SUSTAINABLE FINANCE AND ADAPTING TO THE FOURTH INDUSTRIAL REVOLUTION 2020

Prepared by the US-ASEAN Business Council

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This paper offers US-ASEAN Business Council's ideas and recommendations for 2020 and beyond under the themes of Sustainable Finance and Adapting to the Fourth Industrial Revolution: Digital Transformation in Financial Services.

INTRODUCTION

This year's ASEAN Finance Ministers' and Central Bank Governors' Meeting (AFMGM) would mark the 21st consecutive year of engagement between the US-ASEAN Business Council (US-ABC) and the ASEAN Finance Ministers; and the 6th year meeting with the combined ASEAN Finance Ministers and Central Bank Governors.

The US-ABC's Financial Services Committee hopes to expand upon past collaboration with ASEAN financial policymakers to realize their vision of promoting stronger, more resilient and inclusive growth in the region. This paper offers our ideas and recommendations for 2020 and beyond under the themes of Sustainable Finance and Adapting to the Fourth Industrial Revolution: Digital Transformation in Financial Services.

We also want to underscore our recognition of the challenges that ASEAN Member States are currently experiencing as a result of the COVID-19 pandemic. This pandemic is not just a global health crisis, but also an economic one, and it is necessary to tackle both at once. The virus has

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impacted demand, production, supply chains and investment, which has led to global economic disruption as well as high levels of volatility in exchange rates and markets. To reduce the impact of the outbreak, strong collaboration between the public and private sectors will be vital to aid in economic recovery. In addition to long-term societal challenges, COVID-19 has also provoked a range of short-term financial measures from governments in the region and beyond. These include interest rate cuts and fiscal stimulus measures, such as direct assistance for businesses and consumers and tax relief.

This paper contains a number of recommendations that ASEAN governments may also want to consider formulating balanced approaches to implementing public health and economic policy in response to the crisis. In the immediate term, in addition to using macro tools like tax policies and bilateral currency swaps, we believe digital solutions (such as allowing electronic authentication and verification) can support business continuity, with an immediate impact during a crisis, as well as providing longer term benefits to individuals, governments and the economy. Over the longer-term, an increasing focus on disaster-risk (including pandemic-risk) financing, as well as data collection on catastrophe risk model-building could help governments prepare for future events. We also believe creating additional mechanisms to facilitate effective communication between the public and private sectors can be valuable in both the near term and in the post crisis recovery period.

The Council and its members stand ready to provide additional thinking on these and the other areas covered as follows.

THEME 1

THE ROLE OF FINANCIAL SERVICES IN SUSTAINABLE FINANCE

- **Environmental, Social, and Governance (ESG) Finance**
- **Unlocking Capital Markets Financing for Infrastructure Development**
- **Disaster Risk Financing**

THEME 2

ADAPTING TO THE FOURTH INDUSTRIAL REVOLUTION: DIGITAL TRANSFORMATION IN FINANCIAL SERVICES

- **The Role of Data in Financial Services**
- **Impact of Digital Transformation in Financial Services**
- **Strengthening Defenses: Enhancing Cybersecurity and Cyber Resiliency**

The Role of Financial Services in Sustainable Finance

07 Environmental, Social, and Governance (ESG) Finance

10 Unlocking Capital Markets Financing for Infrastructure Development

11 Disaster Risk Financing

ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG) FINANCE

Latest Developments

A broad consensus has emerged in recent years around the need for finance to take greater account of environmental, social and governance concerns. There is also increasingly a recognition of the role financial markets can play in helping countries undergo transitions to low carbon economies. This consensus extends across society at large, regulators and the investment community. For example, industry estimates state that more than 90% of global Assets Under Management (more than $90 trillion) are today governed by the UN Principles of Responsible Investment. Nearly $50 trillion, approximately 30% of global bank assets, are committed to the UN Principles for Responsible Banking, launched in September 2019.

In addition, private capital is also mobilizing to invest behind companies that are managed in ways which advance ESG objectives. According to Bain & Company's Global Private Equity Report 2020, since 2012, the number of signatories to the UN-supported Principles for Responsible Investment has grown from 1,050 to almost 2,400 funds, a group that controls a staggering $86 trillion in capital. According to the Schroders 2019 Global Investor Study, which surveyed 25,000 investors world¬wide, more than 60% of those under the age of 71 believe that all investment funds—not just those explicitly defined as sustainable investment funds—should consider sustainability factors when making investments.

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The financing needed to meet ESG objectives is also considerable. The Monetary Authority of Singapore estimates $200 billion of green investment is needed in ASEAN per year until 2030. As a reflection of these trends, the market for green, social and sustainability bonds grew significantly again in 2019. Globally, new issuance reached $282.5 billion, up over 50% from $181 billion in 2019 and as much as $100 billion above market participants' estimates for full-year volume. Most predict the market will grow again in 2020, to perhaps $350-400 billion.

Asia Pacific accounted for only $38.5 billion of the global amounts of green, social and sustainability bonds in 2019, of which $9.5 billion was issued in ASEAN. This is however a dramatic increase in recent years: in 2015 green, social and sustainability bond market activity totaled less than $3 billion across Asia Pacific.

While green bonds account for the majority share of these transactions, social and sustainability bonds explain much of the growth in new issuance. In 2019 they accounted for more than 1/3 of new issuance in the Asia Pacific, whereas they made up less than 10% just two years ago. Several ASEAN governments were leading issuers in this regard - including the Philippines, Indonesia and Singapore – having recognized that financing a wider remit of projects with investor interest broadening beyond the "traditional" green to sustainability is critical for the market to grow and meet demand.

Policy Measures

In addition to developing frameworks to encourage the growth of these instruments – including the ASEAN Green, Social and Sustainability Bond Principles inaugurated by the ASEAN Capital Markets Forum – governments in the region have also undertaken a range of other initiatives to stimulate the market for ESG finance, including:

- **ESG criteria** in their lending decisions;
- **The development of "policy roadmaps"** to develop both the supply and demand side of sustainable financing;
- **Fiscal incentives** to stimulate investment;
- **Grants to assist** with ESG financing costs;
- **Better understanding** of how investors and businesses can incorporate material ESG criteria into their decision making; and
- **Working groups** to bring together industry players to assess issues like taxonomies, disclosures and financial institutions' environmental risk management practices.

The Council welcomes all of these measures.

Outside ASEAN, governments and institutions are also active in collaborating with financial markets to develop initiatives to mobilize ESG finance. These include the European Commission's Action Plan on Sustainable Finance, China's Green Finance Committee, the United Kingdom's Green Finance Initiative, and the Network of Central Banks and Supervisors for Greening the Financial System, which has 40 members working to integrate climate risk in the financial system.

At the February meeting of the G20 finance ministers and central bank governors, the final communique referenced the Financial Sustainability Board's work on measuring the impact of climate change for financial stability. The Financial Stability Board Taskforce on Climate-related Financial Disclosures (TCFD) has undertaken important work around disclosures regarding climate risk, which is helping improve the data available to market participants. However, given the growing number of providers of ESG data, policymakers should consider establishing consistent frameworks for ESG reporting data to ensure that it is comparable and usable by investors.

International markets are in particular taking a forward-looking approach to ESG finance. The European Commission-appointed Technical Working Group on Sustainable Finance ("TEG") released its final report on the climate mitigation and adaptation objectives of the proposed taxonomy of sustainable activities in June 2019. The taxonomy is proposed as providing a basis for establishing credentials of issuers of green bonds using the proposed EU Green Bond Standard. To qualify as an EU Green Bond, all proceeds would have to be allocated to taxonomy-aligned activities. We expect these to be adopted into regulation in due course. ASEAN governments will need to take account of what

is happening in other regions as they shape their own thinking on taxonomies, while also considering the ways in which those standards may complement or be integrated with existing standards.

The Emerging Markets Private Equity Association (EMPEA) has developed masterclass training programs on managing for ESG results that are available in the ASEAN region. The IFC has unveiled a new toolkit to improve companies' disclosure and transparency pertaining to ESG. The Sustainability Accounting Standards Board (SASB) has made available an Engagement Guide for Asset Owners and Asset Managers that provides standards that identify the sustainability issues most likely to impact financial performance of companies in 77 industries. For every industry, the Guide poses questions investors can ask to facilitate a more complete and robust assessment of long-term risks and value creation.

POLICY RECOMMENDATIONS

1. **Sponsor and encourage** more debut transactions from sovereigns and public sector entities in the region across green, social and sustainability bonds. In particular, issuance in local currency can help develop local capital markets in individual countries, which is a key aim of many governments in the region.

2. **Consider issuing** retail green, social and sustainability bonds, in order to reflect growing interest from individual and millennial investors.

3. **Expand** the remit of sustainable finance to include social and sustainable instruments. This can help meet investor demand and also help governments in ASEAN promote and meet targets under the UN Sustainable Development Goals.

4. **Publish guidelines** for so-called "transition bonds" – under the ASEAN Capital Markets Forum – to take account of activity which is not labeled "green" but nevertheless reflects an improvement in environmental impact (for example, a crude oil refining facility fitting carbon capture and storage technology). We anticipate that the International Capital Market Association will come forward with its own transition bond guidelines shortly and would encourage ACMF to take note of these standards in drafting ASEAN guidelines.

5. **Develop common frameworks** for promoting more consistent disclosures, which will provide clarity for the investor community as to how to apply the relevant taxonomies to individual companies and the securities they issue.

UNLOCKING CAPITAL MARKETS FINANCING FOR INFRASTRUCTURE DEVELOPMENT

Infrastructure finance is an increasingly important aspect of development in ASEAN. The Asian Development Bank estimates that the financing gap for infrastructure across the region is around $459 billion per year. Many governments in ASEAN have proactive plans to try to meet this gap, recognizing that the funding must come from a mixture of the public and private sectors.

Based on experience in other regions, Council members across the financial services and capital markets sectors believe the following aspects are important considerations when seeking to unlock capital market financing for infrastructure development:

Securitization of transactions, which have been a very successful option for financing infrastructure projects throughout Asia. Securitization financing delivers high-quality investment opportunities to investors while enabling low-cost, long-dated, non-recourse financing to project sponsors. Insurers provide needed risk transfer and risk management to help make infrastructure projects a more attractive asset class. However, some ASEAN markets have domestic laws which provide impediments to securitization financing, such as requiring end-user customer consent to transfer project assets into special purpose vehicles (i.e. highly impractical in the case of a toll road).

A streamlined tax regime which includes competitive rates and greater harmonization between different types of instruments can create a more positive environment for infrastructure finance for both lenders and investors. It can also encourage participation from non-resident – as well as domestic – investors.

Bond subsidy schemes can help drive domestic investment in infrastructure, while still maintaining a competitive coupon for international investors. In the US for example, both Direct Subsidy Bonds (which provide government rebates to the issuer directly to subsidize interest payments on the bond) and Tax Credit Bonds (which provide government-issued tax credits to investors, thereby subsidizing issuer borrowing) are subsidized by the US federal government, making borrowing for infrastructure projects cheaper for issuers.

Financing for "greenfield" (early-stage) projects has historically been limited to only banks or specialist private side participants, and as a result this can limit the available capital for these projects. Mainstream public capital market investors are generally uncomfortable assessing and taking construction risk for these projects.

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So-called **"asset recycling"** where governments dispose of salable infrastructure to raise capital to invest in new assets also has the potential to mobilize investment. The process allows successful brownfield assets to be purchased by investors (often pension or insurance funds) as the government uses the proceeds to build greenfield infrastructure. In Australia for example, the Government launched an asset recycling initiative, in which a 15% top up is provided by the Federal Government to State Governments on the price they receive for selling assets, on the condition that the funds are used for new infrastructure. The payments are made in two stages (one on asset sale completion and one when new construction begins). Thailand has also developed the Future Fund, which is an infrastructure financing vehicle using similar asset recycling principles and techniques, with initial asset injections coming from expressway toll revenues and an objective to invest alongside the private sector in new projects.

Create an investment framework that appropriately recognizes the nature of infrastructure investments. Private sector infrastructure investments do not have quoted market prices and long tenor debt is typically not rated. A clear framework that addresses the issues regarding the rating and valuation of infrastructure investments would support investment in this space.

POLICY RECOMMENDATIONS

1. **Ensure that domestic legislation** does not provide impediments to securitization financing.
2. **Streamline tax rates** between instruments (e.g. bonds and loans) and between domestic and non-resident investors.
3. **Assess whether bond subsidy schemes** could be introduced to play a role in ASEAN member states.
4. **Promote more non-traditional project financing vehicles**, such as encouraging refinancing of projects upon exit from the greenfield stage. Guarantees, first loss tranche, or securitization could also be a way to introduce institutional investors into greenfield projects or provide an additional liquidity source for these projects.
5. **Introduce asset recycling schemes** to encourage infrastructure finance.
6. **Create an investment framework** that appropriately recognizes the nature of infrastructure investments.

DISASTER RISK FINANCING

“Cohesiveness and Responsiveness” – the theme of the ASEAN 2020 Chairmanship – is very suitable for describing the progress various ASEAN member states could make over the year toward more sustainable financing of natural catastrophe events. However, much more should be considered to reduce the fiscal impact and to manage inter-annual volatility of disaster spending requirements.

The ASEAN region is among the most vulnerable to natural disaster risks. Hydro-meteorological risks (floods, tropical cyclones and droughts) as well as geological risks (earthquakes, tsunami and volcano) all have large footprints in the region. Natural catastrophe events have huge economic and fiscal impacts on ASEAN member states, and economic losses from disaster shocks will continue to increase due to growing asset concentrations in hazard exposed areas, the interdependency of ASEAN’s economies, and the expected occurrence of more frequent and more intense climate-related events in the region.

The specific financing needs differ among ASEAN member states due to their different exposures and risk profiles, stage of their economic development and socio-political structures and priorities. For instance, around two thirds of the 2011 Thai flood losses resulted from the manufacturing sector while the 2015 Myanmar floods predominantly caused losses related to infrastructure. Hydrological events such as flood and droughts pre-dominantly put the livelihood of ASEAN’s rural population at risk, while geological disasters in disaster prone countries such as Indonesia and the Philippines can have a huge impact on residential homeowners. Given that insurance markets within

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the ASEAN region are still underdeveloped in terms of non-life catastrophe insurance penetration, ASEAN governments often have to provide financial assistance to affected populations, which adds on top of the financing needs for emergency response measures and the reconstruction of destroyed or damaged public assets.

The estimated annual expected loss for the ASEAN region is approximately 0.3% of regional GDP on average, whereas ASEAN member states differ in terms of hazard exposure and the size of their economies, and so does the impact on individual member states. For instance, ASEAN's 2020 Chair Vietnam faces an average annual loss close to 1% of national GDP. In some ASEAN countries annual disaster losses could even exceed a double-digit percentage rate of total public expenditure in case of events with return periods (i.e. average frequency) of 100 years and higher .

Hence it is good news that ASEAN governments have begun to embrace the benefits of risk-transfer and use it as an efficient and effective tool to better manage the significant fiscal burden and inter-annual volatility in disaster spending requirements. In 2019 there were significant developments in this respect across the region.

The governments of the disaster-prone economies of Indonesia and the Philippines are in the process of insuring strategically important state assets. In Indonesia a consortium of more than 50 local re/insurers was established in 2019 to support the disaster risk insurance arrangement for a first category of government state assets, while the Philippines's government is in the process of launching a National Indemnity Insurance Program for socio-economic relevant state assets as one element within its multi-tiered, multi-layered disaster risk financing and insurance strategy, which also includes the catastrophe bond that has been listed at the Singapore Exchange end of 2019.

Meanwhile Lao PDR and Myanmar who are exposed to a short-term funding gap for emergency response have decided to seek parametric flood insurance protection from the South East Asia Disaster Risk Insurance Facility (SEADRIF). SEADRIF is a multi-functional regional platform for ASEAN countries which was newly established in 2019 and allows the participating ASEAN members states to benefit from risk diversification as a result of such risk pooling.

The US-ASEAN Business Council commends ASEAN on the significant progress which has been made towards more sustainable financing of disaster shocks. As the above examples show, risk transfer solutions can be implemented in various forms, including directly accessing re/insurance and capital markets or indirectly via a dedicated vehicle such as SEADRIF. We hope that more ASEAN governments will follow in establishing pre-event financing tools and our member companies have the knowledge and expertise to support these efforts.

POLICY RECOMMENDATIONS

1. **Further investigate the possibility for an increasing risk pooling** among ASEAN member states for both, securing short-term funding for emergency response via parametric risk transfer solutions as well long-term funding for reconstruction.

2. **Continue with data collection on asset exposures** to complement efforts to be undertaken with respect to catastrophe risk model building as a basis for insurability.

3. **Encourage other ASEAN member states** – either individually or collectively – **to issue catastrophe bonds** as part of their disaster risk financing strategy, building on the recent landmark catastrophe bond sponsored by the Philippines (see Case Study 2).

1. Source: World Bank

CASE STUDY 1: THE SOUTHEAST ASIA DISASTER RISK INSURANCE FACILITY (SEADRIF)

SEADRIF is the first regional facility in ASEAN aiming to address disaster risk financing in a comprehensive manner from risk identification, reduction to insurance and resilient recovery. Developed as an initiative by the Ministers of Finance and Central Bank Governors from ASEAN+3 countries, SEADRIF was established in 2019 as a multi-functional regional platform for ASEAN countries to access financial, analytical & advisory and knowledge services and products in order to strengthen ASEAN member states' financial resilience against natural catastrophe shocks.

SEADRIF provides a formal, long-term, and disciplined approach via a regulated, licensed insurance company with the ability to expand its geographic and product scope in partnership with the reinsurance industry. The first financial product to be offered by SEADRIF Insurance Company, a licensed direct general insurer in Singapore, is a catastrophe risk pool for Lao PDR and Myanmar. The pool leverages joint reserves and offers market-based finite and parametric catastrophe risk insurance solutions to provide liquidity in the aftermath of disasters such as severe floods.

At present SEADRIF is exploring the development of other disaster risk financing and insurance solutions such as a joint risk pool for public assets and infrastructure of ASEAN countries.

CASE STUDY 2: PHILIPPINE'S CATASTROPHE BOND FOR EARTHQUAKE AND TYPHOON

The Philippines is frequently impacted by natural disaster shocks and are expected to incur more than USD 3 billion per year in losses to public and private assets due to tropical cyclones and earthquakes. In order to maintain fiscal health and to reduce the impact of natural disaster shocks on the most vulnerable, the Philippine's government has developed a comprehensive disaster risk financing and insurance strategy.

Based on an analytical catastrophe risk assessment, the Philippine's Disaster Risk Financing and Insurance (DRIF) strategy follows a multi-tiered and multi-layered approach addressing disaster risk financing needs on national, local and individual level by combing different financial instruments including dedicated disaster funds, contingent credit lines and risk-transfer to the international reinsurance and capital markets.

Issued by the World Bank, the Philippines catastrophe bond which was listed on the Singapore Exchange in November 2019 has been another milestone for the Philippines government. The catastrophe bond provides the Philippine's government with USD 225 million in protection against earthquake and tropical cyclone risk over three years. It was designed to provide flexible financial resources immediately after a catastrophe event and will pay out on a modelled loss basis with different staged triggers based on the severity of an earthquake or tropical cyclone.

In addition, the catastrophe bond constituted a landmark transaction being the first catastrophe bond directly sponsored by an Asian sovereign, the first catastrophe bond listed on an Asian exchange, and the first World Bank bond ever listed in Singapore.

Adapting to the Fourth Industrial Revolution: Digital Transformation in Financial Services

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26 Strengthening Defenses: Enhancing Cybersecurity and Cyber Resiliency

The promotion of a robust, resilient and interoperable data governance ecosystem will set the foundation for the growth of digital transformation in financial services and industrial manufacturing (the Fourth Industrial Revolution (4IR)). Digital technologies and trends such as data analytics and Artificial Intelligence (AI), data sharing and open banking, cloud, digital currencies and digital authentication are transforming the financial services industry.

As ASEAN begins to embrace the benefits of, digitization as a horizontal driver of change across all sectors in an economy, the adoption of flexible, risk-based and outcome-oriented policies are essential to mitigating risks and driving innovation across the increasingly data-driven economy. These benefits stem from open, interoperable ecosystems that enable cooperation and power digital commerce.

The adoption of internationally recognized standards and best practices such as the OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data, and the APEC Privacy Framework, can help economies demonstrate a level of global interoperability which will ensure that ASEAN Member States continue to reap the benefits of technology adoption in financial services, as well as across other sectors of the economy.

THE ROLE OF DATA IN FINANCIAL SERVICES

Data and digital technologies are reshaping the financial services industry, allowing companies to improve services for consumers, reduce fraud, and maintain regulatory compliance. Industry continues to improve data sharing and data quality while simultaneously empowering and protecting consumers.

There is a real opportunity to take an approach to cross-border data flows that enables consumers to receive the benefits without violating the data sovereignty requirements of individual jurisdictions. There are a number of regional and global initiatives underway, which seek to take advantage of this opportunity. In February, the U.S. and Singapore signed a Joint Statement on Financial Services Data Connectivity in mutual recognition of the greater need to support cross-border data flows.

In addition to ASEAN's Framework on Digital Data Governance, the G20 has endorsed the principles of data free flow with trust first proposed by Japan. The WTO is taking forward negotiations on e-commerce and several economies are looking at digital agreements which include data flows, such as the recent Singapore-Australia Digital Economy Agreement. These agreements could present positive ways to address data flow issues – to strengthen capacity building and regulatory cooperation efforts – ahead of a comprehensive trade agreement.

A number of jurisdictions in ASEAN are currently revising their privacy frameworks, including Indonesia, Malaysia, the Philippines and Vietnam. As new rules are drawn up, the real challenge is how to ensure that, as each government takes appropriate steps to protect consumer privacy, we do not end up with a patchwork of conflicting privacy and data transfer regimes that result in a fragmented digital economy. Potential risks in this area include moves which could result in the localizing of data (including through classifying personal financial information as sensitive data) as well as extraterritorial provisions and overly restrictive bases on which to process personal data.

Driving Digital Commerce and Making It Safe and Easier to Pay Online and Across Borders

Global connectivity has enabled cross-border economic activity, allowing individuals, startups, and Small and Medium-sized Enterprises (SMEs) to participate in global markets. The digitization of economies and open international trade improves efficiency and increases productivity. Cross-border data access, usage, and exchange are essential to economic growth in the digital age. The free flow of data reduces transaction costs and the constraints of distance, and increases organizational efficiencies.

Payment security and purchase assurance are two essential elements for the functioning of e-commerce. International payments companies utilize state of the art protection for consumers, recognizing that customers want secure, speedy, and reliable transactions. By balancing security requirements and removing friction, risk-based authentication allows issuers to receive additional customer data from merchants to help analyze and risk score e-commerce purchases to identify potentially fraudulent activity.

Inclusion and Expanding Access To and Usage of Digital Payments

Digital payments help micro and small merchants grow their revenue, manage their business, and gain access to other financial services. The impact can be substantial – research has found that once businesses begin accepting digital payments, their revenues increase an average of 17% year on year. Acceptance of digital payments can also introduce small businesses to a broader pool of potential customers through rapidly growing e-commerce channels, including exposure to international markets. Digital innovation and e-KYC can expand access to financial services for consumers through reducing friction in digital and mobile payments, issuance of new accounts and using alternative sources of data to expand access to credit to the underserved. Fintechs in the payments space are also important for SMEs, and this relationship is also important in helping to expand financial inclusion.

AI in Financial Services

Data also enables the adoption of AI to provide greater insights and drive better informed decision-making. While there are numerous definitions of AI, generally AI is defined as the field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as learning, problem solving, and pattern recognition. AI encompasses machine learning (ML), deep learning (DL), and natural language processing (NLP).

The use of AI in financial services is not new; it is already deployed in areas like fraud detection, customer engagement and process automation. Rapid developments in the technology's capability have meant that AI is being used more broadly and regulators are now paying closer attention to its implications. At its core, the deployment of AI requires the creation and maintenance of quality datasets. The private sector

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strives to ensure responsible use of data, including ensuring the quality and accuracy of the data, the security of cross-border data exchange, and resiliency of the data. Protecting consumer rights means focusing on the ethical use of data, both in analytics and in technologies like AI.

The responsible development and ethical use of AI is also of significant importance to the financial services industry, and AI/ML systems must be designed and operated to be compatible with principles of human dignity, rights, freedoms, cultural diversity, and social justice. Trust and fairness is paramount, both in terms of data use and model outcomes.

Several governments and supra-national organizations have developed principles around the use of AI, including the OECD, EU and G20. Many companies, including US-ABC member firms, have adopted their own AI principles in order to set appropriate internal governance, risk management and responsible innovation around the use of AI. These frameworks explain how companies adhere to principles such as:

- **Human centricity and customer protection:** Ensuring human governance is in place at all relevant stages to guarantee decisions are in the best interests of customers.
- **Privacy:** Ensuring compliance with applicable laws and regulations around the use of customer data.
- **Transparency and explainability:** Adhering to transparency and explainability in the use of AI in relation to customers, regulators, shareholders and employees.
- **Safety and soundness:** Holding the use of AI to the same standards in respect of security, integrity, compliance and operational resilience as all other activities.

Many of the above principles have been applicable to the financial services industry, as well as insurance industry for decades. As such, it is crucial that governments and industry alike do not lose sight of these principles as the financial services industry continues to utilize technology moving forward.

CASE STUDY 3: AI IN DIGITAL PAYMENTS

Fraud is not contained by national boundaries. Effective fraud mitigation is dependent on cross-border flows of data from all over the world. Only with global or multi-country data sets can firms achieve the necessary sophisticated monitoring of transactions and rapid detection of the risk of fraud of each payment transaction. This protects individuals, banks and merchants from fraud.

International payment networks deploy the industry's most sophisticated fraud and security tools to protect consumers and businesses from losses. Data-driven technologies like artificial intelligence, combined with the global reach of these networks, allow networks to interrogate 100% of transactions in real-time to detect potential fraud.

CASE STUDY 4: AI IN THE INSURANCE SECTOR

The digital age has allowed the insurance industry to uplift the lower income segment with simplified solutions in an ecosystem that serves their financial and digital needs with an umbrella of insurance covers to protect their overall well-being and sustainability. With greater technological adoption, the insurance industry is able to offer intuitive insurance products to millions of new customers in e-commerce sectors such as ridesharing and the gig economy, as well as more traditional sectors such as retail, travel and banking.

AI can streamline repetitive back office tasks (which directly bears on an insurer's expense ratio) and can assist with the customer experience on the buying and servicing end as well as assisting with claims, including providing fraud indicators in the claims process. By harnessing data and technology, the industry is able to streamline the end-to-end insurance process and cut costs through fraud indicators, creating a win-win situation for consumers and insurers alike.

The insurance industry, among other industries, is also becoming better at converting such unstructured data to structured data in ways that benefit customers. For example, as many micro-enterprise restaurant owners are often too busy to fill out long insurance questionnaires as part of the underwriting process, through leveraging internal and external data (or "big data"), insurers are able to identify the business as a restaurant, its number of employees, the city where it operates, the period for which it has been operational, and other important information. The goal of two-question quoting for a small commercial insurance policy is becoming a reality.

In addition, IoT is also changing the insurance business. Consumers are able to install sensors in their homes or businesses which alert them of potential water leak or other emerging damage. Such sensors can help deter, or mitigate, the potential event. Telematics in the trucking or fleet industry can also provide companies with data that can assist in averting losses and help make the industry safer. For personal auto insurance, telematics measures driving performance against a range of factors, such as acceleration, braking, cornering and speed limits while providing a premium discount for those with a safe driving score.

With innovative solutions, insurance products are also being integrated on ride sharing portals through full end-to-end integration via APIs for fulfillment, servicing and claims.

POLICY RECOMMENDATIONS

1. **Adopt open, interoperable ecosystems to enable cooperation and power digital commerce:** The most effective way to scale among a growing number of players is to have open, interoperable standards. We encourage the design of an open and flexible ecosystem to support fast technology development which could be supported by the development of national frameworks and align with international best practices and open global standards.

2. **Keep consumer experiences at the forefront:** To achieve a more consumer-centric future, we need international and domestic data policies that foster data flows with trust. Global connectivity relies on cross-border flows of data.

3. **Develop standardized, principles-based frameworks addressing the deployment of AI, big data and analytics:** Having common definitions (e.g. what is, and what is not, AI) will be a key component to this endeavor, and we encourage ASEAN to work with firms to address concerns around issues such as fairness, data set bias, transparency and explainability. Any new rules are neutral in respect to underlying technology; and recognize that financial services firms are already highly regulated in areas such as governance, accountability, security, transparency and explainability, and data privacy.

4. **Expand public private partnerships:** Public private partnerships, such as the Financial Services Information Sharing and Analysis Center in the U.S., can provide valuable platforms to encourage the sharing of best practices around the use of data to secure the financial services ecosystem

IMPACT OF DIGITAL TRANSFORMATION IN FINANCIAL SERVICES

The digitization of financial services has led to new opportunities for financial inclusion, better risk monitoring, enhanced cybersecurity, greater transparency, and efficiency for governments. To enhance collaboration and information sharing between industry and ASEAN governments, stakeholders should balance risks and innovation, promote access to digital solutions, adopt common frameworks that align with international standards, and ensure a level playing field between existing and new players.

Digital Banking Licenses

Digital banking licenses are seen by many governments – in ASEAN and around the world – as a way of bringing more people into the financial system. By allowing non-bank players to offer banking services, they also hope to increase competition and consumer choice. Governments in ASEAN, including Malaysia, the Philippines and Singapore, are in the process of awarding digital banking licenses to new players. Governments in other countries in the Asia Pacific, such as Hong Kong, Taiwan and Korea have also granted such licenses with similar objectives in mind.

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All of these new licenses stipulate that new entrants must adhere to the same supervisory requirements as existing banks (such as on capital, liquidity, deposit insurance, in certain instances after an initial on-ramp period) as well as for AML/KYC. This is important to ensure the safety and soundness of the financial system and a level playing field. At times new entrants are, however, able to offer concessional rates which can lead to predatory practices which is not good for the long-term health of the banking sector.

POLICY RECOMMENDATIONS

1. **Ensure a level-playing field between existing banks and new entrants:** A level-playing field will be critical to ensuring customer protection as well as the safety and soundness of the financial system. Regulators should maintain a careful watch over potential predatory practices from new entrants (such as on deposit and/or interest rates) which could put at risk these objectives. The Council promotes clearly codified standards with transparent licensing timelines.

Open Banking

The Bank of International Settlements (BIS) defines open banking as "the sharing and leveraging of customer-permissioned data by banks with third party developers and firms to build applications and services, including for example those that provide real-time payments, greater financial transparency options for account holders, marketing and cross-selling opportunities". Open banking has the potential to increase financial inclusion, drive innovation and competition through the introduction of new products and services and improve consumer experiences and value.

Open banking can allow greater customer control of their financial data, so that they can choose, if they want, to share it with another entity such as a Fintech or other financial institution. Beyond putting consumers at the heart of the financial ecosystem, open banking seeks to encourage further innovation and the creation of more tailored and relevant products, as well as increase the number of companies offering financial services. However, the benefits and any corresponding risks and challenges depend on the type, size and sophistication of the entity.

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Governments around the world have taken markedly different approaches to open banking. For example, the European Union took a regulatory approach to open banking, mandating all banks open APIs and enable consumer-authorized third parties to access their account data or initiate payments on their behalf. On the other hand, New Zealand is encouraging banks to make way for more competition in payments but has not made open banking mandatory. The industry set up a hub in 2019 that enables willing participants – banks and third parties – to connect via an "API Center", collaborate bilaterally, and use shared resources. In the United States, industry is actively working to create market-driven open banking standards for the benefit of consumers, fintech newcomers, data aggregators and the entire ecosystem. Fundamental to open banking is the concept of consent, which ensures the consumer is always in control of who can access their accounts.

There are a range of ways in which to further develop access and information sharing among ecosystem players in order to develop open banking. Open APIs are an important feature and many providers are supportive of such an approach, but this should be encouraged and not mandated.

POLICY RECOMMENDATIONS

1. **Engage in Multi-stakeholder Consultations:** As Governments evaluate mechanisms for information and data sharing amongst institutions in the financial sector (and across the broader economy), it is critical to convene multi-stakeholder consultations that include financial institutions, fintechs, payment networks, and other providers.

2. **Adopt standardized means to encourage a more cohesive approach to information sharing:** Standardized means are essential for scalable, secure forms of information sharing. For example, the Financial Data and Technology Association has been undertaking work to help converge approaches to open banking around the world.

3. **Enable consumer-permissioned data access and consumer protection to encourage open banking:** Information sharing and allowing customer-permissioned access to their account data can provide a foundational platform to further enable open banking as well as digital identification and authentication (see section below), while continuing to protect customer privacy. But this must be thoughtfully developed bearing in mind what data is stored, where it is stored and by whom, as well as the principle of proportionality and overall cost of compliance. Importantly, consumers must have similar powers to grant third parties access to their data in other equally relevant domains: telecoms, social media, online commerce, energy, etc. Consultation with key stakeholders will be crucial and cooperation among industry - rather than prescriptive requirements - is the best way to achieve this.

Digital Currencies

The Council notes the growing interest in digital currencies from regulators among both private actors and governments. Digital currency payments that are real-time, frictionless, ubiquitous and global may become a reality over the medium term but there are issues that need to be considered by regulators relating to digital currencies.

All moves to modernize money, and any related initiatives that may arise (e.g. stablecoins) must always focus on constantly improving the protection of: customer assets, funds and deposits; today's international financial system as a whole; and of governments' sovereign control over monetary policy.

For banks to be able to participate productively and safely in digital currency ecosystems, regulators need to consider up front under what conditions they will allow banks to hold such currencies not just as agents but as principals. If central banks decide to issue their own digital money, they should weigh the implications on financial institutions in their markets.

POLICY RECOMMENDATIONS

1. **Collaboration is critical:** Regulators should work with financial institutions to find ways to address critical aspects such as protecting privacy and the safety of data, combating criminal activity and preventing fraud, and enforcing sanctions and blocking terrorist financing. In addition, we encourage ASEAN regulators to collaborate among themselves and with their global counterparts to advance an optimal framework for digital currencies, given the importance of governments' ability to control monetary policy.

Digital authentication and digital IDs

Identity and authentication are pain points for many financial services companies in ASEAN, as the process of identifying users remains largely physical and verification standards vary widely across the region. The absence of an accepted region-wide standard for identification, coupled with continued reliance on paper-based methods, limits the development and delivery of efficient and secure banking services.

Unlike physical IDs, digital IDs can be protected by cutting-edge digital security protocols that would prevent against data breach, modification, loss and theft. In addition, digital IDs allow individuals greater control over the sharing of their information, minimize exposure, and shield their information from illicit access. The benefits of implementing a common digital identity framework are manifold, including enabling the seamless verification for digital payments across ASEAN, providing the means to move towards a cashless society, creating further productivity gains, reducing corruption, theft and leakage, and further improving user convenience.

Not only will digital IDs allow innovators to perform critical activities with increased accuracy over that afforded by physical identity, but they will also to streamline and partially or fully automate many processes, with benefits to clients and firms. Such initiatives also have significant potential to increase financial inclusion.

POLICY RECOMMENDATIONS

1. **Develop a common framework for identity across ASEAN:** This would address the need for a common standard to ensuring secure and accurate online identification and verification. It could also explore other measures which remove the need for face-to-face authentication and/or wet signatures, given the cost savings to customers, businesses and the economy could be considerable.

2. **For the insurance sector,** (1) electronic signatures should be permitted regardless of the platform – insurer or partner – on which the insurance products are sold; meaning that sales of insurance products on distribution partner websites or apps where is insurance is bundled with non-insurance products and sold via an end-to-end digital transaction are often impeded by outdated regulations; and (2) Government/regulator dialogue with industry is critical in order to meet the shared goal of fulfilling consumer expectations and offering insurance in ways that meet consumer expectations.

Cloud for Financial Services

There are many benefits of hyper scale cloud. Cloud "outsourcing" allows financial institutions (FIs) to speed up their go-to-market, deliver richer customer engagements and experiences, promote financial inclusion, automate and strengthen security, and drive efficiencies, while lowering costs. Cloud features and solutions include high-performance grid computing, data analytics, digital transformation, AI and ML, security and compliance and disaster recovery. Analysts forecast that public cloud spend by Asia Pacific FIs will grow close to four times to reach USD 9.5 billion in 2022 from the reported spend of USD 2.4 billion in 2017 (a cumulative annual growth rate of over 30%).[2] Globally, it is predicted that by 2020 almost 40% of all FIs will be using cloud services.[3]

The financial services industry attracts some of the most hostile information security threats and is one of the most regulated industries in the world. Many financial services regulatory frameworks allow cloud service providers (CSPs) to work with FIs to help them meet their security and compliance requirements at every stage of their respective cloud journeys: protect their data, manage access, respond to incidents and apply respective security controls or meet their regulatory audit requirements. Moreover, cloud adoption allows institutions to improve overall security posture to ensure critical information assets will be protected.

As more FIs embrace the cloud – including using cloud for core banking workloads – regulators around the world are paying attention to how this transformation will affect the stability of the financial system. One concern related to financial system stability has been a concentration risk, traditionally referred to as "the probability of loss arising from a lack of diversification".[4] A similar argument is sometimes raised by the regulators with regards to cloud infrastructure becoming a "critical infrastructure" – as parallel issue to the concentration risk.

In the context of cloud outsourcing for FIs, concentration risk (or concerns around the potential "critical infrastructure" dependencies) can be addressed by FIs achieving an efficient and effective operational resilience. In their paper "CSPs and Criticality," the Institute of International Finance (IIF) states, "[...] the issue is not only about the reliance on few cloud providers. FIs must ensure that they (and any critical function they may perform) are resilient to disruption, whatever the cause [...]. Recognizing that systems should be built with the assumption that things will occasionally fail, FIs should have operational resilience plans in place to channel decisions in case of disruption."[5]

In December 2019, the Financial Stability Board concluded that cloud does not present an immediate financial stability risk.[6] One of the bases for such conclusion was the security and resiliency benefits of using cloud services and the fact that FIs' and CSPs' controls and risk management today can be adequate to address the risks even for material or mission-critical banking workloads. Cloud can help FIs to address operational risk and increase the resiliency of their systems by running well-architected applications on the public cloud. By helping to decrease the operational risk of individual financial entities and enabling financial regulators to improve their oversight capabilities, CSPs can play a role in helping to improve the overall resiliency of the financial system.

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POLICY RECOMMENDATIONS

1. **Address and encourage financial cloud outsourcing:** A lack of certainty in regulations and policies stifles innovation and hinders industry transformation and cloud adoption. Developing clear guidelines and regulations is a proactive approach to addressing and encouraging public cloud adoption as a technology outsourced by the FIs. A risk-based approach enables FIs to manage all cloud-related risks and concerns (including the concentration risk) by assessing the respective workloads and selecting the effective and efficient security controls and governance.

2. **Promote operational resiliency:** Encouraging the FIs to use public cloud tools and services to run well-architected and secure applications (e.g. data analytics and encryption, AI/ML capabilities and access management) and internal policies like exit strategies or reversibility can help ensure the effectiveness of operational resiliency of FIs' IT systems.

3. **Partner with the private sector:** Industry players stand ready to collaborate with government stakeholders, including setting up a cloud capacity building academy program.

Regulatory Sandboxes

Global financial regulators are also keen on the promise of Fintechs, which explains the rise in regulatory sandboxes in jurisdictions with rapid growth in innovative technologies. Many Fintechs are involved in the payments space, with payments being an onramp to financial inclusion. Governments in ASEAN, and globally, have deployed sandboxes as a way to encourage the development and testing of new financial products and services. Many financial firms large and small, including Council members, value the option of using sandboxes for this reason, as well as to be able to test in a way that is coordinated with regulators.

For example, firms often face challenges with data exploration. Frequently, internal controls limit the ways in which data can be shared, including limits on the extent to which data can be shared within the company, across-borders or combined with third-party data. Perceptions of regulator reaction is often cited as a reason for these limitations. By issuing explicit guidelines around data exploration for regulatory sandboxes, including potential but not prescriptive use cases, regulators can help firms overcome some of these internal obstacles.

Regulatory sandboxes provide a structured and controlled environment to trial innovative solutions and allow regulators to consider appropriate regulatory safeguard. The Global Financial Innovation Network (GFIN) consists of a network of organizations committed to supporting collaboration between innovative firms and regulators and helping firms navigate between different regulatory systems as they look to scale new ideas. GFIN created a global sandbox to foster cooperation between financial services regulators to share best practices and lessons learned. Within the ASEAN community, the API Exchange (APIX) was created by the ASEAN Financial Innovation Network for financial institutions and fintech firms to collaborate on new products and services, supporting innovation in inclusion in ASEAN and beyond. APIX uses synthetic data and has the ability to prototype different solutions. Both GFIN and APIX aim to enable financial institutions to launch new products and services, thereby expanding access to finance for the underbanked population and promoting greater financial inclusion.

POLICY RECOMMENDATIONS

1. **Issue explicit guidelines for data exploration in regulatory sandboxes:** Without being overly prescriptive, additional clarity and guidance around data exploration can help bolster innovation in financial services.

2. **Encourage collaboration on cross-border testing:** Regulators should continue to explore mechanisms for allowing firms to engage in cross-border testing as well as to focus on ways to grant streamlined approvals for new products and services.

3. **Encourage data sharing in regulatory sandboxes through the use of synthetic data:** Governments and regulators can provide dummy/synthetic data to help firms engage and trial different solutions.

STRENGTHENING DEFENSES: ENHANCING CYBERSECURITY AND CYBER RESILIENCY

As technological advances and global interconnectivity accelerate exponentially in the Fourth Industrial Revolution, unprecedented systemic security risks and threats may undermine trust and growth. Cyberattacks are not a matter of if, but when. However, there are many ways in which these risks can be mitigated proactively.

> “Cyber-attacks have become increasingly sophisticated, and private sector firms must not only keep pace with these increasingly advanced threats, but anticipate them in a manner that preserves the security of the broader digital ecosystem.”

Cybersecurity

Cyber-attacks have become increasingly sophisticated, and private sector firms must not only keep pace with these increasingly advanced threats, but anticipate them in a manner that preserves the security of the broader digital ecosystem. Private sector financial services firms invest heavily in network security, and often leverage emerging technologies to make their networks more secure and resilient. The insurance industry supports cyber resiliency with risk transfer and risk management services. Using partnerships, insurance companies work to provide end-to-end services to improve cyber postures. For instance, cyber security experts will do system security screening and implement risk reduction solutions before insurance coverage sets in. When a cyber risk incident occurs, forensic experts are called in to investigate the incident, lawyers to handle legal implications, and even public relations teams can work to support for reputational consequences. These different groups work in concert to help policyholders recover in case of breach.

In recent years, governments have expanded their view to look at operational resilience more broadly. AI provides international networks with new tools for securing their ecosystems by using neural networks to categorize and search petabytes of data to identify network attacks. International payment networks leverage machine learning to predict hardware and software disruptions, mitigating problems before they even impact consumers and merchants. Effective cybersecurity safeguards digital trust, spurs innovation and progress in society, enhances the social responsibility and accountability of organizations, the cumulative effects of which enable economic prosperity and inclusion.

"Effective cybersecurity safeguards digital trust, spurs innovation and progress in society, enhances the social responsibility and accountability of organizations, the cumulative effects of which enable economic prosperity and inclusion."

Cyber Resiliency

Cyber resiliency will be a defining tenet of success in 4IR as breaches and rapid changes introduce risks to confidentiality, integrity as well as availability of critical systems. Policymakers' ability to balance innovation and protection through sound cyber standards will have a direct impact on the growth and the trust in digital economies.

POLICY RECOMMENDATIONS

1. **Educate across the ecosystem:** Work with private sector experts to educate key industries and stakeholders on the severity and mitigation of cyber risks including protection of assets, internet safety and workplace security. We would encourage CERTS to develop a program whereby all government sectors, agencies and ministries are provided the adequate training and tools. This program could include topics on credentials and authorization; digital asset management; and employee training on common hacking concerns.

2. **Coordination across key stakeholders:** Coordinate efforts with corporations and civil society on cyber and financial stability risk to bolster resilience.

3. **Promote the adoption of world-class, scalable security services:** Advanced technology security standards allow entities to analyze compromises, eliminate the cause of incidents, and restore systems to pre-incident levels.

ABOUT THE US-ASEAN BUSINESS COUNCIL

For over 35 years, the US-ASEAN Business Council has been the premier advocacy organization for US corporations operating within the dynamic Association of Southeast Asian Nations (ASEAN). Worldwide, the Council's membership, more than 160 companies, generate over $6 trillion in revenue and employ more than 13 million people globally. Members include the largest US companies conducting business in ASEAN, and range from newcomers to the region to companies that have been working in Southeast Asia for over 100 years.

We believe opening and investing in the sustainability of efficient, resilient and competitive markets are critical to the continued growth of our member companies and innovation and job creation in the United States and Southeast Asia.

The Council has offices in: Washington, DC; New York, NY; Bangkok, Thailand; Hanoi, Vietnam; Jakarta, Indonesia; Kuala Lumpur, Malaysia; Manila, Philippines; and Singapore. The Council's Financial Services Committee is made up of over 20 of the world's leading financial services institutions and markets participants operating in Asia's most dynamic regional economic community.