and the public sector with the involvement of subject matter experts from academic and research institutions and international organizations in areas such as the international financial architecture and financial technology (Fintech).

Link to APFF page: https://www2.abaconline.org//page-content/22613276/Asia-Pacific%20Financial%20Forum

About APFF's Work on Financial Market Infrastructure

Facilitating flows of capital across the region's markets is a key factor for economic growth in the region. The APFF's work on financial market infrastructure and cross-border practices seeks to address the most significant obstacles to cross-border investment flows related to the connectivity platform and standards used in financial market infrastructure (FMI). The central objective is to promote cross-border portfolio investment flows through the development of market practices, standards and platforms that improve the inter-operability, liquidity and connectivity of domestic and cross-border financial markets, and reduce systemic risks.

In 2015, the APEC Finance Ministers incorporated in their Cebu Action Plan (CAP) the development of a roadmap to improve regional financial infrastructure in APEC to help promote capital market depth and liquidity. The CAP calls on economies to participate in APFF workshops and dialogues on capital market development, including the creation of a regional securities investment ecosystem to promote cross-border investment in capital markets.

To advance this work, ABAC invited key industry stakeholders and experts to join the APFF FMI Work Stream. Those who have committed to participate in this process now include representatives of leading global and regional financial institutions, asset management firms, financial technology firms, international brokers and custodians, financial industry associations, stock exchanges, multilateral development institutions, academic and research bodies and information service providers. Through the symposium, APFF is now reaching out to relevant authorities in the region and international regulatory and standard-setting bodies to help develop a roadmap for consideration by APEC Finance Ministers and Finance and Central Bank Deputies.